Restructuring and Infinitival Complements in Dutch
Restructuring and Infinitival Complements in Dutch

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Contents

ACKNOWLEDGMENTS................................................................. 5

1 INTRODUCTION...................................................................... 13

1.1 HISTORY........................................................................... 15
1.2 THE PRESENT THESIS...................................................... 17
1.3 OVERVIEW OF CHAPTERS.............................................. 20

2 TRANSPARENCY PHENOMENA............................................... 23

2.1 CROSS-LINGUISTIC TRANSPARENCY PHENOMENA............... 23
  2.1.1 THE LICENSING OF GRAMMATICAL FUNCTIONS............. 23
    2.1.1.1 Raising to subject............................................. 23
    2.1.1.2 Raising to object............................................. 24
    2.1.1.3 Long passive.................................................. 25
    2.1.1.4 Long raising to object..................................... 25
  2.1.2 MORPHOLOGICAL EFFECTS........................................... 28
    2.1.2.1 Vacuous morphology....................................... 28
    2.1.2.2 Auxiliary switch.......................................... 29
  2.1.3 TRANSPARENCY DIAGNOSED BY PLACEMENT................ 30
    2.1.3.1 Preverb climbing.......................................... 30
    2.1.3.2 Clitic climbing............................................ 30
    2.1.3.3 Adverb climbing.......................................... 31
  2.1.4 SUMMARY..................................................................... 31

2.2 TRANSPARENCY DIAGNOSTICS IN DUTCH............................ 31

  2.2.1 THE LICENSING OF GRAMMATICAL FUNCTIONS............. 32
    2.2.1.1 Raising to subject............................................. 32
    2.2.1.2 Raising to object............................................. 33
    2.2.1.3 Long passive.................................................. 35
    2.2.1.4 Long raising to object..................................... 36
    2.2.1.5 Summary...................................................... 38
  2.2.2 MORPHOLOGICAL EFFECTS........................................... 38
    2.2.2.1 The Infinitivus-pro-participio effect................... 39
    2.2.2.2 Auxiliary switch.......................................... 40
  2.2.3 TRANSPARENCY DIAGNOSED BY PLACEMENT................ 41
    2.2.3.1 Particles....................................................... 41
    2.2.3.2 Arguments.................................................... 43
    2.2.3.3 Secondary predicates..................................... 44
    2.2.3.4 Participles.................................................... 44
    2.2.3.5 Negation....................................................... 45
    2.2.3.6 Adjuncts...................................................... 46
THE SYNTACTIC STRUCTURE OF VERBAL CLUSTERS ..............67

3.1 DIAGNOSTICS ......................................................................68

3.1.1 DIAGNOSTICS FOR C ..............................................................71
3.1.1.1 The presence of a complementizer ........................................71
3.1.1.2 Embedded wh-movement ......................................................75
3.1.2 DIAGNOSTICS FOR TENSE .....................................................75
3.1.2.1 Simultaneity of event times ..................................................75
3.1.2.2 Modification of the embedded event time ..............................76
3.1.2.3 Temporal auxiliaries ............................................................77
3.1.2.3.1 Past ....................................................................................78
3.1.2.3.2 Future ...............................................................................79
3.1.2.4 Past tense replacement ...........................................................92
3.1.2.5 Summary of tense diagnostics .............................................94
3.1.3 MOOD IRREALIS .................................................................95
3.1.4 TANTERIOR .........................................................................95
3.1.5 NEGATION ..........................................................................96
3.1.6 DIAGNOSTICS FOR V ........................................................97
3.1.6.1 Thematic role .................................................................97
3.1.6.2 Case checking .................................................................102
3.1.7 SUMMARY ..........................................................................102

3.2 THE COMPLEMENT TO VERB-RAISING VERBS ..............102

3.2.1 CP IS ABSENT ......................................................................104
3.2.2 MODALS .............................................................................106
3.2.2.1 Tense ...............................................................................106
3.2.2.2 Mood IRREALIS .........................................................112
3.2.2.3 Anteriority ..........................................................................113
3.2.2.4 Negation ..........................................................................114
3.2.2.5 v .......................................................................................117
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2.6</td>
<td>Summary</td>
<td>118</td>
</tr>
<tr>
<td>3.2.3</td>
<td>ASPECTUAL VERBS</td>
<td>118</td>
</tr>
<tr>
<td>3.2.3.1</td>
<td>Aspectual 1</td>
<td>119</td>
</tr>
<tr>
<td>3.2.3.1.1</td>
<td>Tense</td>
<td>119</td>
</tr>
<tr>
<td>3.2.3.1.2</td>
<td>Mood$_{IRREAL}$</td>
<td>121</td>
</tr>
<tr>
<td>3.2.3.1.3</td>
<td>Anteriority</td>
<td>121</td>
</tr>
<tr>
<td>3.2.3.1.4</td>
<td>Negation</td>
<td>121</td>
</tr>
<tr>
<td>3.2.3.1.5</td>
<td>v</td>
<td>122</td>
</tr>
<tr>
<td>3.2.3.2</td>
<td>Aspectual 2</td>
<td>122</td>
</tr>
<tr>
<td>3.2.3.2.1</td>
<td>Tense</td>
<td>123</td>
</tr>
<tr>
<td>3.2.3.2.2</td>
<td>Mood$_{IRREAL}$</td>
<td>124</td>
</tr>
<tr>
<td>3.2.3.2.3</td>
<td>Anteriority</td>
<td>125</td>
</tr>
<tr>
<td>3.2.3.2.4</td>
<td>Negation</td>
<td>125</td>
</tr>
<tr>
<td>3.2.3.2.5</td>
<td>v</td>
<td>126</td>
</tr>
<tr>
<td>3.2.4</td>
<td>ECM-VERBS</td>
<td>126</td>
</tr>
<tr>
<td>3.2.4.1</td>
<td>Tense</td>
<td>126</td>
</tr>
<tr>
<td>3.2.4.2</td>
<td>Mood$_{IRREAL}$</td>
<td>128</td>
</tr>
<tr>
<td>3.2.4.3</td>
<td>Anteriority</td>
<td>128</td>
</tr>
<tr>
<td>3.2.4.4</td>
<td>Negation</td>
<td>129</td>
</tr>
<tr>
<td>3.2.4.5</td>
<td>v</td>
<td>131</td>
</tr>
<tr>
<td>3.2.5</td>
<td>RAISING VERBS</td>
<td>131</td>
</tr>
<tr>
<td>3.2.5.1</td>
<td>Tense</td>
<td>131</td>
</tr>
<tr>
<td>3.2.5.2</td>
<td>Mood$_{IRREAL}$</td>
<td>132</td>
</tr>
<tr>
<td>3.2.5.3</td>
<td>Anteriority</td>
<td>132</td>
</tr>
<tr>
<td>3.2.5.4</td>
<td>Negation</td>
<td>133</td>
</tr>
<tr>
<td>3.2.5.5</td>
<td>v</td>
<td>134</td>
</tr>
<tr>
<td>3.2.6</td>
<td>CONTROL</td>
<td>134</td>
</tr>
<tr>
<td>3.2.6.1</td>
<td>Control 1: strong implicatives</td>
<td>135</td>
</tr>
<tr>
<td>3.2.6.1.1</td>
<td>Tense</td>
<td>137</td>
</tr>
<tr>
<td>3.2.6.1.2</td>
<td>Mood$_{IRREAL}$</td>
<td>139</td>
</tr>
<tr>
<td>3.2.6.1.3</td>
<td>Anteriority</td>
<td>139</td>
</tr>
<tr>
<td>3.2.6.1.4</td>
<td>v</td>
<td>139</td>
</tr>
<tr>
<td>3.2.6.2</td>
<td>Control 2</td>
<td>140</td>
</tr>
<tr>
<td>3.2.6.2.1</td>
<td>Tense</td>
<td>140</td>
</tr>
<tr>
<td>3.2.6.2.2</td>
<td>Mood$_{IRREAL}$</td>
<td>141</td>
</tr>
<tr>
<td>3.2.6.2.3</td>
<td>Anteriority</td>
<td>146</td>
</tr>
<tr>
<td>3.2.6.2.4</td>
<td>Negation</td>
<td>148</td>
</tr>
<tr>
<td>3.2.6.2.5</td>
<td>v</td>
<td>150</td>
</tr>
<tr>
<td>3.2.7</td>
<td>SUMMARY</td>
<td>152</td>
</tr>
</tbody>
</table>

4  THE COMPLEMENT TO THIRD CONSTRUCTION VERBS........ 153

4.1  CP IS ABSENT.................................................. 158

4.2  IMPLICATIVES................................................ 161

4.2.1  TENSE...................................................... 161

4.2.2  MOOd$_{IRREAL}$.......................................... 162

4.2.3  ANTERIORITY.............................................. 163
THE DERIVATION OF TRANSPARENT INFINITIVALS

6.1 The data ........................................................................................................... 235
6.2 Assumptions ..................................................................................................... 237

6.2.1 Object licensing requires movement ......................................................... 238
6.2.2 Surface position is licensing position ......................................................... 238
6.2.3 The embedded clause fails to license DP .................................................... 239
6.2.4 The matrix v licenses DP ............................................................................. 241
6.2.5 The embedded clause forms a single phase with the matrix vP ................. 247

6.2.5.1 A note on phases and phasehood diagnostics .......................................... 249

6.2.5.1.1 Interpretive diagnostic: propositionality .............................................. 249
6.2.5.1.2 CP: propositional ................................................................................. 251

6.2.5.1.2 Empirical diagnostic: the edge ............................................................ 252
6.2.5.1.2.1 CP as a phase .................................................................................. 252
6.2.5.1.2.2 vP as a phase .................................................................................. 260
6.2.5.1.2.3 PP as a phase .................................................................................. 262

6.2.5.1.2.4 Summary ......................................................................................... 264
6.2.5.2 Summary .................................................................................................. 265

6.2.6 Summary ...................................................................................................... 265

6.3 The position of arguments .............................................................................. 266

6.3.1 Raising to subject ....................................................................................... 266
6.3.2 Raising to object out of VP ........................................................................ 266
6.3.3 Long raising to object in raising constructions ........................................... 268
6.3.4 ECM ............................................................................................................ 272
6.3.5 Raising to object in the third construction ................................................. 274
6.3.6 Opaque complements .................................................................................. 279
6.3.7 Summary ...................................................................................................... 280

6.4 Non-arguments .............................................................................................. 280

6.4.1 The distribution of non-arguments ............................................................. 280
6.4.2 Assumptions ............................................................................................... 283

6.4.2.1 Flexibility in the order of merge ............................................................. 283
6.4.2.2 No adjunction in or to VP ...................................................................... 284
6.4.2.3 Adjunction only if it leads to the intended interpretation ...................... 285
6.4.2.4 Locality .................................................................................................. 286
6.4.2.5 Summary ................................................................................................ 292

6.4.3 Derivations .................................................................................................. 293

6.4.3.1 The clustering construction .................................................................... 293
6.4.3.2 The third construction ............................................................................ 297
6.4.3.3 Adverbs and the extraposition construction ........................................... 303
6.4.4 Summary ...................................................................................................... 305

6.5 Summary ........................................................................................................ 305
7 SUMMARY AND CONCLUSIONS ................................................................. 307
  7.1 SUMMARY .................................................................................. 308
  7.2 OUTLOOK .................................................................................. 312

REFERENCES ................................................................................. 315

SAMENVATTING [SUMMARY IN DUTCH] ........................................ 325

CURRICULUM VITAE ....................................................................... 329
1 Introduction

This thesis deals with infinitival constructions in (standard) Dutch. There is a great variety in infinitival constructions; among others, we find infinitival clauses as complements (1)a, as adjunct clauses (1)b, subject sentences (1)c and nominalizations (1)d.¹

(1) a. ... omdat Jan die film wil zien²
    because Jan that movie wants see
    ‘...because Jan wants to see that movie.’

b. ... omdat Jan naar huis ging om die film te kijken
    because Jan to house went for that movie to watch
    ‘...because Jan went home to watch that movie.’

c. Ooit die film te kunnen zien is Jans grootste wens
    ever that movie to can see is Jan’s greatest wish
    ‘It is Jan’s greatest wish to be able to see that movie one day.’

d. Films kijken is leuk
    movies watch is fun
    ‘Watching movies is fun.’

We will only be concerned with complement infinitivals, and more specifically, with infinitivals which are complements to verbs. Within this class, various types may be distinguished. We find infinitives which appear to form a ‘verbal cluster’ with the verb which selects it.³ The infinitive may (2)b or may not (2)a be introduced by the infinitival marker te. There are also complement infinitivals which are not part of a verbal cluster (2)c, even though the adjacency of the matrix and embedded verbs creates the appearance of one. Finally, there are full-blown infinitival clauses which are introduced by a complementizer (2)d; these follow the matrix verb:

CLUSTERING CONSTRUCTION

(2) a. ... omdat Jan die film wil zien
    because Jan that movie wants see
    ‘...because Jan wants to see that movie.’

¹ Example sentences which are glossed and translated are from standard Dutch, unless otherwise indicated.
² Following common practice, our Dutch example sentences are embedded clauses. This is to control for the position of the finite verb, which is subject to verb second in main clauses. At the risk of creating confusion, we nevertheless use ‘embedded clause’ to refer to the lower clause, and ‘higher clause’ or ‘matrix clause’ to refer to the higher clause, even though strictly speaking, both are embedded clauses.
³ We refer to the verb which selects the infinitival complement as the matrix verb, despite the fact that in many instances, this verb is itself part of an embedded clause introduced by ‘because’. We continue to use the term ‘matrix verb’ even if, in some cases, this verb has (some) characteristics of an auxiliary verb, suggesting that the entire sentence is a monoclausal structure with the infinitive as the main verb.
b. ... omdat Jan die film wist te zien because Jan that movie managed to see ‘...because Jan managed to see that movie.’

‘THIRD CONSTRUCTION’

c. ... omdat Jan die film besloot te gaan kijken because Jan that movie decided to go watch ‘...because Jan decided to watch that movie.’

‘EXTRAPOSITION CONSTRUCTION’

d. ... omdat Jan besloot om die film te gaan kijken because Jan decided COMP that movie to go watch ‘...because Jan decided to watch that movie.’

Constructions of the type (2)a,b are often said to involve a ‘verbal cluster’, we therefore refer to this construction as ‘the clustering construction’. With the exception of the infinitival marker te and the particle in a particle-verb combination, all material associated with the embedded clause must precede the matrix verb in standard Dutch.

The discontinuous complement in (2)c is known as ‘the third construction’ or the ‘remnant extraposition construction’. In this construction, some element of the embedded clause precedes the matrix verb, but other elements may follow the matrix verb.

Finally, the type in (2)d is sometimes called the ‘extraposition construction’. The entire embedded clause follows the matrix verb.

For the purposes of this thesis, these are merely descriptive terms. They stem from earlier stages of generative grammar and were introduced by linguists who believed that the base order in Dutch is OV. Hence, the word orders in (2) were thought to reflect some form of rightward movement. It was commonly held that (2)a,b is the result of rightward movement of the infinitive; extraposition of the entire clause yields (2)d, and if embedded clause material scrambles out before the extraposition takes place, (2)c results.

On the contrary, we assume a head-initial VP here. That is, the base order in Dutch is VO. This implies that no movement is required to derive the order of the matrix verb and the infinitive. The hypothesis that the Dutch VP is head-initial is developed in the work of Zwart (1993, 1994, 1997). Zwart notes that a head-initial analysis is preferable to a head-final one from the point of view of the Linear Correspondence Axiom (LCA; Kayne 1994), which excludes rightward movement. Furthermore, he argues that a head-final VP is at odds with the fact that the Dutch DP, NP, AP and CP are all head-initial.4

We will spend much attention to constructions of the type (2)a-c. These constructions are interesting because we observe various transparency effects. Transparency effects, or restructuring effects, are observed when an element associated with the embedded clause is in a relation with the matrix clause which is

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4 Another argument for assuming a VO-base order for Dutch is developed in 5.2.
normally clause bound. For example, the position of the object die film ‘that movie’ reflects a transparency effect:

\( (3) \)  ... omdat Jan die film wil zien (=a)

because Jan that movie wants see
‘...because Jan wants to see that movie.’

Assuming a VO-base order, the infinitive zien ‘see’ is in its base position. The position of the object must then be derived by movement. But movement of the internal argument into the object position [spec, vP] is normally clause bound. This suggests that infinitival constructions of the type (2)a-c are different from finite clauses or infinitivals of the type (2)d:

\( (4) \) a. * ... omdat Jan Marie zei dat Piet zou uitnodigen

because Jan Marie said that Piet would invite
‘...because Jan said the Piet would invite Marie.’
b. * ... omdat Jan Marie besloot om uit te nodigen

because Jan Marie decided COMP out to invite
‘...because Jan decided to invite Marie.’

The goal of this thesis is to explain how exactly the two infinitivals are different, and to offer an account for the various transparency effects observed with the former class.

1.1 History

Infinitival constructions are known to show restructuring effects in many languages. To give an illustration, a couple of such effects are demonstrated in 2.1. Given that restructuring effects are so commonly found in infinitival constructions, one would like to know in what ways these infinitivals differ from finite complement clauses. The literature offers a variety of answers to this question. We cannot present more than a cursory overview of the history of this topic; the reader is referred to Wurmbrand (2001, 2005), which provides an excellent overview of the literature on restructuring.

One often mentioned difference between transparent infinitivals and opaque ones is the presence of clause boundaries. Transparent infinitivals may be assumed not to project a full clause, such that the complement forms a single clause with the matrix verb. Opaque infinitivals, on the other hand, do involve a sentential structure.

---

5 The term ‘restructuring’ is due to Rizzi (1978), who proposed a rule of restructuring which turns a biclausal sentence into a monoclausal one by reanalyzing the sequence of matrix verb and infinitive as one complex verb. Although many researchers do not assume an actual restructuring process, they still use this term to describe the effects associated with the original process. In this thesis, the term is used in this non-literal sense.

6 Such sentences are grammatical under special circumstances; see 5.1.2.1.
such that the combination of the matrix verb and the infinitival clause yields a biclausal structure.

Authors may differ, however, in how these structures come about. On one approach, transparent infinitivals are qualitatively different from opaque infinitivals. While the latter are sentential complements to a lexical verb, the infinitive in a transparent construction is the only lexical verb in the (monoclausal) sentence. What we have called the matrix verb is in fact an auxiliary-like functional head (cf. Cinque 2004).

Other authors assume that all infinitival clauses have the same (sentential) base structure (cf. Evers 1975; Rizzi 1978, and many others). The monoclausal structure of transparent infinitivals is accomplished derivationally in such analyses. Such analyses are potentially problematic, because the processes they rely on are not (always) independently motivated.

For this reason, others (cf. Cremers 1983) assume that transparent and opaque infinitivals are already different in the base structure: transparent infinitivals are VPs, opaque ones are CPs. This avoids the problem of introducing a new syntactic mechanism. However, the distinction between VP and CP may be too coarse. For instance, the class of alleged VP-complements also contains infinitivals which seem to form a tense domain independent of the matrix clause.

This problem is avoided in other approaches to restructuring. Certain authors propose that infinitivals may have other structures than VP or CP. They would allow a type which does not project the CP-layer, thus permitting transparency phenomena, but nevertheless has (some) sentential characteristics (cf. Rutten 1991). However, this approach does not answer the question of why we see transparency effects with these semi-sentential constructions.

This question is addressed in the theory of ‘graded’ restructuring developed by Wurmbrand (2001). Wurmbrand’s theory solves the problem that transparency diagnostics seem to give conflicting results. Based on the fact that den Traktor ‘the tractor’ may move into the matrix clause in (5) (at least for some speakers), we would classify (5) as a transparent construction:

\[(5) \% \text{ dass Hans den Traktor geplant hat zu reparieren } \]
\[\text{GERMAN} \]
\[\text{that John the tractor-ACC planned had to repair} \]
\[\text{‘That John (has) planned to repair the tractor.’} \]
\[\text{(Wurmbrand 2001; 41)} \]

However, this result is at odds with the fact that (6) is ungrammatical:

\[(6) \ast \text{ dass der Traktor zu reparieren geplant wurde } \]
\[\text{GERMAN} \]
\[\text{that the tractor-NOM to repair planned was} \]
\[\text{‘That they planned to repair the tractor.’} \]
\[\text{(Wurmbrand 2001; 36)} \]

Wurmbrand argues that (5) and (6) represent different operations. (5) is an instance of focus scrambling; (6) is a so-called ‘long passive’, in which the internal argument of the embedded clause raises to the matrix subject position (see also 2.2.1.3). Since different operations have different motivations, it is no surprise that they are in fact
found in different environments. Focus scrambling is clause bound, hence, may not cross a CP-boundary. However, the conditions on long passive are much stricter. Thus, it is not only clause-bound, but it is also sensitive to the presence of structural case positions. If the embedded clause were to contain a position in which a (nominative or) accusative argument could be licensed, then *der Traktor* ‘the tractor’ would not be able to skip this position and move into the matrix subject position. Hence, long passive is only possible if the complement is a bare VP.

Once we take into account that focus scrambling and long passive are possible under different conditions, it follows that they are found in different environments. Hence, it does not make sense to ask whether long passive or focus scrambling is the more reliable transparency diagnostic; all we can say is that sentences like (5) are transparent with respect to focus scrambling, and sentences like (6) with respect to long passive.

Studying different transparency phenomena, Wurmbrand (2001) comes to the conclusion that German has three degrees of transparency. That is, classifying the various transparency phenomena according to the conditions under which they are grammatical, three classes of infinitival construction emerge. Constructions which are compatible with one set of transparency phenomena (long passive, long raising to object (cf. 2.2.1.4), focus scrambling, pronoun fronting) show ‘full restructuring’. These involve VP-complements. Constructions which do not allow long passive and long raising to object but which allow the other two transparency phenomena involve a complement which is larger than VP but smaller than CP, e.g. a vP or TP. These constructions are said to be ‘reduced (non-)restructuring’. Finally, a construction which does not allow any transparency effect is called ‘non-restructuring’. These can be shown to be CP-complements.

This theory is attractive for various reasons. First, the possibility of transparency effects depends on the structure of the infinitival complement, which is base generated. Hence, no unmotivated processes need to be assumed. Moreover, the possibility of a transparency effect is tied to the licensing requirements of the element which undergoes movement. This way, the processes which we find in transparent constructions are exactly those which we find in full clauses; that is, processes like movement to the subject position, movement to the object position, etc. The only difference is that the transparent construction itself lacks the designated position, such that the first relevant higher position is targeted.

### 1.2 The present thesis

Looking into the Dutch transparency phenomena, a rather different picture emerges; the distribution of the transparency phenomena does not follow the German pattern. The following correspondence was found for German:

\[
\begin{align*}
(7) & \quad \text{a. CP-complement} & \rightarrow & \text{no transparency effects} \\
& \quad \text{b. VP-complement} & \rightarrow & \text{all transparency effects}
\end{align*}
\]

\(^{7}\) The term ‘restructuring’ is a descriptive term in Wurmbrand (2001).
Like German, Dutch has infinitival constructions which display all the transparency phenomena (the clustering construction (2)a,b), and constructions which do not display any transparency effects (the extraposition construction (2)d). The latter, which do not display any transparency, can be shown to involve a CP-complement. Hence, we may assume that the correlation between the presence of CP and the absence of transparency effects (7)a is indeed crucial to the explanation of transparency phenomena. The other Dutch infinitival constructions, however, display all of the transparency phenomena, while taking a variety of shapes ranging from VP to TP. Thus, the generalization (7)b is not true for standard Dutch, and for this reason, should not be taken as crucial in the explanation of transparency phenomena.

Effects which are crucially linked to VP-complements in Wurmbrand (2001) are found with complements larger than VP in Dutch. This is most clearly the case in the ‘third construction’, which is argued in chapter 4 to involve a complement at least as big as rP:

‘THIRD CONSTRUCTION’

(8)  ... omdat Jan die film besloot te gaan kijken (= (2)c)
   ‘...because Jan decided to go watch that movie.’

We will argue at length in chapter 5 that the ‘third construction’ indeed involves long raising to object which we (cf. 2.2.1.4), in which the internal argument of the embedded verb raises to the object position of the matrix clause.

The findings in this dissertation are significant for the view that transparency phenomena are ‘graded’. Although the complement to a clustering verb or a ‘third construction’ verb comes in a variety of sizes, the size of the complement does not predict which transparency phenomena are observed. As another example, take particle placement (cf. 2.2.3.1). It has been argued that particles move to PredP, a functional projection dominating VP (Zwart 1993; Koster 1994). In its turn, PredP is dominated by AgrOP, the functional projection to which the internal argument moves. In this theory, the following (partial) clausal architecture is assumed:

(9) TP > AgrOP > PredP > VP
    (Zwart 1993)

If transparency effects are ‘graded’, such an architecture may lead us to predict the following. Since the internal argument must move into AgrOP, the embedded internal argument may move into the matrix AgrOP only in case the embedded clause does not have one. Furthermore, if a particle must occupy PredP, it may be placed in the matrix PredP only in case the embedded clause does not project PredP. Now, assuming that the absence of embedded PredP entails the absence embedded of AgrOP – this is not necessary of course, but it is compatible with the facts – we predict that if the embedded particle may be placed in the matrix clause, long raising to object is possible as well. This is correct: there are no instances of an embedded particle preceding the matrix verb, while the embedded internal argument follows it:
However, it is not predicted that particle placement or long raising to object may take place if the embedded clause contains a TP, because the presence of TP would entail that the embedded clause also contains AgrOP and PredP. Examples of long object raising and particle placement are therefore predicted to be ungrammatical with TP-complements, as in complements to propositional verbs, contrary to fact (see chapter 4).

This is strong evidence that the possibility of transparency effects in Dutch depends on one and the same factor. We argue that the possibility of transparency effects depends on the absence of locality boundaries between the infinitival clause and the matrix clause, or phase heads: if the infinitival clause projects a locality boundary, in other words, defines a phase, no transparency effects are observed. If there is no locality boundary, or phase head, between the matrix verb and the infinitive, then each of the transparency effects is possible.

Generalization (7)a then follows, as C is a phase head. But the essence of generalization (7)b must be adopted in a different form. The presence functional heads above V does not necessarily block transparency phenomena in Dutch, as demonstrated in chapters 3 and 4. Instead, we propose that v may or may not define a phase. Specifically, we propose in chapter 6 that in standard Dutch, only case checking v defines a phase.

Evidence for this claim comes from the interpretation of adverbs. An adverb which precedes the matrix verb may be interpreted as modifying the embedded clause if there are no phase boundaries in the embedded clause. Hence, embedded scope is possible in (11)a, but not in (11)b:

(11) a. ... omdat Jan **voorzichtig** belooft te rijden  
because Jan carefully promises to drive  
'...because Jan promises to drive safely.'
   not: '...because Jan promises to drive.'

(12) a. ... omdat Jan **vaak** belooft het boek te lezen  
because Jan often promises the book to read  
'...because Jan often promises to read the book.'
   not: '...because Jan promises to read the book often.'
b. ... omdat Jan vaak het boek belooft te lezen  
   because Jan often the book promises to read  
   ‘...because Jan often promises to read the book.’  
   ‘...because Jan promises to read the book often.’

The C-phase head is absent. In (12)a, the embedded internal argument is in the embedded clause. This suggests that its licensing position is in the embedded clause. This contrasts with (12)b, in which the embedded clause does not contain a case checking v, as witnessed by the position of the internal argument to the left of the matrix verb. The scope possibilities of the adverb are different in (12)a and (12)b: embedded scope is impossible in (12)a, but possible in (12)b. The position of the internal argument and the scope of the adverb are explained if it is assumed that the embedded v is a phase head in (12)a, but not in (12)b. Thus, in standard Dutch, the status of v as a phase head correlates with its capacity to check case. In summary, this thesis argues that the possibility of transparency phenomena is explained by the phase structure of the construction. No transparency phenomena are possible if the phase head C or v is present. C being a phase head, transparency phenomena are not possible if the complement projects CP. However, the absence of v is not required for transparency phenomena to be possible; it suffices that v does not define a phase. We argue that in Dutch, the status of v is variable. Where v is a phase head, no transparency effects are found, but if v is not a phase head, such effects may be found.

1.3 Overview of chapters

This thesis is organized as follows. Chapter 2 presents the data relevant for a theory of transparency effects. For illustrative purposes, a collection of data from other languages is given, after which the Dutch data are introduced. We provide an overview of transparency phenomena and discuss which are found in which environment.

Chapter 3 then goes into the precise structure of infinitival complements of the clustering type. We first present diagnostics for the presence of functional projections in the infinitival complement. We then apply these diagnostics to the five subclasses of clustering construction. It is demonstrated that there are important differences between (or in certain cases, even within) the subclasses with respect to the presence of functional projections. The structure of the transparent infinitival complement is shown to range from VP to TP.

Chapter 4 does the same for those transparent constructions which are not of the clustering type. They may be divided into three subtypes, with structures ranging from vP to TP. We also demonstrate the structure of opaque infinitival constructions. We show that these are CPs.

Much of our reasoning depends on the correct analysis of the word order assumed to instantiate long raising to object. In chapter 5, we therefore present arguments that the assumed analysis is correct. It is shown that the DP undergoing long raising to object has A-properties. We also provide a new argument for the
view that Dutch has a head-initial VP. Together, these claims imply that the analysis which assumes long raising to object is correct.

Chapter 6 then develops an analysis which can handle the observations made in earlier chapters. First, the assumptions regarding phase-based derivation are put forth, after which we develop analyses for the transparent and opaque infinitival constructions of Dutch.

The summary and conclusions are in chapter 7.
2 Transparency phenomena

In this chapter, we introduce a variety of transparency phenomena. Section 2.1 illustrates some phenomena observed across languages. Section 2.2 then discusses the phenomena we observe in Dutch.

2.1 Cross-linguistic transparency phenomena

Infinitival constructions give rise to a variety of transparency phenomena. We demonstrate a few of them in this section. Needless to say, these phenomena do not exhaust the possibilities, and we do not present an analysis of them. We merely note that these constructions do not seem to involve full-fledged sentential complements, which suggests that locality is respected in these transparent constructions. The phenomena include transparency in the licensing of grammatical functions (2.1.1), morphological effects (2.1.2) and effects of placement (2.1.3).

2.1.1 The licensing of grammatical functions

Raising to a position in which a grammatical function is licensed is generally clause bound. There are four cases in which an embedded argument fulfills a grammatical function in the higher clause. Raising to subject and ECM are well known, but in some languages, certain control constructions also allow raising to subject and object of the embedded internal argument.

2.1.1.1 Raising to subject

The external argument of an embedded verb can be licensed in the functional domain of a higher clause. Raising to subject is widely attested:

(1) The students seem to read a book

In (1), the agent the students of the lower verb read is the subject of the higher clause. It occupies the subject position of the higher clause, and shows agreement with the higher verb seem.

It is standardly assumed that the infinitival clause in a raising construction does not project CP. This way, the movement of the embedded argument does not cross a clause boundary. This can be shown in Dutch. Beloven ‘promise’ and dreigen ‘threaten’ are ambiguous between a control and a raising interpretation. If

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1 See Ura (1994, 1996) for exceptions concerning superraising (movement to the subject position of a higher clause across an intervening argument), hyperraising (movement out of a finite clause) and copy raising (movement into a higher clause, leaving behind a (pronominal) copy).
the complementizer is present, the raising interpretation is not available; only the
agentive, control reading is possible:

(2) a. Jan belooft een goede dokter te worden
    Jan promises a good doctor to become
    ‘Jan promises to become a good doctor.’ (Jan makes a promise)
    ‘It looks like Jan will become a good doctor.’

    b. Jan belooft om een goede dokter te worden
       Jan promises COMP a good doctor to become
       ‘Jan promises to become a good doctor.’ (Jan makes a promise)
       not: ‘It looks like Jan will become a good doctor.’

This shows that the possibility of raising depends on the structure of the complement
clause. In the presence of CP, Jan may not raise into the higher clause, but in the
absence of it, such movement is possible.

2.1.1.2 Raising to object

The external argument of an embedded verb can also be licensed as the object of the
higher clause (Postal 1974; but see Bresnan 1976):

(3) The teacher believed the students to be reading a book

The external argument the students of the lower verb read is not licensed in the
embedded clause, but by the accusative licensing head of the higher verb. It
therefore bears accusative case rather than nominative, an instance of exceptional
case marking (ECM):

(4) a. The teacher believed him to read a book

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2 See also Landau (2000), who presents similar examples from Hebrew for the verb ‘begin’. In the
    presence of the complementizer, only the control interpretation is available, if the complementizer is
    absent, both a control interpretation and a raising interpretation are possible.

3 The infinitival complementizer om is ungrammatical in propositional complements, as discussed in
   3.1.1.1. In chapter 3, footnote 25, it is shown that some raising verbs take propositional complements.
   This does not hold for raising beloven ‘promise’, as the complement clause cannot be modified with a
   phrase like ‘which is true’ (cf. 3.1.2.3.2).

(i) Het feest belooft een succes te worden (# wat niet waar is)
   the party promises a success to become which not true is
   ‘The party looks like it will be a success, which is not true.’

   The success of the party is necessarily unrealized at the event time of the matrix predicate. Hence, raising
   beloven ‘promise’ is an irrealis verb (cf. 3.1.2.3.2), like control beloven ‘promise’. Since irrealis verbs are
generally compatible with the infinitival complementizer om, we may infer that the unavailability of the
raising interpretation in (2b) is due to locality.

4 I use the term “Exceptional Case Marking” for any construction in which an element in the higher
   clause is responsible for the objective case on an argument of a lower verb (cf. Koster 1987). At this point,
   nothing hinges on the exact analysis of ECM, but it should be noted that some linguists make a distinction
   between verbs of perception and causative verbs, and ECM proper as in (3)-(4). Felser (1999) points out
   that passivization of the matrix verb is not possible with verbs of the former class, in contrast to the latter
   class, which motivates the distinction.
b. * The teacher believed he to read a book

2.1.1.3 Long passive

Some languages allow a special variety of raising to subject, in which the embedded argument raises to the subject position of a control clause. Borrowing a term from Wurmbrand (2001), we refer to this phenomenon as ‘long passive’:

(5) dass die Traktoren zu reparieren versucht wurden \( \text{German} \)
that the tractors to repair tried were
‘That they tried to repair the tractors.’
(Wurmbrand 2001:19)

In (5), the internal argument \textit{die Traktoren} ‘the tractors’ of the embedded verb \textit{reparieren} ‘repair’ agrees with the higher verb \textit{wurden} ‘were’, and it bears nominative case.\(^5\) The construction is grammatical with a limited set of matrix verbs, which, according to Wurmbrand (2001), have in common that they may select a VP-complement.

This phenomenon is much more restricted than raising to subject of the external argument, but has been reported for a number of languages (cf. Bech 1955, Höhle 1978, Wurmbrand 2001 for German; George & Kornfilt 1977 for Turkish; Aissen & Perlmutter 1976 for Spanish; and Höhle 1978, Rezac 2005 for Czech).\(^6\)

2.1.1.4 Long raising to object

If we accept the long passive construction in 2.1.1.3, in which an embedded argument raises to the subject position of a control clause, we may wonder whether an embedded argument may also raise to the object position of a control clause. Wurmbrand (2001) argues that this is indeed the case. Whenever a control verb

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\(^5\) This construction is controversial. Speakers seem to vary in whether they accept the construction at all, and among the speakers who accept it, there is variation in the set of verbs with which they accept it. Höhle (1978) mentions that in Turkish and Czech, the construction is only marginally grammatical. He also notes that in his judgment, the German equivalent is only acceptable with the verb \textit{versuchen} ‘try’, a judgment shared by Reis & Sternefeld (2004). On the other hand, Lee-Schoenfeld (2005) suggests that although not all speakers accept the construction, many of the speakers who do accept the construction, accept it with the verb \textit{versuchen} ‘try’ as well as with other verbs; these verbs, however, do not conform exactly to the set of restructuring verbs that Wurmbrand (2001) argues for. The survey conducted by Wöllstein-Leisten (2001) also shows several verbs which allow the construction, only partly overlapping with Wurmbrand’s (2001) classification.

\(^6\) Object preposing in impersonal \textit{si}-constructions in Italian is similar to long passive in that the internal argument of the embedded verb is licensed as the subject of the main clause. It is different in that the higher verb is not passivized:

(i) Queste case \textit{si} vogliono vendere a caro prezzo
these houses \textit{si} want.3pl. sell at high price
‘One wants to sell these houses at a high price’.
(Rizzi 1978; 131)
allows the construction in 2.1.1.3, its raising to object counterpart is also grammatical:

(6) dass Hans den Traktor versucht hat zu reparieren
that Hans the tractor-ACC tried has to repair
‘That Hans tried to repair the tractor.’
(Wurmbrand 2001; 41)

In (6), we see that the internal argument den Traktor ‘the tractor’ of the embedded verb reparieren ‘repair’ precedes the matrix verb versucht ‘tried’. Because a clause containing passivized versuchen ‘tries’ is capable of licensing an embedded argument as the subject of the clause, Wurmbrand (2001) assumes that its active counterpart is equally capable of licensing an embedded argument as the object. This assumption is motivated by the range of verbs which allow the word order in (5). Wurmbrand (2001) shows that those verbs which allow an embedded argument to raise to the matrix subject position allow the word order in (6). Verbs which do not allow the construction in (5), like bedauern ‘regret’, do not allow the embedded internal argument to precede the matrix verb either:

(7) * dass Hans den Traktor bedauert hat reparieren zu müssen
that Hans the tractor-ACC regretted has repair to must
‘That Hans regretted that he had to repair the tractor.’
(Wurmbrand 2001; 41)

We should note, however, that the argument for taking (6) as a special type of raising to object construction is a little controversial, because it is difficult to determine how the embedded argument is licensed. The DP may be licensed in the matrix clause, in which case it instantiates raising to object. But it may also be licensed within the embedded clause, after which it moves into the matrix clause for reasons unrelated to case checking. If this is the case, then we are not dealing with raising to object after all. We go into this construction in detail in 2.2.1.4 and in chapter 5 for Dutch. At this point, however, we follow Wurmbrand (2001) in understanding the word order in (6) as instantiating raising to object.7

7 It is not so clear that this position is justified. First of all, as Wurmbrand (2001) admits, some verbs which do not allow the construction in (5), still allow the word order in (6). According to Wurmbrand, this word order then does not reflect raising to object, but rather a kind of focus scrambling. It would take us too far to point out the differences between raising to object and focus scrambling; we address this issue in chapter 5. Second, the judgments for sentences like (6) are quite subtle, and show some speaker variation. While the results with versuchen ‘try’ and bedauern ‘regret’ are not controversial, we find variation in the judgments for other verbs. Lee-Schoenfeld (2005) states that for her, there is hardly any difference in acceptability of the word order in (6) between constructions with versuchen ‘try’, which allows long passive, and e.g. planen ‘plan’, which does not. Also, in the survey conducted by Wöllstein-Leisten (2001), the class of verbs which allow the word order in (6) is larger than the class of verbs which allow the construction in (5). Moreover, the verbs which allow (5) are not a subset of the verbs which allow (6); in both classes we find verbs which are not found in the other. This casts some doubt on the validity of the generalization that the word order in (6) is the active equivalent of long passive.
The case of a matrix verb licensing an embedded argument as the object is less controversial in those languages in which the licensing relation is visible in the agreement pattern, as in Itelmen and Hungarian below. In Itelmen, a language of the Chukotko-Kamchatkan family spoken on the Kamchatka peninsula, a matrix verb can show object agreement with the internal argument of an embedded clause, a phenomenon that Bobaljik & Wurmbrand (2005) term long distance agreement:

(8) na ṣntxa-βum=n.1n kma jefšna-s.  
    he forget-1SG.OBJ=3.cl. me meet-INF  
    'He forgot to meet me.'  
    (Bobaljik & Wurmbrand 2005: 846)

In (8), the matrix verb shows object agreement with the embedded internal argument. Object agreement is obligatory in simple transitive clauses, but if the verb selects a non-finite clausal complement, object agreement with the embedded argument is optional. If it does not take place, the matrix verb is morphologically intransitive.8

Object agreement also exists in Hungarian. Verbs show definiteness agreement with the object, such that definite and indefinite objects trigger different inflections on the verb. The agreement is long distance in some cases: certain matrix verbs show definiteness agreement with the internal argument of the embedded clause.9

(9) a. Meg fogod látogatni Péter-  
    PV will-2SG.DEF visit-INF Péter-ACC  
    'You will visit Peter.'  
    (Den Dikken 2004: 450)

b. Meg fogsz látogatni valakit  
    PV will-2SG.INDEF visit-INF someone-ACC  
    'You will visit someone.'

Den Dikken (2004) argues that definiteness agreement reflects a relation between v and the object. He takes the fact that the matrix verb shows definiteness agreement as evidence that the embedded clause lacks vP.

To conclude, there is some evidence that in addition to raising to subject with control verbs, there is also raising to object with control verbs.

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8 We only see object agreement with a small set of matrix verbs, but the phenomenon is well attested. Based on scopal interactions and the fact that the matrix verbs which allow long distance agreement conform to the set of verbs which cross-linguistically show restructuring phenomena, Bobaljik & Wurmbrand (2005) argue that the object agreement in Itelmen has some properties in common with long passive in German, which suggests that object agreement is only possible if the complement clause does not project up to the sentence level.

9 PV stands for ‘preverb’, a particle which forms a predicate with the verb. (9) shows ‘preverb climbing’: the preverb meg is associated with the embedded verb, but precedes the matrix verb (cf. 2.1.3.1).
2.1.2 Morphological effects

The previous sections were devoted to relations between the matrix clause and an argument in the embedded clause. In this section, we demonstrate that restructuring effects are not restricted to arguments. In 2.1.2.1, we illustrate so called 'copying'; 2.1.2.2 demonstrates 'auxiliary switch'.

2.1.2.1 Vacuous morphology

In certain dialects of (spoken) Swedish, an embedded verb may show agreement morphology, which Wiklund (2005) calls 'copying':

(10) a. Han prövade att steka en fisk
    'He tried to fry a fish.'

b. Han prövade o stekte en fisk
    'He tried to fry a fish.'

(Wiklund 2005; 18)

In (10)a, the matrix verb takes an infinitival complement. The sentence in (10)a can also be expressed in a different way. Instead of the infinitival marker att 'to', we see the linking element o, and the embedded verb bears agreement morphology. There is no meaning difference between (10)a and (10)b; in neither example does the implication hold that the fish necessarily ended up fried.

In principle, any kind of morphology can be copied. Certain verbs only allow the participle form to be copied, but with others, tense (10)b, aspectual (11)b and mood (12)b morphology can be copied:

(11) a. Lars hade börjat o läsa boken
    'Lars had started reading the book.'

b. Lars hade börjat o läst boken
    'Lars had started reading the book.'

(Wiklund 2005; 20)

Copying is also found in variants of Norwegian, Danish and Faroese, although not all variants show all forms of copying. Wiklund (2005) suggests that copying is also instantiated in the Frisian Participium-pro-Infinitivo effect (PPI), in which a participle surfaces where an infinitive is expected (cf. Den Dikken & Hoekstra 1997), but it is not clear if the copying analysis can be generalized to those.

The linking element o is homophonous with the conjunction, but Wiklund (2005) shows that these constructions are subordinations, not coordinations.

PPC stands for past participle; IMP marks the imperative form.
Copying is considered a transparency phenomenon because only certain matrix verbs give rise to it. According to Wiklund (2005), copying reflects a relation between a functional head in the matrix clause and the corresponding functional head in the embedded clause. There are two conditions on copying. First, the embedded complementizer must be o, not att; att blocks the relation. Second, the relevant functional head in the embedded clause must be semantically vacuous. Thus, copying of the tense morphology is possible in the complement to prova ‘try’, because this complement is semantically tenseless (cf. 3.1.2), but impossible in the complement to verbs which select a propositional or factive complement, because these complements have their own (infinitival) tense specification.

2.1.2.2 Auxiliary switch

Another example we might consider vacuous as morphology is found in Italian. The phenomenon concerns the choice of auxiliary. When a modal verb takes a DP-complement, it forms the perfect with the auxiliary avere ‘have’; essere ‘be’ is excluded. But when the modal embeds another verb, the perfect is formed using avere ‘have’ if the embedded verb forms the perfect with avere ‘have’, but if the embedded verb forms the perfect with essere ‘be’, this auxiliary may optionally be used, overruling the avere ‘have’ form usually found with modals in the perfect:

(13) a. Piero è / * ha venuto con noi
   ‘Piero has come with us.’
   b. Piero è / ha voluto venire con noi
   ‘Piero wanted to come with us.’
   c. Piero ha / * è mangiato con noi
   ‘Piero has eaten with us.’
   d. Piero ha / * è voluto mangiare con noi
   ‘Piero wanted to eat with us.’

(Rizzi 1978; 133)

The embedded verb cannot generally determine the choice of auxiliary, however. Only a limited set of verbs, including modal and aspectual verbs, allow the embedded verb to determine the choice of auxiliary.
2.1.3 Transparency diagnosed by placement

In some cases, the fact that the complement is transparent is evident because an element associated with it surfaces in the matrix clause. We illustrate three such 'climbing' phenomena, Hungarian ‘preverb climbing’ (2.1.3.1), clitic climbing (2.1.3.2), and adverb climbing (2.1.3.3).

2.1.3.1 Preverb climbing

Hungarian has particle verbs, or verbs which are associated with a preverb. The preverb occupies a designated position (immediately) preceding the verb. If the verb-particle combination is part of an infinitival complement, the particle may be separated from the verb it is associated with, and surface to the left of the selecting verb:¹³

(14) Meg fogsz látogatni valakit

Hungarian

pv will-2sg.indef visit-inf someone-acc

‘You will visit someone.’

(Den Dikken 2004; 450)

Preverb climbing, the process by which the preverb comes to precede the higher verb rather than the embedded verb with which it is associated, is not optional. Depending on the matrix verb, it is either obligatory or prohibited, according to Den Dikken (2004), and the class with which it is obligatory is the auxiliary verbs. It is argued that what these verbs have in common is that the aspectual projection AspP, in which the preverb sits, is generated in the functional domain of the higher verb.

2.1.3.2 Clitic climbing

Another case of transparency evidenced by the placement of an element associated with the embedded verb is clitic climbing, well known from the Romance languages (Rizzi 1978; Cinque 2004). We demonstrate the phenomenon for Italian. Clitics are placed in front of the finite verb in simple clauses, or following the infinitive in complement clauses:

(15) a. Gianni gli presenterà Maria

Italian

Gianni him.acc introduce-fut-3sg Maria

‘Gianni will introduce Maria to him.’

b. Gianni deve presenterla a Francesco

Gianni must.3sg introduce-inf-her.acc to Francesco

‘Gianni has to introduce her to Francesco.’

(Rizzi 1978; 115/118)

See Ackema (2004) for similarities between Hungarian preverb climbing and the (optional) particle climbing with verb-particle combinations in Dutch.
With certain verbs, the clitic associated with the infinitive may optionally cliticize to the selecting verb. Alongside (15)b, we also find (16), in which clitic climbing has taken place:

(16) Gianni la deve presentare a Francesco

Gianni her,acc must.3sg introduce-inf to Francesco

‘Gianni has to introduce her to Francesco.’

(Rizzi 1978; 119; my gloss)

Such clitic climbing is not grammatical with all infinitival complements. Auxiliaries, modals, and aspectual verbs allow it, but other verbs do not.

2.1.3.3 Adverb climbing

Unlike Italian and Spanish, French does not have clitic climbing. However, the set of verbs which allow clitic climbing in these languages allows climbing of quantifiers and (low) adverbs in French (Kayne 1975):

(17) a. Pierre a (beaucoup) dû (beaucoup) souffrir

Pierre has much mustrec much suffer

‘Pierre must have suffered very much.’

b. J’ai (très bien) voulu (très bien) faire ce travail

I have very well wanted very well do this job

‘I have wanted to do this job very well.’

(Bok-Bennema & Kampers-Manhe 1994; 200)

The fact that only a limited set of verbs allows this phenomenon suggests that the structure of these complements is special.

2.1.4 Summary

This concludes our discussion of transparency phenomena. We have seen that transparency manifests itself in a variety of ways. We recognize it by the position of the embedded argument, its case marking and/or the agreement on the selecting verb (2.1.1). Transparency may also be visible in the morphology of the embedded verb (2.1.2), and sometimes we infer it from the position of certain elements which semantically belong in the embedded clause, but nevertheless surface in the higher clause (2.1.3). In the next section, it is shown that several of these phenomena may also be observed in Dutch.

2.2 Transparency diagnostics in Dutch

This section gives an overview of the transparency phenomena we find with Dutch infinitival complements. Because this thesis is concerned with Dutch, this section
will be more detailed than our discussion of the transparency phenomena across languages. We demonstrate that Dutch has a variety of transparency phenomena, related to the licensing of grammatical functions (2.2.1), morphological effects (2.2.2) and placement phenomena (2.2.3). These phenomena are not found in all infinitival complements. We discuss their distribution and and some complexities in analyzing them in 2.2.4 and 2.2.5, respectively.

2.2.1 The licensing of grammatical functions

Dutch has three infinitival constructions which are transparent with respect to the licensing of grammatical functions. Raising to subject and object with raising verbs are discussed in 2.2.1.1 and 2.2.1.2, respectively. We discuss long raising to object in 2.2.1.4. The grammaticality of raising to subject with control verbs (long passive) is controversial. We comment on this construction in 2.2.1.3.

2.2.1.1 Raising to subject

The grammatical function of an argument of an embedded verb may be licensed in the matrix clause. We see raising to subject in (18):"}

(18) a. … omdat Jan schijnt te slapen
   ‘…because Jan seems to sleep.’
   b. … omdat de boeken gestolen schijnen te zijn
   ‘…because the books seem to have been stolen.’

Using standard tests for raising, we can establish that the verb *schijnen* ‘seem’ does not assign an external theta role. For reasons of space, we do not give the examples, but in *schijnen* ‘seem’ constructions, there are no lexical restrictions on the subject (cf. (18)b); the subject may be part of an idiomatic expression; the clause embedded under *schijnen* ‘seem’ may be passivized; and finally, the *schijnen* ‘seem’ clause may not be passivized. The subject of the sentence is therefore an argument of the

---

14 The following verbs allow raising in Dutch: *schijnen* ‘seem’, *blijken* ‘turn out’, *lijken* ‘appear’, *dreigen* ‘threaten’, *beloven* ‘promise’, *moeten* ‘must’, *wollen* ‘want’, *kunnen* ‘can’, *blijven* ‘continue’, *gaan* ‘go’, *mogen* ‘may’, *zullen* ‘will’, *hebben* ‘have’, *komen* ‘come’, *liggen* ‘lie’, *lopen* ‘walk’, *zitten* ‘sit’, *beginnen* ‘begin’. Some of these verbs are ambiguous between raising and control.

15 This last property might seem to be related to the fact that *schijnen* ‘seem’ is a clustering verb (cf. 2.2.4), hence, does not have a regular past participle; in the rare examples of *schijnen* ‘seem’ embedded under *hebben* ‘have’, the IPP-effect (cf. 2.2.2.1) obtains, such that the past participle surfaces as an infinitive. The impossibility of passivization is shared by all clustering verbs, including the ones which may form passives in their non-clustering use. This suggests that clustering is indeed relevant. However, there are two raising verbs which are ambiguous between raising an control, *dreigen* ‘threaten’ and *beginnen* ‘begin’, and they optionally form clusters. Passivization is ungrammatical in the raising interpretation, whether a cluster is formed or not. This shows that the impossibility of passivizing a *schijnen* ‘seem’ clause is not necessarily due to the fact that this verb forms a cluster with its complement.
embedded verb. This is the external argument Jan of the embedded verb slapen ‘sleep’ in (18)a, but if the external argument is suppressed, as in (18)b, the internal argument de boeken ‘the books’ of the embedded verb stelen ‘steal’ may raise to the subject position of the higher clause.

Raising in Dutch differs from raising in English in that raising verbs in Dutch belong to the class of Verb-Raising verbs (Evers 1975), which form a ‘verb cluster’ with the embedded verb(s). The appearance of a ‘verb cluster’ arises because the matrix and embedded verb(s) form an adjacent sequence in the right periphery, with all non-verbal material associated with the embedded verb(s) preceding the verbal sequence:

(19) … omdat Jan Marie het gras kort had moeten leren knippen
because Jan Marie the grass short had must learn cut
‘…because Jan should have taught Marie to cut the grass short.’

In (19), Marie is the internal argument of leren ‘teach’, and het gras ‘the grass’ is the internal argument of knippen ‘cut’, which is modified by kort ‘short’. All these elements precede the sequence of verbs.

In our view, the appearance of a ‘verbal cluster’ is an epiphenomenon. The adjacency of the verbs is the result of the evacuation of the embedded infinitival clauses (cf. Zwart 1993; this thesis, chapter 6). Hence, we use the term ‘verb cluster’, and related terms like ‘cluster formation’ or ‘clustering verb’ as descriptive terms. Verb clusters are discussed in some detail in 2.2.5, and also in 2.2.4 and 3.2.

2.2.1.2 Raising to object

Dutch has raising to object, or ECM, as can be seen in (20):

(20) … omdat Jan de hond hoorde blaffen
because Jan the dog heard bark
‘…because Jan heard the dog bark.’

This construction is different from ECM in English (3). Dutch shows ECM with a different set of verbs. Where ECM in English is also found with propositional verbs, ECM in Dutch is only possible with verbs of perception and causative verbs. Evers (1975) mentions zien ‘see’, horen ‘hear’, voelen ‘feel’, laten ‘let’ and vinden ‘find’.

Second, the Dutch ECM-verbs all belong to the class of Verb-Raising verbs. All arguments of the embedded verb therefore surface in the matrix clause:

(21) … omdat Jan Piet/ hem een gedicht hoorde voordragen
because Jan Piet/him a poem heard recite
‘…because Jan heard Piet/him recite a poem.’
The fact that the external argument *Piet* of the embedded verb bears objective case in (21), as can be seen when we replace the R-expression with a pronoun, suggests that the higher verb *horen* ‘hear’ licenses it.\(^{16}\)

If we understand ECM as the licensing of the grammatical function object by a verb that does not select the argument in question, then Dutch might have many more instances of ECM. We distinguish two cases. The first case concerns other members of the class of Verb-Raising verbs. We have seen in 2.2.1.1 that in Dutch raising constructions, not only the embedded argument that is raised to subject surfaces in the matrix clause, but also the other arguments of the embedded verb:

\[(22)\) ... omdat Jan het meisje scheen te kennen
because Jan the girl seemed to know
‘...because Jan seemed to know the girl.’

Assuming that the base order in Dutch is VO, we have to assume that the internal argument *het meisje* ‘the girl’ has moved into the matrix clause. Zwart (1993) has argued that object licensing in Dutch always involves movement of the internal argument. On this analysis, the position of the object in (22) may be explained in the same way; the internal argument moves into the matrix clause to be licensed as the object.\(^{17}\)

The second case concerns control constructions in which the embedded internal argument surfaces in the matrix clause, such as (23) below:

\[(23)\) ... omdat Jan het meisje probeerde te bellen
because Jan the girl tried to call
‘...because Jan has tried to call the girl.’

The internal argument *het meisje* ‘the girl’ of the embedded verb *bellen* ‘call’ precedes the matrix verb. If it is licensed in the matrix clause, then we might consider constructions like these ECM-constructions. We return to this construction in 2.2.1.4. In order to avoid confusion, we adhere to the standard view of ECM, that is, in ECM, a higher verb licenses that argument of the lower verb which would be covert if the infinitival verb were embedded under a control verb. Those instances in which the higher verb licenses as its object an argument which is not realized as

---

\(^{16}\) One might argue that the fact that *him* is the grammatical object of the higher clause is not exceptional at all, since it could be argued to bear the internal argument role of *horen* ‘hear’. If John heard *Piet* recite a poem, then he necessarily heard *Piet*. But the implication does not hold in all cases:

\[(i)\) Ik zag geloof overal ontbreken
‘I saw faith everywhere lack’

(Koster 1987; quoting De Groot 1972)

For (i), it cannot be argued that *geloof* ‘faith’ bears a thematic role assigned by the higher verb. The speaker saw faith lacking, but he did not see faith. *Geloof* ‘faith’ therefore cannot be said to be the theme of *zie* ‘see’, but can only be the theme of *ontbreken* ‘lack’

\(^{17}\) This would be surprising, given that raising verbs are a subclass of the unaccusative verbs (Bennis 1986; Hooftstra 1984; Burzio 1986), which are unable to license a grammatical object. See Zwart (2001) for discussion. We return to this problem in 6.2.
PRO in a corresponding control clause, will not be considered instances of ECM. Hence, the example in (20) represents ECM, but the cases in (22)-(23) do not.

To conclude this section, Dutch has a limited set of ECM-verbs. These are the verbs of perception, *horen* ‘hear’, *zien* ‘see’, *ruiken* ‘smell’, *voelen* ‘feel’, and the verbs *vinden* ‘find’, *doen* ‘do’ and *laten* ‘let’.

### 2.2.1.3 Long passive

We have seen that raising to subject is possible with certain control verbs in German (cf. 2.1.1.3). It is unclear whether this construction also exists in Dutch. Examples like (24) have been discussed in the literature, and they are certainly ungrammatical:

(24) * er werd Bill geprobeerd te bezoeken
   there became Bill tried to visit
   ‘One tried to visit Bill.’

Both Koster (1987; 120) and Den Besten et al. (1988; 28) discuss this example, but neither consider the possibility of long passive, for reasons having to do with their respective frameworks. But if we were to analyze (24) as a case of long passive, we cannot conclude from (24) that the construction is ungrammatical in Dutch. Dutch *there*-sentences are subject to a definiteness restriction, to the effect that only indefinite DP-arguments can occur in a *there*-sentence (Bennis 1986). Possibly, this restriction not only holds for the arguments selected by the main verb of the *there*-sentence, but also for an argument of the lower verb which is licensed by the higher clause, as Broekhuis et al. (1995) suggest. When we control for the definiteness effect by dropping the expletive (25) or choosing an indefinite argument (26), the examples improve:

(25) a. 77 dat de auto werd geprobeerd te repareren
       that the car became tried to repair
       ‘That one tried to repair the car.’

b. 77 dat de auto’s werden geprobeerd te repareren
    that the cars became tried to repair
    ‘That one tried to repair the cars.’

(Rutten 1991; 204)

(26) 77 dat er boeken geprobeerd werden te lezen
     that there books tried were to read
     ‘That one tried to read books.’

(Broekhuis et al. 1995; 118; my gloss and translation)

Because of the number agreement between the finite verb *werden* ‘became’ and the embedded internal argument *de auto’s* ‘the cars’ (25)b and *boeken* ‘books’, we may conclude that (25) and (26) represent long passive. 19

18 Rutten (1991) notes that judgments for examples like (25) show speaker variation.
But because of their marginal status and the great speaker variation we observe with these constructions, we cannot conclude that the construction is productive in Dutch. Therefore, we do not go into this construction in this dissertation. Nevertheless, it is not difficult to find speakers for whom long passive is grammatical, or at least, better than the two question marks in (25)-(26).

2.2.1.4 Long raising to object

Despite the marginal status of raising to subject, there is some evidence that raising to object with control verbs is possible in Dutch. Recall from our discussion on ECM (2.2.1.2) that a matrix verb which does not select a DP-object may nevertheless host one. We observe this with those verbs which form a verb cluster with the infinitive:

(27) ... omdat Jan het meisje scheen te kennen (= (22))
because Jan the girl seemed to know
‘...because Jan seemed to know the girl.’

In chapter 6, we argue that the embedded internal argument is indeed licensed in the matrix clause (see also Zwart 2001). If we extend this claim to all the verbs which trigger cluster formation, then long raising to object is found with a considerable number of verbs. Table 1 lists the verbs which trigger cluster formation:

<table>
<thead>
<tr>
<th>Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>proberen</td>
</tr>
<tr>
<td>eisen</td>
</tr>
<tr>
<td>wensen</td>
</tr>
<tr>
<td>menen</td>
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<tr>
<td>wagen</td>
</tr>
<tr>
<td>weigeren</td>
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<tr>
<td>denken</td>
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<tr>
<td>hopen</td>
</tr>
<tr>
<td>verzuimen</td>
</tr>
<tr>
<td>beweren</td>
</tr>
<tr>
<td>believen</td>
</tr>
</tbody>
</table>

19 A search on the internet, in which we only checked for occurrences of the verb proberen ‘try’, yielded 49 clear cases of long passive. These include relative clauses like (i)a, which for some reason are more readily accepted by some speakers, but also cases in which no A’-movement has taken place (i)b:

(i) a. Alle acties die ooit zijn ondernomen (althans geprobeerd werden te ondernemen)...
   ‘...all actions that have ever been taken (at least, that one has tried to take)…’
   (from: www.geenzorg.org/archive/2003/02/18/hoofddstructuur(279))

b. Het tweede en derde doel zijn geprobeerd te bereiken door...
   ‘...one tried to reach the second and third goals by …’
   (from: www.os3.nl/~mrkoot/courses/CIA/UITWERKING_CIA-ESA_FINAL.pdf)

Note that the IPP-effect does not obtain.

20 However, it should be noted that the long passive construction also shows great speaker variation in German (cf. 2.1.1.3, footnote 5). It may therefore be misleading to state that the construction is grammatical in German but ungrammatical in Dutch; the acceptability for the construction may in fact be quite similar in the two languages.

21 To illustrate, Neder-L, a newsletter about the Dutch language and literature, once published a column by Peter-Arno Coppen (issue September 1994) in which he describes the events following a friend’s spontaneous (and unsuspecting) use of a long passive construction. The author first urges the friend to reject the utterance as ungrammatical, which she refuses. He then bombards her with grammaticality judgments, which prove to be remarkably consistent. Finally, the competence collapse kicks in and the author finds himself admitting to his friend that the sentence is not so bad after all.

22 The table is compiled of the verbs listed in Den Besten et al. (1988), Ruten (1991), Ibema (2001) and Van Dreumel & Coppen (2003). The main diagnostic for cluster formation is the IPP-effect (cf. 2.2.2.1). We left out several verbs which are ungrammatical or very marginal with the IPP-effect for most speakers we consulted. These are menen `think’, wagen ‘dare’, weigeren ‘refuse’, denken ‘think’, wensen ‘wish’, eisen ‘demand’, hopen ‘hopen’, verzuimen ‘neglect’, beweren ‘claim’. We also left out believe
Moreover, there is a class of verbs which does not trigger cluster formation, but in which the embedded internal argument may also precede the matrix verb. Den Besten et al. (1988) refer to this construction as ‘the third construction’. The example below is representative:

(28) dat zij nieuwe boeken had besloten te kopen
that she new books had decided to buy
‘that she had decided to buy new books.’
(Den Besten et al. 1988; 14)

The verbs in Table 2 allow this word order:

<table>
<thead>
<tr>
<th>Modals</th>
<th>Aspectual verbs</th>
<th>ECM-verbs</th>
<th>Raising verbs</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>kunnen</td>
<td>hebben</td>
<td>horen</td>
<td>blijken</td>
<td>leren</td>
</tr>
<tr>
<td>moeten</td>
<td>begin</td>
<td>hear</td>
<td>lijken</td>
<td>helpen</td>
</tr>
<tr>
<td>mogen</td>
<td>blijven</td>
<td>zien</td>
<td>schijnen</td>
<td>helpen</td>
</tr>
<tr>
<td>willen</td>
<td>gaan</td>
<td>voelen</td>
<td>dreigen</td>
<td>weten</td>
</tr>
<tr>
<td>hoeven</td>
<td>komen</td>
<td>vinden</td>
<td>beloven</td>
<td>zien</td>
</tr>
<tr>
<td>hebben</td>
<td>kopen</td>
<td>vinden</td>
<td>stellen</td>
<td>durven</td>
</tr>
<tr>
<td>dienen</td>
<td>beginen</td>
<td>doen</td>
<td>helpen</td>
<td>proberen</td>
</tr>
<tr>
<td>hebben</td>
<td>blijven</td>
<td>voelen</td>
<td>helpen</td>
<td>pogen</td>
</tr>
<tr>
<td>willen</td>
<td>gaan</td>
<td>voelen</td>
<td>helpen</td>
<td>trachten</td>
</tr>
<tr>
<td>mogen</td>
<td>blijven</td>
<td>voelen</td>
<td>helpen</td>
<td>trachten</td>
</tr>
</tbody>
</table>

Table 1: Clustering verbs

Moreover, there is a class of verbs which does not trigger cluster formation, but in which the embedded internal argument may also precede the matrix verb, Den Besten et al. (1988) refer to this construction as ‘the third construction’. The example below is representative:

(28) dat zij nieuwe boeken had besloten te kopen
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(Den Besten et al. 1988; 14)

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</tr>
</thead>
<tbody>
<tr>
<td>kunnen</td>
<td>hebben</td>
<td>horen</td>
<td>blijken</td>
<td>leren</td>
</tr>
<tr>
<td>moeten</td>
<td>begin</td>
<td>hear</td>
<td>lijken</td>
<td>helpen</td>
</tr>
<tr>
<td>mogen</td>
<td>blijven</td>
<td>zien</td>
<td>schijnen</td>
<td>helpen</td>
</tr>
<tr>
<td>willen</td>
<td>gaan</td>
<td>voelen</td>
<td>dreigen</td>
<td>weten</td>
</tr>
<tr>
<td>hoeven</td>
<td>komen</td>
<td>vinden</td>
<td>beloven</td>
<td>zien</td>
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<tr>
<td>hebben</td>
<td>kopen</td>
<td>vinden</td>
<td>stellen</td>
<td>durven</td>
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<tr>
<td>dienen</td>
<td>beginen</td>
<td>doen</td>
<td>helpen</td>
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<td>blijven</td>
<td>voelen</td>
<td>helpen</td>
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<td>willen</td>
<td>gaan</td>
<td>voelen</td>
<td>helpen</td>
<td>trachten</td>
</tr>
<tr>
<td>mogen</td>
<td>blijven</td>
<td>voelen</td>
<td>helpen</td>
<td>trachten</td>
</tr>
</tbody>
</table>

‘Wish’ and vermogen ‘be able to’, because these verbs are so infrequent that speakers find it difficult to give judgments.

In earlier stages of generative grammar, Dutch was thought to have two distinct infinitival constructions; the (monoclausal) clustering construction, and the (biclausal) extraposition construction, in which the entire complement clause follows the matrix verb. Den Besten et al. (1988) were among the first to recognize that the pattern in (28) is different from both the clustering construction and the extraposition construction; hence the term ‘third construction’. The differences between the third construction and the clustering construction are discussed in 2.2.4.
If we assume that the embedded internal argument in (28) is licensed in the matrix clause (which is indeed what we propose in 5.1 and 6.3), then long raising to object is possible in Dutch with a significant number of matrix verbs. The difference between the clustering construction and the ‘third construction’ is discussed in 2.2.5.

2.2.1.5 Summary

Dutch infinitival constructions are transparent with respect to the licensing of grammatical functions in certain constructions. There is a class of raising to subject verbs, and we observe ECM with perception verbs and causatives. Furthermore, there is long raising to object, but it is not clear whether long passive is also grammatical.

2.2.2 Morphological effects

Dutch not only displays transparency with respect to the licensing of grammatical functions. There are also morphological effects: the IPP-effect and auxiliary switch. We only discuss these phenomena as illustrations of the effects found in transparent constructions, but we are not in a position to provide an explanation for these effects.
2.2.2.1 The Infinitivus-pro-participio effect

The infinitivus-pro-participio (IPP) effect refers to the phenomenon that a verb embedded under the auxiliary ‘have’ or ‘be’ does not surface as a past participle, but as an infinitive:

(29) a. … omdat Jan Marie had willen kussen
   because Jan Marie had want, INF kiss
   ‘…because Jan had wanted to kiss Marie.’

   b. * … omdat Jan Marie had gewild kussen
      because Jan Marie had wanted kiss
      ‘…because Jan had wanted to kiss Marie.’

The IPP-effect is a typical characteristic of verb clusters. It is observed in many dialects in which cluster formation is observed, and it does not occur in languages or dialects in which no verb clusters can be identified.

In standard Dutch, the IPP-effect is found in all clustering constructions, that is, with all the verbs in Table 1 (to the extent that they may embedded under hebben ‘have’ or zijn ‘be’). The effect appears to be optional with some verbs, because with these verbs, the participle is also grammatical:

(30) ... omdat Jan het meisje heeft geprobeerd / proberen te bellen
    because Jan the girl has tried try, INF to call
    ‘...because Jan has tried to call the girl.’

However, in case the IPP-effect does not obtain, it can be shown that no cluster is formed. Thus, the verbal sequence may not be broken up by an argument in case the IPP-effect obtains, but this is possible otherwise:

(31) 7 dat Elsje hem heeft geprobeerd / * proberen een brief te schrijven
    that Elsje him has tried try, INF a letter to write
    ‘That Elsje has tried to write him a letter.’
    (Rutten 1991: 68)

We list the IPP-effect as a transparency effect because it is only found in transparent constructions. But it is not a transparency phenomenon in the sense that an otherwise clause bound process appears to cross clause boundaries; the triggering auxiliary and the matrix infinitive are in fact in the same clause. For some speakers of (dialects of) German, the IPP-effect is even grammatical in the absence of an infinitival complement:

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24 This is the case for the verbs listed under ‘control’, with the exception of weten and zien (both) ‘manage’, and also for beginnen ‘begin’ and dreigen ‘threaten’ and beloven ‘promise’.

25 This restriction holds for standard Dutch. In West-Flemish, both orders in (31) are grammatical (Rutten 1991).

26 If the infinitive selects two internal arguments, and only one of them surfaces in the matrix clause, the results tend to be less felicitous.
In this thesis, we use the IPP-effect as a diagnostic for the clustering construction: if the IPP-effect obtains, the construction is a verbal cluster, and if it does not, then the construction is not a verbal cluster. However, we do not have an explanation for why the IPP-effect occurs, nor will we attempt to formulate one.

2.2.2.2 Auxiliary switch

We now turn to a different type of transparency phenomenon. As in Italian (cf. 2.1.2.2), the embedded infinitive may determine the choice of auxiliary in the matrix clause in certain circumstances in Dutch. In the absence of an infinitival complement, proberen ‘try’ forms the perfect with a form of hebben ‘have’:

(33) ... omdat Jan dat ook geprobeerd heeft / * is 
    because Jan dat too tried has is
    ‘...because Jan tried that too.’

Proberen ‘try’ may select an infinitival complement and form a cluster with it. When proberen ‘try’ is embedded under a temporal auxiliary, the auxiliary may be either hebben ‘have’, in accordance with the properties of proberen ‘try’, or the auxiliary used with the embedded infinitive. If the embedded infinitive forms the perfect with zijn ‘be’, like ontsnappen ‘escape’, then the matrix auxiliary may be hebben ‘have’ or zijn ‘be’:

(34) De arrestant is / heeft proberen te ontsnappen
    The detainee is has try-INF to escape
    ‘The detainee tried to escape.’
    (Haeseryn et al. 1997; 81)

According to Haeseryn et al. (1997; 81), auxiliary switch is possible with the verbs durven ‘dare’, kunnen ‘can’, moeten ‘must’, hoeven ‘need’, mogen ‘may’, willen ‘want’, proberen, trachten (both) ‘try’, and weten ‘manage’. Auxiliary switch seems to be more characteristic of southern dialects of Dutch (i.e. the dialects of Flanders); in standard Dutch, it seems to be rather limited (but see Hofmans 1981; 1982a,b for a finer-grained regional classification). For lack of reliable data, we do not go into this phenomenon any further.

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27 Haeseryn et al. (1997) also mention a second type of auxiliary switch. In a verbal cluster containing four (or more) verbs, the choice of auxiliary is not determined by the most deeply embedded infinitive (V4), but is determined either by the verb embedded under the temporal auxiliary (V2) or by the verb embedded under this verb (V3):
2.2.3 Transparency diagnosed by placement

We now turn to examples in which the transparency of the infinitival clause is evident because the infinitival clause is discontinuous, such that one or more elements associated with it surface to the left of the matrix verb, while the embedded infinitive follows the matrix verb. The generalization concerning the placement of embedded clause material in transparent infinitival clauses is that any element that may undergo movement in a simple clause, may precede the matrix verb in a transparent infinitival clause. Hence, apart from the embedded infinitive itself, any element may precede the matrix verb. This is shown for particles (2.2.3.1), arguments (2.2.3.2), secondary predicates (2.2.3.3), participles (2.2.3.4), negation (2.2.3.5), and adjuncts (2.2.3.6).

2.2.3.1 Particles

Like Hungarian (cf. 2.1.3.1), Dutch has particle verbs. The particle is generally adjacent to the verb it belongs to, if the verb does not undergo verb second (Koster 1975; Van Riemsdijk 1978):

(35) a. … omdat Jan Marie graag uitnodigt because Jan Marie gladly invite
   ‘…because Jan gladly invites Marie.’

b. … omdat Jan uit Marie uit nodigt because Jan out Marie out gladly invite
   ‘…because Jan gladly invites Marie.’

In verb second contexts, the particle is left behind:

(36) a. Jan nodigt Marie graag uit
   Jan invites Marie gladly out
   ‘Jan gladly invites Marie.’

(i) Petra heeft nog wat in bed blijven lezen
   Petra is has still something in bed stay-INF lie read
   ‘Petra stayed in bed reading for a little while.’

(Haeseryn et al. 1997: 81)

The phenomenon seems rather restricted. Supposedly, this type of auxiliary switch is possible if \( V_2 \) and \( V_3 \) are both clustering verbs, but no speaker I consulted, nor myself, have any judgments on constructions of this complexity.

28 In this section, we use ‘placement effect’ as a cover term for the effects discussed in 2.2.3.1-2.2.3.6. By ‘placement’, we mean placement to the left of the matrix verb, and the term is neutral as to whether the element comes to occupy this position after movement. In chapter 6, some of these effects will be analyzed as cases of climbing (movement), while others are argued to involve first merge in the matrix clause.

29 If the particle is adjacent to the verb it belongs to, the verb-particle combination is spelled as one word; hence the hyphen in (35a) and the examples below.

30 This holds for so called ‘separable’ verb-particle combinations. There are also ‘inseparable’ verb-particle combinations, like onder-schatten ‘underestimate’, which may not be split by verb second, in verb clusters, or by stranded prepositions.
b. * Jan uit-nodigt Marie graag
   Jan out-asks Marie gladly
   ‘Jan gladly invites Marie.’

There are two exceptions to the generalization that the particle and verb are adjacent if the verb is not in second position. First, the particle may be separated from the verb by a stranded preposition (Zwart 1993: 323):

(37) … de schaar waar Jan prikkeldraad (door) mee knipt
    the scissors where Jan barbed.wire through with cuts
    ‘the scissors using which Jan cuts through barbed wire.’

Second, if the verb is part of a verbal cluster, particle and verb need not be adjacent:

(38) a. dat ik Jan op wil bellen
    that I Jan up want call
    ‘That I want to call John up.’

b. dat ik Jan wil op- bellen
    that I Jan want up call
    ‘That I want to call John up.’

(Bennis 1992: 38)

Bennis (1992) notes that there is some speaker variation as to the possible positions of the particle in the verbal cluster. All speakers accept sentences in which the particle is left adjacent to the verb it belongs to ((38)b, (39)e) or to the leftmost verb in the cluster ((38)a, (39)a). But some speakers also allow other positions in the verbal cluster:

(39) a. dat hij dat probleem op moet hebben willen kunnen lossen
    that he that problem up must have want INF can solve
    ‘That he must have wanted to be able to solve that problem.’

b. dat hij dat probleem moet op hebben willen kunnen lossen

c. dat hij dat probleem moet hebben op willen kunnen lossen

d. dat hij dat probleem moet hebben willen op kunnen lossen

e. dat hij dat probleem moet hebben willen kunnen op - lossen

   ‘That he must have wanted to be able to solve that problem.’

(Bennis 1992: 39)

Others, myself included, find sentences in which the particle immediately precedes other verbs (39)b-d unacceptable or marginal. However, speakers uniformly judge examples in which the particle is in an intermediate position as much more acceptable than examples in which it follows the rightmost verb:

(40) * … omdat hij Jan wil bellen op
    because he Jan wants call up
    ‘…because he wants to call John up.’
The particle must precede the verb to which it belongs. If the verb it is associated with is not rightmost, the particle must precede it (Zwart 1996; 24):

(41) a. … omdat ze het boek *weg-gelegd* zou kunnen hebben because she *the book put away* would can have ‘…because she might have put the book away.’
   b. … omdat ze het boek zou *weg-gelegd* kunnen hebben because she *the book put away* would can have ‘…because she might have put the book away.’
   c. * … omdat ze het boek *gelegd* zou *weg* kunnen hebben because she *the book put* would *away* can have ‘…because she might have put the book away.’

(41)a shows that the verb-particle combination may precede the other verbs, (41)b shows that the verb-particle combination may also precede some of the verbs, at least for some speakers.31 But the particle may not follow the verb it belongs to, as (41)c shows.

The variability in particle placement we see in (38)-(40) is mostly found in verb clusters, but it is not excluded in the third construction (contra Den Besten et al. 1988):

(42) … omdat Jan Marie (*tegen*) besloot (*tegen*) te houden because Jan Marie *against decided against to hold* ‘…because Jan decided to stop Marie.’

We return to particle placement in chapter 6, in which we develop an analysis of the placement of non-arguments which can handle the various word order possibilities. The nature of the licensing requirements of non-arguments will not be addressed, however.

2.2.3.2 Arguments

We have seen that the argument(s) of an embedded infinitive may surface to the left of the matrix verb in 2.1.1. In clustering constructions, this holds for all the arguments of the embedded infinitive. We have already seen examples of the external and internal argument of the embedded verb preceding the matrix clause:

(43) a. … omdat Jan *Piet een gedicht* hoorde voordragen because Jan *Piet a poem heard recite* ‘…because Jan heard Piet recite a poem.’
   b. * … omdat Jan hoorde *Piet een gedicht* voordragen because Jan heard *Piet a poem recite* ‘…because Jan heard Piet recite a poem.’

31 The position of the participle in the verbal cluster is not fixed, but many speakers have a preference for the leftmost or rightmost position; intermediate positions like (41)b are judged as substandard.
c. * ... omdat Jan Piet hoorde een gedicht voordragen
   because Jan Piet heard a poem recite
   ‘...because Jan heard Piet recite a poem.’

It also holds for PP-arguments:

(44) a. … omdat ik (de tas) (aan Jan) moet (*aan Jan) geven
    because I the bag to Jan must to Jan give
    ‘...because I have to give the bag to Jan.’

b. ... omdat Jan (met Marie) moet (*met Marie) praten
    because Jan with Marie must with Marie talk
    ‘...because Jan must talk to Marie.’

An argument may precede the matrix verb if the matrix verb is a clustering verb or a verb of the third construction.

2.2.3.3 Secondary predicates

Small clause predicates associated with an embedded infinitive must precede the matrix verb in the clustering construction:

(45) a. … omdat Jan hem aardig schijnt te vinden
    because Jan him nice seems to find
    ‘...because Jan seems to find him nice.’

b. * … omdat Jan hem schijnt aardig te vinden
    because Jan him seems nice to find
    ‘...because Jan seems to find him nice.’

The ungrammaticality of (45)b is not surprising, as we have established that schijnen ‘seem’ obligatorily forms a cluster with the verb it selects. All material associated with the embedded verb must precede the matrix verb.32

In other transparent constructions, the small clause predicate may follow or precede the matrix verb:

(46) … omdat Jan (rijk) hoopt (rijk) te worden
    because Jan rich hopes rich to become
    ‘...because Jan hopes to become rich.’

2.2.3.4 Participles

The placement of participles varies. For some speakers (cf. Zwart 1996), the participle may occupy any position in the verbal cluster; therefore, it may also precede the matrix verb. We repeat (41)a:

32. There is an exception: in case the embedded verb is a verb-particle combination, the particle need not precede the matrix verb.
omdat ze het boek _weggelegd_ zou kunnen hebben  
‘...because she might have put the book away.’

But this position of the participle is not restricted to verbal clusters. The verb _beweren_ ‘claim’ does not allow the IPP-effect, and _beweren_ ‘claim’ is not necessarily adjacent to the embedded verb; embedded clause material may separate the matrix and embedded verb. Hence, _beweren_ ‘claim’ is a third construction verb. If the embedded clause contains a participle, then the participle may precede or follow the matrix verb:

(48) omdat Jan ( _geslapen_ ) beweert ( _geslapen_ ) te hebben ( _geslapen_ )  
because Jan slept claims slept to have slept  
‘...because Jan claims to have slept.’

### 2.2.3.5 Negation

The distribution of negation is the same as the distribution of other adverbs. We discuss negation separately, because in various treatments (cf. Evers 1975), the scope of negation has been used as a diagnostic for the absence of a clause boundary between the matrix verb and the infinitival complement. The reasoning is that in a verbal cluster, negation takes scope over the entire cluster:

(49) dat we de kraaien niet _zagen_ vliegen  
that we the crows not _saw_ fly  
‘That we didn’t see the crows fly.’

(Den Besten et al. 1988; 4)

Given that negation may not take scope over the embedded verb to the exclusion of the matrix verb, it was assumed that the embedded ‘clause’ does not form a domain for negation.

However, there are two problems with this argument. First, as we demonstrate in 3.2, not all verbal clusters are alike; there are various subtypes, and the structure associated with an infinitival complement to a clustering verb ranges

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33 The ordering restrictions on the position of the participle are as in simple clauses. The participle may precede verbal material, like the embedded auxiliary in (48), but it may not precede non-verbal material:

(i) a. … omdat Jan ( * _gekust_ ) Marie ( _gekust_ ) heeft  
   ‘...because Jan kissed Marie.’
   b. … omdat Jan ( * _gekust_ ) beweert Marie te hebben ( _gekust_ )  
      because Jan kissed claims Marie to have kissed  
      ‘...because Jan claims to have kissed Marie.’
   c. … omdat Jan Marie ( _gekust_ ) beweert te hebben ( _gekust_ )  
      because Jan Marie kissed claims to have kissed  
      ‘...because Jan claims to have kissed Marie.’
from a bare VP with one type, to TP in others. It is conceivable that an infinitival complement must project up to a certain level for sentential negation to be possible. It has been argued (Zanuttini 1996) that sentential negation is only licensed in the presence of tense.\footnote{Note that the proposal holds for those negations which occupy the head of NegP. Dutch presumably has phrasal negation.} If there are indeed structural requirements for the possibility of sentential negation, one might expect that these are met in some verbal clusters (e.g. the ones which involve a TP-complement), but not others (e.g. the ones which involve a bare VP-complement). The interpretation of negation in an ECM-construction therefore may not be taken as representative for the interpretation of negation in clustering constructions in general.

Second, the unavailability of the embedded scope interpretation in (49) may be due to independent reasons; for one thing, the narrow scope interpretation may be semantically implausible. Narrow scope for niet ‘not’ in (49) would result in an interpretation in which we witnessed the non-flying of the crows. Perhaps speakers would not consider this a well-formed interpretation, and assume the more likely interpretation that we were not witnessing the flying of crows.

When we pick examples in which the embedded interpretation for negation yields a plausible interpretation, it seems that the interpretation is in fact possible:

(50) ... omdat Jan niet moet zeuren
    because Jan not must nag
    ‘...because Jan shouldn’t nag.’

(50) is more likely interpreted as expressing Jan’s obligation to refrain from nagging. The wide scope interpretation, in which Jan does not have the obligation to complain, seems less likely.

Anticipating the discussion in 3.2, it can be shown that regardless of whether the infinitival complement is as small as vP or as large as TP, embedded negation is possible in the right context. The only case in which embedded scope for negation is not possible, is if the complement is a bare VP. Also in the third construction, negation preceding the matrix verb is ambiguous between a wide scope and a narrow scope interpretation. Our findings suggest that the scope of negation is not a good test for the presence of a clause boundary.

2.2.3.6 Adjuncts

Adjuncts associated with the embedded verb precede the matrix verb in a verb cluster:

(51) a. ... omdat Jan Marie \textit{vaak} wil bezoeken
    because Jan Marie \textit{often} wants visit
    ‘...because Jan often wants to visit Marie.’
b. * ... omdat Jan Marie wil vaak bezoeken
   because Jan Marie wants often visit
   ‘...because Jan wants to visit Marie often.’
   ‘...because Jan often wants to visit Marie.’

This is not surprising, since we know that only particles may separate the verbs of a
verbal cluster.

An adjunct that modifies the embedded clause may also precede the matrix
verb if the matrix verb does not form a cluster with the embedded verb. The third
construction allows embedded scope of an adverb which precedes the matrix verb: 35

(52) a. ... omdat Jan Marie vaak heeft besloten te bezoeken
    because Jan Marie often has decided to visit
    ‘...because Jan has often decided to visit Marie.’
    ‘...because has decided to visit Marie often.’

In contrast to French (cf. 2.1.3.3), Dutch non-low adverbs may precede the matrix
verb: 36

(53) … omdat Jan waarschijnlijk/ morgen beweert te winnen
    because Jan probably tomorrow claims to win
    ‘...because Jan claims that he will (probably) win (tomorrow)
    ‘...because Jan will (probably) claim (tomorrow) that he will win.’

Adverbs and adjunct PPs behave alike. PPs may precede the matrix verb in
the third construction (54) and must precede the matrix verb in case a verb cluster is
formed (55):

(54) a. ... omdat Jan het hek met een hamer besloot te repareren
    because Jan the fence with a hammer decided to repair
    ‘...because Jan has decided to repair the fence with a hammer.’

b. ... omdat Jan besloot het hek met een hamer te repareren
    because Jan decided the fence with a hammer to repair
    ‘...because Jan has decided to repair the fence with a hammer.’

(55) a. ... omdat Jan het hek met een hamer wil repareren
    because Jan the fence with a hammer wants repair
    ‘...because Jan wants to repair the fence with a hammer.’

b. * ... omdat Jan het hek wil met een hamer repareren
   because Jan the fence wants with a hammer repair
   ‘...because Jan wants to repair the fence with a hammer.’

35 See Boeckx & Sugisaki (1999) for a similar observation in Japanese. They show that an adjunct can modify a lower (finite) clause if an argument has been scrambled out of that clause.
36 Perhaps this difference is related to the matrix verb. In Dutch, a wider range of verbs allows an adverb modifying the embedded clause to precede the matrix verb than is possible in French. Possibly, the verbs which allow this word order in French do not allow modification of the embedded clause with a high
adverb regardless of whether the adverb sits in the matrix clause or in the embedded clause.
This concludes our discussion of the placement of adjuncts. Adjuncts obligatorily precede a verb cluster, and optionally precede the matrix verb if there is no cluster. We return to the placement of adverbs in chapter 6.

2.2.3.7 Summary of placement phenomena

In this paragraph, we have shown that various elements that semantically belong to the embedded clause may surface in the matrix clause. If the matrix verb and the infinitive form a verb cluster, all elements must surface in the matrix clause, with the exception of the particle of an embedded particle verb, which surfaces in the matrix clause optionally. In the third construction, almost any embedded clause element may precede the matrix verb.

2.2.4 The distribution of transparency phenomena

In the previous section, we have demonstrated which transparency phenomena are observed in Dutch infinitival clauses. We have seen evidence for the following phenomena:

<table>
<thead>
<tr>
<th>Grammatical functions</th>
<th>Morphological effects</th>
<th>Placement effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>raising to subject</td>
<td>IPP</td>
<td>particles</td>
</tr>
<tr>
<td>raising to object</td>
<td>(auxiliary switch)</td>
<td>arguments</td>
</tr>
<tr>
<td>long raising to object</td>
<td></td>
<td>secondary predicates</td>
</tr>
<tr>
<td>(long passive)</td>
<td></td>
<td>participles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>negation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>adjuncts</td>
</tr>
</tbody>
</table>

Table 3: Transparency phenomena in Dutch

A few remarks are in order here. First, long passive and auxiliary switch are in parentheses. This is because they will not be discussed any further in this thesis. For both phenomena, we have shown that there is some evidence that they exist in Dutch, but we do not have enough data to make any reliable claims about these phenomena.

Second, argument placement is listed as a placement phenomenon, but one might argue that it should be subsumed under grammatical functions. In part, this is correct; for the most part, we will understand the placement of DP-arguments as instantiating one of the three raising phenomena. However, this does not capture the placement of PP-arguments. For this reason, we assume a separate placement effect for argument placement.

As shown in Wurmbrand (2001), transparency effects are not observed in infinitival complements in general. A transparency effect is only observed if the
construction has certain properties. Recall from 1.1 that certain matrix verbs are compatible with pronoun fronting, focus scrambling, long passive and long raising to object. In contrast, other verbs allow pronoun fronting and focus scrambling, but are ungrammatical with long passive or long raising to object. This is not surprising if the structural requirements for these phenomena are taken into account. For an embedded argument to fulfill a grammatical function in the matrix clause, the embedded clause must not be able to license the argument. Hence, long passive and long raising to object are only possible if the embedded clause cannot license any grammatical function by itself. This is the case if it does not contain structural case positions, i.e., in a VP-complement. On the other hand, focus scrambling and pronoun fronting are unrelated to the licensing of case. Therefore, these movements are not sensitive to the presence of structural case positions in the complement clause. This leads to a difference in the distribution of the four transparency phenomena. Verbs which select a VP-complement show all four effects, but verbs which select a TP-complement show pronoun fronting and focus scrambling, but not long passive or long raising to object.

As in German, the transparency effects identified in Dutch are not found in infinitival complements in general. Each of the effects is found with a restricted set of matrix verbs, and some verbs do not allow any transparency phenomena at all (cf. 4.6; 6.3.6). It would therefore be instructive to see which effect is found in which environment. The results are shown in Table 4:

<table>
<thead>
<tr>
<th>Transparency effect</th>
<th>Clustering verbs</th>
<th>Third construction verbs</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPP</td>
<td>yes</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>raising to subject</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>(ECM)</td>
<td>(yes)</td>
<td>(*)</td>
<td>*</td>
</tr>
<tr>
<td>long raising to object</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>particles</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>arguments</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>secondary predicates</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>participles</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>sentential negation</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
<tr>
<td>adjuncts</td>
<td>yes</td>
<td>yes</td>
<td>*</td>
</tr>
</tbody>
</table>

Table 4: The distribution of transparency effects

Table 4 shows which phenomena may be observed in which type of construction. Unlike what is observed in German (Wurmbrand 2001), the Dutch transparency effects do not seem to be ‘graded’; a transparent construction may display all the

Den Dikken (2004) argues that Hungarian also shows ‘graded’ transparency. If a verb shows preverb climbing, it will also show the other transparency effects, but the reverse is not true; a verb which shows definiteness agreement is not necessarily compatible with preverb climbing.

Or, as we argue for Dutch if v is present, but fails to check case.

Raising to object is in parentheses. Even though it distinguishes the clustering verbs from the verbs of the third construction, it is not clear that this is significant. As long as we do not know what drives verb clustering, we cannot be sure whether there is something special about the ECM-class which makes them incompatible with the third construction, or whether it is a coincidence that this small class of verbs is in the clustering class.
transparency effects, or none. The only phenomenon which distinguishes the clustering construction from the third construction is the IPP-effect. Unfortunately, the IPP-effect is poorly understood, and we do not have an analysis of it which might explain why it differentiates the clustering verbs from the third construction verbs.

However, we see a clear difference between the construction types when we take the optionality of the phenomena into account:

<table>
<thead>
<tr>
<th>Transparency effect</th>
<th>Clustering verbs</th>
<th>Third construction verbs</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>long raising to object</td>
<td>obligatory</td>
<td>optional</td>
<td>*</td>
</tr>
<tr>
<td>IPP</td>
<td>obligatory</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>particles</td>
<td>optional</td>
<td>optional</td>
<td>*</td>
</tr>
<tr>
<td>argument placement</td>
<td>obligatory</td>
<td>optional</td>
<td>*</td>
</tr>
<tr>
<td>secondary predicates</td>
<td>obligatory</td>
<td>optional</td>
<td>*</td>
</tr>
<tr>
<td>participles</td>
<td>obligatory</td>
<td>optional</td>
<td>*</td>
</tr>
<tr>
<td>sentential negation</td>
<td>obligatory</td>
<td>optional</td>
<td>*</td>
</tr>
<tr>
<td>adjuncts</td>
<td>obligatory</td>
<td>optional</td>
<td>*</td>
</tr>
</tbody>
</table>

Table 5: The (non-)optionality of transparency effects

Apart from the IPP-effect and particle placement, all transparency effects are obligatory with the clustering construction, but optional in the third construction. This suggests that the third construction and the clustering construction should be distinguished.

Nevertheless, the phenomena again do not show a ‘graded’ distribution: once we know that one is obligatory, optional or impossible, we also know whether the others are. The only exceptions are the IPP-effect, which is obligatory in the clustering construction and ungrammatical in the third construction, and particle placement, which is optional in both transparent construction types. Possibly, there is a single factor which determines whether or not a clause is transparent. This is indeed what we argue in chapter 6. But before we may draw this conclusion, we have to go into the difference between the clustering construction and the third construction. This is what we do in the next subsection and in chapters 3 and 4.

### 2.2.5 More on transparent infinitivals

In this section, we go into the properties of the clustering construction and the third construction. It was shown above that transparency effects are obligatory in the clustering construction, but optional in the third construction. This raises the question of whether the third construction could be viewed as an optional clustering construction. The answer to this question is somewhat contradictory: yes and no. The positive answer is discussed in 2.2.5.1; we argue against this in 2.2.5.2.

---

40 Raising to subject and object are left out because these phenomena are generally obligatory.

41 One might assume that the third construction is nothing more than a cover term for the class of predicates with which cluster formation is optional. It is shown in 2.2.5 that this would be incorrect.
2.2.5.1 Why the third construction and the clustering construction are not the same

In early works on Dutch infinitival clauses (cf. Evers 1975), no distinction was made between the clustering construction and the third construction. Superficially, the clustering construction (56) and the third construction (57) seem to be the same. The embedded internal argument precedes the matrix verb, and the matrix and the verbs are adjacent:

CLUSTERING CONSTRUCTION
(56) … omdat Jan zijn huis wil verkopen
    because Jan his house wants sell
    ‘…because Jan wants to sell his house.’

THIRD CONSTRUCTION
(57) … omdat Jan zijn huis besloot te verkopen
    because Jan his house decided to sell
    ‘…because Jan decided to sell his house.’

But, as Den Besten et al. (1988) noticed, there are several differences between complements to willen ‘want’ and complements to besluiten ‘decide’. As noted above, complements to verbs like besluiten ‘decide’ do not display the IPP-effect:

THIRD CONSTRUCTION
(58) omdat Jan een cake heeft *besluiten/ besloten te bakken
    because Jan a cake has decide-INF decide-INF to bake
    ‘…because Jan decided to bake a cake.’

In the absence of an explanatory theory of the IPP-effect, it is not clear to what extent this difference is significant. The IPP-effect appears to be optional in some cases:

(59) a. … omdat Jan het meisje heeft proberen te bellen
    because Jan the girl has try-INF to call
    ‘…because Jan has tried to call the girl.’

b. … omdat Jan het meisje heeft geprobeerd te bellen
    because Jan the girl has tried to call
    ‘…because Jan has tried to call the girl.’

It is conceivable, then, that the IPP-effect is obligatory with some clustering verbs, optional with others, and impossible with still others. However, Den Besten et al. (1988) discovered that the presence of the IPP-effect correlates with other properties.

42 The presence of the infinitival marker te is irrelevant here. There are also verbs which obligatorily form a verbal cluster with the embedded infinitive, with the infinitive introduced by te, for instance weten and zien (both) ‘succeed’, and the raising verbs. Also, verbs like zitten ‘sit’ take a te-infinitive when finite, but te may be dropped if the matrix verb is itself an infinitive.
First, the matrix and embedded verbs are strictly adjacent in the presence of the IPP-effect, but may be separated if it does not obtain.\footnote{We ignore particle placement here. If the embedded verb is a verb-particle combination, the particle may separate the verbs, even if the IPP-effect obtains.}

**Third construction**

(60) a.  
> dat Elsje hem heeft geprobeerd een brief te schrijven  
> that Elsje him has tried a letter to write  
> ‘That Elsje has tried to write him a letter.’

b.  
> * dat Elsje hem heeft proberen een brief te schrijven  
> that Elsje him has try-INF a letter to write  
> ‘That Elsje has tried to write him a letter.’

(Rutten 1991; 68)

Moreover, IPP-verbs like *wollen* ‘want’ must follow the matrix auxiliary, but non-IPP-verbs like *besluiten* ‘decide’ may also precede it:

**Clustering construction**

(61) a.  
> … omdat Jan had\textsubscript{1} willen\textsubscript{2} winnen\textsubscript{3}  
> because Jan had want\textsubscript{}INF win  
> (both) ‘…because Jan had wanted to win.’

b.  
> * … omdat Jan willen\textsubscript{2} had\textsubscript{1} winnen\textsubscript{3}  
> because Jan want\textsubscript{}INF had win  
> (both) ‘…because Jan had wanted to win.’

**Third construction**

(62) a.  
> … omdat Jan een boek heeft\textsubscript{1} besloten\textsubscript{2} te lezen\textsubscript{3}  
> because Jan a book has decide\textsubscript{}INF to read  
> (both) ‘…because Jan has decided to read a book’

b.  
> * … omdat Jan een boek besloten\textsubscript{2} heeft\textsubscript{1} te lezen\textsubscript{3}  
> because Jan a book decide\textsubscript{}INF has to read  
> (both) ‘…because Jan has decided to read a book’

*Proberen* ‘try’ patterns like *wollen* ‘want’ if the IPP-effect obtains, but like *besluiten* ‘decide’ if it does not:

**Third construction**

(63) a.  
> … omdat Jan het meisje geprobeerd\textsubscript{2} heeft\textsubscript{1} te bellen\textsubscript{3}  
> because Jan the girl tried has to call  
> ‘…because Jan has tried to call the girl.’

b.  
> * … omdat Jan het meisje proberen\textsubscript{2} heeft\textsubscript{1} te bellen\textsubscript{3}  
> because Jan the girl try\textsubscript{}INF has to call  
> ‘…because Jan has tried to call the girl.’
This is indication that if the matrix verb surfaces as a participle, it does not form a cluster with the embedded verb. Taking the matrix auxiliary as the highest verb, and the embedded infinitive as the lowest, the orders in (62)b and (63)a would represent \( V_2 > V_1 > V_3 \) clusters. However, this order is extremely rare in verbal clusters throughout the West-Germanic dialects (Zwart 1996; Barbiers 2004). It would therefore be more plausible to assume that the 2-1-3 orders above are not in fact verbal clusters.

The fact that the matrix participle precedes the matrix auxiliary is then not surprising; in simple clauses, the participle may generally follow or precede the auxiliary (cf. 2.2.3.4, footnote 33). The absence of a verbal cluster also explains the lack of adjacency between the matrix verb and the embedded infinitive.

In summary, Den Besten et al. (1988) have discovered an important difference between proper clustering constructions like (56), and constructions which look somewhat like verbal clusters on the surface, but which have different properties, like (57). They termed the latter – quite inconveniently - ‘the third construction’. The construction is also known under the more obvious term ‘remnant extraposition’, due Kroch & Santorini (1991), referring to the analysis that it involves scrambling out of the infinitival clause of the element which precedes the matrix verb, combined with extraposition of the remnant of the infinitival clause.

Next, we demonstrate why the differences between the clustering construction and the third construction may not be as significant as they may seem to be.

### 2.2.5.2 Why the third construction and the clustering construction are the same

Above, we showed three diagnostics to distinguish a verbal cluster from a third construction. Since these constructions are qualitatively different, we should expect them to have different syntactic structures. But as it turns out, it is very difficult to offer an analysis of the clustering construction which actually predicts its clustering characteristics. In the absence of an analysis of the clustering construction which captures its defining characteristic, namely the clustering of the verbs, it is indeed impossible to differentiate the clustering construction and the third construction.

In much work on verbal clusters in Dutch, a verbal cluster starts out as a sentential complement to the left of the matrix verb (following Evers 1975). These authors take the Dutch VP to be head-final:

\[
(64) \ldots \text{omdat Jan een boek te lezen probeert} \quad \text{because Jan a book to read tries}
\]

According to Evers (1975), a clausal complement may not appear in preverbal position. Because the preverbal position was assumed to be the base position of the complement of \( V \), something must be done to arrive at the right word order. There are two possibilities. Either the infinitive right-adjoints to the matrix verb, or the
entire complement clause is extraposed. After adjunction of the infinitive to the higher verb (cf. (65)a), which Evers (1975) terms ‘Verb Raising’, ‘pruning’ takes place, ((65)b), which deletes the clausal node in the complement clause, to the effect that the whole sentence is now a single clause. This results in the word order in (67)a: 45

If no Verb Raising takes place, the complement clause must undergo extraposition, resulting in the word order in (67)b:

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44 For reasons of consistency, we replace the labels used in Evers (1975) with more modern ones, but nothing hinges on the exact labelling of the the nodes. Following Evers (1975), the structures are represented as head-final. Note that we assume that the Dutch phrase structure is in fact head-initial.

45 Verb Raising should not be confused with the movement of the finite verb in verb second contexts.
(67) a. … omdat Jan een boek probeert te lezen because Jan a book tried to read
   ‘…because Jan is trying to read a book.’

b. … omdat Jan probeert een boek te lezen because Jan tries a book to read
   ‘…because Jan is trying to read a book.’

With these analyses, the position of the arguments is not remarkable. They are still in their base position, so nothing needs to be said about them.

Verb Raising effectively creates a verbal cluster. The matrix verb and the embedded verb are adjacent because the infinitive is adjoined to the matrix verb, and all other embedded clause material precedes the matrix verb because the base position of the pruned complement clause is to the left of the matrix verb.

However, in a minimalist framework, an operation like Verb Raising is problematic. First of all, it assumes rightward movement of the infinitive, in violation of the Linear Correspondence Axiom (LCA; Kayne 1994). Second, it assumes a poorly motivated process of ‘pruning’, which deletes syntactic structure. Third, it excludes the word order pattern known as ‘verb projection raising’ (Haegeman & Van Riemsdijk 1986) (see 2.2.5.2.1.3), which was discovered only after Evers (1975) published his seminal dissertation. Following Zwart (1993, 1994 et seq.), we assume that V precedes its complement in the base order in Dutch. This implies that the surface order of the verbs in (65)b is identical to the base order, which makes any process of head-adjunction redundant. The surface word order may be derived by leftward movement of the DPs. Movement of argument DPs is independently motivated and does not violate the LCA. This makes the head-initial analysis attractive.

As for the process of extraposition (66), the word order it derives is identical to the base order on a head-initial VP. From the perspective of word order, the head-initial approach is therefore more elegant than the head-final approach, which must assume extraposition. Moreover, there is no independent evidence for extraposition. For this reason, we believe that the head-final approach should be rejected in favor of the head-initial approach.

But now a problem arises: if the word order in (67)a is the result of leftward movement of the DPs and no other processes take place, then the appearance of a ‘verbal cluster’ is an epiphenomenon of DP-movement. In other words, there is no such thing as a ‘verbal cluster’. We assume that this is indeed correct. But if we accept this conclusion, then it is not clear how to distinguish the clustering construction from the third construction.

Below, we discuss and reject two (related) ways to derive the difference between clustering constructions and the third construction. First, we consider the

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46 See Zwart (1994) for arguments in favor of a head-initial analysis of Dutch. Also see 5.2 for an argument that the base order in Dutch is VO.

47 An alternative to extraposition is provided in a series of papers by Koster (cf. Koster 1999a,b; 2001) based on the proposal made in Koster (2000). Koster proposes that extraposed material is in fact construed in parallel with a (possible empty) element in the middle field, such that rightward movement is avoided. See also Rijkhoek (1998) and De Vries (1999, 2002) for further implementations of this proposal.
possibility that, although unnecessary to derive the correct word order in Dutch infinitival constructions, there is a process which creates a verbal cluster, such that all embedded clause material is forced to evacuate the embedded clause, and which somehow accounts for the IPP-effect. Second, we consider the possibility that clustering constructions are monoclausal constructions, with the ‘matrix’ verb an auxiliary verb.

2.2.5.2.1 Is there a ‘verbal cluster’?
Rather than proposing and evaluating a particular mechanism to create verbal clusters, we give a brief overview of the constructions such a mechanism must apply to. Given the wide range of constructions taken to be verbal clusters, it is difficult to formulate a characterization of verbal clusters which covers all these constructions, but excludes verbal sequences which are not normally considered verbal clusters. This makes it unlikely that there is a unitary process of cluster formation. In turn, this means that we may take the term ‘verbal cluster’ as merely a descriptive term.

2.2.5.2.1.1 Sequence of verbs
As a first approximation, one could characterize a ‘verb cluster’ as a sequence of verbal elements (Wurmbrand 2003, 2005). This is the broadest possible definition, and it makes no reference to a process of cluster formation. Thus, any (base generated) multi-verb construction is a verb cluster on this definition. Note that this definition includes cases like (68):

(68) John has\textsubscript{1} to want\textsubscript{2} to leave\textsubscript{3}
    (Wurmbrand 2005: 1)

Strict adjacency of the verbs is not crucial under this definition, as the infinitival marker to separates the verbs.\textsuperscript{48} Moreover, arguments may break the adjacency, if we want an example like (69), minimally different from (68), to represent a verb cluster as well:

(69) John has\textsubscript{1} to want\textsubscript{2} Mary to leave\textsubscript{3}

But (68) and (69) do not seem to have any special properties that would justify a characterization as ‘verb cluster’ in the way we find them in other West-Germanic languages and dialects. Moreover, they do not seem to differ in structure from (70), whose counterpart would not involve a verb cluster in any of the languages and dialects which are known to form clusters:\textsuperscript{49}

(70) John regrets\textsubscript{1} to tell\textsubscript{2} Mary their car broke down

\textsuperscript{48} We take to and its counterparts in other languages to be a ‘verbal element’ in the sense that it is associated with a verb.

\textsuperscript{49} That is, the structure that they have in common. ECM-constructions lack the CP-layer that is present in control clauses, but the structure of TP seems to be the same in ECM-constructions and control clauses.
The order of the verbs reflects the hierarchical order in both (68)-(69) and (70): the selecting verb precedes the infinitival clause it selects. Also, the position of the arguments is the same in both constructions. The object follows the verb that selects it:

\[(71)\] John wants\textsubscript{1} to tell\textsubscript{2} Mary their car broke down

Lastly, there are no morphological properties, like the IPP-effect, to suggest that English has different ways of forming the infinitival complements in (68)-(69) and (70).

This characterization is therefore too broad. However, depending on one’s theory, one might still want to entertain it for constructions like the Dutch (72), for which the IPP-effect is taken as a clear indication of a verb cluster:

\[(72)\] … omdat Jan had\textsubscript{1} willen\textsubscript{2} vertrekken\textsubscript{3}

because Jan had want\textsubscript{INF} leave

‘…because Jan had wanted to leave.’

If we assume that the underlying order in the VP in Dutch is head-complement, then the order in (72) is identical to the base order. It is therefore not immediately clear whether the structure in (72) has the same structure as (68), or whether a special cluster forming operation has taken place.

In spite of its simplicity, it is clear that his definition is problematic: it overgenerates, such that it takes accidental sequences of verbs to be verbal clusters.

\textbf{2.2.5.2.1.2 Sequence of adjacent verbs}

English and Dutch differ in the position of the internal argument in multi-verb constructions. In English, the internal argument follows the verb that selects it, but in Dutch verb clusters, it precedes the first verb in the cluster:

\[(73)\] a. John had wanted to invite Mary

b. … omdat Jan Marie had\textsubscript{1} willen\textsubscript{2} uitnodigen\textsubscript{3}

because Jan Marie had want\textsubscript{INF} invite

‘…because Jan had wanted to invite Mary.’

A second characterization of the verbal cluster could therefore be a sequence of adjacent verbal elements. Such a definition excludes the ECM-construction (69), because Mary separates the matrix verb and the embedded verb. However, (68) might be taken as a cluster on this definition, and so may examples like the following:

\[(74)\] … omdat Jan besefte\textsubscript{1} te moeten\textsubscript{2} zijn\textsubscript{3} beroofd\textsubscript{4}

because Jan realized to must be robbed

‘…because Jan realized he must have been robbed.’
As with the previous definition, this characterization captures not only true verbal clusters like (73)a, but also sequences of verbs which happen to be adjacent due to the lack of additional material.

But this criterion may be useful for cases in which the surface order of the sequence is identical to the base order:

\[(75)\] weil Cecilia mich die Kraniche \textit{filmen}, \textit{zu lehren}, \textit{versuchte} \text{German}

Because Cecilia tried to teach me to film the cranes.’

(Evers 1975; 9)

If one assumes that German has a head-final VP in the underlying order, nothing needs to be done to derive the word order (75). In this sense, the adjacency of the verbs is accidental. Nevertheless, such sequences are generally taken to be verbal clusters, because of the analogy with its counterparts in other languages, like Dutch:

\[(76)\] omdat Cecilia mij de kraanvogels \textit{probeerde}, \textit{te leren}, \textit{filmen},

because Cecilia me the common-crane tried to learn film

‘Because Cecilia tried to teach me to film the common cranes.’

(Evers 1975; 9)

The surface order is not identical to the base order in this example, whether we assume a head-initial or a head-final VP. If we assume a head-final VP (as Evers 1975 did), the underlying order of (76) is 3-2-object-1. The object-1-2-3 order we observe may be derived by successive rightward movement of the embedded verbs. Starting from a head-initial VP, the underlying order is 1-2-3-object, which requires leftward movement of the object (Zwart 1993) to arrive at the order (76). On either view, we need to assume a process that creates the order we observe, which makes Dutch different from German (75). Some authors indeed allow for the possibility that certain verb clusters are accidental, hence apparent, while others are derived by some process. But if we allow for this possibility, then we must also allow that the IPP-effect arises in the absence of a cluster formation process. Assuming a head-initial VP, the base order in examples like (72) is identical to the surface order. Also, we find the IPP-effect in the word order known as ‘verb projection raising’ (see below), in which the adjacency of the verbs is broken by for instance the object DP. This construction may also produce word orders in which the base and surface are identical, which makes it unclear whether there is a need for a cluster formation process to account for such effects as the IPP-effect.

2.2.5.2.1.3 Deviation from the base order

One obvious problem with defining verbal clusters as a sequence of adjacent verbs is the phenomenon of Verb Projection Raising (Haegeman & van Riemsdijk 1986),
which occurs in West-Flemish and Swiss German, in which the sequence of verbs is broken up by an element associated with the embedded infinitive:

\[(77) \text{da Valère zou_1 willen_3 dienen book kuopen_4 een_2 West-Flemish} \]

\[\quad \text{that Valère should want} \_3 \text{ that book buy have} \]

\[\quad \text{‘That Valère would have wanted to buy that book’} \]

(Zwart 1996; 248)

Nevertheless, examples like (77) are generally taken to represent verb clusters, because the order of the verbs is not compatible with the base order. Hence, some kind of clustering process is inevitable. We might therefore characterize verbal clusters as a sequence of verbal elements potentially deviating from the underlying order (Wurmbrand 2005). This is probably a more useful criterion than the ones we discussed so far, because it excludes verbal sequences like the English (69), while it covers the Verb Projection Raising construction. According to this criterion, a language has verb clusters if “the unmarked order of verbal elements is different from the underlying order in at least one construction” (Wurmbrand 2005; 4). This criterion presupposes that there is a process of cluster formation (whether in the syntax or another component).

One problem with this characterization is that it includes the third construction. As discussed in 2.2.3.4, the embedded verb may precede the matrix verb if the former is a participle:

\[(78) \ldots omdat Jan verloren_3 beweert_1 te hebben_2 \]

\[\quad \text{because Jan lost claims to have} \]

\[\quad \text{‘…because Jan claims to have lost.’} \]

Whether we assume a head-initial or a head-final VP, the order 3 > 1 > 2 must be a derived order. Nevertheless, the construction in (78) does not have the properties of a proper verbal cluster, as shown in 2.2.5.1.

Furthermore, it is not immediately clear whether we should assume a cluster forming process for orderings which reflect the base order (i.e. strictly ascending orders on a head-initial base order and strictly descending orders on a head-final base order), because with these orderings, the question of whether the cluster forming process has taken place is largely a theory-internal one.

2.2.5.2.1.4 Special morphology

A related characterization of verbal clusters is a sequence of verbal elements potentially displaying particular morphology. The IPP-effect seems to be restricted to verb clusters, and generally affects modals; Dutch is peculiar because it shows the IPP-effect with any verb embedded under the perfect auxiliary in a three or more verb cluster. Thus, for Dutch, the IPP-effect can be taken as a test for the presence of a verb cluster, but for other languages, this is not so clear. Also, the IPP-effect is necessarily restricted to combinations which contain the perfect auxiliary, but according to the reordering diagnostic, other combinations give rise to verb clusters
as well. Depending on one’s analysis, the IPP-effect may or may not require a process of cluster formation.

This definition is potentially problematic, because morphological effects similar to the IPP-effect are also found outside the West-Germanic dialects. Auxiliary switch seems to be restricted to clustering constructions in Dutch. However, if we take auxiliary switch as an effect associated with verbal clusters, we may have to assume that languages like Italian also have verbal clusters.\textsuperscript{51} The same holds for the Swedish copying construction (cf. 2.1.2.1). Copying represents a morphological effect which is found in limited environments in infinitival constructions, but it does not seem necessary to assume a process of cluster formation to account for it. But if there is no such process, then it is questionable whether the term ‘verbal cluster’ should be taken as anything other than a label for constructions which have certain characteristics in common.

2.2.5.2.1.5  Summary
Not one of the above characteristics covers the entire range of constructions which are generally taken to be ‘verbal clusters’. Given that not all ‘verbal clusters’ involve a sequence of adjacent verbs, it seems that it is possible nor necessary to assume that there is a unitary (syntactic) cluster formation process like Verb Raising. Furthermore, deviations from the base order of the verbs are found within and outside verbal clusters, which also casts doubt on the necessity of an independent process of cluster formation. Finally, morphological effects like the IPP-effect seem to be restricted to verbal clusters in dialects in which clusters can be identified, but related effects are found in languages in which no verbal clusters are assumed. Hence, effects like the IPP-effect provide no argument for the existence of verbal clusters in the syntax. In short, the claim that there is no such thing as a verbal cluster seems tenable. But if this is the case, then the differences between the clustering construction and the third construction cannot be ascribed to a special syntactic structure associated with verbal clusters.

2.2.5.2.2  Clustering verbs as auxiliary verbs
The second way to differentiate the Dutch clustering construction from the third construction is to view clustering verbs as auxiliary verbs. The intuition that transparency effects are associated with auxiliary verbs is not new. Rutten (1991) argues that all clustering verbs in Dutch are auxiliaries, and that verbs of the third construction are main verbs.\textsuperscript{52} Similarly, Cinque (2004) proposes that restructuring effects are not found with lexical verbs; only verbs which are base generated in the hierarchy of functional projection (Cinque 1999) give rise to restructuring effects.

We argue that this view is not correct for Dutch. If clustering verbs are auxiliary verbs, we would expect that they do not have an argument structure. While this is clearly true for the temporal auxiliaries, it is not so clear for other clustering verbs such as the Dutch auxiliaries.

\textsuperscript{51} It has in fact been proposed that Italian has verb clusters (cf. Rizzi 1982).
\textsuperscript{52} However, Rutten does not give any definition of auxiliary, other than that auxiliaries are subject to the IPP-effect and must be part of the verbal cluster, which seems circular.
verbs. The ECM-verbs, the verbs of perception, obligatorily form clusters, but they clearly assign an external thematic role.

Also, *helpen* ‘help’ and *leren* ‘learn, teach’ optionally take a DP internal argument. The fact that the internal argument may also be present in their non-clustering use, when the verb takes a (finite) CP-complement, suggests that *Jan* is indeed an argument of the matrix verb, not the the ECM-subject of the embedded verb:

(79) a. De training heeft Jan geholpen om zijn prestaties te verbeteren
   'The training has Jan helped *COMP* his performances to improve'
   'The training helped Jan to improve his performance.'

   b. Marie heeft Jan geleerd om nooit op te geven
      Marie has Jan learnt *COMP* never up to give
      'Marie taught Jan never to give up.'

   c. Marie heeft Jan geleerd dat hij nooit op moet geven
      Marie has Jan learnt that he *never up must give*
      'Marie taught Jan that he should never give up.'

But we may even argue for argument structure with those verbs which seem to have an ‘auxiliary-like’ meaning. As discussed in 3.2.3.1.5, posture verbs like *zitten* 'sit' may be used to express ongoing action, an aspectual notion which is expressed by an auxiliary verb in many languages. For this reason, we might take these verbs to be auxiliaries in verbal clusters:

(80) a. Jan zit te lezen
    Jan sits to read
    'Jan is reading.'

   b. Jan zit ( op de bank)
    Jan sits on the couch
    'Jan is sitting (on the couch)

This is also suggested by the fact that the aspectual meaning is absent if the verb is used without an infinitival complement. Thus, (80)b does not express that *Jan’s sitting is ongoing.*

However, if these verbs are auxiliaries, it is predicted that they would not pose lexical restrictions on the subject, contrary to fact:

(81) # De auto loopt weg te roesten
    the car walks away to rust
    'The car is rusting away.'

Lexical restrictions on the subject are usually taken as evidence that the subject is an argument of the verb which poses the lexical restrictions. This might be taken as

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53 As a matter of fact, it is probably not uttered to express that *Jan* is in a sitting position either, but rather to indicate his location. In this use, it looks more like a copula.
evidence that verbs like zitten ‘sit’ and lopen ‘walk’ assign an external thematic role to the subject.

However, we cannot just assume that the subject of the sentence bears the agent role of lopen. It seems that for lopen ‘walk’ to be used to express ongoing action, the subject must be capable of walking. For this reason, (81) is odd. However, for the sentence to be felicitous, the subject need not be doing any walking. Thus, (82) is perfectly acceptable even if the addressee has been sitting on the couch all day:

(82) Je loopt al de hele dag te zeuren!
you walk already the whole day to nag
‘You’ve been nagging all day long!’

On the other hand, the verb hangen ‘hang’ may only be used to express ongoing action if the posture of the subject may be described as ‘hanging’:

(83) De handdoeken hangen te drogen in de zon
the towels hang to dry in the sun
‘The towels are getting dry in the sun.’ (i.e. on the clothesline)

However, the aspectual interpretation is not felicitous in all situations in which the posture of the subject may be described as ‘hanging’. The following is odd, even though bats are known to sleep hanging upside down:

(84) De vleermuizen hangen te slapen in de grot
the bats hang to sleep in the cave
‘The bats are sleeping in the cave.’

Thus, it seems that the posture verbs may all be used to express ongoing action, but the verbs differ in the degree to which their original meaning has shifted towards the progressive interpretation. In the case of hangen ‘hang’, the original meaning is (still) prominent, while the progressive meaning is rather limited. But the reverse seems to hold of lopen ‘walk’, in which the progressive meaning is inevitable, while the original meaning is much less prominent. Nevertheless, retentions of the meaning as a manner of motion verb can still be identified in the form of lexical restrictions on the subject.

Thus, the shift from manner of motion or posture verb to verb expressing ongoing action seems to be gradual, which makes it difficult to decide whether to take such verbs to be lexical verbs or auxiliaries. We might subdivide the progressive verbs into lexical verbs (hangen ‘hang’) and auxiliaries (lopen ‘walk’), but this begs the question of where to place the dividing line between auxiliaries and lexical verbs. Moreover, it is not clear what is gained by generating some of the posture and manner of motion verbs in VP, and others in an AuxP because syntactically, they behave exactly the same.\footnote{Hangen ‘hang’ is special in that the infinitival marker te may not be dropped if the posture verb is an infinitive, which is possible with the other posture verbs.}
In any case, it seems that a distinction between lexical verbs as items generated under V and auxiliaries as functional elements generated in an AuxP is simply too coarse. We therefore adhere to the descriptive characterization of the manner of motion and posture verbs as ‘auxiliary-like’ verbs. We assume that they are lexical verbs generated in VP, whose exact interpretation is determined by the environment in which they are used.\footnote{Alternatively, we may assume that these auxiliary-like verbs are generated as Aux-heads, but there do not seem to be any serious advantages to this. It may have an intuitive appeal because it establishes a correlation between auxiliary-like status and a syntax of clustering, but unless we want to say that the perception verbs and verbs like \textit{weten} ‘manage’, \textit{proberen} ‘try’ and \textit{helpen} ‘help’ are also Aux-heads, the correlation is not perfect. But if we have to allow non-auxiliaries in the class of clustering verbs anyway, there is no need to analyze the auxiliary-like verbs as Aux-heads.}

Another argument against viewing all clustering verbs as auxiliaries is the lack of ordering restrictions. If the clustering verbs are generated as functional heads in a hierarchy of projections, we would expect that all the clustering verbs are ordered with respect to each other, as Cinque (2004) argues for Italian. However, certain clustering verbs may precede or follow another clustering verb:

\begin{itemize}
\item\textbf{(85) a.} Jan \textit{zal} een dief \textit{blijken} te zijn
\textquotesingle{}Jan will a thief turn out to be\textquotesingle{}
\item\textbf{b.} Jan \textit{bleek} binnen drie jaar blind te \textit{zullen} worden
\textquotesingle{}Jan turned out within three years blind to will become\textquotesingle{}
\item\textbf{c.} Morgen \textit{zal} Jan \textit{blijken} te \textit{hebben} geslapen toen de inbraak werd gepleegd
\textquotesingle{}Tomorrow will Jan turn out to have slept then the burglary became committed\textquotesingle{}
\end{itemize}

In (85)a, \textit{zullen} precedes (and scopes over) \textit{blijken}, which gives us the ordering restriction \textit{zullen} > \textit{blijken}, apparently in violation of the Cinque hierarchy, in which \textit{Mod}_EPISTEMIC > \textit{T}_FUTURE. Of course, we might be wrong in situating \textit{blijken} ‘turn out’ in \textit{Mod}_EPISTEMIC and \textit{zullen} ‘will’ in \textit{T}_FUTURE. But regardless of whether we assigned these verbs to the right slot, if the ordering restriction in (85)a is correct, then the ordering in (85)b, in which \textit{blijken} ‘turn out’ > \textit{zullen} ‘will’, should not be grammatical. The fact that both orderings are grammatical suggests that at least one of the verbs is not generated in a designated slot in the Cinque hierarchy (1999). This is also suggested by the order in (85)c. If \textit{hebben} ‘have’ is situated in \textit{T}_PAST, then we would arrive at the ordering \textit{T}_FUTURE > \textit{Mod}_EPISTEMIC > \textit{T}_PAST. Contrary to the Cinque hierarchy, in which these
projections are ordered $\text{Mod}_{\text{PHOTON}} > T_{\text{PAST}} > T_{\text{FUTURE}}$. We take this as evidence that not all clustering verbs are functional heads in the hierarchy of projection (Cinque 1999, 2004).\footnote{Note also that if two elements are ordered with respect to each other, this does not necessarily indicate that each of them is generated as a functional head in the Cinque hierarchy:}

In summary, there is no evidence that the verbs in the clustering class are all auxiliaries. This means that auxiliary status cannot be the explanation of the peculiarities observed in verbal clusters. In turn, this may mean that there is no basis for distinguishing verbal clusters and the third construction in terms of a special syntax in verbal clusters: the clustering construction may in fact be a particular kind of third construction.

### 2.2.5.3 Obligatory and optional transparency

In the past two sections, we have argued that there is little evidence to assume a unitary cluster formation process in the syntax. We also argued that it is not the case that all clustering verbs are auxiliaries. If we take these claims together, we are led to the view that both the clustering construction and the third construction (may) involve infinitival complementation to a lexical verb. The difference in transparency between the two constructions may then be expected to follow from the fine structure of the complement embedded under the matrix verb. In the next chapters, we examine the structure of the complement to clustering verbs and third construction verbs in considerable detail to see whether there are any inherent properties which account for the difference in transparency.

### 2.2.6 Summary of Dutch transparency phenomena

We have seen that Dutch infinitival complements are transparent in various ways. The arguments of an embedded verb may be licensed in the matrix clause in certain circumstances (2.2.1). Also, morphological effects may be observed in verbal clusters (2.2.2), and almost any element associated with the embedded clause may be placed to the left of the matrix clause (2.2.3).

We have seen that the various transparency effects are mostly found in the same environment: in verbal clusters if the phenomenon is obligatory, and in the third construction if it is optional. We have argued in 2.2.4 and 2.2.5 that these

\footnote{In 3.1.2.3.1, it is argued that hebben ‘have’ is a past tense auxiliary in the context given. Based on (i)a, we might assume the ordering restriction $T > \text{try}$. The reverse ordering $\text{try} > T$ is ungrammatical, as shown in (i)b. However, the ordering restriction cannot be taken as evidence that proberen ‘try’ is a functional head, because in (i), proberen ‘try’ takes a CP-complement. This means that (i) is a biclausal structure, with proberen ‘try’ as the main verb in its clause. This implies that an ordering restriction can be formulated for sequences of auxiliaries and lexical verbs, which in turn, suggests that the presence of an ordering restriction is not necessarily evidence for an ordering of functional projections.}
environments are not qualitatively different in the sense that in either construction type, a lexical verb embeds an infinitival complement. What explains the difference between them is a mystery that we will not be able to solve in this thesis; however, we will posit an analysis that derives the correct word orders.

The observation that all phenomena are found in the same environment is not in accordance with the hypothesis that restructuring effects are ‘graded’ (Wurmbrand 2001). There are two possible reasons that Dutch transparency does not appear to be ‘graded’. First, it might be the case that all transparent infinitivals have the same structure, say YP, which is compatible with all transparency phenomena. We might then expect that all clustering verbs embed a complement of the type YP, and all third construction verbs embed either YP, or ZP. If they embed YP, they will show all the transparency phenomena, but if they embed ZP, none will be observed.

Alternatively, it might be the case that the ‘graded’ nature of transparency phenomena is disguised, due to the fact that the phenomena at hand happen to be sensitive to the same factor, say the absence of one particular domain boundary.

To find out which of these possibilities is correct, we have to get into the structure of the complement of the clustering construction and the third construction in Dutch. This is what we do in chapters 3 and 4.
3 The syntactic structure of verbal clusters

In this chapter and in chapter 4 we further investigate the transparency phenomena identified in the previous chapter. We have seen that there are three kinds of infinitival complement. Infinitival complements are obligatorily transparent, optionally transparent, or opaque. We investigate whether the three types of complement can be analyzed along the lines of Wurmbrand’s (2001) theory of graded restructuring, in which different degrees of transparency correlate with different syntactic structures. Our conclusion will be that this theory only partly accounts for the Dutch complementation phenomena.

Wurmbrand (2001) shows that in German, the less functional structure the complement projects, the more restructuring effects are observed. Restructuring effects thus reflect the failure of the complement clause to license an element associated with the infinitive contained in it. Conversely, if more functional structure can be identified in the complement clause, there is less reason to assume that any element associated with the infinitive it contains would be licensed by the matrix clause.

In Wurmbrand’s (2001) theory, there are three degrees of restructuring, associated with three different types of complement. The type which contains most functional structure projects a CP. CP-complements are opaque, because this type is functionally complete, and therefore, no restructuring effects are expected. Reduced (non-)restructuring complements, on the other hand, project up to TP or vP. These complements are transparent to some extent, but do not show all the restructuring effects associated with full restructuring. Full restructuring involves a bare VP, which does not have the capacity to license material associated with the infinitive.

In this chapter, we investigate whether the transparency phenomena in Dutch can be captured in terms of graded transparency in the same way. We demonstrate that such an analysis is only partly successful. The distinction between matrix verbs which select transparent complements and matrix verbs which select opaque complements may indeed be defined by the size of the complement: opaque complements are CPs; transparent complements are smaller.

We have already seen that the Dutch transparency phenomena cluster together: either all are possible, or none.¹ If Wurmbrand’s theory could be carried over to Dutch, this suggests that transparent complements are all of the full restructuring type, or all of the reduced non-restructuring type. In this chapter, however, we demonstrate that the effects associated with clustering constructions follow only partly from an account in terms of the amount of functional structure. In accordance with Wurmbrand’s (2001) theory, some verbs select a bare VP-complement, even if they are semantically compatible with a complement which projects some functional structure. But in (most) other cases, the infinitival clause projects functional structure, while still showing all the restructuring effects.

We demonstrate in the next chapter that this situation also holds for the third construction: all the functional projections which are semantically compatible with

¹ That is, if we ignore the IPP-effect, whose nature is poorly understood.
the properties of the matrix verb are projected in the infinitival clause, with the exception of C. This has some interesting consequences for the theory of complementation.

This chapter is organized as follows. In 3.1, we discuss the diagnostics used to determine what the structure of the complement is. We apply these diagnostics to each of the five verb classes which form a verbal cluster with their complement in 3.2. A discussion of the implications of our findings is postponed until the next chapter, section 4.5.

3.1 Diagnostics

We assume the following organization for an embedded clause in Dutch:\(^2\)

\[
(1) \text{CP} > T_{\text{PAST}} > T_{\text{FUTURE}} > \text{Mood}_{\text{IRREALIS}} > T_{\text{ANTERIOR}} > vP > VP \]

To determine which of these projections are present in an infinitival clause we have to identify diagnostics for all the functional projections. This section presents some tests to identify them.

We note that the diagnostics for functional structure are actually diagnostics for the presence of ‘contentful’ structure. At this point, we have little to say about the structure of the complement of an infinitival clause that lacks a certain ‘contentful’ functional projection. There are two possibilities. Either the lack of this ‘contentful’ projection diagnoses the absence of the relevant head. That is, the structure truly lacks the projection in question. On the other hand, it is conceivable that the absence of ‘contentful’ structure does not correlate with the absence of the relevant node in the structure; the construction may contain a semantically vacuous functional head.

The phenomenon of ‘copying’ found in certain Swedish dialects (Wiklund 2005) seems to suggest that both possibilities are attested. In 2.1.2.1 we discussed the Swedish copying construction. Under certain circumstances, the inflection of the matrix verb is copied onto the embedded verb:

\[
(2) \text{Han började ö skrev dikter} \quad \text{SWEDISH}
\]

\begin{tabular}{ll}
he & start.PAST  \\
write.PAST & poems  \\
\end{tabular}

‘He started writing poems.’

(Wiklund 2005; 3)

The conditions on copying are as follows. The first thing to note is that copying is optional. (2) freely alternates with a construction in which the embedded verb has the infinitive form:

\(^2\) This organization is in accordance with Cinque (1999). We only discuss the projections which are relevant in the study of restructuring. We do not mention negation in (1), because it is not clear where it should be situated.

\(^3\) We represent past and future as separate projections for practical reasons. Nothing hinges on whether we take them to be values of the same head, or separate heads.
Second, Wiklund (2005) takes copying as an instance of Agree between the relevant functional head in the matrix clause, and the corresponding head in the infinitival clause. Thus, for the matrix value of tense to be copied onto the infinitive, the infinitival clause has to contain a tense node. Crucially, the Agree-relation required for copying only arises if the infinitival functional head is unvalued, hence not contentful. This is the case in (3). The complement of the verb börja ‘start’ may not refer to a time that is in the future or in the past with respect to the time referred to in the matrix predicate:

(3) Han började att o skriva dikter
    he start.PAST to o write.INF poems
    ‘He started writing poems.’
    (Wiklund 2005; 5)

If the complement may be situated in time independently of the time referred to in the matrix predicate, then copying is not possible. Thus, copying is not possible with the matrix predicate vara ledsen ‘be sorry’. The infinitival clause may refer to the past, made explicit by the adverb igår ‘yesterday’, while the matrix verb is in the present tense:

(4) * Igår började han att steka an fisk imorgon
    yesterday start.PAST he to fry.INF a fish tomorrow
    ‘Yesterday, he started frying a fish tomorrow.’
    (Wiklund 2005; 41)

As a consequence, copying of the inflection of the matrix verb is not possible:

(5) Han är ledsen över att ha sårat dig igår
    he is sorry over to have hurt you yesterday
    ‘He is sorry to have hurt yesterday.’
    (Wiklund 2005; 50)

While it is reasonable to assume that the possibility of copying is indeed related to the absence of contentful tense in the complement, the conclusion that copying is an Agree-relation between the matrix and the embedded T-nodes is not inevitable. Wiklund (2005) offers two arguments in favor of her analysis. First, there is the phenomenon of ‘partial copying’, in which some forms of the matrix verb may be copied, but others cannot. This type of copying is found with certain complements which have contentful tense. Crucially, copying of tensed forms of the
matrix verb is not possible with these verbs, but the participial (7)a or imperative forms (7)b may be copied:

(7) a. Han hade planerat o kommit hem (% imorgen)  
    he had plan.PPC o come.PPC home tomorrow  
    'He had planned to come home (tomorrow).'

b. Erbjud dig o gör det (% imorgen)!  
    offer.IMP o refl. do.IMP it tomorrow  
    'Offer to do it (tomorrow)!'  
    (Wiklund 2005; 69)

Copying of the imperative form is analyzed as an Agree-relation between the C-nodes in the matrix and embedded clauses. Copying of the participial form is argued to reflect an Agree-relation between the Asp-heads in the matrix clause and the embedded clause. Given that the infinitival clause has contentful tense in (7), copying of the inflection associated with the T-node is not possible. The embedded clause contains a T-node, but this node is valued, hence copying is blocked. But the fact that the embedded T-node has its own value does not necessarily block Agree between other heads in the structure. The C- and Asp-nodes are not valued, and the value of the C- and Asp-nodes may therefore be copied onto the corresponding nodes in the infinitival clause.

The second piece of evidence in favor of copying as an Agree-relation is the distribution of copying. As it turns out, the lack of contentful tense in the infinitival clause is not a sufficient condition for the possibility of copying. A number of matrix verbs which select for an infinitival clause without contentful tense fail to allow copying of the imperative and tensed forms:

(8) a. * Jag lät henne köpte bananer  
    I let.PAST her buy.PAST bananas  
    'I allowed her to buy bananas.'

b. * Lät henne köp bananer!  
    let.IMP her buy.IMP bananas  
    'Allow her to buy bananas!'  
    (Wiklund 2005; 61)

In contrast, copying of the participial form is grammatical:

(9) Jag hade låtit henne köpt bananer  
    I had let.PPP her buy.PPC bananas  
    'I had allowed her to buy bananas.'  
    (Wiklund 2005; 61)

What is striking about these examples is that the complement is a bare infinitive, that is, the infinitival complement is not introduced by a complementizer. If we take

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4 Partial copying, as in (7), is accepted by a subset of the speakers whose dialect has copying. Some of the speakers who accept (7) without the temporal adverb, reject it when the adverb is present.
the absence of the complementizer to indicate that the complement lacks the C-layer altogether, then the ungrammaticality of (8)b follows. There can be no Agree-relation between the matrix C and the embedded C, because there is no C in the embedded clause. By analogy, we may assume that the ungrammaticality of (8)a shows that the tense node is absent as well.

Thus, Wiklund (2005) shows that the lack of a contentful functional head may be reflected in the syntactic structure in two ways. Either the functional head is present in the structure, but is unvalued, in which case copying is possible; or the relevant head is absent altogether, in which case no copying is possible. The first possibility is found in (2) and (7), the second in (8).

If we accept Wiklund’s conclusion that the absence of a contentful functional projection may be reflected in the syntactic structure in two ways, then we may expect that each non-contentful functional head may be either absent, or present as a semantically vacuous unvalued head. Hence, the diagnostics presented below cannot be used to determine whether an infinitival clause projects the head in question; they may only be used to determine whether the head in question is contentful. If it is not, it is not immediately clear whether the relevant is vacuous or absent.

That said, we go on to introduce the tests to identify contentful functional projections. Diagnostics for C are given in 3.1.1. We present tests for the presence of contentful tense in 3.1.2, and for MoodIRREALIS in 3.1.3. TANTERIOR is discussed in 3.1.4. Finally, we discuss sentential negation in 3.1.5 and provide tests for the presence of v in 3.1.6.

3.1.1 Diagnostics for C

There are two tests to establish the presence of contentful C in a Dutch infinitival clause. The clause may contain a complementizer (3.1.1.1), or a fronted wh-phrase (3.1.1.2).

3.1.1.1 The presence of a complementizer

We can be certain that the clause projects up to CP if it hosts an overt complementizer:

(10) Jan raadt Marie aan [CP om naar Parijs te gaan]
    Jan advises Marie on to Paris to go
    ‘Jan advises Marie to go to Paris.’

However, we may not conclude that the clause lacks a CP-layer if the infinitival complementizer om is absent. The presence of om in complement clauses is never obligatory. The word order in (10) would also be grammatical without om.

With complements to verbs, that is. Om cannot usually be dropped in adjunct clauses, or in complements to nouns:

(i) Jan’s advies *(om) taalkunde te gaan studeren
    Jan’s advice linguistics to go study
    ‘Jan’s advice to study linguistics’
Furthermore, not all verbs allow for a complement clause introduced by *om*. *Om* is ungrammatical in the complement to clustering verbs, as we will see below. With these verbs, the ungrammaticality is to be explained by the absence of the CP-projection.

This explanation does not hold for propositional verbs (11) and factive verbs (12). These verbs may take a finite clausal complement or an infinitival complement. Despite the fact such may take (finite) CP, *om* is ungrammatical in the complement to such verbs:

(11) a. Jan beweert (*om) de hond te gaan uilaten
   Jan claims COMP the dog to go walk
   ‘Jan claims that he going to walk the dog.’
   b. Jan beweert dat hij de hond gaat uilaten
   Jan claims that he the dog goes walk
   ‘Jan claims that he is going to walk the dog.’

(12) a. Jan beseft (*om) Marie te hebben beledigd
   Jan realized COMP Marie to have insulted
   ‘Jan realized that he has insulted Marie.’
   b. Jan beseft dat hij Marie heeft beledigd
   Jan realized that he Marie has insulted
   ‘Jan realized that he has insulted Marie.’

Possibly, we have to assume more than one infinitival complementizer. *Om* may only be used in irrealis complements, such as (10). In addition, we have to assume that *om* has a covert counterpart, which is present in irrealis complements in which *om* is absent, if we want to maintain that in the absence of transparency effects and in the absence of *om*, irrealis verbs still select a CP-complement. Finally, we have to assume a second covert complementizer if we want to assume that propositional and factive verbs select infinitival CP-complements. Apparently, this complementizer does not have an overt counterpart.

The ungrammaticality of *om* in complements to propositional and factive verbs may be explained by the historical development of the complementizer *om* (Ijibema 2002; 128). *Om* was originally a locative preposition meaning ‘around’, as in *om de tafel heen lopen* ‘walk around the table’. This meaning generalized to

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6 A test to determine whether a verb is propositional is shown in 3.1.2.3.2. Characteristics of factive verbs are given below and in chapter 4.
7 Pesetsky (1991) proposes that English has a variety of (covert) infinitival complementizers. We might assume that Dutch similarly possesses different infinitival complementizers for the various classes of infinitival complements. We have not investigated this possibility in any detail.
8 See 3.1.2.3.2 for a description of irrealis verbs.
9 In 4.1, we suggest that infinitival propositional complements are not CPs. We do not want to assume this for factive verbs, however. The absence of transparency effects with factive complements is easily explained if such complements always project CP, as argued in Wurmbrand (2001). Also, it has been proposed that the factive semantics of such complements is due to the presence of a factive operator in CP. If this is true, then C-domain must be present.
non-locational contexts, expressing a “movement of the mind around…the object that causes a certain emotion” (IJbema 2002; 129), as in *treuren om zijn geliefde ‘mourn for his beloved’. *Om became used to express “the cause or motivation for an activity. … The motivation … is usually the wish to obtain a certain object or the wish to reach a certain goal” (IJbema 2002; 129), as in *om hulp roepen ‘cry for help’. This use eventually extended to infinitival clauses, at first only in purpose clauses, but later also to complement clauses to irrealis verbs. This arguably explains why realis complements are not compatible with *om.

This explanation is problematic, however. As it stands, it is not entirely correct for complement clauses, because *om does occur in realis complements in certain circumstances. Weak implicatives allow *om:

(13) Jan heeft geholpen/ geweigerd *om Marie te overtuigen
Jan has helped refused *om. Marie to convince
‘Jan has helped convince Marie/ refused to convince Marie.’

Furthermore, strong implicatives allow *om if the complement clause is construed with the proform *het ‘it’:

(14) a. Jan heeft *het gewaagd ( *om) zijn schoonmoeder te beledigen
Jan has it dared *om. his mother-in-law to insult
‘Jan has dared to insult his mother-in-law.’

b. Jan heeft gewaagd (*om) zijn schoonmoeder te beledigen
Jan has dared *om. his mother-in-law to insult
(both): ‘Jan has dared to insult his mother-in-law.’

The grammaticality of (14)a makes it problematic to state that *om is associated with irrealis mood, and cannot function as a semantically neutral complementizer.

Factive verbs show interesting behavior in this respect. As in strong implicatives, *om is ungrammatical in complement clauses which are not construed with a proform (15)a. *Beseffen ‘realize’ may not be construed with a proform, and *om is ungrammatical. *Betreuren ‘regret’, on the other hand, optionally allows the *het-construction. If *het ‘it’ is present (15)b, then *om is possible:

(15) a. Jan beseft (*het) ( *om) zijn huis te moeten verkopen
Jan realizes it *om. his house to must sell
‘Jan realizes that he has to sell his house.’

b. Jan betreurt *het ( *om) zijn huis te moeten verkopen
Jan regrets it *om. his house to must sell
‘Jan regrets it that he has to sell his house.’

10 See 3.2 for a discussion of weak and strong implicative verbs.

11 (14) may not be a problem for IJbema (2002), as she assumes that the feature [+irrealis] is assigned to the complementizer by the matrix verb. If the complement clause is not a real argument of the verb in the *het-construction (Bennis 1986; Koster 2000), then the verb may not be able to assign the [+irrealis] feature to it. However, this analysis does not explain the grammaticality of *om in (13) and the contrast in (15).
c. Jan betreurt het (**om**) zijn schoonmoeder te hebben beledigd
   Jan regrets it **COMP** his mother-in-law to have insulted
   ‘Jan regrets it that he has insulted his mother in law.’

However, irrealis mood does seem to have an effect in (15)b and (15)c. Because of the factive verb, the complement clauses are realis in that the propositions are true: if it is true that Jan regrets it, then it is also true that there is a need to sell the house and that Jan has insulted his mother in law. However, only the complement in (15)c is realis in that it describes a realized event. There has been a time and place at which Jan insulted his mother in law, but there has not been a time and place at which he sold his house. The event of selling the house is unrealized in that there is not an actual event of selling the house, even though there is an actual need to sell it. In this sense, we might consider the complement clause irrealis. It seems that this difference has consequences for the structure. Om is degraded in (15)c, but it is fine in (15)b.

Finally, notice that the difference between realis and irrealis clauses is reflected differently in subject sentences. If construed with a proform, om is obligatory, and the subject sentence may express a realized event (16)a or an unrealized event (16)b:

(16) a. Het was stom van Jan om zijn schoonmoeder te beledigen
   it was stupid of Jan COMP his mother-in-law to insult
   ‘It was stupid of Jan to insult his mother in law.’

   b. Het is Jan’s droom om ooit de Taj Mahal te zien
   it is Jan’s dream COMP ever the Taj Mahal to see
   ‘It is Jan’s dream to see the Taj Mahal one day.’

In the alternative construction without the proform, realis complements like (17)a show up as bare infinitives, presumably nominalizations. Irrealis complements (17)b retain the infinitival marker te, but om is ungrammatical (IJbema 2002):

(17) a. (*Om) zijn schoonmoeder (*te) beledigen was stom van Jan
   COMP his mother-in-law to insult was stupid of Jan
   ‘Insulting his mother-in-law was stupid of Jan.’

   b. (*Om) ooit de Taj Mahal te zien is Jans droom
   COMP ever the Taj Mahal to see is Jan’s dream
   ‘To see the Taj Mahal one day, is Jan’s dream.’

We conclude that the distribution of om raises questions that we cannot answer at this point. In complement clauses, om indeed seems to be associated with irrealis mood, but there are exceptions to this generalization (cf. (13)). In constructions with a proform, om seems to function as a semantically neutral complementizer, at least with strong implicatives (14)b and subject sentences (16). However, factive verbs show an effect of irrealis mood even in the construction with the proform (15).

In summary, we can use the presence of om as a test for the presence of the CP-layer if the matrix verb is not a factive verb, a propositional verb, or a strong implicative.
3.1.1.2 Embedded wh-movement

The second test for the presence of the CP-layer is embedded wh-movement. If the infinitival clause allows fronting of a wh-phrase, then the clause must have a CP-projection:

(18) … omdat Jan niet wist [CP wat te doen]  
    because Jan not knew what to do  
    ‘…because Jan did not know what to do.’

This test is of limited use, as it relies on the possibility of embedding an indirect question. Since many verbs may not embed indirect questions, the test cannot be used in all circumstances. Moreover, wh-infinitivals are not fully productive in Dutch. The construction sounds a bit archaic, and some speakers do not accept it at all.

3.1.2 Diagnostics for tense

Now let us investigate the possible evidence for the presence of TP. By tense, we understand past, present and future tense. The temporal relation of anteriority is discussed separately in 3.1.4, as we assume it is associated with a lower functional projection than TP (Cinque 1999).

We use four diagnostics for the presence of tense in the complement, concerning the temporal overlap of the events described by the embedded predicate and the matrix predicate (3.1.2.1), modification of the embedded predicate (3.1.2.2), the use of temporal auxiliaries (3.1.2.3), and the phenomenon of past tense replacement (3.1.2.4).

3.1.2.1 Simultaneity of event times

First, we assume that the complement may be tensed if the event time of the embedded verb is not simultaneous with the event time of the matrix verb. Consider (19):

(19) … omdat Jan Marie hoorde zingen  
    because Jan Marie heard sing  
    ‘…because Jan heard Marie sing.’

Verbs of perception express direct perception if they select an infinitival complement: the perception is simultaneous with what is perceived. In (19), the perception is in the past, so the singing must have taken place in the past too. Since the embedded event time depends on the matrix event time, it is likely that the infinitival complement does not constitute its own tense domain.

Not all infinitival complements share their event time with the matrix clause. With irreals verbs, the event time of the matrix predicate typically does not coincide with the event time of the embedded clause:
(20) … omdat Jan Marie beloofde de hond uit te laten
because Jan Marie promised the dog uit to let
‘…because Jan promised Marie that he would walk the dog.’

The moment of Jan’s promise is in the past, while the moment of the dog-walking is in the future. Hence, the matrix clause and the embedded clause each have their own event time. However, this does not mean that they both have tense. As we argue in 3.1.2.3.2, having an independent event time is not the same as having tense; future oriented complements come in two kinds. One kind truly has tense, while the other is associated with a particular category of mood.

The event expressed in the complement to a propositional verb may be situated in time in a moment preceding the event time of the matrix verb:

(21) … omdat Jan beweerde een film gehuurd te hebben
because Jan claimed a movie rented to have
‘…because Jan claimed he had rented a movie.’

In (21), the moment at which Jan rents a movie is before the moment at which he claims to have done so. In this situation, we do assume that the infinitival clause must have its own tense domain. Hence, the interpretation of (19) and (21) tells us that the infinitival complement to \textit{horen} ‘hear’ is tenseless, but the complement to \textit{beweren} ‘claim’ is not.

The other three tests are variations of the first test. They all serve to determine whether the event times of the matrix and the embedded predicate coincide, or are separate.

3.1.2.2 \textit{Modification of the embedded event time}

The second test for the presence of embedded tense is adverbial modification. We argue that the complement contains a TP if it can be modified by a temporal adverb:

\footnote{This does not mean that the event time of the embedded event is independent of the event time of the matrix predicate. According to Landau (2004), the complement clause to irrealis verbs has dependent tense, in that the complement is necessarily future oriented.}

\footnote{We assume that the presence of the temporal auxiliary is indicative of the presence TP. But this does mean that the auxiliary actually sits in T, as this would make the wrong prediction for the ordering of the arguments and the auxiliary. If we want to maintain that the subject moves to \textit{[spec, TP]}, then we would have to assume that both the subject and the object are in a position higher than T:}

(i) … omdat Jan beweert \textit{TP PRO [\textit{TP} Piet [\textit{TP} gisteren te [\text{\textit{T} hebben bezocht}]]]]
because Jan claims Piet yesterday to have visited
‘…because Jan claims to have visited Piet yesterday.’

We therefore assume that the verbs are generated in a lower position, but the ordering restrictions predicted by the Cinque hierarchy nevertheless hold.
(22) … omdat Jan beweert Piet *gisteren* te hebben bezocht  
because Jan claims Piet yesterday to have visited  
‘…because Jan claims to have visited Piet yesterday.’

In (22), the embedded clause contains the adverb *gisteren* ‘yesterday’. The matrix verb is in the present tense, so the adverb may only be associated with the embedded clause. Since the embedded clause may be modified with a temporal adverb, we may assume that it is situated in time independently of the matrix predicate, and therefore, that it has its own T-projection.

We deliberately use an adverb which refers to the past. Adverbs which refer to the future may also be used, but it is controversial whether complements which are situated in the future with respect to the matrix event time, really have tense:

(23) Jan beloofde *morgen* een boek te lezen  
Jan promised tomorrow a book to read  
‘Jan promised to read a book tomorrow.’

The embedded event of reading a book takes place at a later time than the event of making the promise. We might therefore assume that the complement clause in (23) has (future) tense. However, it has been claimed that the future orientation of these complement clauses reflects the presence of a particular modal element; not the presence of the T-node (Martin 2001; Wurmbrand 2007). The distinction between modal future orientation and temporal future orientation is discussed in more detail in 3.1.2.3.2.

In applying the adverb test, we only consider the possibility of modifying the embedded predicate with a temporal adverb. The position of the adverb does not correspond to its scope in all cases:

(24) … omdat Jan Piet *gisteren* schijnt te hebben beledigd  
because Jan Piet yesterday seems to have insulted  
‘…because Jan seems to have insulted Piet yesterday.’

In (24), the temporal adverb *gisteren* ‘yesterday’ precedes the matrix verb, but it does not modify the matrix verb; it only modifies the embedded clause. Matrix clause modification is impossible here, because the matrix verb refers to the present. Despite the fact that the embedded clause may not contain a temporal adverb, it may be modified by one. The fact that embedded clause material surfaces in the matrix clause is not a property of (temporal) adverbs, but it holds for all non-verbal elements associated with the infinitival clause in a verb cluster.

3.1.2.3 Temporal auxiliaries

The third test for the presence of T in the embedded clause is the presence of temporal auxiliaries. Because ‘temporal’ auxiliaries have a variety of uses, the mere presence of an auxiliary is not sufficient to infer the presence of tense. We therefore discuss the various uses of the auxiliaries separately.
3.1.2.3.1 Past
If the embedded clause may contain the auxiliary hebben ‘have’ or zijn ‘be’, we may infer that the embedded clause has tense. The example in (24) above is illustrative. However, hebben ‘have’ and zijn ‘be’ not only express absolute past tense; they may also express anteriority:

(25) Jan moet het huis opgeruimd hebben als zijn ouders terugkomen
Jan must the house cleaned have when his parents return
‘Jan must have cleaned the house by the time that his parents come back.’

In (25), the cleaning has not taken place at some point in the past; at the utterance time, it had not taken place at all. Therefore, the tense is not absolute, but relative: the event of cleaning is in the past with respect to the reference time ‘when his parents return’, but not necessarily with respect to the speech time. What hebben ‘have’ expresses here is anteriority. Following Cinque (1999), we assume that the absolute tense in (24) and the relative tense in (25) are associated with different functional projections. Absolute hebben ‘have’ corresponds to TPAST; relative hebben ‘have’ to TANTERIOR. We discuss anterior hebben ‘have’ in more detail in 3.1.4. At the risk of creating confusion, we refer to hebben ‘have’ as an expression of (absolute) TPAST as temporal hebben ‘have’, and to hebben ‘have’ as an expression of (relative) TANTERIOR as anterior hebben ‘have’, even though it expresses a temporal relation in both uses.

To distinguish the temporal and the anterior use of hebben ‘have’ and zijn ‘be’, we use examples containing adjuncts where necessary. Temporal adverbs like ‘yesterday’ generally manipulate the event time of the predicate. We may assume that hebben ‘have’ or zijn ‘be’ expresses past tense if the sentence contains such an adverb (cf. (26)a)). Phrases like ‘by the time that …’, on the other hand, manipulate the reference time. An occurrence of hebben ‘have’ or zijn ‘be’ in a sentence containing this kind of phrase rather expresses anteriority (cf. (26)b):14

(26) a. … omdat Jan zegt gisteren zijn kamer te hebben opgeruimd
    because Jan says yesterday his room to have cleaned
    ‘…because Jan says that he has cleaned his room yesterday.’

b. … omdat Jan zegt voor zondag zijn kamer te hebben opgeruimd
    because Jan says before Sunday his room to have cleaned
    ‘…because Jan says that he will have cleaned his room by Sunday.’

It is important to be sure which use of the auxiliary we are dealing with. As we will see below, there are constructions in which only the anterior use is grammatical. Such constructions might wrongly be taken to have the kind of tense

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14 The meaning of (26)b may also be rendered by the sequence te zullen hebben opgeruimd ‘to will have cleaned’. The use of the future auxiliary is another indication that hebben ‘have’ marks anteriority with respect to the reference time rather than past tense. This is in accordance with the hierarchy of projections (Cinque 1999), in which T_FUTURE c-commands T_ANTERIOR, but not T_PAST, which is situated higher than both: T_PAST > T_FUTURE > T_ANTERIOR.
usually associated with TP, if we simply checked whether the construction may contain an embedded auxiliary.

3.1.2.3.2 Future

As for the auxiliary of the future, matters are more complex. The future auxiliary in (27)a is ungrammatical, which suggests that the complement to proberen ‘try’ does not have tense:

(27) a. * ... omdat Jan probeerde de prijs te *zullen winnen

because Jan tried the prize to will win
b. ... omdat Jan probeerde de prijs te winnen

because Jan tried the prize to win

(both) ‘...because Jan tried to win the prize.’

The adverbiaal test confirms this:

(28) * ... omdat Jan probeerde *morgen Marie te beledigen

because Jan tried tomorrow Marie to insult

‘...because Jan tried to insult Marie tomorrow.’

As the complement to proberen ‘try’ expresses what is attempted, the complement cannot be in the future with respect to the event time of the matrix clause: it does not make sense to attempt a future event.

On the other hand, there are verbs like zeggen ‘say’, which seem to have tense based on both the adverbiaal test and the future auxiliary test:

(29) a. ... omdat Jan zei de rekening *morgen te betalen

because Jan said the bill tomorrow to pay
b. ... omdat Jan zei de rekening *morgen te betalen

because Jan said the bill tomorrow to pay

(both) ‘...because Jan said he would pay the bill tomorrow.’

Generally, zullen ‘will’ may be dropped without any change in interpretation, as in (29)b. However, there are verbs which do not allow the future auxiliary, but for

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15 This claim is modified in 3.2.6.2.
16 In the right context, there is a special interpretation on which (28) is grammatical. For instance, if Jan is certain to win the prize if only he enters the contest, then (28) is acceptable on the reading on which Jan attempted to organize his week such that he has time to participate in the contest. Modification of the complement clause is more acceptable if the matrix verb is in the present tense. But examples like (i) are not counterexamples:

(i) ... omdat Jan probeert morgen *zijn fiets te repareren

because Jan tries tomorrow his bike to repair

‘...because Jan tries to fix his bike tomorrow.’

This is because in (i), the attempt as well as the fixing are in the future. Note that (i) also has the special interpretation in which the attempt does not concern the fixing, but rather the arrangements preceding the fixing.
which the future orientation of the complement can be diagnosed by the adverbial test:

(30) a. … omdat Jan me adviseerde **morgen** een boek te lezen
    because Jan me advised tomorrow a book to read
b. * … omdat Jan me adviseerde **zullen** een boek te **zullen** lezen
    because Jan me advised tomorrow a book to will read

(both) ‘…because Jan advised me to read a book tomorrow.’

The complement clause in (30) is modified by a temporal adverb, which suggests that the complement has tense, but nevertheless, *zullen* ‘will’ is ungrammatical. So it seems that the possibility of using the future auxiliary is not a good test for the presence of tense: verbs like *advise* ‘advise’ have tense based on the adverbial test, but fail on the *zullen* ‘will’ test.

To explain the contrast between (29)a and (30)b, it has been claimed that *zullen* ‘will’ can only be used in the complement of propositional verbs (Cremers 1983; Van Haaften 1991), but this is not correct. At this point, we have to be a bit more precise about what defines a propositional verb. Propositional verbs are verbs like *zeggen* ‘say’, whose complement clause contains a proposition. Propositions are true or false, so a propositional utterance can be confirmed or denied. Hence, the complement clause to a propositional verb may be modified with a phrase which predicates the truth or falsity of the proposition, like ‘which is true’ (Pesetsky 1991):

(31) a. Jan zegt dat hij Marie heeft uitgenodigd, wat niet waar is
    Jan says that he Marie has invited which not true is
b. Jan zegt Marie te hebben uitgenodigd, wat niet waar is
    Jan says Marie to have invited which not true is

(both) ‘Jan says he has invited Marie, which is not true.’

In (31), we can confirm or deny Jan’s claim that he has invited Marie. This is so regardless of whether the complement is finite (31)a or infinitival (31)b. This follows from the fact that the complement contains a proposition in both examples.

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17 Future tense may be expressed by the present tense; finite *zullen* ‘will’ may not just express future reference, but also a mood or modal flavor, and generally, it is difficult to determine which use we are dealing with. Usually, it is clear whether the present tense indicates the present or the future, but in some cases, an explicit indication is required. The event time of the embedded clause in (29)b may also be interpreted as present if the adverb *morgen* ‘tomorrow’ is left out, in which case *Jan* is paying the bill at the moment at which he said so.

18 Whether a clause is propositional only partly correlates with finiteness. Not all finite complement clauses are propositional:

(i) a. Jan zegt dat Piet ziek is, wat niet waar is
    ‘Jan says that Piet sick is what not true is
   ‘Jan says that Piet is sick, which is not true.’
b. Jan besloot dat hij naar Frankrijk zou gaan # wat niet waar is
    ‘Jan decided that he to France would go what not true is
   ‘Jan decided that he would go to France, which is not true.’
Now consider irrealis verbs. Irrealis verbs are verbs whose complement clause describes an event which is unrealized at the time at which the matrix event is situated (Stowell 1982):

(32) Jan belooft/ besluit zijn huis te verkopen
    Jan promises decided his house to sell
    ‘Jan promises/decides to sell his house.’

At the time at which Jan decided or promised to sell the house, he had not done so yet. We cannot state that the complement in (32) is true or false, because by the nature of promises and decisions, and irrealis verbs more generally, the complement expresses a (possible) future event. Accordingly, truth/falsity predication is not possible:

(33) Jan belooft/ besluit zijn huis te verkopen, (# wat niet waar is)
    Jan promises decides his house to sell which not true is
    ‘Jan promises/decides to sell his house, which is not true.’

But it is not the circumstance that the embedded event is unrealized that makes truth/falsity predication impossible. Propositional verbs allow modification of the complement clause with ‘which is true/false’ even if the event described in the embedded clause is unrealized:

(34) Jan zegt Marie morgen te zullen uitnodigen, wat niet waar is
    Jan says Marie tomorrow to will invite which not true is
    ‘Jan says he will invite Marie tomorrow, which is not true.’

Even though we do not know for certain whether Jan is really going to invite Marie, or whether he is just saying it, we can still confirm or deny his claim. So although the complements in (32) and (34) both express unrealized, possible future events, their status is not the same. Irrealis verbs do not take propositional complements, but verbs like zeggen ‘say’ do.

Based on the ‘which is true’-test to classify verbs as propositional or irrealis, the verbs beloven ‘promise’, besluiten ‘decide’, verbieden ‘forbid’ and opdragen ‘order’ are irrealis verbs. If zullen ‘will’ can only be used in the complement of propositional verbs (Van Haaften 1991; Cremers 1983), then we would not expect it to be grammatical with the above verbs. But this is only partly correct. Besluiten ‘decide’ and beloven ‘promise’, for instance, are compatible with zullen ‘will’:

(35) Cohen en Opstelten hebben ook besloten te zullen pleiten voor …
    Cohen and Opstelten have also decided to will advocate for
    ‘Cohen and Opstelten have also decided to advocate …’

(36) En ze hebben me allemaal beloofd te zullen komen and they have me all promised to will come
‘And they all promised me that they would come.’
(from: www.dbnl.org/tekst/coup002boek01_01/coup002boek01_01_0001.htm)

On the other hand, verbieden ‘forbid’ is not:

(37) a. Jan heeft Marie verboden morgen de hond mee te nemen
Jan has Marie forbidden tomorrow the dog with to take

b. * Jan heeft Marie verboden morgen de hond mee te zullen nemen
Jan has Marie forbidden tomorrow the dog with to will take
(both) ‘Jan has forbidden Marie to bring the dog tomorrow.’

The generalization seems to be that an irrealis verb allows zullen ‘will’ in the complement if it allows a temporal adverb referring to the future, and if it is a subject control verb. 19

We suggest that the generalization follows from the meaning of zullen ‘will’. It seems that zullen ‘will’ is not purely a marker of future tense, although there are cases in which future reference is its most obvious contribution to the meaning of the sentence (Haeseryn et al. 1997). 20 Zullen ‘will’ is used in various ways, and in many contexts, it seems that it expresses more than one of its mood or modal flavors.

At least the following uses can be distinguished. Zullen ‘will’ may express epistemic modality (Janssen 1983; Haeseryn et al. 1997):

19 There is one exception to this generalization: the verb aanbieden ‘offer’ is a subject control verb, but it is incompatible with a complement with zullen ‘will’. We show below that the contrast between subject control and object control in this respect follows from the meaning of the control verbs. Once we take the meaning into account, aanbieden ‘offer’ behaves as predicted.

Note that (i) is not a counterexample:

(i) a. Jan verweet Marie/ beschuldigde Marie ervan hem eens te zullen verlaten
Jan reproached Marie accused Marie of-it hem once to will leave
‘Jan held against Marie that she would leave him one day/ accused Marie of the fact that one day, she would leave him.’

b. Jan verweet Marie/ beschuldigde Marie ervan de hond te hebben verwaarloosd,
Jan reproached Marie accused Marie of-it the dog to have neglected,
wat niet waar is
which not true is
‘Jan held it against Marie that she neglected to dog/ accused Marie of neglecting the dog, which is not true.’

Verwijten ‘reproach’ and beschuldigen ‘accuse’ are object control verbs, but their complement may contain zullen ‘will’. But these verbs do not fall under the generalization, because they are propositional verbs, as shown in (ii)b. Zullen ‘will’ behaves differently in irrealis complements and propositional complements, as argued below.

20 Zullen ‘will’ is generally taken to be the future auxiliary, but it is usually acknowledged that it also has modal uses (Haeseryn et al. 1997; Dhema 2002; Cremers 1983). Other authors argue that zullen ‘will’ is always an epistemic modal verb (cf. Ebeling 1962, Kirsner 1969, Janssen 1983), and that its (apparent) other uses, both as a future auxiliary, and modal flavors like (39)-(43) may be reduced to its epistemic meaning. In contrast, Bybee & Pagliuca (1987; 118) argue that the epistemic use and the use as a future marker develop out of the original root modal meaning of the future marker. We argue that the distribution of zullen in infinitival clauses is best accounted for if zullen ‘will’ is assumed to retain components of its original meaning, in accordance with Bybee & Pagliuca (1987).
The meat will now part done be
‘The meat is probably done by now.’

The future interpretation is excluded here, because the event time is fixed as present by the adverb nu ‘now’.

The following uses seem to be quite restricted. Zullen ‘will’ may be used to offer a suggestion or make a proposal, but only in questions. Bybee & Pagliuca (1987) note the same ‘addressee’s volition’ for English ‘shall’. This use may be understood as a retention of the original sense of obligation, because the speaker asks for confirmation of the addressee’s preferences, an external obligation:

(39) Zullen we naar de film gaan?
    will we to the movie go
    ‘Shall we go to the movies?/would you like to go to the movies?’

If zullen ‘will’ were merely the future auxiliary, the interpretation would be something like ‘is it true that we are going to the movies in the (near) future?’, which is not the most straightforward interpretation of (39).

Furthermore, zullen ‘will’ may express obligation. This interpretation requires emphasis on the auxiliary:

(40) Je zult je bord leeg eten!
    you will your plate empty-eat
    ‘You will finish your plate! (you may not leave the table until you do)’

This use might reflect the original meaning of obligation. However, without emphasis, (40) does not express an obligation. Emphasis on the verb is not necessary in archaic examples of obligation, like Gij zult niet doden ‘Thou shalt not kill’, which suggests that the sense of obligation in (40) is due to the emphasis, not to the verb zullen. Also, emphasis on the auxiliary gaan ‘go’ (41)a or the main verb (41)b results in the same sense of obligation:

(41) a. Je gaat je bord leeg eten!
    you go your plate empty-eat
    ‘You will finish your plate! (Whether you like the food or not).’

   b. Je eet je bord leeg (of je het nou wilt of niet)
    you eat your plate empty whether you want or not
    ‘You will finish your plate (whether you like it or not).’

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21 The modal particle is not necessary to express this meaning, but it makes the example more natural.
22 According to Bybee & Pagliuca (1987), future markers expressing probability seem to be restricted to those which derive from verbs of obligation, which is the original meaning of zullen ‘will’.
In combination with a modal particle like *maar* ‘just’, *zullen* ‘will’ may also express an attitude of aversion towards the event described, or sympathy towards the subject. The utterance does not describe an actual situation:

(42) Je zult maar beroofd worden!
you will just robbed become
‘Imagine that you would be robbed! (Poor you!)’

The use that is most interesting for our purposes is the one in (43):

(43) We zullen je wel helpen
we will you HELP
‘We will help you (because we intend to).’

*Zullen* ‘will’ expresses intention or commitment here.\(^{23}\) The modal particle *wel* facilitates the interpretation, but it could be left out. We add it here to make sure that the example is not ambiguous. If the auxiliary merely expressed *FUTURE*, then the meaning of the sentence would be ‘we help you in the (near) future’. This paraphrase misses the component of commitment. The epistemic interpretation ‘it is probable that we will help you’ is not a correct rendering of (43) either, because it does not include the degree of intention or commitment towards offering help on the part of the agent.

We believe that this last component of the meaning of *zullen* ‘will’ is always present if *zullen* ‘will’ is used in irrealis control clauses. This explains the contrast between (35) and (36) on the one hand, and (37)\(^{b}\) on the other. If *zullen* ‘will’ requires intention or commitment on the part of the subject, then the subject must have the intention to or be committed to carrying out the event described. Irrealis infinitival clauses describe unrealized events. Whether the PRO subject may be ascribed commitment to carrying out the event described depends on the matrix predicate:

(44) Cohen en Opstelten hebben ook besloten te *zullen* pleiten voor …
Cohen and Opstelten have also decided to will advocate for
‘Cohen and Opstelten have also decided to advocate …’ (≈(35))

The event of advocating the matter in question is unrealized, but the decision to carry out the event has been made. We may assume that those who made the decision are committed to the embedded event. Because *besluiten* ‘decide’ is a subject control verb, the agent of ‘decide’ and the agent of the embedded verb are coreferent. Since they refer to the same people, we may ascribe the same

\(^{23}\) It is common that future markers may also express intention. If the development of *zullen* ‘will’ is like that of *shall*, we may assume that the intention use and the epistemic use represent developments of the original meaning. As expressions of intention are found before the prediction use becomes central (Bybee & Pagliuca 1987), we may assume that the intention use is not derivative of the future use.
commitment to the PRO subject of the embedded verb. Hence, *zullen* ‘will’ is felicitous.

The situation is different in the case of object control:

(45) Jan heeft Marie verzocht PRO morgen de hond uit te laten
    Jan has Marie requested tomorrow the dog out to let
    ‘Jan asked Marie to walk the dog tomorrow.’

All we know in (45) is that *Jan* has asked *Marie* to walk the dog. But just because she received the request to do so, does not mean that *Marie* has any intention of walking the dog. For this reason, the complement clause may not contain *zullen* ‘will’:

(46) Jan heeft Marie verzocht (morgen) de hond uit te (*zullen*) laten
    Jan has Marie requested tomorrow the dog out to will let
    ‘Jan asked Marie to walk the dog tomorrow.’

In most instances of object control, the idea to carry out the event in the control clause originates with the subject of the matrix verb, who burdens the (indirect) object with the execution of the event, be it in the form of advice (*aanraden*, *adviseren* ‘advise’), an instruction (*bevelen*, *gebieden*, *gelasten*, *opdragen* (all) ‘order’, *dwingen* ‘force’, *vertellen* ‘tell’, *zeggen* ‘say’), permission (*toestaan* ‘permit’), prohibition (*verbieden* ‘forbid’), encouragement or a suggestion (*voorstellen* ‘propose’, *aansporen* ‘stimulate’, *uitnodigen* ‘invite’), or a request (*verzoeken* ‘request’, *vragen* ‘ask’). As in (45), the (indirect) object of these verbs is the controller of PRO, but the referent of PRO cannot be said to be committed to carrying out the event described in the embedded clause, because the event is imposed on him by the matrix clause subject.

There is some evidence that the extent to which the controller of PRO is committed to the embedded event is relevant to the distribution of *zullen* ‘will’. *Beloven* ‘promise’ is typically a subject control verb, and it allows *zullen* ‘will’, as shown above:

(47) En ze hebben me allemaal beloofd te *zullen* komen (=36)
    and they have me all promised to will come
    ‘And they all promised me to come.’

(from: www.dbnl.org/tekst/coup002boek01_01/coup002boek01_01_0001.htm)

Under certain circumstances, control shift is possible, in which case *beloven* ‘promise’ shows object control. Precisely under these circumstances, *zullen* ‘will’ is ungrammatical:
(48) a. Jan heeft Marie beloofd morgen de auto te mogen lenen
   Jan has Marie promised tomorrow the car to may borrow
   ‘Jan has promised Marie that she may borrow the car tomorrow.’
   ‘Jan has promised Marie that he may borrow the car tomorrow.’

b. Jan heeft Marie beloofd morgen de auto te zullen mogen lenen
   Jan has Marie promised tomorrow the car to will may borrow
   ‘Jan has promised Marie that he may borrow the car tomorrow.’
   not: ‘Jan has promised Marie that she may borrow the car tomorrow.’

One might object that (48)b lacks the intended reading because in the case of receiving permission, it does not make sense to ascribe commitment to the person who receives permission. One may still be committed to obtaining permission, however. The fact that (48)b is grammatical on the subject control interpretation shows that the degree to which the controller of PRO is committed to achieving the embedded event is relevant.  

The requirement of commitment may also explain the only exception in the class of irrealis subject control verbs. Unlike the other irrealis subject control verbs, aanbieden ‘offer’ does not allow zullen ‘will’.

(49) Jan bood Marie aan morgen haar fiet te (* zullen) repareren
   Jan offered Marie to tomorrow her bike to will repair
   ‘Jan offered Marie to repair her bike tomorrow.’

Despite the fact that the idea to repair the bike originates with the matrix subject Jan, and Jan is the controller for PRO, zullen ‘will’ is ungrammatical. We suggest that although Jan is apparently willing to repair the bike, he cannot be said to have an intention to repair the bike, because he first needs Marie’s permission for that. If Marie accepts the offer, Jan will repair the bike, but if she declines, he will not. So although the idea originates with the matrix subject Jan, and the matrix subject Jan is the purported agent of the embedded event, it is the matrix indirect object Marie whose commitment to the embedded event is decisive. But as PRO is not controlled by Marie, any commitment on her part does not carry over to PRO.

Our explanation of the distribution of zullen ‘will’ fares better than the ones in Cremers (1983) and Van Haaften (1991), who assume that only propositional complements may host zullen ‘will’, because our explanation accounts for the fact that zullen ‘will’ may occur in certain irrealis complements. However, as it stands, our explanation actually does not predict zullen ‘will’ in the complement to propositional verbs, as in (50):

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24 The same contrast between subject control and object control is found with the verbs vertellen ‘tell’ and zeggen ‘say’, but these examples are irrelevant for our purposes, because they are propositional when they show subject control (‘declare’), but irrealis when they show object control (‘order’). The ungrammaticality of zullen ‘will’ is therefore also predicted if Van Haaften (1991) en Cremers (1983) are correct in assuming that zullen ‘will’ is only grammatical in the complement to propositional verbs. The grammaticality of zullen ‘will’ in the complement to object control verbs like verwijten ‘reproach’ and beschuldigen ‘accuse’ is equally irrelevant, because these are propositional verbs, for which the grammaticality of zullen ‘will’ is predicted on both theories.
If *zullen* ‘will’ marks commitment, then we expect that *Jan* is committed to winning the contest in (50). If PRO cannot be ascribed commitment inherently, due to the fact that the embedded event is unrealized, then any commitment on the part of PRO must be due to coreference with the matrix subject. However, it is not clear that the controller *Jan* may ascribed any commitment to winning the contest.

We might assume that the fact that *Jan* expects to win, reveals that he has made efforts to guarantee his victory, and therefore, *Jan* is committed to winning after all. But this would be tricky. Using similar reasoning, we might also infer that the prospect of eviction is sufficient motivation for *Jan* to commit himself to paying the rent, yet this is not enough to license *zullen* ‘will’ in (51):

(50) Jan verwachtte de wedstrijd te *zullen* winnen

‘Jan expected the contest to will win’

‘Jan expected that he would win the contest.’

Moreover, it seems to be the case that the PRO-subject does not have to be committed to carrying out the event in the embedded clause in complements to propositional verbs. (50) is equally acceptable if we replace *winnen* ‘win’ with *verliezen* ‘lose’, and it does not require a situation in which *Jan* tries to find ways to lose the contest.

*Zullen* ‘will’ shows the same behavior in raising constructions:

(51) De huisbaas verzocht Jan dringend morgen de huur te (*zullen*)

‘The landlord urgently requested that Jan pay the rent tomorrow (otherwise he will be evicted).’

(52) Jan schijnt de wedstrijd te *zullen* verliezen

‘It seems that Jan is going to lose the contest.’

(53) Zijn huwelijk schijnt te *zullen* stranden

‘It seems that his marriage is going to fail.’

(52) and (53) shows that the subject of a raising construction does not have to be capable of commitment at all:

Hence, it looks like there are two variants of *zullen* ‘will’ in infinitival complements. On the one hand, there is the type we identified in the complement to irrealis verbs. On the other, there is the type found in the complement to propositional verbs and in raising constructions. This raises two issues. First, we have to establish what *zullen* ‘will’ expresses in propositional complements and
raising constructions. Second, we have to explain how one and the same verb is associated with two distinct uses.

As for the first question, it seems that Cremers (1983) and Van Haaften (1991) are correct after all, at least in that the variant of *zullen* ‘will’ in (50)-(53) is restricted to propositional verbs.\(^{25}\) We may wonder what the contribution of *zullen* ‘will’ is in such constructions. We consider the two commonly cited uses: future auxiliary and epistemic verb. These meanings are not always easy to tell apart, because in many cases, both meanings will describe the sentence adequately. It is not immediately clear, for instance, whether (50) is better paraphrased as ‘Jan expected that it is probable that he will win the contest’ or as ‘Jan expected that at some moment in the future, he would win the contest.’

Let us assume that *zullen* ‘will’ is an epistemic verb. Then (50), and (52) and (53) manifest some redundancy. If Jan expects to win, then we may assume that he believes it is probable that he will win. It seems redundant to mark the probability explicitly. The redundancy is even more striking in the case of *zijnen* ‘seem’. Itself an epistemic verb, it is not clear why there would be a second epistemic verb in the sentence, if they do not compete for the same slot.\(^{26}\)

This may not be a serious objection, however. Redundancy is acceptable in other constructions, like the case of ‘modal concord’ (Geurts & Huitink 2006) with deontic *moeten* ‘must’:

(54) Alle deelnemers moeten zich verplicht registreren
    all participants must obligatorily register
    ‘All participants have to register.’

(Geurts & Huitink 2006; 16)

(54) contains two expressions of obligation, but only one of them is interpreted. The example does not have the cumulative interpretation that the participants have the obligation to register obligatorily.

The case of *zullen* ‘will’ may not be a case of modal concord in the sense of Geurts & Huitink (2006), but (54) shows that in principle, Dutch allows for redundancy in the marking of modal senses.

However, there is reason to assume that *zullen* ‘will’ is not interpreted as an epistemic verb in these examples, but as a future auxiliary. In the absence of any context, the embedded events in the examples in (55) are interpreted as taking place at the same time as the matrix event:

\(^{25}\) It remains to be demonstrated that raising constructions may be propositional. The truth/falsity test confirms this:

(i) … omdat de opossum dood lijkt te zijn, wat niet waar is
    because the opossum dead appears to be which is not true
    ‘…because the opossum appears to be dead, which is not true.’

(ii) may be paraphrased as ‘it appears that the opossum is dead, but it is not dead.’ That is, the embedded predicate may be confirmed or denied independently of the matrix predicate. We may therefore assume that raising verbs also embed propositions.

\(^{26}\) *Zijnen* ‘seem’ may be an evidential verb rather than an epistemic verb, expressing probability due to lack of direct evidence rather than probability per se. But the paraphrase of (52) ‘there is reason to believe that Jan will probably lose the contest’ does render the meaning correctly.
(55) a. Jan schijnt een boek te schrijven
   ‘Jan seems to write a book.’
   b. Jan zegt een boek te schrijven
   ‘Jan says he is writing a book.’

Jan is in the process of writing a book in (55) and in the process of working in (56)a.
Now compare these examples with (56)b and (57), to which zullen ‘will’ has been added:

(56) a. Jan is aan het werk
   ‘Jan is working.’
   b. Jan zal aan het werk zijn
   ‘Jan will be working.’

(57) a. Jan schijnt een boek te zullen schrijven
   ‘It seems that Jan will write a book.’
   b. Jan zegt een boek te zullen schrijven
   ‘Jan says he will write a book.’

In finite clauses, adding zullen ‘will’ to (56)a does not necessarily place the working event in the future; the sentence may also express probability. In (56)a, the speaker claims that Jan is working for certain, but in (56)b, he expresses that he is not a hundred percent sure of his claim.

The latter interpretation is lacking in (57). In (55), the writing of the book most likely takes place at the same at which Jan claims or seems to do so. In (57), on the other hand, the writing is necessarily situated in the future with respect to the event time of the matrix predicate. There is no interpretation in which it seems, or Jan claims, that it is probable that at present he is writing a book. Admittedly, the epistemic interpretations are odd, because for (57)a, it yields redundancy; the speaker expresses that it is probable that it is probable that Jan is writing a book, and for (57)b, it implies that Jan is not fully aware of what he is doing. But the observation also holds in the more plausible scenario (58):

(58) a. Jan zal bespioneerd worden
   ‘Jan will be watched.’
   ‘It is probable that Jan is being watched.’
b. Jan zegt bespioneerd te zullen worden
   Jan says spied to will become
   ‘Jan says that he will be watched.’
   not: ‘Jan says that it is probable that he is being watched.’

In the main clause (58)a, zullen ‘will’ may be interpreted as expressing future tense or epistemic modality, as indicated in the translations. But in the infinitival clause in (58)b, the epistemic interpretation is not available, even though the intended interpretation is by no means inconceivable.

We can make the point clearer by adding the modal particle wel. Wel has a variety of uses. In combination with zullen ‘will’, it forces the epistemic interpretation in (59)a. The future interpretation is only available if the particle is pronounced with emphasis, which results in a contrastive interpretation. In infinitival clauses, the particle is degraded under neutral intonation, which suggests that the epistemic interpretation is not available in (59)b. With strong emphasis on wel, the sentence improves, but in this case, zullen ‘will’ expresses the future:

(59)  a. Jan zal wel/ WEL bespioneerd worden
     Jan will PART PART spied become
     ‘It is probable that Jan is being watched.’
     ‘Jan will be watched.’

b. Jan zegt wel/ wel bespioneerd te zullen worden
   Jan says PART PART spied to will become
   ‘Jan says that he WILL be watched.’
   not: ‘Jan says that it is probable that he is being watched.’

The difference in interpretation between (56) and (57) is accounted for if we assume that zullen ‘will’ is really ambiguous between an epistemic verb and a future marker. Finite clauses are compatible with both uses, while propositional infinitival clauses only allow the latter.

We are now in a position to answer the second question, why the different uses of zullen ‘will’ have different distributions. We have identified three different uses. Zullen ‘will’ may be used as an epistemic verb, a future marker, and a marker of commitment. We suggest that the three uses correspond to three different

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27 Assuming that zullen ‘will’ expresses future in propositional complements also faces the problem of redundancy. Other explicit references to future times, like adverbs like morgen ‘tomorrow’, induce the interpretation that the event is in the future. Zullen ‘will’ is optional in these sentences, and adding it seems redundant.

28 The unavailability of the probability interpretation with propositional verbs is surprising in the light of (i):

(i): ... omdat Jan beweert waarschijnlijk een griepje te hebben because Jan claims probably a flu to have

‘...because Jan claims that he probably has the flu.’

Since epistemic adverbs are grammatical in the complement to a propositional verb, it is unexpected that epistemic verbs are not.

29 We do not discuss the modal flavors in (38)-(42). It is not immediately clear to what extent these senses can be described by associating them with different positions in the Cinque hierarchy.
positions in the hierarchy of functional projections (Cinque 1999). We assume that epistemic *zullen* ‘will’ corresponds to the Mod_{EPISTEMIC} projection. The future marker is associated with T_{FUTURE}. Admittedly, the commitment marker does not have a natural place in the Cinque-hierarchy. For lack of a better position, we may consider the Mod_{VOLITION} slot for this use, although commitment is not the same as volition. Another possibility would be to associate the commitment marker with Mood_{IRREALIS}. This would explain that the commitment interpretation is central in irrealis complements, but it cannot be said that *zullen* ‘will’ expresses irrealis mood in such sentences, because these constructions are irrealis whether *zullen* ‘will’ is present or not, and what *zullen* ‘will’ contributes is commitment or intention, not strictly irrealis mood. Nevertheless, we propose that Mood_{IRREALIS} is responsible for the future shifted interpretation of complements to irrealis verbs. For our purposes, the crucial point is that the commitment marker is associated with a position lower than T_{FUTURE}.

We end up with the following (non-exhaustive) hierarchy: Mod_{EPISTEMIC} > T_{FUTURE} > Mood_{IRREALIS}.

In finite clauses, *zullen* ‘will’ may be associated with any of the positions available for it. This explains that (60) has all three interpretations:

\[(60)\] Jan zal je fiets (wel) repareren\[31\]
Jan will your bike part repair
‘Jan is probably repairing your bike.’
‘Jan will repair your bike.’
‘Jan is willing to repair your bike.’

For reasons which are not entirely understood (cf. fn. 28), the epistemic use is not found in infinitival clauses. We only find the future marker and the commitment marker there, but generally in different constructions. In propositional infinitives, including raising constructions, *zullen* ‘will’ functions as a future marker. In irrealis constructions, it functions as a marker of commitment.

The obvious explanation for the split in infinitival constructions would be to assume that, for some reason, T_{FUTURE} is not available in irrealis complements. This is at odds with what was said in 3.1.2.2, where we claimed that if the embedded predicate may be modified independently of the matrix predicate, such that the embedded event is situated at a different time than the matrix predicate, there is evidence for tense. Moreover, even in the absence of a temporal adverb, the event times of the matrix predicate and the embedded predicate do not overlap; irrealis complements are future oriented.

\[\text{30}\] The idea of assigning different slots in the hierarchy of projection to the different interpretations of *zullen* ‘will’ is also put forth by IJbema (2002). She proposes that Modern Dutch *zullen* ‘will’ sits in T_{FUTURE}, but she only considers finite contexts, for which T_{FUTURE} by no means captures all the possible interpretations. In limited contexts, she assumes it may occupy Mod_{OBLIGATION}. Her analysis differs from the present one in that she models the historical development of *zullen* ‘will’, instead of the synchronic uses.

\[\text{31}\] The future interpretation is not possible in the presence of *wel*, but the particle facilitates the other two interpretations.
Jan besloot (morgen) een boek te lezen
Jan decided tomorrow a book to read
‘Jan decided to read a book (tomorrow)’

Whether we make it explicit or not, the reading of the book is necessarily in the future with respect to the moment at which the decision was made.

However, other authors argue that the ‘future’ in irrealis complements does not reflect tense, but a special modal element (Martin 2001; Wurmbrand 2007). If we follow this line of analysis, then the split in the distribution of *zullen* ‘will’ is as predicted. Irrealis infinitives are future oriented, but do not contain tense. We may therefore assume that they do not contain tense projections. If $T_{\text{FUTURE}}$ is absent, it follows that *zullen* ‘will’ cannot function as a future marker, but may only be associated with the lower projection Mood$^{\text{IRREALIS}}$.

Propositional infinitives do have tense, as will be demonstrated in 4.4.1. It can be shown that these constructions have past tense, which means that there must be a $T_{\text{PAST}}$ projection. In the hierarchy of projection $T_{\text{FUTUR e}}$ dominates $T_{\text{IRREALIS}}$. On the assumption that evidence for a higher projection implies the presence of lower projections, we may assume that these constructions have contentful past tense as well as contentful future tense. The difference between irrealis complements and propositional complements in the interpretation of *zullen* ‘will’ then comes as no surprise.

In conclusion, the presence of *zullen* ‘will’ may be used as a test for the presence of tense, provided we make sure that we are dealing with a temporal use of the auxiliary.

### 3.1.2.4 Past tense replacement

The fourth test for the presence of tense again concerns the use of auxiliaries. This test is helpful in distinguishing the two uses of auxiliary *hebben* ‘have’. *Hebben* ‘have’ may express absolute and relative tense. This explains why complements to verbs like *proberen* ‘try’, which cannot take a tensed complement, that is, a complement which contains absolute tense, may nevertheless contain an instance of *hebben* ‘have’:

(62) a. Jan probeert de opdracht voor morgen te hebben afgerond
Jan tries the assignment before tomorrow to have finished ‘Jan tries to have the assignment finished before tomorrow.’

b. *Jan probeert de opdracht gisteren te hebben afgerond
Jan tries the assignment yesterday to have finished ‘Jan tries to have finished the assignment yesterday.’

---

32 Alternatively, we may assume that there is only one T-projection for absolute tense. It follows that if a construction may express past tense, it may also express future tense.

33 This diagnostic of tense was pointed out to me by Jan-Wouter Zwart (p.c.), and is further developed in Zwart (2007).
Adding a past tense adverb like *gisteren* ‘yesterday’ makes the sentence ungrammatical, which suggests that *hebben* ‘have’ does not express absolute past tense in the complement to *proberen* ‘try’, but anteriority.

In complements which contain $T_{PAST}$, *hebben* ‘have’ is potentially ambiguous:

(63) Jan beweert zijn huiswerk te hebben gemaakt
    Jan claims his homework to have done
    ‘Jan claims to have done his homework.’

Without any context, Jan could either report the past event of doing his homework, or the state of having done his homework, which arises prior to some reference point. Adding a temporal modifier usually suffices to disambiguate the sentence (cf. (62)).

Another way to disambiguate a sentence containing *hebben* ‘have’ is to add an adjunct clause that introduces a reference point:

(64) Jan beweert geslapen te hebben toen Marie binnenkwam
    Jan claims slept to have then Marie entered
    ‘Jan claims that he was sleeping when Marie came in.’

The adjunct clause introduces the reference time. This is a moment in the past, and it coincides with the event time of the embedded verb: Jan’s sleeping overlaps with Marie’s entering. The embedded event time and the reference point both precede the matrix event time. Note that the overlap of the event time and reference time in the past is expressed in a finite clause by using the simple past, not the perfect:

(65) a. * Jan heeft geslapen toen Marie binnenkwam
    Jan has slept then Marie entered
    (both) ‘Jan was sleeping when Marie came in.’

b. Jan sliep toen Marie binnenkwam
    Jan slept then Marie entered

Similarly in embedded contexts:

(66) a. * Jan beweert dat hij heeft geslapen toen Marie binnenkwam
    Jan claims that he has slept then Marie entered

b. Jan beweert dat hij sliep toen Marie binnenkwam
    Jan claims that he slept then Marie entered

(both) ‘Jan claims that he was sleeping when Marie came in.’

Because the auxiliary takes on the function of expressing the past tense in infinitival clauses, where the simple past would be used in finite clauses, we refer to this test as the past tense replacement test.

The test shows that *hebben* ‘have’ expresses a temporal meaning in infinitival clauses in which the event time overlaps with the reference time, where the reference time is a point in the past. Hence, we can use a past point of reference to test whether *hebben* ‘have’ in an infinitival complement expresses absolute past
tense or anteriority. (64) shows that complements to beweren ‘claim’ have (past) tense. Complements to irrealis verbs do not:

(67) a. Jan probeert zijn opdracht morgen afgerond te hebben
    ‘Jan tries to finish his assignment by tomorrow.’

b. * Jan probeert dat afgerond te hebben toen ze binnenkwam
    ‘Jan tries to have been finishing it when she came in.’

So despite the fact that the auxiliary hebben ‘have’ is used in (67)a, the past tense replacement test shows that this is not a temporal use of hebben ‘have’.

3.1.2.5 Summary of tense diagnostics

In summary, we have four tests for the presence of tense in an infinitival complement clause. First, we may compare the event time of the embedded predicate and the matrix predicate (3.1.2.1). If the matrix event time necessarily coincides with the embedded event time, as in ‘John heard the dogs bark’, we may assume that the embedded clause does not have a contentful tense projection. If the matrix event time does not necessarily coincide with the embedded event time, as in ‘John decided to go hiking tomorrow’, the embedded clause is situated in time (partly) independently of the matrix clause. In this case, the embedded clause possibly has contentful tense. We say possibly, because event time may not be equated with tense, as argued in 3.1.2.3.2.

The other tests also serve to determine whether the embedded clause has its own event time. One test to establish this is to use an embedded clause temporal modifier, which conflicts with the event time of the matrix clause, as in ‘John decided to go out for pizza tomorrow’ (3.1.2.2). If the adverb is grammatical, this indicates that the matrix clause and the embedded clause each have their own event times. If the adverb causes the sentence to be ungrammatical, as in ‘John heard Mary sing (*tomorrow)’, the matrix and embedded event times coincide, such that the embedded clause does not have its own event time.

We may also establish that the embedded clause has its own event time by using temporal auxiliaries, as discussed in 3.1.2.3. If the embedded clause may host a temporal auxiliary, we may assume that it has its own event time, and moreover, that it has tense. However, the temporal auxiliaries zullen ‘will’ and hebben ‘have’ and zijn ‘be’ also have non-temporal uses. For this reason, the mere grammaticality of an auxiliary is not necessarily evidence for the presence of contentful tense in the complement clause; we have to make sure that the auxiliary is indeed a temporal auxiliary, in the way described in 3.1.2.3.1 and 3.1.2.3.2.

The final test, which was discussed in 3.1.2.4, provides a control for the auxiliary test: there is evidence for embedded (past) tense only if hebben ‘have’ or zijn ‘be’ is grammatical in the presence of a phrase like “when x happened”. This phrase, which must make reference to a moment in the past with respect to the matrix event time, fixes the reference time of the embedded clause. The event time
of the embedded clause coincides with this reference time, such that the embedded event necessarily takes place prior to the matrix event. That is, in a sentence like 'John claims to have slept when Mary came in', John’s sleeping coincides with Mary’s coming in, and both events precedes John’s claim. This interpretation could only arise if the embedded clause has past tense. Hence, if hebben ‘have’ is grammatical in the presence of a phrase like ‘when Mary came in’, it must be a temporal auxiliary, so that we can be sure that embedded clause has its own tense.

We now turn to the functional projections below T. Recall that we assume the following clause structure:

\[(68) \quad CP > T_{\text{PAST}} > T_{\text{FUTURE}} > \text{Mood}_{\text{IRREALIS}} > T_{\text{ANTERIOR}} > \text{vP} > \text{VP}\]

After introducing diagnostics for C and the tense heads \(T_{\text{PAST}}\) and \(T_{\text{FUTURE}}\), the following subsections provide tests for \(\text{Mood}_{\text{IRREALIS}}\) (3.1.3), \(T_{\text{ANTERIOR}}\) (3.1.4), and \(vP\) (3.1.6). We also discuss negation (3.1.5).

### 3.1.3 Mood\(_{\text{IRREALIS}}\)

As noted in 3.1.2.3.2, the notion \(\text{Mood}_{\text{IRREALIS}}\) shows some overlap with future tense. We argued above that \(\text{Mood}_{\text{IRREALIS}}\) is present if the clause is future oriented:

\[(69) \quad \ldots \text{omdat Jan Marie vroeg de hond uit te laten} \]
\[\ldots \text{because Jan Marie asked the dog out to let} \]
\[\ldots \text{because Jan asked Marie to walk the dog.'} \]

The embedded event is unrealized at the time at which the matrix event takes place: at the time of asking, Marie had not walked the dog yet. This is evidence for the presence of the \(\text{Mood}_{\text{IRREALIS}}\).

The future orientation can be made explicit by adding an adverbial:

\[(70) \quad \ldots \text{omdat Jan Marie vroeg morgen de hond uit te laten} \]
\[\ldots \text{because Jan Marie asked tomorrow the dog out to let} \]
\[\ldots \text{because Jan asked Marie to walk the dog tomorrow.'} \]

We proposed that in irrealis infinitival clauses, zullen ‘will’ is associated with \(\text{Mood}_{\text{IRREALIS}}\). However, the auxiliary may only be used if the controller (and by virtue of this, PRO itself) may be ascribed commitment towards executing the embedded event. Hence, zullen ‘will’ is grammatical with most subject control irrealis verbs, but ungrammatical with most object control irrealis verbs. We propose that when an adverb referring to the future may be used to modify the complement clause to the exclusion of the matrix clause, there is evidence for \(\text{Mood}_{\text{IRREALIS}}\).

### 3.1.4 T\(_{\text{ANTERIOR}}\)

As shown above, the auxiliaries hebben ‘have’ and zijn ‘be’ are ambiguous between anterior auxiliaries and temporal auxiliaries. Used as temporal auxiliaries, we may
infer that the clause must project a contentful T\textsubscript{PAST} projection. Used as an anterior auxiliary, we assume that the structure contains contentful T\textsubscript{ANTERIOR}.

In some complements, both uses are possible:

(71) a. … omdat Jan zegt gisteren zijn kamer te hebben opgeruimd  
   because Jan says yesterday his room to have cleaned  
   ‘…because Jan says that he has cleaned his room yesterday.’  (=(26))

b. … omdat Jan zegt voor zondag zijn kamer te hebben opgeruimd  
   because Jan says before Sunday his room to have cleaned  
   ‘…because Jan says that he will have cleaned his room by Sunday.’

In others, the anterior use is grammatical, but the temporal use is not:

(72) a. Jan probeert de opdracht voor morgen te hebben afgerond  
   Jan tries the assignment before tomorrow to have finished  
   ‘Jan tries to have the assignment finished before tomorrow.’  (=(62))

b. * Jan probeert de opdracht gisteren te hebben afgerond  
   Jan tries the assignment yesterday to have finished  
   ‘Jan tries to have finished the assignment yesterday.’

Examples like (72) show that complements which do not project TP are not necessarily bare VPs.

3.1.5 Negation

The scope of negation is sometimes assumed to reveal information about the structure of an infinitival complement. Wurmbrand (2001) argues that negation has different scope in restructuring and non-restructuring contexts. In German full restructuring configurations, negation necessarily takes scope over the matrix predicate:

(73) weil dem Hans der Spinat nicht zu essen erlaubt  
   since the Hans DAT the spinach NOM not to eat allowed  
   wurde  
   was  
   ‘…since Hans was not allowed to eat the spinach.’  
   not: ‘…since Hans was allowed not to eat the spinach.’  
   (Wurmbrand 2001: 118)

The internal argument of the embedded verb bears nominative case, so we may assume that it functions as the matrix clause subject. In this configuration, \textit{nicht} ‘not’ takes scope over the matrix predicate, as indicated in the translation. The interpretation in which it takes scope over the embedded clause but not over the matrix clause is not available.

If the embedded internal argument does not function as the matrix clause subject, the construction does not show full restructuring, but no restructuring or
reduced (non-)restructuring. In this case, the example receives a different interpretation:

(74) weil dem Hans den Spinat nicht zu essen erlaubt wurde
since the Hans-DAT the spinach-ACC not to eat allowed
was
% ‘...since Hans was not allowed to eat the spinach.’
‘...since Hans was allowed not to eat the spinach.’
(Wurmbrand 2001: 117)

Negation preferably takes scope below the matrix predicate.

One way to interpret these findings is to assume that the complement contains a NegP in (74), but not in (73). If the presence of NegP depends on the presence of some other projection, for instance tense, as has been suggested (Zanuttini 1996), then it is predicted that complements of different sizes show differences in the interpretation of negation. This is compatible with the facts in (73) and (74): the VP-complement in (73) cannot host NegP, and hence is incompatible with embedded negation, while the opaque or reduced (non-)restructuring complement in (74) is rich enough to host NegP, and therefore allows embedded negation.

Anticipating the discussion of negation in verbal clusters and the third construction in 3.2 and chapter 4, respectively, we note that the presence of NegP is unrelated to the presence of tense in Dutch. However, VP-complements seem to be incompatible with NegP (cf. 3.2.6.2.4).

3.1.6 Diagnostics for $v$

We can be sure that the embedded predicate projects a $vP$ if it assigns an external thematic role (3.1.6.1). We also have evidence for $v$ if the embedded internal argument has its accusative checked internal to the embedded clause (3.1.6.2).\footnote{Lee-Schoenfeld (2005) offers another diagnostic for the presence of $v$. She suggests that in the possessor raising construction in German, the raised possessor DP must move into a specifier of $vP$ in order to check inherent dative case and to be assigned the affectee semantic role. Unlike object DPs, possessor datives may not scramble out of their case position. The position of the possessor DP is therefore diagnostic of the presence of a $vP$ projection. As this test cannot be used for Dutch, we do not go into it any further here.}

\subsection{3.1.6.1 Thematic role}

If the embedded predicate assigns an external thematic role, we may assume that it contains a $vP$. There are three ways to identify an external thematic role in an infinitival complement.\footnote{Another test is proposed by Postma (1984). Postma observes that the possessive pronoun \textit{diens} ‘his’ may not be coreferent with a subject (i)a. In addition, \textit{diens} ‘his’ may not be coreferent with the matrix indirect object in (i)b.} First, the external argument may be overt in...
ECM-constructions. It is also overt in raising constructions. Third, there are ways to show that a PRO-subject is present.

In (75), we see the overt external argument in an ECM-construction:

(75) … omdat Jan Marie zag [VP tien rennen]
    because Jan saw run
‘…because Jan saw Marie run.’

The matrix verb may also be a raising verb. The matrix subject does not originate in the matrix clause, so if it is an agent, it must originate in [spec, vP] of the embedded clause:

(76) … omdat Jan schijnt te [VP tien zingen]
    because Jan seems to sing
‘…because Jan seems to be singing.’

Second, the embedded clause is a control clause. We can identify the covert external argument by adding an adjunct introduced by zonder ‘without’. Infinitival zonder-clauses have the interesting property that the PRO they contain may only be controlled by a subject (Van Haaften 1991):

(77) Jan gaf me zijn kaartje zonder PRO zich/*zich zelf voor te stellen
    Jan gave me his card without *himself myself for to state
‘Jan gave me his card without introducing himself/myself.’

In (77), the person who failed to introduce himself is necessarily Jan; it may not be ‘me’. As a consequence, the anaphor me ‘myself’ is ungrammatical; the adjunct clause may only contain the anaphor zich ‘himself/herself’.

PRO in the zonder-clause may be coreferent with a non-subject in a control clause, but only if the non-subject is coreferent with the subject of the embedded predicate:

(i) a. Minister Lubbers begroet Mitterand bij zijn aankomst op Schiphol
    Secretary Lubbers will greet Mitterand when he arrives at Schiphol
    ‘Secretary Lubbers will greet Mitterand when he (= Mitterand) arrives at Schiphol.’

b. * Jan gebod Piet PRO zijn vader te bezoeken
    Jan ordered Piet his father to visit
    ‘Jan ordered Piet to visit his father.’

(Postma 1984: 147/150)

The contrast is explained if the embedded clause in (i)b contains a PRO-subject. PRO being a subject, it may not be coreferent with diens ‘his’, and as a consequence, its controller Piet may not either. The matrix subject Jan does not qualify either, leaving diens ‘his’ without an antecedent, which is unacceptable, as Postma (1984) argues. The coreference possibilities for diens ‘his’ could therefore be used as a test for the presence of PRO.

However, the test is of little use for our purposes. Judgments on diens ‘his’ are rather subtle. Also, diens ‘his’ belongs to a rather formal register, and seems somewhat archaic. It is not used in everyday speech much. Perhaps this explains why speakers find it difficult to give judgments on diens ‘his’, and why the ban against coreference with a subject does not seem to hold for many speakers. For these reasons, we do not use the diens-test.
The coreference between PRO in the *zonder*-clause and the indirect object *me* in (78)a may be taken as evidence for the presence of a PRO-subject in the complement clause. Since the PRO-subject of the adjunct clause requires its controller to be a subject, the controller must be coreferent with a covert subject in (78)a. Note that the contrast between (77) and (78)a on the one hand, and (78)b on the other, does not necessarily indicate that the controller of PRO in the adjunct clause is itself a PRO. If control interpretations may also arise in the absence of a PRO-element (Wurmbrand 2001, based on Chierchia 1984), then perhaps the subject orientation of PRO in an adjunct clause is not strictly a DP-subject orientation, but an orientation at whatever mechanism ensures that the ‘controller’ has the same referent as what we interpret as the subject of the embedded predicate. If we grant that there is indeed a way for a truly subjectless infinitive to give rise to a control interpretation, then we cannot exclude the possibility that this mechanism also satisfies the subject orientation requirement in adjunct clauses.

It is difficult to test whether truly subjectless infinitives behave differently from infinitives containing PRO with respect to the coreference possibilities of PRO in a *zonder*-clause, because it requires a test to distinguish truly subjectless infinitives from ones which contain PRO. It has been shown that the German anaphor *sich* ‘himself/ herself’, which is subject oriented, is sensitive to this distinction (Wurmbrand 2001; Wöllstein-Leisten 2002). Wöllstein-Leisten shows that fronting of the embedded verb phrase, stranding the internal argument, is possible only in case of full restructuring (79)a. Coreference between *sich* and a dative argument is only possible if there is no restructuring (79)b, (79)c, suggesting that *sich* is bound by a PRO-subject in (79)b, (79)d shows that *sich* may precede its binder, suggesting that lack of surface c-command is not the problem in (79)c:

(79) a. Zu gewinnen ist *ihm* detl/* den Preis noch nie gelungen to win is him-dat the-nom the-acc prize still never managed ‘He never managed to win the prize.’

The example is grammatical with *me* ‘me’ on the irrelevant interpretation on which it is a pronoun, not an anaphor.
Now that we know that *sich* must be bound by a true subject, and may not be bound by the dative argument which is linked to the agent of an embedded subjectless predicate, we can use these subjectless infinitives to test whether PRO in a without-clause also requires a true subject. To the extent that we may base anything on (80), it seems that adding a without-clause to a long passive construction (80)a makes the example ungrammatical, while adding it to a non-restructuring construction (80)b does not have this effect:

(80) a. ?? Dem Kind wurde der Apfel zu essen erlaubt (* ohne die Hände zu waschen)  
   ‘The child was allowed to eat the apple without washing his hands.’

b. ? Dem Kind wurde einen Apfel zu essen erlaubt ( ohne sich die Hände zu waschen)  
   ‘The child was allowed to eat an apple without washing his hands.’

We should be cautious in drawing any conclusions from (80), however, because the contrast is based on the judgment of only one speaker, and the long passive was judged marginal even without the adjunct clause. But if the judgment holds up, then (80) shows that subject oriented adjunct clauses are sensitive to the presence of a true subject. Thus, an infinitival clause which contains PRO fulfills the subject requirement, but the alternative control mechanism, involving a subjectless infinitival clause, does not. We generalize this finding to Dutch (see also 3.2.6.2.5, which uses the same test for a minimal pair containing a subjectless VP and an infinitival clause containing PRO).

Third, we have evidence for the presence of the external argument if particula control is possible. Partial control is only possible if the clause contains a PRO-subject (Landau 2000). In certain cases, PRO and its controller are not identical in reference. The controller represents only a subset of the referents associated with PRO:
The commander surrounded the building.

The commander decided to surround the building.

(81) contains the collective predicate *omsingelen* ‘surround’. The agent of this predicate is necessarily plural; one cannot surround a building alone. Hence, the singular subject in (81)a leads to ungrammaticality. In (81)b, we see the same singular subject, but in this example, this is not problematic. The difference between these examples is that the monoclausal (81)a is interpreted such that ‘the commander’ is the sole agent of the surrounding, but in the biclausal (81)b, ‘the commander’ is part of a group of people, who collectively surround the building. The group interpretation requires a plural subject, suggesting that the example contains the covert subject PRO, whose reference includes ‘the commander’, but also others. We represent this as PRO$_{i+j}$. The phenomenon in which the controller for PRO does not exhaust the reference of PRO, but is among the individuals to whom PRO refers, is called partial control.\(^{37}\)

The reliability of this test is complicated by two factors. First, the unavailability of a partial control interpretation does not necessarily indicate that the complement clause does not contain a PRO-subject. As Landau (2000; 45) notes, the acceptability of the partial control interpretation shows some variation. Also, in certain control clauses in which the presence of PRO may be assumed, partial control may be judged unnatural or even unacceptable. For this reason, we use partial control as a test for the presence of PRO, but we cannot use it as a test for the absence of PRO.

Second, a collective predicate in combination with a singular agent may be judged acceptable independently of the presence of PRO by some speakers. For these speakers, examples like the following are not unacceptable:\(^{38}\)

Napoleon has the city surrounded

‘Napoleon surrounded the city.’

\(^{37}\) The phenomenon of split control offers a similar test for the presence of PRO. In certain examples, the agent of the embedded predicate is not identical to any one argument of the matrix verb, but includes the referents of both arguments:

(i) Jan stelde Marie$_{ij}$ voor PRO$_{ij}$ samen een feest te geven

‘Jan proposed to Marie to throw a party together.’

Split control is irrelevant for our purposes, because it is rather restricted. It seems that among the verbs which show restructuring, none allow split control. *Voorstellen* ‘propose’ is considered a third construction verb by some authors (Den Besten et al. 1988; Rutten 1991), but for the speakers I consulted, it is highly dispreferred in the third construction.

\(^{38}\) I thank Jan Koster for pointing out this observation.
Although the only agent in the sentence is the singular DP *Napoleon*, these speakers do not interpret the example as expressing a surrounding by a single individual. Rather, they accommodate that *Napoleon* was responsible for the surrounding of the city by ordering it. But on this interpretation, *Napoleon* need not be among those individuals who carried out the surrounding. Hence, this is not a true partial control interpretation, which does not tell us anything about the presence of PRO. Thus, in using the partial control test, we have to make sure that we evaluate the relevant interpretation.

### 3.1.6.2 Case checking

The second obvious diagnostic for the presence of *v* is the availability of accusative case. Unfortunately, this diagnostic is only useful if we may assume that an accusative DP in the middle field is always in its case position. This assumption is tenable on Zwart’s (1993, 1997, 2004) theory, but it is by no means inevitably. We postpone a discussion of object licensing to chapter 5.

### 3.1.7 Summary

In the preceding sections, we have introduced tests to identify functional projections in an infinitival complement. We have shown tests for the presence of CP, past tense, future tense, MoodIRREALIS, anterior tense, NegP and vP. In the remainder of this chapter, we apply these tests to the complement to clustering verbs.

### 3.2 The complement to Verb-Raising verbs

In the rest of this chapter, we apply the diagnostics from section 3.1 to verbal clusters. We understand ‘verbal clusters’ as those transparent constructions in which the transparency effects are obligatory, creating the appearance of a cluster of verbs. We divide the clustering verbs into five subtypes, based on their semantic classification. Table 6 shows which verbs may form a cluster in Dutch: 39

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39 The temporal auxiliaries are not listed as a separate category, for reasons of space. *Zullen* ‘will’ is listed under ‘modals’, as it may also be used as a modal verb. For lack of a better category, *hebben* ‘have’ is listed under ‘aspectsual’, although it is not an aspectsual auxiliary.

With the exception of *weten* and *zien* (both) ‘succeed’, the verbs listed under control form clusters optionally. This also holds for *beginnen* ‘begin’. 
With the diagnostics discussed in 3.1, we can determine what the syntactic structure of infinitival complements is. It is shown that the infinitival complement in the clustering construction does not correspond to a particular syntactic structure. Instead, it is demonstrated that the syntactic structure of the complement to a clustering verb may range from a bare VP with some verbs, to TP with others.

In many cases, the syntactic structure of the complement is in accordance with the properties of the matrix verb: all the projections which are semantically compatible with the matrix verb are found in the complement, with the exception of C. Hence, the infinitival complement to modals, raising verbs, and perhaps aspectual verbs may project all the functional heads which are semantically compatible with the matrix verb. In some cases, however, the matrix verb seems to be compatible with certain functional projections in the infinitival complement, which are nevertheless absent in the clustering construction. We observe this with the ECM-verbs and a subset of the control verbs.

This section is organized as follows. The absence of CP is demonstrated in 3.2.1. In the subsections that follow, we discuss the classes of clustering verbs one by one. Table 7 shows the structures we will arrive at:

<table>
<thead>
<tr>
<th>Modals</th>
<th>Aspectual verbs</th>
<th>ECM-verbs</th>
<th>Raising verbs</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>kunnen</td>
<td>can</td>
<td>hebben</td>
<td>horen</td>
<td>blijken</td>
</tr>
<tr>
<td>moeten</td>
<td>must</td>
<td>beginnen</td>
<td>zien</td>
<td>lijken</td>
</tr>
<tr>
<td>mogen</td>
<td>may</td>
<td>blijven</td>
<td>ruiken</td>
<td>voelen</td>
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<tr>
<td>willen</td>
<td>want</td>
<td>gaan</td>
<td>zien</td>
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<td>hoeven</td>
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<td>komen</td>
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<tr>
<td>behoren</td>
<td>ought</td>
<td>hangen</td>
<td>doen</td>
<td>laten</td>
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<tr>
<td>zullen</td>
<td>will</td>
<td>liggen</td>
<td>lie</td>
<td>laten</td>
</tr>
<tr>
<td>dienen</td>
<td>should</td>
<td>staan</td>
<td>stand</td>
<td>zitten</td>
</tr>
<tr>
<td>hebben</td>
<td>must</td>
<td>lopen</td>
<td>walk</td>
<td>plegen</td>
</tr>
</tbody>
</table>

Table 6: Verbs which form verbal clusters

The aspectual and control verbs are divided into two classes. The verbs of manner of motion and posture, e.g. lopen ‘walk’, staan ‘stand’ are grouped under ‘aspectual 1’; the others under ‘aspectual 2’. The ‘control 1’ verbs are weten and zien (both) ‘succeed’; the others are grouped under ‘control 2’.

The disjunction in ‘aspectual 1’ and ‘control 1’ indicates that there is no evidence for or against the presence of vP.

Table 7: The syntactic structure of infinitival complements in verbal clusters
3.2.1 CP is absent

There is one functional projection that is absent with all categories of clustering verb. The infinitival clause in a verbal cluster never projects a CP-layer. The infinitival complementizer *om* is ungrammatical:

(83) … omdat Jan moet/ dient (* om) ( te) gehoorzamen modal

because Jan must should comp to obey

‘…because Jan has to obey.’

(84) … omdat Jan loopt/ begint (* om) te klagen aspectual

because Jan walks begins comp to complain

‘…because Jan is complaining/begins to complain.’

(85) … omdat Jan Marie een liedje laat/ hoort (* om) zingen ECM

because Jan Marie a song lets hears comp sing

‘…because Jan has/ hears Marie sing a song.’

(86) … omdat het feest leuk lijkt/ belooft (* om) te worden raising

because the party fun appears promises comp to become

‘…because the party appears/ promises to be a success.’

(87) … omdat Jan wist/ probeerde (* om) te winnen control

because Jan knew tried comp to win

‘…because Jan managed/ tried to win.’

For some of (83)-(87), there may be independent reasons for the absence of the complementizer. One might argue that the verb *lopen* ‘walk’ in (84) is a true auxiliary here (but see 2.2.5.2.2). If auxiliaries are generated as heads of a functional projection, either in a designated slot (Cinque 2004) or simply in an AuxP, then these examples are monoclausal structures, and a CP is not expected. Recall from 2.2.5.2.2 that we have rejected the view that all restructuring verbs are functional heads.

Furthermore, raising to subject and object across a complementizer is not possible (pace Ura 1994). Hence, (85) and (86) could be ungrammatical because an argument raises across *om*, and not because these verbs are incompatible with the complementizer per se.44

To the extent that we can test it, embedded wh-movement also points to the conclusion that the complement of a clustering verb may not project up to CP. It is

42 The bracketing here does not indicate that te is optional, but rather that te is required in the complement to *dienen* ‘should’, and ungrammatical in the complement to *moeten* ‘must’. Note that (83) is also ungrammatical on the (slightly implausible) epistemic interpretation of *moeten* ‘must’.

43 (84) is grammatical with the complementizer on the irrelevant reading in which the infinitival clause is a purpose adjunct; that is, on the meaning ‘Jan walks/begins in order to complain.’

44 If *om* in complement clauses is restricted to irrealis verbs, then *lijken* ‘appear’ is expected to be incompatible with *om*, but not *beloven* ‘promise’ (cf. chapter 2, footnote 3).
not a very useful test for the presence of the CP-layer, though, because almost all verbs in Table 6 are semantically incompatible with an interrogative complement. Only *leren* ‘learn, teach’ and the verbs of perception may take embedded interrogative when they select a finite complement. Only *leren* ‘learn, teach’ may take an interrogative complement, both when it selects a finite clause (88)a and when it selects an infinitival clause (88)b:

(88) a. … omdat Jan Piet leert wat hij moet doen bij brand
because Jan Piet teaches what he must do at fire
‘…because Jan teaches Piet what to do in case of fire.’

b. … omdat Jan Piet leert wat te doen bij brand
because Jan Piet teaches what to do at fire
‘…because Jan teaches Piet what to do in case of fire.’

This does not prove that the infinitive in a verbal cluster may project a CP, however. *Leren* ‘learn, teach’ forms a cluster optionally. It could be that we see the non-cluster forming variant of *leren* in (88)b. We can verify this by changing the tense in (88)b to the perfect. If the IPP-effect obtains, the verbs form a cluster; if it does not, then no cluster is formed:

(89) a.  … omdat Jan Piet heeft geleerd wat te doen bij brand
because Jan Piet has taught what to do at fire
‘…because Jan taught Piet what to do in case of fire.’

b. * … omdat Jan Piet heeft leren wat ( te) doen bij brand
because Jan Piet has teach Что INF what to do at fire
‘…because Jan taught Piet what to do in case of fire.’

---

45 *Weten* ‘know’ may select for an embedded interrogative as well, but on this use it is not a clustering verb.

46 Cluster formation is optional in that *leren* ‘learn, teach’ is used in the clustering construction as well as in the the extraposition construction. However, it might be that *leren* ‘learn, teach’ is in fact ambiguous between two (related) meanings, one of which is found in the clustering construction, and the other in the extraposition construction (see also Ijberm 2002). In the clustering construction, *leren* means ‘(cause to) acquire a skill’; the usage in the extraposition construction may be paraphrased as ‘(cause to) acquire knowledge about the proper use of a skill’. Thus, (i)a and (i)b are not equivalent:

(i) a. De leraar heeft het kind blind leren typen
the teacher has the child blind learn INF type
‘The teacher has taught the child how to touch-type.’

b. De leraar heeft het kind geleerd blind te typen
the teacher has the child learned blind to type
‘The teacher taught the child that he should touch-type.’

In (i)b, the child is taught that he should touch-type, but this does not mean that he possesses the skill to do so; in (i)a, the child is able to touch-type, but possibly, he has no idea about the circumstances in which to put this skill to use. In a similar vein, (ii) is not a tautology, nor a contradiction:

(ii) Piet heeft Jan geleerd voor zichzelf op te komen, maar Kees heeft hem voor zichzelf leren opkomen
Piet has Jan taught for himself up to come but Kees has him for teach INF up-come
‘Piet taught Jan that he should stand up for himself, but Kees taught him how to stand up for himself.’
c. * … omdat Jan Piet wat bij brand heeft leren (te) doen
because Jan Piet what at fire has teach.INF to do
‘…because Jan taught Piet what to do in case of fire.’

Only the participle is grammatical in the perfect tense of leren ‘learn, teach’ if it selects a wh-infinitive. We may therefore conclude that wh-infinitives are ungrammatical in verbal clusters, because the wh-word must move to the specifier of an interrogative C, and verbal clusters do not contain a CP-projection. (88)b is grammatical by virtue of the fact that leren ‘learn, teach’ has the option of not forming a cluster with the infinitive it selects, which leaves open the possibility that the infinitival complement in such cases projects up to CP.

The verbs of perception do not have this option; they always form a cluster with the infinitive they select. An interrogative complement is therefore only grammatical if the verb selects a finite complement (90)b:

(90) a. … omdat Jan (*wie) hoort (*wie) zingen
because Jan who hears who sing
‘…because Jan hears who is singing.’

b. … omdat Jan hoort wie er zingt
because Jan hears who there sings
‘…because Jan hears who is singing.’

We conclude that the infinitival complement to a clustering verb does not contain CP.

In the following sections, we discuss which projections are available in the complement to clustering verb. We discuss the categories one by one.

3.2.2 Modals

The modals include kunnen ‘can’, moeten ‘must’, mogen ‘may’, willen ‘want’, hoeven ‘need’, (be)horen ‘ought’, zullen ‘will’, dienen ‘should’ and hebben ‘must’.47 We discuss the modal verbs in all interpretations in this section. There is a huge literature on this topic, and doing justice to it would take us too far afield. We therefore restrict ourselves to some preliminary remarks.

3.2.2.1 Tense

We start with the obligation modals horen ‘ought to’, dienen ‘must’ and hebben ‘have to’.48 Although these verbs marginally allow a past tense adverbial in the

47 We will not spend time on zullen ‘will’ and willen ‘want’. The properties of zullen ‘will’ are difficult to assess, because of the variety of uses it has. As for willen ‘want’, it is not entirely clear that it is a modal verb; in terms of the contentful functional projections in its complement, it patterns with the irrealis verbs (see 4.3).

48 We take as modals of obligation just these three verbs. Mogen ‘may’ may also express obligation, but it has other uses as well. We discuss the ambiguous modals separately.
complement (91), the past tense replacement test (92) shows that these adverbs do not diagnose the presence of past tense:

(91) 'Je hoort/ dient/ hebt gisteren het gras te hebben gemaa aid
‘You have the obligation to have mowed the lawn yesterday.’

(92) * Je hoort/ dient/ hebt te hebben geslapen toen Marie binnenkwam
‘You have the obligation to have been sleeping when Marie entered.’

The reference point ‘when Marie came in’ is in the past with respect to the moment at which the obligation holds (to the extent that we can define this as a particular moment). *Hebben ‘have’ cannot be used to indicate that the moment of sleeping overlaps with the reference point. Hence, the complement to the modals of obligation does not contain past tense. Apparently, *hebben ‘have’ expresses anteriority in (91). It expresses the obligation of having mowed the lawn, instead of the obligation of being engaged in a past lawn-mowing event. The example is a bit marginal because the verbs of obligation are usually used to express general obligations, not particular ones.

The other modal verbs do allow tense in their complement. For reasons of space, we restrict ourselves to examples of *moeten ‘must’, and in some cases, *kunnen ‘can’ and *hoeven ‘need’, but whatever we say for *moeten ‘must’ can be carried over to the other verbs. Adverbs referring to the past are grammatical:

(93) a. Jan moet/ kan gisteren wel hebben gelogen
‘Jan must can yesterday have lied’

b. Jan hoeft gisteren niet te hebben gelogen
‘Jan need not have lied yesterday.’

The past tense replacement test shows that *hebben ‘have’ expresses past tense here:

(94) a. Jan hoeft niet geslapen te hebben toen Marie binnenkwam
‘It doesn’t have to be the case that Jan was sleeping when Marie came in.’

*Hoeven ‘need’ is a negative polarity verb which expresses the lack of obligation or necessity; meaningwise, it is the negative counterpart of *moeten ‘must’. *Hoeven and *moeten generally cannot be used interchangeably; negation takes scope over *hoeven, because of its status as an NPI, but it tends to take narrow scope with respect to *moeten:

(i) a. Je hoeft je boodschappen niet bij de supermarkt te doen
‘You don’t have to buy groceries at the supermarket.’

b. Je moet je boodschappen niet bij de supermarkt doen
‘You shouldn’t buy groceries at the supermarket.’

Note, however, that Flemish speakers may interpret (i)b as (i)a.
b. Jan kan/ moet geslapen hebben toen Marie binnenkwam
   ‘Jan can/ must have slept then Marie entered
   ‘Jan may/ must have been sleeping when Marie came in.’

The moment of sleeping overlaps with a reference point in the past, namely ‘when
Marie came in’, and the use of hebben ‘have’ is grammatical. Moreover, the
infinitival clause may be replaced with an equivalent finite clause, in which the
simple past is used:

\[
\begin{align*}
(95) \ a. \ & \text{Het moet wel zo zijn dat Jan sliep toen Marie binnenkwam} \\
& \text{it must PART be that Jan slept then Marie entered} \\
& \text{‘It must be the case that Jan slept when Marie came in.’} \\
(95) \ b. \ & \text{Het hoeft niet zo te zijn dat Jan sliep toen Marie binnenkwam} \\
& \text{it needs not so to be that Jan slept then Marie entered} \\
& \text{‘It does not have to be the case that Jan slept when Marie came in.’}
\end{align*}
\]

These examples show that modal verbs may embed tensed complements. On closer
inspection, it turns out that this holds only for some of the interpretations. Barbiers
(1995; 142) distinguishes four uses of the modals:

(96) a. Jan moet rijk zijn/ worden
   ‘Jan has the urge to be/ become rich.’
   ‘Jan has the obligation [imposed by Marie] to be/ become rich.’
   ‘Jan must be/ become rich [if he wants to be accepted to the Rotary club].
   ‘Jan must be/ become rich [that explains his outrageous purchases].’

The dispositional interpretation expresses a force internal to the subject; in the case
of moeten ‘must’, this is a desire. This use is shown in the first translation. The
second translation demonstrates the directed deontic interpretation. It expresses an
obligation which has an external source, i.e. the requirement is imposed on the
subject by someone else. The requirement may also be non-directed, as in the third
translation, in which case the obligation or requirement is not imposed on the subject
by someone else. Finally, the modal may have a probability interpretation, as in the
fourth translation.

All four interpretations are available if the sentence expresses a present urge,
requirement or state of affairs. However, if the sentence refers to a past urge,
requirement or state of affairs, only the non-directed deontic interpretation and the
probability interpretation are available:

(97) a. … omdat Jan de brief gisteren moet hebben ge post
   because Jan the letter yesterday must have mailed
   * ‘…because Jan has the urge to have mailed to letter yesterday.’

\footnote{According to Barbiers (1995; 201), the complement to a modal does not contain tense, regardless of the
interpretation. He bases his claim, among other reasons, on the ungrammaticality of examples like (101) below, but he does not discuss the past tense.}
* ‘…because Jan is required [by Marie] to have mailed the letter yesterday.’
* ‘…because Jan must have mailed the letter yesterday [if it is to be delivered today].’
* ‘…because Jan must have mailed the letter yesterday [there is no other explanation].’

b. … omdat Jan de brief gisteren niet hoeft te hebben gepost
   because Jan the letter yesterday not need to have mailed
* ‘…because Jan does not have the urge to have mailed the letter yesterday.’
* ‘…because Jan is not required [by me] to have mailed the letter yesterday.’
* ‘…because it is not necessary for Jan to have mailed the letter yesterday [if it is to be delivered today].’
* ‘…because Jan need not have mailed the letter yesterday [there are other possibilities].’

The past tense replacement test gives the same results:

(98) Jan moet de afwas hebben gedaan toen Marie binnenkwam
    Jan must the dished have done then Marie entered
* ‘Jan has the urge to have been washing the dishes when Marie came in.’
* ‘Jan has the obligation [imposed by Piet] to have been washing the dishes when Marie came in.’
  ‘It is required that Jan was washing the dishes when Marie came in [if he wants to be hired as her housekeeper].’
  ‘Jan must have been washing the dishes when Marie came in [there is no other explanation].’

The dispositional and directed deontic interpretations are not available; the non-directed deontic interpretation is marginal, and the probability interpretation is available.

If the complement to a probability or non-directed deontic modal may contain past tense, we would expect that it may also contain future tense. Adverbs referring to the future are indeed grammatical. However, this holds for all four interpretations:

(99) Jan moet morgen indruk maken op Marie
    Jan must tomorrow impression make on Marie
  ‘Jan has the urge to impress Marie tomorrow.’
  ‘Jan has the obligation [imposed by Piet] to impress Marie tomorrow.’
  ‘It is required that Jan impress Marie tomorrow [if he wants to get the job].’
  ‘It is certain that Jan will impress Marie tomorrow.’

But note that a finite verb in the present tense may have a future interpretation in Dutch. It may therefore be the case that the moment for which the modal holds is in the future. The dispositional interpretation would then be ‘tomorrow, Jan will have the urge to impress Marie’, the directed deontic interpretation ‘tomorrow, John will have the obligation to impress Marie’. It seems that the example does not have these interpretations, but to be sure, we add an example with the modal in the past tense, such that morgen ‘tomorrow’ can only modify the complement:
Jan moest morgen indruk maken op Marie
Jan must tomorrow impression make on Marie
‘Jan had the urge to impress Marie tomorrow [but now that he heard how she treats her friends, he no longer cares what she thinks of him].’
‘Jan had the obligation [imposed by Piet earlier ] to impress Marie tomorrow.’
‘It was required that Jan impress Marie tomorrow.’
‘It was certain that Jan would impress Marie tomorrow [but now that we found out about his criminal record, it is not certain anymore].’

The fact that the future adverb is grammatical in all interpretations need not be problematic, because future adverbs are not necessarily diagnostic of future tense; they may also diagnose MoodIRREALIS. To establish whether any of the interpretations allows future tense in the complement, we have to use zullen ‘will’:

Jan moet (morgen) zullen maken op Marie
Jan must tomorrow zullen make on Marie
‘Jan has the urge to impress Marie (tomorrow).’
‘Jan has the obligation (imposed by Piet) to impress Marie (tomorrow).’
‘It is required that Jan impress Marie (tomorrow) [if he wants to get the job].’
‘It is certain that Jan will impress Marie (tomorrow).’

Zullen ‘will’ is strikingly ungrammatical on all of the interpretations. The ungrammaticality of the first two interpretations, the dispositional and the directed deontic interpretation, is not surprising. These interpretations are incompatible with past tense in the complement, so the ungrammaticality of future tense is expected. However, the non-directed deontic interpretation and the probability interpretation do allow for past tense in the complement. The fact that zullen ‘will’ is ungrammatical is therefore rather puzzling, even more so in the light of (102):

Het kan/ moet zo zijn dat Jan zich morgen zal verslapen
It can/ must so be that Jan himself tomorrow will oversleep
‘It could/ must be the case that Jan oversleeps tomorrow.’

Probability modals may also select a finite clause, and in this construction, the complement clause may contain zullen ‘will’. The example is not perfect, but it is much more acceptable than its infinitival counterpart.

Moreover, raising verbs allow zullen ‘will’ in their complement:

Jan schijnt zijn huis te zullen verkopen
Jan seems his house to will sell
‘It seems that Jan will sell his house.’

Raising verbs allow both past tense and future tense in their complement (cf. 3.2.5.1), as indicated by the grammaticality of zullen ‘will’. Moreover, the raising
verbs and the modals on the probability interpretation have in common that they are both standardly assumed to involve epistemic interpretations.

One possible explanation for the contrast between (101) and (103) is that we use the label ‘epistemic’ too widely here. Although both probability modals and verbs like *schijnen* ‘seem’ are called ‘epistemic’, neither actually are. An epistemic reading expresses the degree to which the speaker believes the utterance to be true, based on his deductions. *Schijnen* ‘seem’, however, does not express that the speaker has made deductions leading him to believe that the utterance is true, but rather that he has evidence whose reliability he is uncertain of. Thus, the speaker in (103) does not express that from all the information he has, he deduced that *Jan* is going to sell his house, but rather, that he heard from someone that *Jan* was going to sell his house. But this reading is evidential. In the hierarchy of projection (Cinque 1999), Mood\_EVIDENTIAL c-commands Mod\_EPISTEMIC, which, in its turn, c-commands T\_FUTURE, so the co-occurrence of *schijnen* ‘seem’ and *zullen* ‘will’ is predicted, whether *schijnen* ‘seem’ diagnoses Mood\_EVIDENTIAL or Mod\_EPISTEMIC.

To account for the ungrammaticality of *zullen* ‘will’ and the probability modals, it has to be assumed that the probability modals are neither epistemic, nor evidential. We can discard Mood\_EVIDENTIAL as the projection for probability *moeten* ‘must’. In (104), it does not express that the speaker thinks *Jan* lied based on hearsay:

(104) Jan moet gelogen hebben
    Jan must have lied
    ‘Jan must have lied.’

But the interpretation is epistemic in that the claim is based on the speaker’s deductions. However, his deductions do not just lead him to believe that it is probable that *Jan* has lied; if his deductions are correct, it is necessarily true that *Jan* lied. Hence, *moeten* ‘must’ expresses a logical or necessary truth. This modality is also known as alethic modality. According to Cinque (1999), the alethic heads are in a position lower than tense and irrealis mood, such that T\_FUTURE and Mood\_IRREALIS c-command Mod\_ALETHIC. If the probability interpretation of the modals indeed belongs to this class, then the contrast between (101) and (103) follows: *zullen* ‘will’ indicates T\_FUTURE, which c-commands Mod\_ALETHIC NECESSITY, the projection *moeten* ‘must’ may be associated with. The ordering *moeten* ‘must’ > *zullen* ‘will’ is therefore excluded.

This explanation is problematic for two reasons. First, if T\_FUTURE > Mod\_ALETHIC, then we predict that the future auxiliary may precede a probability modal. However, this is not possible:

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51 We assume Cinque’s (1999) hierarchy of projection in the sense that we assume that the ordering of the projections correctly predicts the ordering of the verbs. We do not assume, however, that the verbs are generated in a hierarchy like Cinque’s, as this would make the wrong prediction for the ordering of the arguments and the functional heads. See also footnote 13.
The probability interpretation for *moeten* ‘must’ is forced if the embedded predicate is an individual level predicate (105)a. Embedding this construction under *zullen* ‘will’ leads to ungrammaticality on the relevant interpretation. The intended interpretation ‘in the future, evidence will be available that leads to the conclusion that it is necessarily true that Jan is intelligent’, is not available. However, this does not mean that *moeten* is not in ModALETHIC; perhaps the interpretation is ill-formed, even though it conforms to the hierarchy of functional projections. For instance, we might assume that if it is necessarily true that Jan is intelligent, then this is true at any point in time, and regardless of whether we have evidence for it. Perhaps necessary truths resist being situated in a future moment in time for this reason.\[^{52}\]

A more serious objection is the fact that probability modals may precede past tense *hebben* ‘have’, as shown in (94) above. If the probability modals correspond to ModALETHIC, then they are c-commanded by T\[^PAST\], and hence, the ordering *hebben* ‘have’ > *moeten* ‘must’ should be ungrammatical, contrary to fact.\[^{53}\]

We leave the discussion of tense in the complement to modals at this. Despite the puzzling absence of future tense, we have established that the probability and non-directed deontic modals may take a complement that contains T\[^PAST\].

### 3.2.2.2 MoodIRREALIS

We begin with the modals of obligation *(be)horen* ‘ought’, *dienen* ‘must’ and *hebben te* ‘must’. An adverb referring to the future is grammatical:

(106) … omdat je morgen het gras hoort/ dient/ hebt te maaien
    ‘…because you tomorrow the grass ought must must to mow'

However, it is not entirely clear whether the adverb takes scope above or below the modal; perhaps ‘you’ have a present obligation concerning a future mowing event, but it could also be that the obligation holds at the time at which the event is carried out. To avoid this complication, we have to use a modal in the past tense:

(107) † Je hoorde/ diende/ had morgen het gras te maaien
    you ought must must PAST PAST tomorrow the grass to mow
    ‘You had to mow the lawn tomorrow.’

---

\[^{52}\] From (100), it would appear that they may be situated in the past.

\[^{53}\] The ordering in (94) would be explained if *moeten* is interpreted as an epistemic or evidential modal here, not an as an alethic modal. But as in (104), *moeten* ‘must’ in (94) expresses that the proposition is necessarily true; not that it is probably true considering what the speaker deduced or heard from others.
(107) is slightly awkward. Perhaps this is because the obligation modals are incompatible with a future shifted interpretation, but it may also be due to the fact that these verbs express a general obligation, rather than an obligation which holds at a particular moment.

Let us turn to the other modals. We have seen above that adverbs like morgen ‘tomorrow’ are grammatical:

(108) Jan moet morgen indruk maken op Marie (=(99))

Jan must tomorrow impression make on Marie

‘Jan has the urge to impress Marie tomorrow.’

‘Jan has the obligation [imposed by Piet] to impress Marie tomorrow.’

‘It is required that Jan impress Marie tomorrow [if he wants to get the job].’

‘It is certain that Jan will impress Marie tomorrow.’

Also if the modal is in the past tense:

(109) Jan moest morgen indruk maken op Marie (=(100))

Jan must tomorrow impression make on Marie

‘Jan had the urge to impress Marie tomorrow [but now that he heard how she treats her friends, he no longer cares what she thinks of him].’

‘Jan had the obligation [imposed by Piet earlier] to impress Marie tomorrow.’

‘It was required that Jan impress Marie tomorrow [if he wants to be hired for the job; but it turns out that she already hired someone else].’

‘It was certain that Jan would impress Marie tomorrow [but now that we found out about his criminal record, it is not certain anymore].’

Given that the dispositional and the directed deontic interpretations are incompatible with past tense in the complement, we may assume that morgen ‘tomorrow’ is indicative of the modal notion of future orientation in these interpretations. Since our only test to distinguish modal and temporal future orientation concerns the auxiliary zullen ‘will’, which is sharply ungrammatical in the complement to a modal, we might assume that the modals do not allow their complement to contain future tense in any interpretation. In this case, morgen ‘tomorrow’ diagnoses MoodIRREALIS in all four interpretations.

We conclude that there is evidence for the presence of MoodIRREALIS, at least in the complement to some modals.

3.2.2.3 Anteriority

All the modals allow anterior hebben ‘have’ in their complement. This holds for the obligation modals:
(110) Je hoort/ dient/ hebt vijf boeken te hebben gelezen voor je aan de leesgroep meedoet
    ‘You must have read five books before you join the reading group.’

And also for the others:

(111) Jan moet het boek voor volgende week gelezen hebben
    ‘Jan has the urge to have read the book by next week.’
    ‘Jan has the obligation [imposed by me] to have read the book by next week.’
    ‘Jan must have read the book by next week [if he wants to take the class this semester].’
    ‘It is certain that Jan will have read the book by next week.’

The adverbial *voor volgende week* ‘by next week’ introduces a reference point. The event of reading the book must be completed at this point.

We conclude that all modal interpretations are compatible with the anterior reading of *hebben* have’.

### 3.2.2.4 Negation

According to some linguists (Den Besten et al. 1988; Evers 1975), negation can only take scope over the matrix verb in verb clusters:

(112) … omdat Jan niet mocht vertrekken
    because Jan not might leave
    ‘…because Jan was not allowed to leave.’
    not: ‘…because Jan was allowed not to leave.’

Thus, (112) only has an interpretation in which Jan has no permission to leave. The interpretation in which Jan has permission for not leaving, is not available.54 But we are not sure whether the narrow scope interpretation is impossible in general. With modal verbs, the two interpretations might be difficult to distinguish. Both the narrow scope interpretation and the wide scope interpretation of (112) imply that Jan did not leave. As it is moreover more plausible that Jan’s not leaving is due to lack of permission to leave than to permission to not leave, one might be inclined to interpret negation as taking scope over the modal.

The scope of negation is also difficult to determine for the obligation modals:

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54 This interpretation seems to be marginally possible in root clauses:

(i) Jan mocht niet vertrekken
    Jan might not leave
    ‘Jan wasn’t allowed to leave/ Jan was allowed not to leave.’

We do not go into these judgements.
(113) Je hoort/ dient/ hebt je ouders niet tegen te spreken
 you ought must must your parents not counter to speak
 ‘It is appropriate not to talk back to your parents.’
 ‘It is not appropriate to talk back to your parents.’

On either scope construal, the bottom line in (113) is that you should accept your parents’ authority, so it is hard to tell whether both interpretations are available, or just one, and if so, which one.

But in case of the other modals, we can judge the scope of negation more reliably:

(114) a. Jan moet niet afremmen in de bocht
    Jan must not slow-down in the bend
    ‘Jan has the urge to take a bend without slowing down.’
    not: ‘Jan does not have the urge to slow down in a bend.’
b. Jan kan niet zingen
    Jan can not sing
    ‘Jan cannot sing.’
    not: ‘Jan has the ability not to sing.’

Supposing Jan is a road hog, negation may take scope below the modal in the dispositional interpretation (114)a. It is difficult to construct examples of dispositional moeten ‘must’ in which negation takes scope over the modal. However, wide scope is preferred with dispositional kunnen ‘can’ (i.e. the ability interpretation; Barbiers 1995: 142), as shown in (114)b.

As for the directed deontic interpretation, matrix scope seems to be preferred if the modal expresses permission, as in (112). In the case of obligation, the facts are somewhat murky. Wide scope for negation is dispreferred in the case of moeten ‘must’, presumably because we use hoeven ‘need’ to express the lack of obligation:

(115) a. # Je moet niet meehelpen met de afwas, maar het mag wel
    you must not help with the dishes but it may PART
    ‘You shouldn’t help with the dishes, but you can.’
    not: ‘You don’t have to help with the dishes, but you can.’
b. Je hoeft niet mee te helpen met de afwas, maar het mag
    you need not with to help with the dishes but it may wel PART
    ‘You don’t have to help with the dishes, but you can.’

If negation would take scope over the modal in (115)a, then it would be equivalent to (115)b. But the examples are not equivalent, and (115)a is a contradiction, with the first conjunct expressing the obligation not to help, hence narrow scope for negation, and the second one expressing permission to help.

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55 The example is grammatical if the modal is pronounced with strong emphasis, in which case the interpretation is contrastive.
The directed deontic interpretation is characterized by the fact that the obligation or permission is due to an external source. Normally, we can make the source explicit in a PP, but in the presence of negation, such a PP sounds a bit awkward. Hence, negation takes narrow scope in (116)a, which seems to be an example of the directed deontic interpretation. But adding the source of the obligation in (116)b makes the example degraded:

(116) a. Je moet niet zulke gemene dingen zeggen
       you must not such mean things say
     'You shouldn’t say mean things like that.’
     not: ‘You do not have the obligation to say mean things like that.’

   b. Jan moet van zijn baas niet met Marie overleggen
      Jan must from his boss not with Marie confer
     'Jan is required by his boss not to confer with Marie.’
     not: ‘Jan is not required by his boss to confer with Marie.’

This raises the question of whether moeten ‘must’ can receive a directed deontic interpretation in the presence of negation. Also note the translation in (116)a: moeten ‘must’ seems to express what is proper, rather than what is obligatory.

As for the non-directed deontic interpretation, narrow scope and wide scope are both available, albeit not in the same sentence:

(117) a. Jan moet niet te veel geld uitgeven
      Jan must not too much money spend
     ‘It is required that Jan does not spend too much money [if he wants to buy a new car in summer].’
     not: ‘It is not required that Jan spends too much money.’

   b. De aarde hoeft niet op te warmen
      the earth needs not up to warm
     ‘It is not necessary that the earth warms up [if we finally take precautions].’
     not: ‘It is necessary that earth does not warm up’

Finally, the probability interpretation is compatible with narrow scope as well as wide scope for negation. We cannot demonstrate this with moeten ‘must’, because negation can only take scope below the modal (118)a. The wide scope interpretation is presumably blocked by probability hoeven ‘need’, which has the same interpretation (118)b. However, probability kunnen ‘can’ allows both interpretations (118)c:

(118) a. Jan moet Marie niet hebben herkend
      Jan must Marie not have recognized
     ‘It must be the case that Jan did not recognize Marie.’
     not: ‘It must not be the case that Jan recognized Marie.’

   b. Jan hoeft Marie niet te hebben herkend
      Jan need Marie not to have recognized
     ‘It is not necessarily true that Jan recognized Marie.’
     not: ‘It is necessarily true that Jan did not recognize Marie.’
c. Jan kan Marie niet hebben herkend
   Jan can Marie not have recognized
   ‘It is possible that Jan did not recognize Marie.’
   ‘It is not possible that Jan recognized Marie.’

We conclude that regardless of the type of interpretation of the modal, negation may in principle take scope above as well as below the modal.

3.2.2.5 v

Lastly, we turn to the question of whether the complement to a modal verb projects vP. This question is related to another one, which we have not addressed so far. We have not said anything about whether modals are control verbs or raising verbs. It has been argued that modals are raising verbs on the probability interpretation and control verbs on the root interpretation (Klooster 1986, for Dutch). That would imply that the complement to a probability modal must contain vP, but the complement to a root modal not necessarily, depending on the correct analysis of control structures.

However, Barbiers (1995, 1996, 2005) has shown that the distinction between epistemic and root interpretations does not correlate with the distinction between raising and control. First, if the subject of a small clause may not be PRO (cf. (119)a), then it is reasonable to assume that the argument position of the small clause in (119)b contains the trace left after movement into matrix subject position:

(119) a. … omdat Jan [sc zich/* PRO schor] zong

   because Jan [REFL hoarse] sang
   ‘…because Jan sang himself hoarse.’

b. Deze lampen moeten [sc [t uit] uit]

   these lamps must out
   ‘These lights must be switched off.’
   (Barbiers 1995; 151)

That is, (119)b involves raising, not control. But crucially, it does not have an epistemic interpretation. This means that not only epistemic verbs may be raising verbs.

This point is also argued in Wurmbrand (1999). Concerning scope reconstruction, quirky case, passivization and expletive subjects, Icelandic modals can be shown to have the same behavior as raising constructions, not control

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Barbiers (1995) shows that (119)b does not involve ellipsis of an infinitive, like *uit worden gedaan ‘be switched off’. First, we cannot add an agentive by-phrase to (119)b. Second, it is possible to construct examples comparable to (119)b, but in which no infinitive can be filled in. Lastly, we can make minimal pairs in which one example contains a verb-particle combination, and the other just the particle. Crucially, the epistemic interpretation is only available if the infinitive is overt, which would be puzzling if the construction is the same in both examples.
constructions in Icelandic. This not only holds for the epistemic modals, but it can also be demonstrated for root interpretations.\footnote{That is, for the non-directed deontic interpretation. Note that this is also the only deontic interpretation which has tense.}

Finally, note the absence of lexical restrictions on the subject in (119)b, and the fact that a modal which embeds a weather verb may receive a non-directed deontic interpretation:

\begin{verbatim}
(120) Het { moet maar/ mag wel} weer eens regenen
      it must just may part again once rain
    ‘It is required/ would be good if it started to rain again some time [if the crops are to survive]
\end{verbatim}

These observations also suggest that root modal verbs may be analyzed as raising verbs.\footnote{If modal verbs are indeed raising verbs, then partial control should be impossible, because the infinitival clause does not contain PRO. However, (i) is not too bad:}

\begin{verbatim}
(i) … omdat de commandant het pand niet hoeft te omsingelen
    because the commander the building not need to surround
    ‘…because the commander is not obliged to surround the building.’
\end{verbatim}

Possibly, this example does not reflect partial control, but rather the ‘responsibility’ reading noted in connection with (82) in 3.1.6.1.

In summary, there is ample evidence that modals can be raising verbs, hence, embed a complement which assigns an external thematic role. This means that the complement must contain vP.

\subsection*{3.2.2.6 Summary}

In this section, we have discussed the structure of the complement to a modal verb. We have shown that it is unlikely that the complement would be a bare VP: on all interpretations, the complement may be future oriented with respect to the moment at which the modal is evaluated, which suggests that the complement always projects up to Mood\textsubscript{IRREALIS}. On the probability and the non-directed deontic interpretation, it may even project up to TP.

\subsection*{3.2.3 Aspectual verbs}

This class contains several verbs. The posture verbs hangen ‘hang’, liggen ‘lie’, staan ‘stand’ and zitten ‘sit’, and the manner of motion verb lopen ‘walk’ express progressive aspect. The habitual verb plegen ‘be in the habit of’ also belongs to this class, as do beginnen ‘begin’, blijven ‘continue, stay, remain’, gaan ‘go’, and komen ‘come’.

The facts concerning the progressive verbs are fairly straightforward. The other verbs, however, have a range of uses, with significant overlap in meaning. It
would take us too far afield to do justice to the subtle differences between these uses. For this reason, we only make some preliminary remarks about the other verbs.

3.2.3.1 Aspectual 1

In this section, we show that the verbs which express the progressive take a complement which contains few functional contentful projections. There is no evidence for contentful projections higher than v. As for v, it is not possible to argue for or against its presence, with our limited tools.

3.2.3.1.1 Tense

The progressive verbs express that the event that is described by the embedded predicate is ongoing. The event times of the progressive verb and the embedded verb thus necessarily coincide:

(121) a. Jan liep (* morgen) te klagen  
Jan walked tomorrow to complain  
'TJan was complaining tomorrow.'

b. * Jan loopt gezeurd te hebben (voor morgen)/ (toen ik binnenkwam) 
Jan walks nagged to have before tomorrow then I entered 
'TJan is having complained (by tomorrow)/ (when I came in).' 

c. Jan loopt te klagen  
Jan walks to complain  
'TJan is complaining.'

The literal meaning of *lopen ‘walk’ is lost if it takes a verbal complement. In the above examples, it expresses that the nagging or complaining is ongoing, and (121)c is felicitous even if Jan is not walking at all. If the finite verb is in the past tense, the clause may not contain an adverb referring to the future (121)a. The clause may not contain hebben ‘have’ (121)b, whether it marks anteriority, if the reference time is in the future with respect to the finite verb, marked by voor morgen ‘by tomorrow’, or past tense, if the reference time is in the past, marked by toen ik binnenkwam ‘when I came in’. The only grammatical example is (121)c, in which the ‘walking’ and the complaining are simultaneous.

This is of course a trivial fact about progressive verbs. If markers of the progressive are generated as functional heads, e.g. the Asp<sub>PROGRESSIVE</sub> head in Cinque’s hierarchy, it is impossible for the complement to contain tense. In Cinque’s (1999) hierarchy, the tense heads are higher than Asp<sub>PROGRESSIVE</sub>. However, it is not entirely clear that the Dutch progressive verbs are functional heads. If we assume that functional heads are raising verbs, then we would expect that the progressive verb does not pose lexical restrictions on the subject of the sentence. However, the original meaning of *lopen ‘walk’ is partly retained, in that the subject need not be walking, but should at least be capable of it:
(122) a. # Het loopt al uren te stromen van de regen
   it walks already hours to pour of the rain
   ‘It has been pouring for hours already.’
   
   b. # Het ijs loopt langzaam te smelten
   the ice walks slowly to melt
   ‘The ice is melting slowly.’
   
   c. # De goudvis liep maar rondjes te zwemmen
   the goldfish walked but circles to swim
   ‘The goldfish just kept swimming in circles.’
   
   d. # De baby liep maar te huilen
   the baby walked just to cry
   ‘The baby just kept crying.’

An inanimate subject is not felicitous (122)b, nor is the quasi-expletive subject of a
weather verb (122)a. For some speakers, the animate subject in (122)c is awkward
as well, and even humans who are not able to walk are unacceptable as subjects of
lopen ‘walk’ (122)d. Lexical restrictions on the subject are standardly taken as
evidence that the subject bears a thematic role assigned by the verb. On these
grounds, we should take the posture verbs as control verbs, not raising verbs. But if
they are control verbs, then the constructions in (121) and (122) involve lexical
verbs which select a verbal complement.

This has important consequences for the way we understand the observation
in (121). The simultaneity of the ‘walking’ and the event described by the infinitive
can no longer be ascribed to the necessary absence of a tense node in the
complement to the finite verb, which would be the explanation if we adopted
Cinque’s (2004) theory, on which all restructuring verbs are generated as functional
heads. Three possibilities remain. First, the simultaneity may reflect the absence of
the embedded tense projection; the lexical verb lopen ‘walk’ embeds a complement
which is smaller than TP. Second, the lexical verb lopen ‘walk’ may embed a
complement which lacks semantic tense, but the tense projection may nevertheless
be present in the syntax. Third, it could be that the complement has syntactic and
semantic tense. The simultaneity effect is due to the fact that any tense value other
than ‘present’ (with respect to the matrix event time) would lead to a meaning
conflict. At this point, we do not have the tools to determine which of these
possibilities is correct. In section 3.2.4, we discuss some observations which may
shed light on this issue. The observations point to a view of syntactic structure in
which certain projections are indeed syntactically absent in the complement to a
clustering verb.

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59 As Wiklund (2005) has shown, it is possible to distinguish these two possibilities empirically in
dialects of Swedish. For Dutch, this is not possible. We therefore continue to speak of the presence or
absence of contentful material, where the absence of contentful material should be understood as either
the presence of vacuous material, or the absence of any material.
3.2.3.1.2 Mood
As the aspectual verbs express ongoing action, the moment at which the embedded event takes place is necessarily identical to the moment at which it is ongoing. Future orientation is therefore excluded, as shown in (121)a above. Whether this shows that Mood is absent or present, with its value restricted to what is compatible with the matrix verb, is unclear at this point.

3.2.3.1.3 Anteriority
The fact that the event described by the infinitive is ongoing implies that the complement cannot contain anterior hebben ‘have’. The ungrammaticality of hebben ‘have’ was shown in (121)b. As anterior hebben ‘have’ expresses that the event takes place at some moment in the past with respect to some (future) reference time, anterior hebben ‘have’ conflicts with the progressive verbs.

As with tense, it is not clear at this point whether the ungrammaticality of anterior hebben ‘have’ in (121)b reflects the absence of the relevant projection in the syntactic structure, the presence of a semantically vacuous projection, or the presence of a semantically contentful projection, of which the value is restricted by the meaning of the matrix verb. Contrasts between the clustering and non-clustering variants of the same verb (cf. 3.2.6.2) suggest that the relevant projection may be absent altogether in the complement to a clustering verb.

3.2.3.1.4 Negation
Constructions containing a progressive verb do not seem to show scope ambiguities:

(123) … omdat Jan al uren niet op zit te letten
‘…because Jan has not been paying attention for hours.’

Intuitively, (123) means that Jan’s not paying attention has been going on for hours. It does not seem to have the interpretation that there was no ongoing paying attention, but we cannot exclude this interpretation, because on either interpretation, Jan does not pay attention. Because the narrow scope interpretation entails the wide scope interpretation, it is difficult to determine which interpretation we get.

There are contexts in which the two construals may be distinguished. An utterance like (124) may be followed by either of (125):

(124) Jan liep niet te zeuren,
‘Jan was not nagging.’

(125) a. … al zijn opmerkingen waren terecht
‘…all his comments were appropriate’

b. … hij heeft maar een ding gezegd
‘…he only said one thing’
(125)a facilitates the narrow scope interpretation, in which the fact the Jan nags is negated, but not the fact that what he is doing is ongoing. The wide scope interpretation is facilitated by (125)b. It is acknowledged that Jan’s behavior should be considered nagging, but the speaker denies that this nagging is ongoing.

However, this does not show that there are two domains for negation. The wide scope interpretation seems to require emphasis on the finite verb, which suggests that wide scope involves constituent negation, not sentential negation. But the continuation (125)a is also most natural with emphasis, this time on zeuren ‘nag’. Because either construal seems to involve constituent negation, we still cannot decide whether negation takes scope below or above an aspectual verb in a verbal cluster.

3.2.3.1.5 v

If we accept the conclusion that the progressive verbs are control verbs, then it is not clear whether the embedded verb projects an external argument. In the case of the raising verbs, it is obvious that the embedded predicate projects an external argument, hence, has a vP-projection, because the matrix subject does not originate with the matrix verb. If the progressive verbs are control verbs, then the matrix subject does not originate in the embedded predicate, and we would have to determine whether the infinitival clause contains PRO. But our tests for the presence of PRO do not work here. In order to use the adjunct test, the matrix predicate must select an internal argument DP, so that we can investigate the interpretation of subject-oriented PRO.

The construction does not allow partial control, but this does not mean that there is no PRO:

(126) * De commandant liep het gebouw te omsingelen
the commander walked the building to surround
‘The commander was surrounding the building.’

Only a subset of the constructions for which we have evidence that there is a PRO, allow partial control. Hence, the possibility of partial control is positive evidence for the presence of PRO, but the ungrammaticality of partial control does not necessarily mean that PRO is absent. We therefore leave the issue of the embedded vP open.

3.2.3.2 Aspectual 2

We now turn to the other aspectual verbs. These are beginnen ‘begin’, blijven ‘remain, continue, stay’, gaan ‘go’ and komen ‘come’.60 We show that there is no evidence for contentful projections higher than vP. There is some evidence for the presence of v.

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60 We ignore the archaic plegen ‘be in the habit of’.
3.2.3.2.1 Tense

The aspectual verbs do not embed a tensed complement. If the aspectual is in the past tense, there may not be a temporal adverb referring to the future. The past tense replacement test shows that temporal hebben ‘have’ is ungrammatical:

(127) a. Het begon te/bleef/ ging (*morgen) regenen
    ‘It began/continued/started to rain tomorrow.’

    b. *Het begint blijft/ gaat geregend (te) hebben toen ik
    it begins continues goes rained to have then I
    binnenkwam
    ‘It is beginning/continues/is going to have been raining when I came in.’

(128) a. Jan kwam (*morgen) een praatje maken
    Jan came tomorrow a chat make
    ‘Jan came by for a chat tomorrow.’

    b. *Jan komt een praatje gemaakt hebben toen Marie binnenkwam
    Jan comes a chat made have then Marie entered
    ‘Jan is coming by to have been making a chat when Marie came in.’

Beginnen ‘begin’ is interesting in this respect. It optionally forms a cluster. In the non-clustering variant, the temporal auxiliary and temporal adverb are equally ungrammatical:

(129) a. Jan is begonnen (*morgen) voor zichzelf op te komen
    Jan is begun tomorrow for himself up to come
    ‘Jan started to stand up for himself tomorrow.’

    b. *Jan is begonnen te hebben afgewassen toen Marie binnenkwam
    Jan is begun to have of-washed then Marie entered
    ‘Jan started to have been washing the dishes when Marie came in.’

We can make the same point in the case of blijven ‘continue’. It obligatorily forms a cluster with its complement, but it has a near-synonym which selects an opaque complement.63 The IPP-effect does not obtain (130)a, and the embedded internal argument must follow the matrix verb (130)b-c:

61 The brackets around te indicate that te is obligatory with beginnen ‘begin’ but impossible with the other verbs.

62 We ignore the irrelevant interpretation in which kwam ‘came’ is not interpreted as past tense, e.g. in the irrealis interpretation.

63 Evers (1975) states that no verbal cluster can be formed if the selecting verb is a particle verb, like doorgaan ‘continue’ (literally: through-go). The fact that doorgaan and blijven ‘continue’ have different syntactic properties is predicted on his analysis. However, if we assume that there is no process of cluster formation, this generalization should be explained differently. While we do not have an explanation for the fact that doorgaan ‘continue’ does not behave like the clustering verbs, we note that it is not true that particle verbs do not show the clustering pattern in general (Ter Beek 2007):
(130) a. … omdat de activisten zijn doorgaan doorgegaan actie because the activists are continue continued action te voeren to pursue ‘…because the activists have continued campaigning.’
b. * … omdat de activisten de armen doorgaan te beschermen because the activists the poor continue to protect ‘…because the activists continue to protect the poor.’
c. … omdat de activisten doorgaan zijn de armen te because the activists continued are the poor to beschermen protect ‘…because the activists have continued to protect the poor.’

The temporal properties of the complement to doorgaan ‘continue’ are like those of blijven ‘continue’:

(131) a. … omdat ze doorgingen (* morgen) de armen te beschermen because they continued tomorrow the poor to protect ‘…because they continued to protect the poor tomorrow.’
b. * … omdat de activisten doorgaan de armen te hebben because the activists continued the poor to have beschermd toen Marie binnenkwam protected then Marie entered ‘…because the activists continue to have protected the poor when Marie came in.’

The behavior of doorgaan ‘continue’ and blijven ‘continue’ shows that there is no one-to-one correspondence between aspectual meaning and monoclausal structure, if we take obligatory transparency to be indicative of a monoclausal configuration. (129) and (131) show that it is in principle possible for a lexical verb to take a tenseless complement. If we accept this conclusion, then we cannot be sure that the progressive verbs and the other aspectual verbs in this section are generated in the functional domain of the lexical verb.

3.2.3.2.2 Mood

We have seen that the event time of the aspectual verb and its complement overlap. The complement does not allow a future shifted interpretation:

(i) De brandweer heeft mee-helpen zoeken in het water.
the fire.department has with-help.search in the water
‘The fire department has helped search on the water.’
(from: www.politie.nl/zuid-holland-zuid/ nieuws/060605_hoeksche_waard.asp)
(132) Jan kwam (* morgen) een praatje maken
    ‘Jan came for a chat tomorrow.’

The example would be grammatical with the finite verb in the present tense, but the complement would not be future oriented then; the moment of coming would be interpreted as future, not present.

Because of the necessary overlap in event times, it is not clear whether the ungrammaticality of (132) reflects the absence of Mood_{IRREALIS}, or whether Mood_{IRREALIS} is projected with its value restricted.

3.2.3.2.3 Anteriority
We have seen that temporal hebben ‘have’ is ungrammatical in the complement to the aspectual verbs. (133) shows that anterior hebben ‘have’ is ungrammatical as well:

(133) * Jan begint/goat/ komt/ blijft voor morgen het gras haben gemaaide
to have mowed
    ‘Jan begins/goes/comes/continues to have mown the lawn by tomorrow.’

3.2.3.2.4 Negation
Negation preferably takes scope over both verbs, but in the right context it may take scope below the higher verb:

(134) a. Ik blijf niet reageren tot je me beleefd aanspreekt!
    ‘I will continue not reacting until you address me politely!’
    b. Ik ben net zo lang niet blijven reageren tot hij me beleefd
    addressed
    ‘I continued not reacting until he addressed me politely.’

In (134), negation takes scope below the aspectual verb. The examples seem to express ongoing ignoring by the speaker, rather than postponed resuming of responding. The example shows that negation does not require the presence of tense.

64 The brackets around te indicate that te is obligatory with beginnen ‘begin’ but impossible with the other verbs.
65 Gaan ‘go’ may also be used in a futurate sense, indicating imminent future. Examples like (133) may occur in youngsters’ street language.
If we take the aspectual verbs to be raising verbs, then the complement must project a vP. The verbs *beginnen* ‘begin’, *blijven* ‘continue’ and *gaan* ‘go’ do not pose lexical restrictions on the subject: 66

(135) a. Het water begint te / blijft / gaat stijgen
the water begins to continues goes rise
‘The water begins/ continues/ is going to rise.’

b. Het begint te / blijft/ gaat regenen
it begins to continues goes rain
‘It is beginning/ continues/ is going to rain.’

This suggests that at least some aspectual verbs select a vP-complement. In accordance with this finding, partial control is ungrammatical: 67

(136) * … omdat de commandant het gebouw is beginnen te omsingelen
because the commander the building is begin-INF to surround
‘…because the commander started surrounding the building.’

### 3.2.4 ECM-verbs

The ECM-verbs in Dutch are the perception verbs *horen* ‘hear’, *zien* ‘see’, *ruiken* ‘smell’, *voelen* ‘feel’, and *vinden* ‘find’, and the causative verbs *doen* ‘do’ and *laten* ‘let’. The use of ECM *doen* ‘do’ is quite restricted, so we do not discuss it here.

It is shown that these verbs select vP-complements. Moreover, we argue that there are no semantically vacuous higher functional projections in these complements; any structure above vP is simply absent.

#### 3.2.4.1 Tense

The time of perception and the embedded event time coincide:

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66. The case of *komen* ‘come’ is less clear. Inanimate subjects are allowed in examples like (i)a, in which the embedded verb expresses a change of state, but in (i)b, with an embedded accomplishment verb, the use of *komen* ‘come’ implies a sense of purpose:

(i) a. Je bankrekening komt te vervallen
your bank-account comes to expire
‘Your bank account will be cancelled.’

b. De spin gaat/ # komt een web maken
the spider goes comes a web make
‘The spider is going to make a web/ comes by to make a web.’

We might assume that the meaning of *komen* ‘come’ is bleached to a larger extent in the use in (i)a, with the meaning ‘arrive at state x’, than in (i)b, in which it more specifically means ‘arrive at (unspecified) location x’.

67. This also holds for the non-clustering use of *beginnen* ‘begin’.
The ungrammaticality of (137)b does not necessarily tell us anything about the presence of a tense node in the complement to zien ‘see’, however. The intended interpretation could also be dispreferred because it results in an implausible interpretation: it is impossible (for most of us, at least), to perceive future events at the present time.

The verb vinden ‘find’ is more revealing:

As an ECM-verb, vinden ‘find’ has the meaning ‘have the opinion’. In this sense, it is not strictly a perception verb, because it does not express the subject’s direct perception, but rather his interpretation of what he perceived. Because the construction does not express a direct perception, we might expect that ECM vinden ‘find’ may also be used to express the subject’s opinion about a past or future event. It is indeed possible to express these using a finite complement clause, but an infinitival clause is ungrammatical:

The ungrammaticality of (139)b-c cannot be explained by semantic incompatibility or world knowledge, because the intended interpretation is easy enough to imagine.

Likewise, one may plausibly give orders about things to be done in the future, but the instructions in (140) are not well-formed ECM-sentences if the adverb morgen ‘tomorrow’ is present:

68 Here and below, we ignore the irrelevant interpretation in which zien ‘see’ is understood as ‘imagine’.
Does this mean that in ECM-constructions, the complement does not project a tense projection? Recall the two ways in which the absence of contentful tense may be reflected in the syntax (cf. 3.2.3). The absence of contentful tense may correspond to the absence of tense in the syntax. But it may also correspond to the presence of semantic tense in the syntax, of which the value is somehow restricted to be compatible with the properties of the matrix verb.

In the case of ECM-verbs, we are in a position to choose between these possibilities. As we have seen, one may plausibly form an opinion about a past event, or give instructions concerning chores to be carried out in the future. Hence, there would not be a conflict of interpretation if the embedded event time would be in the past with respect to the time of forming the opinion in (139)b, or if the embedded event time would be in the future with respect to the moment of giving the order in (140). If the complement contains a contentful tense projection, then the ungrammaticality of these examples cannot be explained. If there is no such projection, on the other hand, the simultaneity of matrix and embedded event time is not surprising: in the absence of a way to situate the embedded event in time, it takes on the event time of the matrix verb.

We might generalize this finding to the aspectual verbs, and assume that these verbs, too, embed a complement which lacks TP. This conclusion would be premature, however. Looking only at aspectual verbs and ECM-verbs, we might conclude that tense nodes are excluded in infinitival complements in verbal clusters. But as we have seen with the modal verbs, and as will be discussed for raising verbs below, however, there are also verbal clusters in which the complement has contentful tense; hence, TP is not excluded in principle.

3.2.4.2 Mood\textsubscript{irrealis}

The simultaneity of the matrix and embedded event times not only excludes the presence of tense in the complement, but also the presence of Mood\textsubscript{irrealis}, as indicated by the ungrammaticality of morgen ‘tomorrow’ as an embedded clause modifier (cf. (137), (140)).

3.2.4.3 Anteriority

ECM-verbs combine with a tenseless complement. In this section, we show that the complement also lacks the projection responsible for the expression of anteriority:
The ungrammaticality of (141) may be independent of the syntax of verbal clusters. The reference time, the time by which the embedded event is supposed to have taken place, is in the future with respect to the time of perception, and it is therefore impossible for Jan to perceive the outcome of the event.

But if the reference time is in the past with respect to the time of perception, the construction is still ungrammatical. Imagine the following contexts. For (142)a: for some reason, the lights temporarily go off, and Marie stumbles in the dark. The lights then go back on, and Jan sees Marie lying on the floor. Seeing this, Jan concludes that she must have stumbled. For (142)b: Jan and Marie have an exam. Right before the exam, they have a chat, and Jan notices that Marie speaks hoarsely. From this, Jan concludes that Marie must have been partying.

We may not phrase Jan’s perceptions as (142). But these situations are not inconceivable, since the examples in (143) are acceptable:

It is tempting to ascribe the absence of the TANTERIOR to the syntax of verbal clusters. But the complement to raising verbs may contain anterior hebben, so the absence of TANTERIOR could not be a property of verbal clusters in general. We go into this restriction in more detail in 3.2.6.2.

3.2.4.4 Negation

It is difficult to provide judgments concerning the scope of negation, because the narrow scope interpretation entails the wide scope interpretation:
(144) De leraar zag Jan en Piet niet meedoen
the teacher saw Jan and Piet not participate
‘The teacher saw Jan and Piet not participating.’
‘The teacher didn’t see Jan and Piet participate.’

If it is true that the teacher witnessed that Jan and Piet were not participating, then it also true that he did not witness them participating. But the fact that (144) may be continued by either of the examples in (145) suggests that both interpretations are available:

(145) a. … omdat hij de andere kant opkeek
    because he the other side up-looked
    ‘…because he was looking in the other direction.’
 b. … en ze hadden nog wel afgesproken dat iedereen zou
    and they had still PART agreed that everyone would
    meedoen
    participate
    ‘…even after they agreed that everybody would participate.’

(145)a is most natural as an explanation for why the teacher failed to notice the efforts of Jan and Piet, in which case negation has scope over zien ‘see’. (145)b is most likely interpreted as a comment on the fact that Jan and Piet did not participate, in which case negation takes scope below zien ‘see’.

The embedded scope interpretation of (144) can be brought out even more clearly but the continuation in (146)a:

(146) a. … en ik ook
    and I too
    ‘…and so did I.’
 b. … en ik ook niet
    and I too not
    ‘…and neither did I.’

If the antecedent clause is affirmative, a continuation like (146)a will be affirmative as well. If the antecedent clause is negated, so is the continuation. Hence, the interpretation of ‘and so did I’ may be paraphrased as ‘I also saw that Jan and Piet were participating’; ‘and neither did I’ could be paraphrased as ‘and I also didn’t see that Jan and Piet were participating.’ The fact that both continuations are felicitous suggests that (144) is indeed ambiguous between a wide scope and narrow scope interpretation for negation.

\[69\] Of course, the continuation is also compatible with the narrow scope interpretation, for instance in the situation in which the teacher is standing around with his back to the game, but as he looks in the other direction, he comes to face the game, and sees that Jan and Piet are not participating. We ignore this situation.
It is obvious that the complement of the perception verbs projects a vP. If it did not, it would be unclear where the embedded external argument originates. As predicted, partial control is ungrammatical:

(147) * … omdat Jan de commandant het gebouw zag omsingelen
    because Jan the commander the building saw surround
    ‘…because Jan saw the commander surround the building.’

### 3.2.5 Raising verbs

This class consists of the usual suspects *blijken* ‘turn out’, *lijken* ‘appear’, *schijnen* ‘seem’, *dreigen* ‘threaten’ and *beloven* ‘promise’. This is an interesting class of verbs, because their complement seems to be fairly complete. The infinitival clause may be as large as (contentful) TP.

#### 3.2.5.1 Tense

The complement to raising verbs may be modified by a temporal adverb (148):

(148) a. … omdat Jan volgende week naar Parijs bleek te gaan
    because Jan next week to Paris turned-out to go
    ‘…because it turned out that Jan would go to Paris next week.’

b. … omdat Jan gisteren een prijs schijnt te hebben gewonnen
    because Jan yesterday a prize seems to have won
    ‘…because Jan seems to have won a prize yesterday.’

It may also contain the temporal auxiliaries *zullen* ‘will’ (149)a and *hebben* ‘have’ (148)b. The past tense replacement test shows that *hebben* ‘have’ is a temporal auxiliary here:

(149) Jan leek de hoofdrol te zullen krijgen, (maar uiteindelijk
    got he only a small supporting-part)
    Jan appeared the leading-role to will get but eventually
    ‘It looked like Jan would get the leading role (but in the end, he got only a
    minor supporting role).’

(150) a. Het schijnt dat Jan sliep toen Marie binnenkwam
    it seems that Jan slept then Marie entered
    ‘It seems that Jan was sleeping when Marie came in.’

b. Jan schijnt geslapen te hebben toen Marie binnenkwam
    Jan seems slept to have then Marie entered
    ‘Jan seems to have been sleeping when Marie came in.’
These results are in accordance with Cinque's (2004) theory of restructuring, in which restructuring verbs are functional heads in a hierarchy of projections. Epistemic raising verbs occupy the ModEPISTEMIC slot, which c-commands the tense projections $T_{PAST}$ and $T_{FUTURE}$. Since ModEPISTEMIC is higher than $T_{PAST}$ and $T_{FUTURE}$, it is predicted that raising verbs may precede temporal auxiliaries.

But if we look at the above examples more carefully, then it appears that there are two tense domains. In (149), for instance, we can identify two time intervals; one in which Jan is assigned his part, and one in which the impression exists that Jan would get the leading role. These time intervals are independent: at the time at which the speaker expected that Jan would play the leading character, the actual casting decisions had not been made. Conversely, by the time the roles were divided, the speaker may no longer have believed that Jan would play the leading role. Hence, there seem to be two event times in (149). We can demonstrate this even more clearly in (151), in which both event times are modified:

[Everybody believes that the burglar is Jan, but tomorrow, when the police investigation is presented, his name will be cleared:]

(151) Morgen zal Jan blijken te hebben geslapen toen de inbraak werd gepleegd.
    ‘Tomorrow, it will turn out that Jan was sleeping when the burglary took place.’

The fact that a raising verb may both take scope over a temporal auxiliary (cf. (150)b) and be in the scope of tense (cf. (151)), would be problematic if both tense and epistemic raising verbs occupy fixed slots in the functional hierarchy. Moreover, to account for (151), we would have to posit the following ordering of the functional heads: $T_{FUTURE}$ > ModEPISTEMIC > $T_{PAST}$, in violation of the order established by Cinque (1999), which is ModEPISTEMIC > $T_{PAST}$ > $T_{FUTURE}$.

To avoid this problem, we conclude that constructions containing a verbal cluster are not necessarily monoclausal, and raising verbs are lexical verbs rather than auxiliary verbs. This has the important consequence that verbal clusters may embed tensed complements.

3.2.5.2 MoodIRREALIS

The complement to raising verbs may contain zullen ‘will’ (cf. (149)), which expresses future tense, as argued in 3.1.2.3.2. For this reason, it is not clear whether the future orientation of the complement is due to $T_{FUTURE}$ or whether MoodIRREALIS is present as well. In the absence of arguments to the contrary, we assume that the complement may project MoodIRREALIS.

3.2.5.3 Anteriority

The fact that the complement to raising verbs has tense leads us to expect that anterior hebben ‘have’ would be grammatical as well. This is borne out:
De aannemer schijnt alle gebreken voor volgende week verholpen te hebben.

‘It seems that the contractor will have corrected all the defects by next week.’

The example in (152) is acceptable in a context in which the defects have not been corrected at the time of utterance. *Hebben* ‘have’ could not function as a temporal auxiliary in this context; it functions as an anterior auxiliary.

### 3.2.5.4 Negation

It may be a bit difficult to establish what the scope of negation is, because the narrow scope interpretation tends to imply the wide scope interpretation:

(153) … omdat Jan Marie niet leek/ bleek te kennen

‘…because Jan did not appear/ turn out to know Marie.’

It is easy enough to describe the two interpretations: on the wide scope interpretation, the speaker expresses that he does not have the impression that Jan knows Marie, or that he does not have evidence to believe so. On this interpretation, we do not know for certain whether Jan knows Marie. On the narrow scope reading, we know that Jan does not know Marie, and this is in accordance with the speaker’s impression (in the case of *lijken* ‘appear’) and with the evidence that the speaker has (in the case of *blijken* ‘turn out’). But if Jan does not know Marie, then it is likely that the impression would not arise that he would know her, and there certainly could not be evidence that he knows her, which makes it difficult to judge (153). But in the right context, we can distinguish the two interpretations:

Ik weet… (I know…)

(154) a. dat Jan haar niet leek te kennen, maar hij kende haar wel

‘I know that it didn’t appear like Jan knew her, but he did in fact know her.’

b. dat Jan haar niet bleek te kennen, maar hij kende haar wel

‘I know that it didn’t turn out that Jan knew her, but in fact, he did know her.’

The continuation *maar hij kende haar wel* ‘but he actually knew her’ tells us that *Jan* knows the woman in question, *Marie*. The continuation is infelicitous in (154)b, indicating that it presents conflicting information. That is, the claim that *Jan* knows *Marie* contradicts the previous claim that he does not know her, which shows that
negation takes scope below the raising verb in (154)b. The fact that the continuation is acceptable in (154)a, shows that negation may in principle take scope over the matrix predicate.

3.2.5.5 \( v \)

The defining property of raising verbs is that the subject of the clause does not receive its thematic role from the raising verb. The subject must therefore originate in the embedded predicate, and if this is an agentive predicate, we can be sure that it projects a \( vP \).

3.2.6 Control

Lastly, we discuss the complementation properties of the control verbs which allow clustering. These are 

- ler en ‘learn, teach’
- help en ‘help’
- wagen ‘dare, risk’
- wet en ‘manage’
- zien ‘manage’
- durven ‘dare, have the guts’
- proberen ‘try’
- pogen ‘try’
- trachten ‘try’

We discuss the verbs in two groups. We begin with the verbs wet en and zien (both) ‘manage’ and wagen ‘dare, risk’. Their syntactic properties are fully in accordance with their semantic properties. There is no evidence for contentful projections higher than \( vP \), and possibly even \( v \) is absent.

More interesting observations can be found in the second group, the verbs proberen ‘try’, pogen ‘try’, trachten ‘try’, and help en ‘help’ and ler en ‘learn, teach’. Since these verbs form clusters optionally, we look into the structure of the complement in both the clustering and the non-clustering construction. As it turns out, the type of complementation has an effect on the expression of future orientation and anterior tense, and the scope of negation. Hence, the syntactic properties of the complement vary with the type of complement: the structure of the verbal cluster can be shown to be a \( VP \), but the non-clustering use allows for a larger structure.

\[ ^{70} \text{We presume that there is a pragmatic explanation for the fact that the matrix scope interpretation does not seem to be available in (154)b. Perhaps the statement that the speaker has no evidence to support the claim that Jan knows Marie, does not sound plausible to Dutch speakers, in contrast to the embedded scope interpretation.} \]

\[ ^{71} \text{Partial control is predicted to be ungrammatical:} \]

\( ^{72} \text{Other authors assume more extensive lists, also including verbs like weigeren ‘refuse’. (cf. Den Besten et al. 1988; Rutten 1991; Dreumel & Van Coppen 2003) and verbs like m enen ‘think’ (Rutten 1991; Van Dreumel & Van Coppen 2003). These verbs trigger cluster formation optionally, and the non-clustering use seems to be dominant in standard Dutch. Since Dutch speakers tend to be unsure about whether the IPP-effect is possible with these verbs, we ignore the clustering use here, and discuss their temporal properties in chapter 4, where we discuss the third construction. Table 6 also mentions durven ‘dare, have the guts’, but we do not discuss this verb here because its modal character makes it difficult to evaluate its tense properties.} \]
3.2.6.1  Control 1: strong implicatives

We begin with the verbs weten and zien ‘manage’, and wagen ‘dare, risk’. We treat these verbs together, because they are all implicative verbs, and the implicative verbs are known to have certain syntactic properties in common. Implicative verbs assert or deny their complement:

(155) a. De gevangene wist te ontsnappen
    the prisoner knew to escape
    ‘The prisoner managed to escape.’

b. De gevangene hoopte te kunnen ontsnappen
    the prisoner hoped to can escape
    ‘The prisoner hoped to be able to escape.’

If the proposition in the matrix clause in (155)a is true, we know that what is expressed in the complement is also true: if it is true that the prisoner managed to escape, then it must be the case that he escaped. Sentences containing hopen ‘hope’ do not have this effect. If it is true that the prisoner hopes to be able to escape, this does not mean that he will be able to escape. Hence, weten ‘manage’ is an implicative verb, but hopen ‘hope’ is not.

Implicative verbs show an interesting property under negation and in questions (Karttunen 1971):

(156) a. De gevangene wist niet te ontsnappen
    the prisoner knew not to escape
    ‘The prisoner did not manage to escape.’

b. De gevangene is niet ontsnapt
    the prisoner is not escaped
    ‘The prisoner has not escaped.’

(157) a. Wist de gevangene te ontsnappen?
    knew the prisoner to escape
    ‘Did the prisoner manage to escape?’

b. Is de gevangene ontsnapt?
    is the prisoner escaped
    ‘Has the prisoner escaped?’

If we assume that it is true that the prisoner didn’t manage to escape, we can be sure that he hasn’t escaped. So if the main clause is affirmative, the complement clause is as well, and if it is negative, so is the complement. Questions have a similar property: the answer to the main clause question (157)a is necessarily the same as the answer to a question concerning the embedded clause (157)b.  

73 Zien ‘manage’ behaves like weten ‘manage’, so we do not treat it separately. We note that unlike weten, zien ‘manage’ is more commonly used in imperatives or modal contexts, like (i):
Pesetsky (1991) calls implicatives like *weten* 'manage' strong implicatives, because the implication holds whether the matrix clause is affirmative or negative. *Leren* 'learn, teach' and *helpen* ‘help’ pattern with *weten* ‘manage’ in the affirmative, but show different behavior under negation. These verbs are called weak implicatives.\(^{74}\)

(158) a. Jan heeft Marie leren schrijven  
    Jan has Marie teach,\textsubscript{INF} write  
    ‘Jan taught Marie how to write.’

b. Marie kan schrijven  
    Marie can write  
    ‘Marie can write.’

(159) a. Jan heeft de gevangene helpen ontsnappen  
    Jan has the prisoner help escape  
    ‘Jan has helped the prisoner escape.’

b. De gevangene is ontsnapt  
    the prisoner is escaped  
    ‘The prisoner has escaped.’

Once we know that (158)a and (159)a are true, we also know that the b-examples are true. But if the a-examples are not true, the implication does not hold:

(160) a. Jan heeft Marie niet leren schrijven  
    Jan has Marie not teach,\textsubscript{INF} write  
    ‘Jan has not taught Marie how to write.’

b. Marie kan niet schrijven  
    Marie can not write  
    ‘Marie cannot write.’

(161) a. Jan heeft de gevangene niet helpen ontsnappen  
    Jan has the prisoner not help,\textsubscript{INF} escape  
    ‘Jan has not helped the prisoner to escape.’

\(^{(i)}\) a. Jan moet de rechter zien te overtuigen van zijn onschuld  
    Jan must the judge see to convince of his innocence  
    ‘Jan must (manage to) convince the judge of his innocence.’

b. Zie maar eens rond te komen van tien euro per week!  
    See just once round to come of ten euros per week  
    ‘Try and live on ten euros a week!’ (and you will see how difficult it is)

These constructions do not express realized events, so it is not possible to determine whether the true assertion of the main clause implies the truth of what the complement clause expresses.

\(^{74}\) These verbs are thus counterexamples to the “interesting and unexplained generalization … that among the implicative verbs, all and only the strong ones allow restructuring” (Landau 2000: 77). Note also that not all strong implicatives allow restructuring: *lukken* ‘manage’ does not show any transparency, and takes a CP-complement construed with the proform *het*. *Wagen* ‘dare, risk’ is a strong implicative, but resists the IPP-effect for some speakers.
b. De gevangene is niet ontsnapt
   the prisoner is not escaped
   ‘The prisoner has not escaped.’

Knowing that Jan has not taught Marie to write is not sufficient to conclude that
Marie is not able to write. Similarly, knowing that Jan had no part in the jailbreak
does not imply that the prisoner has not escaped.

We find the same pattern in questions:

(162) a. Heeft Jan Marie leren schrijven?
   has Jan Marie teach-inf write
   ‘Did Jan teach Marie how to write?'

b. Kan Marie schrijven?
   can Marie write
   ‘Can Marie write?’

(163) a. Heeft Jan de gevangene helpen ontsnappen?
   has Jan the prisoner help-inf escape
   ‘Has Jan helped the prisoner escape?'

b. Is de gevangene ontsnapt?
   is the prisoner escaped
   ‘Has the prisoner escaped?’

If we know that the answer to the a-examples is affirmative, we also know the answer to the b-examples. If the answer to the former is ‘no’, however, we do not have enough information to answer the b-questions. If not from Jan, Marie may have learned how to write from someone else, and the prisoner may have escaped without help from anyone.

3.2.6.1.1 Tense

Strong implicative verbs have interesting temporal properties: they are tenseless.
The above verbs show simultaneity of matrix and embedded event time, so they do not permit modification of the embedded predicate if this conflicts with the temporal information of the matrix predicate, and do not allow temporal auxiliaries:

(164) a. … omdat Jan zag/ wist te ontsnappen
   because Jan saw/knew to escape
   ‘…because Jan managed to escape.’

b. * … omdat Jan morgen zag/ wist te ontsnappen
   because Jan tomorrow saw/knew to escape
   ‘…because Jan managed to escape tomorrow.’

c. * … omdat Jan zag/ wist te hebben geslapen toen ik binnenkwam
   because Jan saw/knew to have slept then I entered
   ‘…because Jan managed to be asleep when I came in.’
In (164)a, the escape is simultaneous with the moment at which Jan succeeded in escaping. The escape cannot take place at a later point in time, or the adverb in (164)b would be grammatical. Also, hebben ‘have’ is ungrammatical as a temporal auxiliary (164)c.

This is a consequence of the semantics of the verbs weten ‘manage’ and zien ‘manage’, not of the fact that they form a cluster with the embedded predicate. If the fact that the complement is tenseless is due to the syntactic structure, then we would not expect that non-clustering constructions would have identical tense properties. English ‘manage’ is equally incompatible with a complement containing tense (Karttunen 1971), even though English does not have restructuring:

(165) * John managed to solve the problem next week.
    (Karttunen 1971; 346)

Moreover, weten and zien ‘manage’ have a synonym which does not trigger cluster formation, but which has the same temporal properties. Lukken ‘manage’ is a strong implicative. (166) entails that Jan escaped, or that there was an escape, depending on whether there is an overt DP-argument. The negation of (166) entails that the relevant person (Jan or someone else) did not escape. Furthermore, the answer to the yes/no-question based on (166) is the same as the answer to the question ‘Was the Jan’s escape successful?’. Finally, lukken ‘manage’ does not display the IPP-effect, which shows that no cluster is formed:

(166) Het is ( Jan) gelukt/ * lukken te ontsnappen
    it is Jan managed manage-INF to escape
    ‘Jan managed to escape’/ ‘The escape was successful.’

Nevertheless, the complement to lukken may not be tensed. If the event time of the matrix predicate is in the past, then the complement may not be modified with an adjunct referring to the future:

(167) * Het is Jan gelukt ( om) morgen te ontsnappen
    it is Jan managed COMP tomorrow to escape
    ‘Jan managed to escape tomorrow.’

The past tense replacement test shows that temporal hebben ‘have’ is also excluded:

(168) * Het is Jan gelukt te hebben geslapen toen Marie binnenkwam
    it is Jan managed to have slept then Marie entered
    ‘Jan managed to have slept when Marie came in.’

This shows that the tense properties of the complement do not depend on the syntactic complementation properties of the matrix verb (clustering, third construction, or extraposition), but on the semantic properties of the matrix verb.
3.2.6.1.2 Mood\_IRREALIS

We have seen in (164)b and (167) that the complement to strong implicative verbs does not have the future orientation of irrealis verbs, and therefore, adverbs which situate the embedded event in the future with respect to the matrix verb are excluded. Strong implicative verbs do not embed contentful Mood\_IRREALIS.

3.2.6.1.3 Anteriority

Strong implicative verbs show the simultaneity effect: the matrix event time and the embedded event time necessarily coincide. It comes as no surprise that anterior hebben ‘have’ is excluded:

\[(169) \ast \quad \ldots \text{omdat Jan het paper zag/wist te hebben geschreven voor de deadline} \]
\[\quad \because \text{Jan the paper zag/knew to have written before the deadline} \]
\[\quad \ddot{\text{‘because Jan managed to have the paper written before the deadline.’}} \]

Again, this is not a property of the syntactic structure, because non-clustering strong implicatives show the same restriction:

\[(170) \ast \quad \text{Het is Jan gelukt (om) het te hebben geschreven voor de deadline} \]
\[\quad \text{it is Jan managed COMP to have written before the deadline} \]
\[\quad \ddot{\text{‘Jan managed to have written it before the deadline.’}} \]

3.2.6.1.4 v

The strong implicative verbs are control verbs, which impose lexical restrictions on the subject:

\[(171) \quad \begin{align*}
\text{a.} & \quad \text{Jan wist/zag Marie te overtuigen} \\
& \quad \text{Jan knew/saw Marie to convince} \\
& \quad \ddot{\text{‘Jan managed to convince Marie.’}} \\
\text{b.} & \quad \# \text{Het huis wist/zag in te storten} \\
& \quad \text{the house knew/saw in to pour} \\
& \quad \ddot{\text{‘The house managed to collapse.’}}
\end{align*} \]

Therefore, we do not have any positive evidence in support of a vP-layer. If we assume that it is possible for a control clause to lack a PRO subject (Wurmbrand 2001), then it is possible that the strong implicative verbs embed bare a VP-complement.

The possibility of partial control would be evidence for a PRO-subject and hence a vP. But partial control is not possible:
This is compatible with the hypothesis that strong implicative verbs select VP-complements in the clustering construction, but the partial control interpretation may also be ungrammatical for independent reasons. Therefore, we do not draw any conclusions from (172).

3.2.6.2 Control 2

We now turn to the other control verbs which allow cluster formation: proberen, pogen and trachten (all) ‘try’, helpen ‘help’ and leren ‘learn, teach’.

3.2.6.2.1 Tense

In what follows, we only provide examples for proberen ‘try’, but pogen and trachten ‘try’ give the same results. The event time of the embedded predicate coincides with that of the matrix verb:

(173) Jan probeerde zijn fiets te repareren
    ‘Jan tried his bike to repair.’

(174) Jan hielp Marie het plafond schilderen
    ‘Jan helped Marie paint the ceiling.’

The attempt and the repairment in (173) cannot be interpreted as taking place at different points in time. Similarly, Jan’s assistance is most naturally simultaneous with the painting in (174). This is an indication that proberen ‘try’ and helpen ‘help’ select a tenseless complement. The adverbial test confirms this:

(175) * … omdat Jan gisteren de prijs probeert te hebben gewonnen
    ‘…because Jan yesterday the prize tries to have won.’

(176) * … omdat Jan Marie gisteren het plafond helpt te hebben geschilderd
    ‘…because Jan is helping Marie to have painted.’

The event time of the matrix predicate is now. The embedded predicate describes an event which is in the past with respect to the matrix event time, as indicated by gisteren ‘yesterday’. This is ungrammatical. The requirement that the event time of the embedded predicate coincides with the event time of the matrix verb seems to be a property of the semantics of proberen ‘try’ and helpen ‘help’. We therefore do not expect any difference between
the clustering construction and other constructions. The past tense replacement test shows that temporal *hebben* ‘have’ is excluded:

(177) * Jan probeert geslapen te hebben toen Marie binnenkwam
   Jan tried slept to have then Marie entered
   ‘Jan tries to have slept when Marie came in.’

(178) * Jan helpt Piet geslapen te hebben toen Marie binnenkwam
   Jan helps Piet slept to have then Marie entered
   ‘Jan is helping Piet to have slept when Marie came in.’

Since we can only tell the difference between a verbal cluster, the third construction, and the extraposition construction in (177) if the matrix clause is in the perfect, and since *proberen* ‘try’ occurs in all three constructions, (177) could represent any of the three types of construction. Similarly, (178) is ambiguous between a verbal cluster and an extraposition construction, the two possible contruals for *helpen* ‘help’. If any of the constructions would be compatible with tense, then the examples should be grammatical, and we would have to construct further examples to find out which construction(s) may contain tense. The fact that the examples are all ungrammatical shows that neither construction may contain tense.

3.2.6.2.2 **Mood**

Based on (179), we may be inclined to state that neither of the three possible constructions is compatible with Mood³:

(179) a. * Jan heeft Marie morgen proberen te beledigen
   Jan has Marie tomorrow try.Inf to insult
   (all) ‘Jan has tried to insult Marie tomorrow.’

The IPP-effect in (179)a shows that the construction involves a verb cluster. The event in the embedded predicate may not be situated in the future with respect to the moment of attempt. This also holds in the third construction (179)b and the extraposition construction (179)c.

But in footnote 16, we alluded to a special interpretation that allows a mismatch of the matrix and embedded event times. If *proberen* ‘try’ is not strictly interpreted as ‘try’, but as ‘make arrangements to establish’, then the embedded clause may refer to a future event:

(180) Jan probeerde morgen bij Maries lezing te zijn
   Jan tried tomorrow at Marie’s lecture to be
   ‘Jan tried to be at Marie’s lecture tomorrow.’
For some speakers, this special interpretation is available in the extraposition construction or the third construction, but not if proberen ‘try’ forms a verb cluster:

(181) a. Jan heeft geprobeerd morgen bij Marie’s lezing te zijn
    Jan has tried tomorrow at Marie’s lecture to be
    (maar hij kon geen tijd vrijmaken)
    but he could no time free-make
    ‘Jan tried to be at Marie’s lecture tomorrow (but he could not make time).’

b. * Jan heeft morgen bij Marie’s lezing proberen te zijn (maar
    Jan has tomorrow at Marie’s lecture try.INF to be but
    hij kon geen tijd vrijmaken)
    he could no time free-make
    ‘Jan tried to be at Marie’s lecture tomorrow (but he could not make time).’

The special interpretation and the regular meaning of proberen ‘try’ are not only distinguished in the context of embedded events situated in the future with respect to the moment of ‘attempt’. The contrast in (183), originally observed by Pardoen (1986), seems to stem from the same difference in meaning. Consider the following context. Marie tries to phone Jan, but she is unsuccessful. During the afternoon, she keeps trying to reach him. In this context, both (182)a and (182)b (this was before mobile phone era, after all), constitute acceptable explanations of why she fails, at least in Dutch:

[She has been trying to call him all afternoon…]

(182) a. but he didn’t answer
    b. but she couldn’t find a pay phone

That is, both picking up the phone and actually dialing the number, and the mere intention of making a phone call are considered attempts at making a phone call. But apparently, the two explanations are not equally acceptable as continuations of (183)a:

(183) a. Zij heeft hem de hele middag proberen te bellen, maar
    she has him the entire afternoon try.INF to call but
    (182)a / # (182)b
    ‘She has been trying to call him all afternoon, but…’

b. Zij heeft de hele middag geprobeerd hem te bellen, maar
    she has the entire afternoon try him to call but
    (182)a / (182)b
    ‘She has been trying to call him all afternoon, but…’

(Pardoen 1986; 61)

In the extraposition construction (183)b, both continuations are felicitous. In contrast, the verbal cluster (183)a may be followed by an utterance like (182)a, but not by one
like (182)b. In other words, the mere intention of making a phone call does not count as an attempt at making a phone call in the IPP-construction; in order to be considered a legitimate attempt, the agent must actually hold a phone and dial the number. This is not so in the extraposition construction; both dialing the number, and the mere intention of making a call qualify as attempts.

How to account for this difference? It seems to be the case that restructuring phenomena are most commonly observed with verbs whose meaning comes closest to the ‘prototypical’ restructuring meaning. This might be the reason, according to Cinque (2004), that the basic verb for ‘want’ is commonly found among the restructuring verbs across languages, but verbs expressing less basic notions of volition are more rare.

We see a similar effect with the verbs expressing ongoing activity. Only the manner of motion verb *lopen* ‘walk’ forms a cluster with the embedded verb; less prototypical manners of motion are ungrammatical:

(184) * Jan rent/ vliegt/ huppelt/ springt Marie te prijzen
    Jan runs flies hops jumps Marie to praise

‘Jan is praising Marie.’

The intuition that restructuring verbs tend to be prototypical members of their semantic field is rather vague. We assume that *lopen* ‘walk’ is a ‘core restructuring meaning’, but *huppelen* ‘hop, frolic’ is not. We speculate that this is because *lopen* ‘walk’ is the most basic manner of motion, while *huppelen* ‘hop, frolic’ is not, because it expresses a more specified manner of motion, e.g. move in a dance-like way, quite likely in a mood of cheerfulness.

We might propose the same explanation for the contrast in (183). But for this explanation to work, we have to define what the ‘restructuring meaning’ of *proberen* ‘try’ is, and show that *proberen* ‘try’ has only this meaning in (183)a, and an additional one in (183)b. Generally, we may paraphrase ‘try’ as ‘make an effort to achieve x’. Apparently, ‘make an effort’ can mean different things, depending on how the verb is used. Could it be that restructuring *proberen* means something like ‘make an effort that directly leads to achieving x’, and non-restructuring *proberen* ‘make any effort that somehow leads to achieving x’? This would be problematic, because the restructuring meaning seems to be the more specified one: ‘make a

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75 Pardoen (1986) only discusses the contrast between the word order in (183)a and (183)b, but as far we have been able to determine, the third construction patterns with the extraposition construction (183)b.

76 Wiklund (2005) makes the same point for pseudo-coordination in Swedish, which she analyzes as a copying phenomenon between a functional head in the matrix clause and the corresponding head in the complement clause. Only verbs which express a ‘basic’ meaning in a sense, are grammatical in pseudo-coordination.

77 We should be clear about what exactly makes *lopen* ‘walk’ basic. In contrast to the manner of motion verbs, all of the posture verbs show restructuring. If we take a verb as ‘basic’ if it represents the most prototypical member of its semantic field, then we have to assume that *zitten* ‘sit’, *liggen* ‘lie’, *staan* ‘stand’, and even *hangen* ‘hang’ are all equally prototypical states of the body. But at least for *hangen* ‘hang’, we would not want to argue that it represents a prototypical state of the body. We suggest that these postures are ‘basic’ in that one is not a more specified variant of another. *Lopen* ‘walk’ may then be understood as basic because it is the least specified manner of motion. Perhaps because of this, it is also a more prototypical manner of motion than e.g. *huppelen* ‘hop, frolic’ or *rennen* ‘run’.

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particular effort' is not as general as 'make any effort'. If only basic meanings qualify as restructuring meanings, and if basic is understood as representing the least specified meaning, then we would predict the opposite judgments for (183)a, with the less specified notion of attempt as intending to make the phone call as acceptable, and the more specified attempt as making an effort which would directly contribute to the phone call as infelicitous.

Or do we? Recall the case of ECM vinden ‘find, have the opinion’ (cf. 3.2.4). Even though one may plausibly have opinions about past events, as can be seen in (185)a, ECM vinden ‘have the opinion’ may only phrase opinions about events which are going on at the time at which the opinion is formed (185)b, (186):

(185) a. … omdat Jan vindt dat Piet zeurde toen ik binnenkwam (= (139))
   because Jan finds that Piet nagged then I entered
   ‘…because Jan thinks that Piet was nagging when I came in.’

   b. * … omdat Jan Piet gezeurd vindt hebben toen ik binnenkwam
      because Jan Piet nagged finds have then I entered
      ‘…because Jan thinks that Piet was nagging when I came in.’

(186) … omdat Jan Piet vond zeuren toen Marie binnenkwam
because Jan Piet found nag then Marie entered
‘…because Jan thought Piet was nagging when Marie came in.’

We suggested that this contrast follows from the fact that ECM-verbs embed vP-complements, which do not contain TP. In the absence of a tense phrase, the embedded predicate cannot be situated in time independently of the matrix predicate, which results in the cotemporaneity of the matrix and embedded event times.

Crucially, the simultaneity of the matrix and the embedded event follows from the syntactic structure. For this reason, we do not have to distinguish two variants of the same verb, with restructuring vinden ‘have the opinion’ representing the core restructuring meaning ‘experiencer’s interpretation of his direct perception’, and non-restructuring vinden ‘have the opinion’ something like ‘experiencer’s interpretation of his perception’.

As in the case of proberen ‘try’, the restructuring variant of the verb vinden ‘have the opinion’ is actually the one with the more specified meaning, while the one that shows no restructuring has the more general meaning: ‘interpretation of any perception’ is more general than ‘interpretation of a direct perception’. But we are now in a position to explain this puzzle. We assume that there is only one variant of the verb vinden ‘have the opinion’, and it means something like ‘experiencer’s interpretation of his perception’. The effect that ECM vinden ‘have the opinion’ always involves an opinion about a direct perception, is the consequence of the fact that the verb embeds a tenseless complement.

Likewise in the case of proberen ‘try’: we assume only one meaning, which is something like ‘make an effort to achieve x’, and two complementation options. Restructuring proberen ‘try’ embeds a vP or a VP, as argued below, but crucially not an MoodIRREALSP. Non-restructuring proberen ‘try’ embeds (at least) MoodIRREALSP.

The type of complement has consequences for the interpretation: the special interpretation ‘make arrangements to establish’ (cf. (180)) is actually not so
special.\footnote{We do not have an explanation for the contrast between (179) and (180). Perhaps speakers are reluctant to take (179) as an accomplishment, involving preparatory stages eventually leading to Marie’s being insulted, and instead interpret it as an achievement, involving only the moment at which the offending remark is made.} Because of the presence of Mood\textsubscript{IRREALIS}P, the complement may express an unrealized event which is supposed to take place in the future. Restructuring proberen ‘try’ embeds a complement which lacks Mood\textsubscript{IRREALIS}P, resulting in the interpretation that the attempt and what is attempted are cotemporaneous. This is not because of how the meaning of restructuring proberen ‘try’ is defined, but it follows from the absence of Mood\textsubscript{IRREALIS}P.

There is some evidence that the presence or absence of Mood\textsubscript{IRREALIS}P is really what accounts for the meaning difference in (183). A similar difference in interpretation can be observed in the case of helpen ‘help’:

(187) a. Jan heeft Marie helpen verhuizen
   Jan has Marie help-INF move-house
   ‘Jan helped Marie move house.’

b. Jan heeft Marie geholpen te verhuizen
   Jan has Marie helped to move-house
   ‘Jan helped Marie to move house.’

In the clustering construction (187)a, Jan’s assistance must be direct; for instance, \textit{Jan} carried Marie’s furniture from her old place to her new place. In the non-IPP construction (187)b, the assistance may be also be indirect for some speakers; for instance, \textit{Jan} may have advised Marie on matters related to housing and moving. If we were to capture this contrast in terms of a difference in the meanings of helpen ‘help’, we would have to postulate something like ‘assist in a manner directly leading to x’ for restructuring helpen ‘help’, and something like ‘assist in any manner leading to x’ for non-restructuring helpen ‘help’. As we have seen in the case of vinden ‘have the opinion’ and proberen ‘try’, the more specified meaning shows restructuring, and the more general one does not, exactly the opposite of what we predict if restructuring predicates are the least specified meanings in a semantic field.

But like in the case of vinden ‘have the opinion’ and proberen ‘try’, we can avoid postulating two meanings, and capture the effect of simultaneity by assuming that the non-clustering use involves Mood\textsubscript{IRREALIS}P, and the restructuring one does not. The future oriented interpretation of proberen ‘try’ is not very prominent, but in the case of helpen ‘help’, future orientation is generally more acceptable:

(188) a. Jan heeft Marie (* morgen) helpen verhuizen
   Jan has Marie tomorrow help-INF move-house
   ‘Jan has helped Marie move house tomorrow.’

b. Jan heeft Marie geholpen morgen te verhuizen
   Jan has Marie helped tomorrow to move
   ‘Jan has helped Marie to move house tomorrow.’
In the clustering construction (188)a, the adverb *morgen* ‘tomorrow’ makes the example ungrammatical. This is as expected, as the embedded event and the assistance are necessarily simultaneous. But this is not an inherent property of the verb *helpen* ‘help’, because the extraposition construction (188)b is acceptable in the presence of the adverb. Note also that if the adverb is left out in (188)b, the sentence does not necessarily mean that the assistance and the moving house are simultaneous; perhaps *Jan* assisted in *Marie*’s moving by giving her advice, or by contributing financially.

Thus, non-clustering *helpen* ‘help’ allows for a future oriented interpretation, but clustering *helpen* ‘help’ does not. Since the possibility of a future oriented interpretation correlates directly with the grammaticality of adverbs like *morgen* ‘tomorrow’ in the embedded clause, we may safely attribute this difference to a difference in structure: clustering *helpen* ‘help’ embeds a complement smaller than Mood\textsubscript{IRREALIS}, but non-clustering *helpen* ‘help’ may project up to Mood\textsubscript{IRREALIS}.P.

In summary, the complement to *proberen* ‘try’ and *helpen* ‘help’ in a verbal cluster, does not involve Mood\textsubscript{IRREALIS}.P. Crucially, this is not a semantic property of the matrix verb, but it is a direct consequence of the syntactic structure of the complement.

### 3.2.6.2.3 Anteriority

As we have seen above, *proberen* ‘try’ is compatible with a complement containing *hebben* ‘have’, but only if it expresses anteriority:

(189) Jan probeert de opdracht voor morgen te hebben afgerond (=62)a  
Jan tries the assignment before tomorrow to have finished  
‘Jan tries to have the assignment finished before tomorrow.’

In (189), the assignment is not finished yet, so *hebben* ‘have’ does not express past tense with respect to the matrix event time, but rather anteriority with respect to a reference time in the future.

Unlike tense, which is unavailable in all three complement types, the grammaticality of the aspectual use of *hebben* ‘have’ does seem to depend on the type of complement we use. To see this, we have to make sure that the construction unambiguously belongs to one type. The example in (189) is unsuitable, because it could represent any of the three complement types. To distinguish the three types, we have to use the perfect. In (190), the entire complement clause follows the matrix verb, so we are dealing with an extraposed complement. The example is not perfect, but it is acceptable:

(190) Jan heeft geprobeerd de papers binnen een week te hebben nagekeken  
Jan has tried the papers within a week to have graded  
‘Jan tried to have the papers graded within a week.’

If part of the infinitival clause precedes the matrix verb, we are dealing with a third construction. For reasons which are not entirely clear, there is a difference between
the extraposition construction and the third construction in the use of anterior *hebben* ‘have’ in the complement clause:

(191) a. Jan heeft de papers binnen een week geprobeerd na te kijken
    ‘Jan tried to grade the papers within a week.’

b. * Jan heeft de papers binnen een week geprobeerd te hebben nagekeken
    ‘Jan tried to have the papers graded within a week.’

Anterior *hebben* ‘have’ is ungrammatical in the third construction (191)b. The variant without the auxiliary is grammatical (191)a, but the two examples are not fully equivalent. On the most natural interpretation of (191)a, Jan made an attempt at grading the exams within a week after getting his hands on them, but he did not necessarily intend to grade all of them within a week. But in the intended interpretation of (191)b, it is Jan’s intention to have all the exams corrected within a week.

In the clustering construction, *proberen* ‘try’ is incompatible with anterior *hebben* as well:

(192) a. Jan heeft de papers binnen een week proberen na te kijken
    ‘Jan has tried to grade the papers within a week.’

b. * Jan heeft de papers binnen een week proberen te hebben nagekeken
    ‘Jan tried to have the papers graded within a week.’

We do not go into this difference any further. Although a correlation between anterior *hebben* ‘have’ and the type of complement is interesting, we are not sure whether the difference in judgment is really to be explained by the difference in complementation type. For some speakers, anterior *hebben* ‘have’ in the complement makes a perfect in the matrix clause less acceptable. This explains the judgment in (190), which is not fully acceptable. If the matrix clause is in the simple past, the acceptability increases:

(193) … omdat Jan probeerde de papers binnen een week nagekeken te hebben
    ‘…because Jan tried the papers within a week graded to have
    ‘…because Jan tried to have the exams graded within a week.’
3.2.6.2.4  Negation

This next point should be taken with caution, because the data are extremely subtle and difficult to judge. But for some speakers, the scope of negation may be different in a verbal cluster or extraposition construction on the one hand, and a third construction on the other.

For these speakers, (194) is funny, but (195) is not. Assuming that one does not stutter on purpose, it does not make sense to state that Jan tried or did not try to stutter. It is possible, however, to try not to stutter. The complement in (194) is introduced by a complementizer, so we know it is a CP. Given that CP complements are not transparent, it is not surprising that negation must take scope over the matrix verb. This results in the odd interpretation that Jan did not make an effort to stutter.

\[(194) \text{ Jan heeft niet geprobeerd om te stotteren, maar omdat hij zo zenuwachtig was bij zijn presentatie, gebeurde het toch.}\]

‘Jan did not try to stutter, but because he was so nervous during his presentation, it happened anyway.’

When negation follows the matrix verb, as in (195), we know that it is in the embedded clause. The example makes more sense than (194), because negation now takes scope in the embedded clause, resulting in the interpretation that Jan tried not to stutter, but that it happened anyway.

\[(195) \text{ Jan heeft geprobeerd niet te stotteren, maar omdat hij zo zenuwachtig was bij zijn presentatie, gebeurde het toch.}\]

‘Jan tried not to stutter, but because he was so nervous during his presentation, it happened anyway.’

Now, for some speakers, there is a contrast between (194), where negation precedes the matrix verb and the complementizer is present, and (196), which differs only in that the complementizer is absent. Although negation precedes the matrix verb in (196), it takes scope below it, with the interpretation that Jan made an (unsuccessful) effort not to stutter:

\[(196) \text{ Jan heeft niet geprobeerd te stotteren, maar omdat hij zo zenuwachtig was bij zijn presentatie, gebeurde het toch.}\]

‘Jan tried not to stutter, but because he was so nervous during his presentation, it happened anyway.’
This interpretation is expected if the complement is transparent. We assume that the infinitival clause in (196) is smaller than CP, hence, an instance of the third construction.

Interestingly, for some speakers, this interpretation is not available in the clustering construction, which definitely involves a transparent complement:

(197) Jan heeft niet proberen te stotteren, maar omdat hij zo zenuwachtig was bij zijn presentatie, gebeurde het toch ‘Jan did not try to stutter, but because he was so nervous during his presentation, it happened anyway.’

The fact that negation cannot take scope below the matrix verb may be taken as evidence that whatever makes a chunk a domain for negation is not available in a verbal cluster containing proberen ‘try’.

The judgments are slightly clearer in the case of helpen ‘help’, which allows the extraposition construction or the clustering construction. The clustering construction does not seem to be ambiguous. In the example below, the more plausible interpretation, on which Jan helped Marie save her business from bankruptcy, seems to be unavailable. Instead, the example may be paraphrased as ‘Jan did not assist Marie in achieving her bankruptcy’, with negation taking scope over the matrix verb:

(198) Jan heept Marie niet failliet helpen gaan ‘Jan has not helped Marie go bankrupt.’

If these judgments hold up, then we may argue that verbal clusters triggered by such verbs as proberen ‘try’ and helpen ‘help’ contain only one domain for sentential negation, which is the entire clause.

This is confirmed by the interpretation of sentences which contain two negative elements. In a simple clause, two negations cancel each other:

(199) Niemand heef Jan niet gezien ‘Nobody didn’t see Jan.’ (i.e. ‘Everybody saw Jan’)

In a clustering construction containing two negations, we predict a negative interpretation if negation takes scope below the matrix verb, but a positive interpretation if it takes scope over the matrix verb, because the two negations cancel each other out:
It seems that the positive interpretation is strongly preferred. This suggests that negation takes scope over the matrix verb. This is also suggested by the fact that only the continuation in (201)c is felicitous:

(201) a. Jan heeft Marie niet failliet helpen gaan
    Jan has Marie not bankrupt help go
b. # … en Piet ook
    and Piet too
   ‘…and so did Piet.’ (i.e. ‘Jan helped Marie not go bankrupt, and Piet did that too.’)
c. … en Piet ook niet
    and Piet too not
   ‘…and neither did Piet.’ (i.e. ‘Jan did not help Marie go bankrupt, and Piet didn’t do that either.’)

In summary, there is some evidence that negation takes scope over the matrix verb in clustering constructions with those control verbs which allow a non-clustering variant. This is unlike in other clustering constructions, in which an embedded scope interpretation is available in addition to the matrix scope reading.

3.2.6.2.5 v

Since helpen ‘help’ and the various verbs ‘try’ are not raising verbs or ECM-verbs, there is no overt external argument.79 But we can apply our tests for the presence of PRO. Partial control seems to be possible:

(202) Jan heeft Marie het gebouw helpen omsingelen
    Jan has Marie the building help surround
   ‘Jan helped Marie surround the building.’

This would seem to suggest the presence of PRO in the infinitival clause, but this conclusion is not necessary. The ‘partial control’ interpretation is also possible in (203), but in this example, we can be sure that there is no PRO:

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79 It has been observed that such examples like (i) are ambiguous (Seuren 1986; 1996):

(i) Jan heeft Marie helpen wassen
    Jan has Marie help wash
   ‘Jan has helped wash Marie.’

On one interpretation, Marie is an argument of helpen ‘help’, and controls PRO. On the other interpretation, Marie is not an argument of helpen ‘help’, but of the embedded verb. If the approach to control without PRO can handle implicit control, then helpen ‘help’ need not project a vP, and the complement might be a bare VP. If truly subjectless infinitives are incompatible with implicit control, however, we have to assume a PRO subject, and hence, a vP-layer.
(203) Marie heeft het gebouw omsingeld met de hulp van Jan
Marie has the building surrounded with the help of Jan
‘Marie surrounded the building with Jan’s help.’

This suggests that the collective interpretation not only arises in the presence of a plural external argument, but also if the collective effort is expressed by the combination of a singular external argument and a (singular) adjunct. For this reason, the grammaticality of (202) cannot be taken as evidence for the presence of PRO in the complement to clustering helpen ‘help’.

Since helpen ‘help’ may select a DP internal argument, we can use the adjunct test described in 3.1.6.1. If PRO in a without-clause may be coreferent with the DP internal argument of helpen, we may assume that this coreference is mediated by the PRO-subject of the infinitival complement. (204) shows that in the absence of a complement clause containing PRO, PRO in the adjunct may not be coreferent with the internal argument:

(204) Ik heb Marie geholpen zonder PRO<sub>INF</sub> me/* zich
I have Marie helped without myself herself
ongemakkelijk te voelen
uneasy to feel
‘I have helped Marie without feeling uncomfortable about it.’

The one feeling uneasy can only be ‘me’; not Marie. Now let us look into helpen ‘help’ with an infinitival clause. If the infinitival clause contains a PRO, then coreference between the PRO in the adjunct clause and Marie should be possible. If PRO is absent in the clustering construction, then coreference between PRO in an adjunct clause and the matrix indirect object is excluded. For some speakers, there is indeed a contrast in the predicted direction in (205):

(205) a. Ik heb Marie helpen verhuizen zonder me/* zich
I have Marie help move-house without myself herself
onghandig te voelen
cumbersome to feel
‘I have helped Marie move house without feeling clumsy.’

b. Ik heb Marie geholpen te verhuizen zonder PRO<sub>INF</sub> me/
I have Marie helped to move-house without myself
zich<sub>INF</sub> onhandig te voelen
herself cumbersome to feel
‘I have helped Marie move house without feeling clumsy.’

These data should be confirmed by more speakers. But if the judgment should hold up, then we have an argument to assume that Dutch verb clusters may involve bare VP-complements, at least with a subset of the clustering verbs.
3.2.7 Summary

We have discussed the syntactic structure of the infinitives selected by the various classes of Verb Raising verbs. We have arrived at the following structures:

<table>
<thead>
<tr>
<th>matrix verb</th>
<th>syntactic structure</th>
<th>semantically compatible with</th>
</tr>
</thead>
<tbody>
<tr>
<td>modal verbs</td>
<td>maximally TP</td>
<td>TP</td>
</tr>
<tr>
<td>aspectual 1</td>
<td>vP, possibly VP</td>
<td>vP</td>
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<tr>
<td>aspectual 2</td>
<td>vP</td>
<td>vP</td>
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<tr>
<td>ECM-verbs</td>
<td>vP</td>
<td>TP</td>
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<tr>
<td>raising verbs</td>
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<td>TP</td>
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<td>control 1</td>
<td>vP, possibly VP</td>
<td>vP</td>
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<tr>
<td>control 2</td>
<td>VP</td>
<td>Mood_IRREALIS_P</td>
</tr>
</tbody>
</table>

Table 8: The structure of infinitival complements in verbal clusters

The syntactic structure conforms to the structure we would expect if all the projections which are compatible with the matrix verb are present. Only two classes show a smaller complement: the ECM-verbs and a subset of the control verbs.

Our findings show that the complement to a clustering verb comes in a variety of sizes. However, the size of the complement does not predict which transparency phenomena are observed: all the classes of clustering construction show exactly the same transparency phenomena. This has important consequences for the view that restructuring effects are graded. We discuss these after examining the structure of the complement to verbs of the third construction in the next chapter.
4 The complement to third construction verbs

After establishing the structure of the complement embedded under a clustering verb, we discuss the structure of the complement to a third construction verb. These verbs show transparency, but the transparency effects are not obligatory. That is, material associated with the embedded clause may surface to the left of the matrix verb, but unlike with verbal clusters, this word order is optional. Furthermore, the IPP-effect does not obtain.

The following verbs are in this category (based Den Besten et al. 1988; Rutten 1991; IJbema 2002):  

<table>
<thead>
<tr>
<th>Implicative</th>
<th>Irrealis</th>
<th>Propositional</th>
<th>Other</th>
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<tr>
<td>vergeten</td>
<td>forget</td>
<td>recommend</td>
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<td>fail, neglect</td>
<td>demand</td>
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Table 9: Verbs of the third construction

Although we found examples of the third construction for each of these verbs in an internet search, the verbs vary in the extent to which the construction is acceptable. The third construction seems to be most marked with the irrealis verbs. Proberen ‘try’ is exceptional in that all speakers accept the third construction with this verb, and it is easy to find examples on the internet. For many speakers, however, the third construction is slightly degraded to marginal with other irrealis verbs, and we found but few examples for each verb. Propositional and implicative verbs yield better results. Examples are easy to find, and for the speakers we consulted, these constructions are quite acceptable to fully acceptable.

1 Note that some of the verbs in Table 9 also occur in the clustering construction or the extraposition construction.
The verbs are divided into four classes. As shown above, implicative verbs assert or deny the eventuality referred to by their complement. Except for *weigeren* ‘refuse’, all the verbs in this category are strong implicatives. All variants of (1) entail (2):

(1) … omdat Jan de fiets vergat/ vermeed/ verzuimde/ waagde weigerde te repareren /

because Jan the bike forgot avoided neglected dared refused to repair

‘…because Jan forgot/avoided/neglected/dared/refused to repair the bike.’

(2) Jan heeft de fiets niet gerepareerd

‘Jan has not repaired the bike.’

Under negation of the matrix clause, the examples in (3) entail (4), except in the case of *weigeren* ‘refuse’:

(3) a. Jan heeft de fiets niet vermeden/ verzuimd/ gewaagd/ geweigerd te repareren

‘Jan has not avoided/neglected/dared/refused to repair the bike.’

b. Jan is de fiets niet vergeten te repareren

‘Jan has not forgotten to repair the bike.’

(4) Jan heeft de fiets gerepareerd

‘Jan has repaired the bike.’

The class of third construction verbs also includes irrealis verbs and propositional verbs. As discussed above, propositional verbs are verbs whose complement contains a proposition which can be confirmed or denied. The complement to irrealis verbs, on the other hand, cannot be confirmed or denied independently of the matrix clause. These are semantic properties. It is therefore not expected that the classification of a verb would show variation, depending on the type of complement it selects. Nevertheless, there are examples of verbs which fall into different semantic classes, possibly depending on the type of complement they

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For some speakers, the implication is not necessary for *vermijden* ‘avoid’ either; for them, there is an interpretation in which Jan has not fixed the bike, but not because of lack of intention; perhaps he found out that he didn’t have the right tools. The same may be said for *vergeten* ‘forget’. Some speakers feel that if it is not true that Jan forgot to fix the bike, it is not necessarily the case that he has fixed it; perhaps he has not fixed it because he never intended to fix the bike, not because he forgot about it.
combine with. Vergeten ‘forget’ is an implicative verb in (5)a, but a factive verb in (5)b:

(5) a. Jan was vergeten de auto te wassen
   ‘Jan had forgotten to wash the car.’

b. 7 Jan was vergeten de auto al gewassen te hebben
   ‘Jan had forgotten that he had already washed the car.’

We may paraphrase the (5)a as ‘Jan failed to wash the car because he did not remember to do so’. That is, Jan has not washed the car. Under negation, the implication changes: if Jan has not forgotten to wash the car, we may assume that he remembered to do it, and hence, that he has washed it. In (5)b, on the other hand, we may assume that Jan has washed the car. He may or may not remember it, but this does not change the fact that he has already done it. Verbs which select a complement clause which is presupposed to be true are called factive verbs (Kiparsky & Kiparsky 1971).

Similarly, vertellen ‘tell’ may be used as a propositional verb or as an irrealis verb:

(6) Jan vertelde ons een boek te schrijven
   ‘Jan told us that he was writing a book.’
   ‘Jan told us to write a book.’

As a propositional verb, the complement expresses the (present) event of writing a book. As an irrealis verb, the writing is unrealized. The difference correlates with a difference in control: propositional vertellen ‘tell’ is a subject control verb, irrealis vertellen ‘tell’ shows object control.

It is important to establish to which semantic class the restructuring verbs vergeten ‘forget’ and vertellen ‘tell’ belong. If we would not establish the semantic class in both the extraposition construction and the restructuring construction, we might be led to assume that factive vergeten ‘forget’ and propositional vertellen ‘tell’ are restructuring verbs. This would be a surprising result, because it has been claimed that factive and propositional verbs do not show restructuring (Wurmbrand 2001).

As it turns out, restructuring is possible with implicative vergeten ‘forget’, but not with factive vergeten ‘forget’:

(7) a. Jan is (de auto) vergeten (de auto) te wassen
   ‘John forgot to wash the car.’

b. 7 Jan is (* de auto) vergeten (de auto) te hebben gewassen

3 The irrealis interpretation, in which the verb means ‘direct’, is quite marginal whether the irrealis use shows restructuring (8) or not (6).
Jan is the car forgotten the car to have washed
‘John forgot that he washed the car.’

We can therefore maintain the claim that factive verbs do not allow restructuring. However, we do have to allow for restructuring with propositional verbs. *Vertellen* ‘tell’ allows object control and subject control in the third construction, which suggests that both the propositional use and the irrealis use allow the third construction:

(8) … omdat Jan ons een boek vertelde te schrijven
because Jan us a book told to write
‘…because Jan told us that he was writing a book.’
‘…because Jan told us to write a book.’

For this reason, it is important to make sure that the semantic classification we assume for the non-restructuring use of the verb also holds for the restructuring use. For the sake of completeness, we show that the irrealis verbs are irrealis verbs both in the third construction and in the extraposition construction:

(9) a. … omdat Jan een boek besloot te lezen (# wat niet zo is)
because Jan a book decided to read what not so is
‘…because Jan decided to read a book.’

b. … omdat Jan besloot \( \text{om} \) een boek te lezen (# wat niet zo is)
because Jan decided \( \text{COMP} \) a book to read what not so is
‘…because Jan decided to read a book.’

At the time at which Jan made the decision to read a book, he had not started to read yet. The embedded event is therefore unrealized. Also, adding ‘which is true/false’ makes the sentence infelicitous. This is because the adjunct clause may only modify the matrix clause, resulting in the awkward interpretation on which the speaker first asserts that Jan had made a decision, and then denies it. The reading on which the speaker asserts that Jan had made a decision, and then contests that he will actually carry out what he decided to do, is conceivable, but unavailable; the adjunct clause cannot modify the embedded clause.

The status of propositional verbs is also independent of the type of complement, as we have seen for *vertellen* ‘tell’. We also illustrate this using the ‘which is true/false’-test:

(10) a. Dat Balkenende steeds \( \text{beweert} \) een onderscheiding te krijgen,
that Balkenende constantly claims a award to get
wat overigens niet zo is, bleek waar te zijn
what by.the.way not so is turned.out true to be

---

4 Wurmbrand (2001) also reports examples in which the classification of the verb varies with the type of complement it selects. The verb *befürchten* ‘fear’ is propositional if it is opaque, but fails the propositionality test if it is transparent.
b. Dat Balkenende steeds *een onderscheiding beweert* te krijgen, that Balkenende constantly a distinction claims to get
wat overigens niet zo is, bleek waar te zijn which by the way not so is turned out true to be
(both): ‘That Balkenende claims that he will be decorated all the time - which he will not, by the way – turned out to be true.’

Regardless of the position of the embedded internal argument *een onderscheiding* ‘a distinction’, the adjunct *wat overigens niet zo is* ‘which, by the way, is not true’ denies that Balkenende will be decorated, not that the fact that he claims he will. This rules out the possibility that the propositional verbs in Table 9 have a different interpretation in the transparent construction than in the extraposition construction.

Lastly, there are two verbs listed under ‘other’. These are *durven* ‘dare, have the guts’ and *beginnen* ‘begin’. Both may also form clusters, and we do not discuss them here.

In the following sections, we examine the structure of the complements embedded under these verbs. We will arrive at the following structures:

<table>
<thead>
<tr>
<th>matrix verb</th>
<th>structure of the complement</th>
</tr>
</thead>
<tbody>
<tr>
<td>strong implicative verbs</td>
<td>VP or vP</td>
</tr>
<tr>
<td>weak implicative verbs</td>
<td>Mood_{imp} + aP</td>
</tr>
<tr>
<td>irrealis verbs</td>
<td>Mood_{irr} + aP</td>
</tr>
<tr>
<td>propositional verbs</td>
<td>TP</td>
</tr>
<tr>
<td>others</td>
<td>VP or vP</td>
</tr>
</tbody>
</table>

Table 10: The structure of third construction complements

The syntactic structure of the third construction is a little uneventful: in all cases, the syntactic structure is in accordance with the semantic properties of the matrix verb; the possibility of transparency effects is solely determined by the presence or absence of C. If C is present, the construction is opaque. If C is absent, transparency effects may be observed. All projections lower than C are projected in the transparent as well as in the opaque construction. From this, we may conclude that the possibility of transparency effects does not depend in any way on the presence of tense (contra Wurmbrand 2001).

The absence of C is demonstrated in 4.1. We discuss the structure of implicative complements in 4.2, followed by a discussion of irrealis complements (4.3) and propositional complements (4.4). Section 4.5 summarizes our findings. In 4.6, we go into the structure of opaque complements. Finally, we discuss the implications of the clause structures we have identified in 4.7.

---

5 And, as argued in chapter 6, the presence of the phase head v.
4.1 CP is absent

Complement clauses in the third construction do not project a CP-layer. We know this, because the infinitival complementizer *om*, which is grammatical in the extraposition construction, is ungrammatical in the third construction. This is shown for strong implicatives in (11):

(11) a. … omdat Jan het (* zijn moeder) waagde (*om) (zijn因为 Jan it his mother dared *COMP his moeder) voor te liegen because Jan his mother dared *COMP to lie
    ‘…because Jan dared lie to his mother.’
   b. … omdat Jan zijn moeder waagde (*om) voor te liegen because Jan his mother dared *COMP for to lie
    ‘…because Jan dared lie to his mother.’

Note that the absence of the complementizer in (11)b may not be due to locality factors. Like propositional verbs, strong implicative verbs select a complement without *om*; the complementizer is only possible if the clause is construed with *het* (cf. 3.1.1.1).

The third construction may not contain a complementizer in the case of weak implicatives in (12), or irrealis verbs in (13):

(12) a. … omdat Jan zijn fiets weigerde (*om) te repareren because Jan his bike refused *COMP to repair
    ‘…because Jan refused to repair his bike.’
   b. … omdat Jan weigerde (*om) zijn fiets te repareren because Jan refused *COMP his bike to repair
    ‘…because Jan refused to repair his bike.’

(13) a. … omdat Jan zijn fiets besloot (*om) te repareren because Jan his bike decided *COMP to repair
    ‘…because Jan decided to repair his bike.’
   b. … omdat Jan besloot (*om) zijn fiets te repareren because Jan decided *COMP his bike to repair
    ‘…because Jan decided to repair his bike.’

The absence of C is also suggested by the impossibility of embedded wh-movement in the third construction. Some of the verbs in Table 9 may select an interrogative complement, in which the wh-word moves to the embedded [spec, CP]. These verbs cannot take a wh-infinitive in the third construction. This holds for the implicative *vergeten* ‘forget’ (14) as well the irrealis verb *vragen* ‘ask’ (15):

(14) a. … omdat Jan vergat hoe te handelen bij gevaar because Jan forgot how to handle at danger
    ‘…because Jan forgot how to act in situations of danger.’
b. * … omdat Jan bij gevaar vergat hoe te handelen
   ‘…because Jan at danger forgot how to handle
   ‘…because Jan forgot how to act in situations of danger.’

(15) a. … omdat Jan vroeg hoe te handelen bij gevaar
   ‘…because Jan asked how to handle at danger
   ‘…because Jan asked how to act in situations of danger.’
b. * … omdat Jan bij gevaar vroeg hoe te handelen
   because Jan at danger asked how to handle
   ‘…because Jan asked how to act in situations of danger.’

Unfortunately, we cannot demonstrate the presence or absence of C with
propositional verbs and the verbs under ‘other’, because these verbs do not take the
infinitival complementizer in any case. (cf. 3.1.1.1).
The second test for the presence of C, the possibility of embedded
wh-movement, is also problematic in the case of propositional verbs. First, few of
the propositional verbs may select an embedded question:

(16) Jan vertelde / zei / * beweerde wat hij ging doen
Jan told said claimed what he went do
‘John told (us)/ said/ claimed/ what he was going to do.’

Furthermore, finite interrogative complements are considerably more common than
wh-infinitives. But to the extent that these verbs may take a wh-infinitive, the finite
and infinitival interrogative complements are not equivalent:

(17) a. Jan vertelde ons wat hij ging doen
Jan told us what he went do
‘Jan told us what he was going to do.’
b. Jan vertelde ons wat te doen
Jan told us what to do
‘Jan told us what to do.’
not: ‘Jan told us what he was going to do.’

We cannot turn the finite embedded clause in (17)a into an infinitival clause. The
resulting construction (17)b is grammatical, but has a different meaning. When
vertellen ‘tell’ shows object control, as in this example, its meaning is not ‘convey a
message’, but something like ‘direct’. Apparently, subject control is impossible in a
question. Questions differ from declarative infinitivals with respect to control:

(18) Jan vertelde ons een boek te lezen
Jan told us a book to read
‘Jan told us that he was reading a book.’
‘Jan told us to read a book.’

(14)b and (15)b are grammatical if the PP modifies the matrix clause, resulting in an interpretation like
‘it was in a situation of danger that Jan asked/ forgot what to do’.
PRO in (18) may be controlled by the subject, with the resulting meaning ‘convey a message’ or by the indirect object, yielding the meaning ‘direct’ (Van Haaften 1991). The two control options correlate with a difference in tense. If PRO is controlled by the indirect object, the time of reading is in the future with respect to the matrix event time. At the moment at which Jan spoke to us, we had not yet begun reading. If PRO is controlled by the subject, on the other hand, the infinitive is interpreted as present with respect to the matrix event time: Jan was reading the book at the time at which he spoke to us. If the reading is to take place in the future with respect to the matrix event time, then this has to be expressed explicitly:

(19) Jan vertelde ons een boek te zullen lezen  
    Jan told us a book to will read  
    ‘Jan told us he was going to read a book.’  
    not: ‘Jan told us to read a book.’

Object control is not possible in the presence of zullen ‘will’ (cf. 3.1.2.3.2), because on the meaning ‘direct’, the indirect object is not necessarily committed to carrying out what he is told to do. We might try to force the subject control interpretation in an interrogative clause by constructing a wh-infinitive containing zullen ‘will’, but such examples are ungrammatical:

(20) * Jan vertelde ons wat te zullen doen  
    Jan told us what to will do  
    ‘Jan told us what he was going to do.’

The ungrammaticality of (20) could not be explained by the meaning of the example. The intended interpretation ‘Jan told us what he was going to do’ is by no means ill-formed, and it is fully acceptable when expressed by a finite clause, as in (17)a.

We conclude that there is no evidence for a CP-layer in the infinitival complement to propositional verbs. We could go even further and consider the possibility that in Dutch, the infinitival complement to a propositional verb does not project a CP-layer at all, whether it displays transparency or not (contra Wurmbrand 2001; Landau 2000). It may seem unattractive to deviate from the standard assumption that propositional complements are CPs, but it would not require any new stipulations. In order to account for the possibility of extraction out of a propositional complement, we have to allow for propositional TP-complements in the case of the third construction anyway.

Note also that there are a number of propositional verbs in English which allow ECM, if not in active sentences, then at least in the passive:

(21) a. Mary believed/ considered/ fancied Bill to have read the book  
    b. Mary was announced/ 'mumbled'/ 'muttered'/ whispered to have won the race  
    (Pesetsky 1991: 15/16)
If ECM requires the absence of the CP-layer, then we may assume that propositional verbs select TP-complements more generally.

Now let us turn to structure of the third construction at the level below CP. Since there are differences between the four classes of third construction verbs, we discuss them separately.

### 4.2 Implicatives

The weak and strong implicatives do not behave alike. The differences reflect a semantic difference, as the third construction and the extraposition construction do not seem to have different properties. Strong implicative verbs take a vP or possibly a VP as their complement; weak implicatives select for Mood\textsubscript{irrealis}Ps.\(^7\)

#### 4.2.1 Tense

Both weak implicatives and strong implicatives are incompatible with past tense. This is a semantic property of implicative verbs. Therefore, it holds regardless of whether the verb selects a third construction, as in the (b)-examples, or an extraposition construction, like the (a)-examples:

\begin{enumerate}
\item[(22)] a. * … omdat Jan verzuimt de afwas te hebben gedaan toen Marie binnenkwam
\item[(22)] b. * … omdat Jan de afwas verzuimt te hebben gedaan toen Marie binnenkwam
\end{enumerate}

(both): ‘…because Jan failed to have been washing the dishes when Marie came in.’

\begin{enumerate}
\item[(23)] a. * … omdat Jan weigert de afwas te hebben gedaan toen Marie binnenkwam
\item[(23)] b. * … omdat Jan de afwas weigert te hebben gedaan toen Marie binnenkwam
\end{enumerate}

(both): ‘…because Jan refuses to have been washing the dishes when Marie came in.’

\(^7\) We have nothing to say about the presence of semantically vacuous functional projections.
4.2.2 Mood\textsubscript{IRREALIS}

It seems that the strong implicatives and the weak implicatives pattern differently:

(24) a. … omdat de krakers weigeren om morgen het pand te verlaten because the squatters refuse to leave the building to leave (both): ‘…because the squatters refuse to leave the building tomorrow.’

b. … omdat de krakers het pand morgen weigeren te verlaten because the squatters the building tomorrow refuse to leave (both): ‘…because the squatters refuse to leave the building tomorrow.’

In case of the weak implicative verb weigeren ‘refuse’, the moment of leaving the building may be in the future with respect to the moment of refusal. This holds both in the extraposition construction and in the third construction. Strong implicatives, on the other hand, do not allow a future shifted complement on either construction:

(25) a. … omdat Jan verzuimde zijn moeder ( * morgen) te bezoeken because Jan neglected his mother to visit (both) ‘…because Jan neglected to visit his mother tomorrow.’

b. … omdat Jan zijn moeder ( * morgen) verzuimde te bezoeken because Jan his mother tomorrow neglected to visit (both) ‘…because Jan neglected to visit his mother tomorrow.’

This shows that the complement to strong implicative verbs does not project Mood\textsubscript{IRREALIS}P.

Weak implicatives do allow for a future oriented interpretation. These verbs are therefore compatible with a complement which projects up to Mood\textsubscript{IRREALIS}P. The ungrammaticality of (26) may be taken as evidence that the future orientation does not reflect true future tense, but only irrealis mood:

(26) a. … omdat Jan weigerde zijn moeder te ( * zullen) helpen because Jan refused his mother to will help (both): ‘…because Jan refused to help his mother.’

b. … omdat Jan zijn moeder weigerde te ( * zullen) helpen because Jan his mother refused to will help (both): ‘…because Jan refused to help his mother.’

Since zullen ‘will’ expresses commitment in irrealis complements, and future in propositional complements, the ungrammaticality of zullen ‘will’ is predicted if the PRO subject of the complement may not be ascribed commitment towards carrying out the event described in the complement, and if weigeren ‘refuse’ selects for a complement which lacks true tense. The matrix predicate tells us that the controller Jan is not committed to helping; he refuses to do so. Zullen ‘will’ as a marker of commitment is therefore excluded. If weigeren ‘refuse’ may embed a T\textsubscript{FUTURE}P-complement, then zullen ‘will’ should be acceptable as a marker of future tense. We take the fact that it is ungrammatical as evidence that the complement
may not project $T_{FUTURE}$. This suggests that structures may only contain $T_{FUTURE}$ if they also contain $T_{PAST}$, which, in its turn, suggests that there is only one tense node.

### 4.2.3 Anteriority

We have seen that temporal *hebben* is ungrammatical in the complement to an implicative verb. *Hebben* ‘have’ is also ungrammatical if it expresses anteriority with strong implicatives:

(27) a. … omdat Jan verzuimt het gras voor volgende week gemaaid te hebben
    because Jan neglects the grass before next week mowed to have

b. … omdat Jan het gras voor volgende week gemaaid verzuimt te hebben
    because Jan the grass before next week mowed neglects to have

(both): ‘…because Jan refuses to have mowed the lawn by next week.’

But with weak implicatives, this use of *hebben* ‘have’ is grammatical. This holds regardless of whether it is used in a third construction or in an extraposition construction:

(28) a. … omdat Jan weigert het gras voor volgende week gemaaid te hebben
    because Jan refuses the grass before next week mowed to have

b. … omdat Jan het gras weigert te hebben gemaaid voor volgende week
    because Jan the grass refuses to have mowed before next week

(both): ‘…because Jan refuses to have mowed the lawn by next week.’

$\text{Mood}_{IRREALIS}$ c-commands $T_{ANTERIOR}$ (Cinque 1999). We therefore predict that a complement which may project up to $\text{Mood}_{IRREALIS}$ may also contain $T_{ANTERIOR}$.

### 4.2.4 Negation

In the case of implicative verbs, speakers have difficulties judging examples, and the narrow and wide scope interpretations are not always easy to tell apart. In the context given, which facilitates the narrow scope interpretation, negation seems to take scope over the matrix verb in the third construction:
[Marie advised Jan to base his decision only on rational arguments, so she was surprised…]

(29) dat Jan zijn gevoel niet weigerde te volgen
    that Jan his feeling not refused to follow
    ‘that Jan did not refuse to follow his heart.’
    not?: ‘that Jan refused to ignore his intuition.’

We cannot draw any conclusions from this, however. In the same context, the corresponding extrapolation construction sounds odd, which suggests that the embedded scope interpretation is in general difficult to get, regardless of the syntactic structure:

(30) dat Jan weigerde zijn gevoel niet te volgen, en naar zijn verstand
    that Jan refused his feeling not to follow and to his mind
    te luisteren
    to listen
    ‘that Jan refused to ignore his heart’

Moreover, when we look into negation in the third construction with irrealis verbs and propositional verbs, we will see that embedded scope is possible if negation precedes the matrix verb.

4.2.5  v

It is not clear whether the complement in the third construction with implicative verbs projects a vP. Since the matrix verb is a control verb, we cannot be sure whether the embedded verb projects an external argument:

(31) # Het huis verzete/ weigerde in te storten
    the house neglected refused in to pour
    ‘The house neglected/refused to collapse.’

We have seen some evidence that there is a difference between infinitival clauses which contain PRO, and infinitival clauses which are truly subjectless. We have two tests for the presence of PRO. If PRO in a without-clause may be coreferent with a non-subject, then, presumably, this coreference is mediated by the PRO-subject of the complement clause. We cannot use this test here, because even in the presence of the optional DP-internal argument, weigeren is a subject control verb:

(32) … omdat Jan Marie weigerde op zijn besluit terug te komen
    because Jan Marie refused on his decision back to come
    ‘…because Jan refused Marie’s request to reconsider his decision.’
For this reason, the subject-orientation test is irrelevant.\footnote{8}

The partial control test suggests that PRO is present:

(33) … omdat de commandant het gebouw weigerde te omsingelen
    because the commander the building refused to surround
    ‘…because the commander refused to surround the building.’

We therefore assume that weak implicative complement project vP.

## 4.3 Irrealis verbs

The irrealis verbs behave somewhat differently than the implicative verbs. The complement projects up to Mood\textsubscript{irrealis}.

### 4.3.1 Tense

Irrealis verbs are future oriented in that the embedded event is situated in the future with respect to the matrix event time:

(34) Jan besloot een hond te nemen
    Jan decided a dog to take
    ‘Jan decided to have a dog.’

At the moment at which Jan decided he would get a dog, he did not have one yet. The event of getting a dog is necessarily situated in the future. This is an inherent property of irrealis verbs; the future orientation holds in the third construction (35)a as well as the extraposition construction (35)b:

(35) a. … omdat Jan besloot (om) een hond te nemen
    because Jan decided COMP a dog to take
    ‘…because Jan decided to have a dog.’

The past tense replacement test shows that the complement does not contain tense. Again, this holds for either construction.\footnote{9}

\footnote{8}{To the extent that control shift is possible, the indirect object may be coreferent with PRO in the adjunct clause:}

\footnote{i}{… omdat ik Jan weigerde de auto te mogen lenen zonder zich op de route voor te bereiden
    because I refused the car to may borrow without himself on the route for to prepare
    ‘…because I refused Jan’s request to borrow the car without preparing himself for the route.’

This suggests that the complement clause contains PRO.}
(36) a.  ... omdat Jan besloot de auto te hebben gewassen toen
       because Jan decided the car to have washed then
       Marie binnenkwam
       Marie entered

       b.  ... omdat Jan de auto besloot te hebben gewassen toen
           because Jan the car decided to have washed then
           Marie binnenkwam
           Marie entered

       (both): ‘…because Jan decided to have been washing the car when Marie came in.’

As we have seen in 3.1.2.3.2, *zullen* ‘will’ is nevertheless grammatical in the complement to *besluiten*:

(37) Cohen en Opstelten hebben ook besloten te *zullen* pleiten voor …
       ‘Cohen and Opstelten have also decided to will advocate for …’

Not all irrealis verbs allow *zullen* ‘will’ in the complement. If the initiative to carry out the event described in the embedded clause does not come from the controller of PRO (if there is a PRO), but from a different argument of the matrix verb, then *zullen* ‘will’ is ungrammatical:

(38) Jan droeg Marie op morgen de auto te (*zullen) wassen
       ‘Jan ordered Marie to wash the car tomorrow.’

*Opdragen* ‘order’ is like *besluiten* ‘decide’ in all the relevant respects: its complement is future oriented and may contain adverbials referring to the future, but it does not contain past tense, as indicated by the past tense replacement test. This shows that despite the grammaticality of adverbs like *morgen* ‘tomorrow’ and despite the future orientation of the complement clause, the complement does not contain true tense.

### 4.3.2 Mood\_IRREALIS

Although irrealis verbs are inherently incompatible with tense in their complement, the complement is necessarily unrealized. We have attributed this property to the category Mood\_IRREALIS. It was shown in (37) that the complement to irrealis verbs projects Mood\_IRREALIS in the extraposition construction. (39) shows that this is also true in the third construction:

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9 We ignore the special interpretation in which Jan, for instance, tries to make up an excuse for why he had not seen Marie come in. This interpretation is irrelevant for our purposes, because there is no past event of washing the car.
Also, the possibility of modifying the embedded clause with temporal adverbs does not depend on the type of construction:

(40) a. … omdat Jan Marie vroeg morgen de dokter te bellen because Jan Marie asked tomorrow the doctor to call
b. … omdat Jan Marie morgen de dokter vroeg te bellen because Jan Marie tomorrow the doctor asked to call
(both): ‘…because Jan asked Marie to call the doctor tomorrow.’

We conclude that irrealis verbs take a complement clause which projects Mood\textsuperscript{IRREALIS}, both in the extraposition construction and in the third construction.

4.3.3 Anteriority

Although the past tense use of hebben ‘have’ is excluded, the auxiliary may be used to express anteriority:

(41) Jan beloofde het gras voor volgende week te hebben gemaaid
    Jan promised to grass before next week to have mowed
    ‘Jan promised to have mowed the lawn by next week.’

Because of verb second, we cannot tell whether (41) is an extraposition construction or a third construction. It could therefore be that the acceptability of anterior hebben ‘have’ depends on the type of complement. (42)b shows that this is not the case:

(42) a. … omdat Jan beloofde het gras voor volgende week te hebben gemaaid because Jan promised the grass before next week to have mowed
    ‘…because Jan promised to have mowed the lawn by next week.’

b. … omdat Jan het gras voor volgende week beloofde te hebben gemaaid because Jan the grass before next week promised to have mowed
    ‘…because Jan promised to have mowed the lawn by next week.’

We conclude that regardless of the type of complement, the complement to irrealis verbs may project up to T\textsubscript{ANTERIOR}. 
4.3.4 Negation

Other than with the implicative verbs and the clustering verbs, it is relatively easy to determine the scope of negation in irrealis complements. Depending on the example, there may be a preference for embedded scope or matrix scope, but it seems that in principle, both interpretations are available:

[Marie does not mind letting Jan study in her room…]

(43) a. … omdat hij haar dagboek niet belooft te lezen because he her diary not promises to read
   ‘…because he promised not to read her diary.’
   ‘…because he did not promise to read her diary.’

b. … omdat hij niet in haar dagboek belooft te lezen because he not in her diary promised to read
   ‘…because he promised not to read in her diary.’
   (‘…because he did not promise to read in her diary.’)

In the context given, the embedded scope interpretation is definitely available. On this interpretation, Jan made the promise to Marie that he would not read her diary. The wide scope interpretation, in which Jan has not made the promise to read Marie’s diary, is possible as well, at least without any context. In the context given, it is a bit awkward, but it is not clear that the matrix scope interpretation is impossible.

In this respect, the third construction differs from the extraposition construction, in which only embedded scope is possible:

[Marie does not mind letting Jan study in her room…]

(44) a. … omdat Jan belooft Mariës dagboek niet te lezen because Jan promises Marie’s diary not te read
   ‘…because Jan did not promise to read Marie’s diary.’
   not: ‘…because Jan promised not to read Marie’s diary.’

b. … omdat Jan belooft niet in Mariës dagboek te lezen because Jan promises not in Marie’s diary to read
   ‘…because Jan did not promise to read her in diary.’
   not: ‘…because he promised not to read in her diary.’

We conclude that in the third construction, both the matrix clause and the embedded clause constitute domains for negation.

4.3.5

The irrealis verbs are not raising verbs. The matrix verb poses lexical restrictions on the matrix subject:
(45) # Het huis besloot in te storten
  the house decided in to pour
  ‘The house decided to collapse.’

For this reason, we have to assume that the matrix subject receives a thematic role from the matrix predicate. This makes it unclear whether the embedded clause projects an external argument PRO, or whether there is no external argument in the embedded clause and the control interpretation is due to an alternative interpretation mechanism.

In 3.1.6.1, we suggested two diagnostics to determine whether PRO is present. We use this diagnostic to show that irrealis verbs select a complement containing PRO, both in the extraposition construction and in the third construction.

The first diagnostic concerns the interpretation of ‘without’-clauses. These adjunct clauses are subject-oriented:

(46) Jan adviseerde me een boek zonder PROj te schamen
  Jan advised me a book without himself to shame
  ‘Jan advised me a book without being ashamed of it.’

The person being ashamed may only be Jan, not ‘me’. For this reason, PRO in the adjunct clause may only bind the anaphor zich ‘himself’; me ‘myself’ is ungrammatical in (46). This is in contrast with (47), which is minimally different in that the matrix verb takes a clausal object instead of a DP object:

(47) Jan adviseerde me dit boek te lezen zonder PROj
      Jan advised me this book to read without
      zich/ me ervoor te schamen
      himself myself for-it to shame
      ‘Jan recommended this book to me without being ashamed of it.’

In (47), the person who is ashamed may be Jan or ‘me’. As PRO in the without-clause is subject-oriented, we make take this as evidence that (47) contains a subject which is coreferent with ‘me’, namely the covert subject of ‘to read’.

One might object that without-clauses are not truly subject-oriented, but that coreference between me and PRO is impossible in (46) because the without-clause is attached higher than me, in which case me does not c-command PRO. The possibility of coreference between me and adjunct PRO in (47) would then not be due to the presence of PRO in the complement clause, but to the fact that the adjunct clause may be attached within the complement clause. As a result, me in the matrix clause c-commands PRO in the adjunct clause in (47), but not in (46). We can demonstrate that this is not the right explanation. If the contrast is to be explained by a difference in c-command, then it should be independent of the type of matrix verb; the possibility of attaching the adjunct clause in the complement clause should be available in the case of object control as well as subject control, contrary to fact:
(48) a. Jan beloofde me een boek zonder PRO<sub>j/m</sub> zich/
    Jan promised me a book without himself
    * me<sub>j/m</sub> ervoor te schamen
    myself for-it to shame
    ‘Jan promised me a book without being ashamed of it.’
b. Jan beloofde me<sub>j/m</sub> PRO<sub>j/m</sub> een boek te lezen zonder PRO<sub>j/m</sub>
    Jan promised me a book to read without
    zich/* me<sub>j/m</sub> ervoor te schamen
    himself myself for-it to shame
    ‘Jan promised me to read a book without being ashamed of it.’

In (48), the person who is ashamed may only be Jan. This is independent of whether the matrix verb selects a DP object or a clausal object. This shows that the controller for PRO in the adjunct clause must not only c-command it, but it must also be a subject.

So far, we have used examples which involve verb second. Because of this, we do not know whether we have seen evidence for the presence of PRO in the extraposition construction, the third construction, or both. (49) shows that there is a PRO in either complement type:

(49) a. … omdat Jan me<sub>j/m</sub> adviseerde PRO<sub>j/m</sub> een boek te lezen
    because Jan me advised a book to read
    zonder PRO<sub>j/m</sub> zich/* me<sub>j/m</sub> ervoor te schamen
    without himself myself for-it to shame
    ‘…because Jan advised me to read a book without being ashamed of it.’
b. … omdat Jan me<sub>j/m</sub> een boek adviseerde PRO<sub>j/m</sub> te lezen zonder
    because Jan me a book advised to read without
    PRO<sub>j/m</sub> zich/* me<sub>j/m</sub> ervoor te schamen
    himself myself for-it to shame
    ‘…because Jan advised me to read a book without being ashamed of it.’

The person who is ashamed may be Jan or me in the extraposition construction (49)a as well as the third construction (49)b, suggesting that the infinitival complement contains PRO in both constructions. Assuming that PRO is generated in the same position as overt subjects, we may conclude that the third construction contains a vP-projection.

The second diagnostic for the presence of PRO gives the same results. If a singular matrix clause subject is compatible with a collective predicate in the embedded clause, we may assume that the embedded clause contains its own plural subject, PRO:

(50) a. * De commandant omsingelde het pand (=81)
    the commander surrounded the building
    ‘The commander surrounded the building.’
b. De commandant, besloot PRO<sub>j/ij</sub> het pand te omsingelen
    the commander decided the building to surround
    ‘The commander decided to surround the building.’
When partial control is acceptable, its availability does not depend on the type of construction:

(51) a. … omdat de commandant, besloot PRO$_{ij}$ het pand te omsingelen because the commander decided the building to surround '…because the commander decided to surround the building.'

b. … omdat de commandant het pand besloot PRO$_{ij}$ te omsingelen because the commander the building decided to surround '…because the commander decided to surround the building.'

The partial control interpretation is available in the extraposition construction (51)a, as well as in the third construction (51)b, suggesting that both contain PRO.

Now that we have positive evidence for the presence of PRO, we can be certain that the clause projects v. This might lead to the conclusion that the embedded internal argument has its case checked internal to the embedded clause, as transitive v is standardly taken to be responsible for the assignment of the external thematic role as well as licensing of accusative case (Chomsky 1995). If we continue to assume that the Dutch VP is head-initial, then we have to say something more to explain the word order of the third construction. We do not go into a discussion of case checking here. We take this matter up in chapter 5.

### 4.4 Propositional verbs

We show that propositional verbs are TPs in the third construction.

#### 4.4.1 Tense

Unlike the other third construction verbs, the propositional verbs embed complement clauses which contain tense:

(52) a. Jan zegt te hebben geslapen toen Marie binnenkwam
    Jan said to have slept then Marie entered
    'Jan says he was sleeping when Marie came in.'

b. Jan zegt dat hij sliep toen Marie binnenkwam
    Jan says that he slept then Marie entered
    'Jan said that he slept when Marie entered.'

---

10 This is because PRO is generated in [spec, vP]. Note that we are not claiming that PRO remains in this position throughout the derivation.
The sentences in (52) are equivalent. As the finite complement contains past tense, so must the infinitival clause. We can also demonstrate the presence of past tense by modifying the embedded clause with an adverbial:

(53) a. … omdat Jan zegt gisteren te hebben gezwommen
     ‘…because Jan says that he had gone swimming yesterday.’
     b. … omdat Jan zegt morgen te gaan zwemmen
     ‘…because Jan says that will go swimming tomorrow.’

As shown in 3.1.2.3, the complement may contain temporal auxiliaries. (52)a shows that temporal hebben ‘have’ is grammatical. Temporal zullen ‘will’ is shown in (54):

(54) a. Jan beweert aan zijn proefschrift te werken
     Jan claims on his dissertation to work
     ‘Jan claims that he is working on his dissertation (now).’
     b. Jan beweert aan zijn proefschrift te zullen werken
     Jan claims on his dissertation to will work
     ‘Jan claims that he is going to work on his dissertation.’

In the absence of zullen ‘will’, the complement in (54)a is interpreted as present, that is, the embedded event time is cotemporaneous with the matrix event time. The future shifted interpretation is possible, but it requires reference to a future moment, as in (54)b.

In the examples so far, we cannot tell whether we are dealing with an extraposition construction or with a third construction. It is possible that only the extraposition construction is compatible with tense, in accordance with the generalization that tensed complements do not show restructuring effects (Wurmbrand 2001). But as a matter of fact, propositional complements may be tensed in the third construction and the extraposition construction:

(55) a. … omdat Jan het gras zegt te hebben gemaaid toen ik
     because Jan the grass says to have mowed then I
     binnenkwam
     ‘…because Jan says that he was mowing the lawn when I entered.’
     b. … omdat Jan zegt het gras te hebben gemaaid toen ik
     because Jan says the grass to have mowed then I
     binnenkwam
     ‘…because Jan says that he was mowing the lawn when I entered.’
Both examples in (55) are acceptable, and both are equivalent to (56), which shows that the third construction may involve tense.

The future auxiliary is also acceptable in the third construction:

(57) a. … omdat Jan het gras beweert te maaien
   because Jan the grass claims to mow
   ‘…because Jan claims that he is mowing the lawn.’

b. … omdat Jan het gras beweert te zullen maaien
   because Jan the grass claim to will mow
   ‘…because Jan claims that he is going to mow the lawn.’

Without the auxiliary, the event of mowing the lawn is interpreted as cotemporaneous with the claim. The future shifted interpretation must be triggered by explicit reference to a future moment. We take this as evidence that also in the third construction, zullen ‘will’ expresses future tense, not (irrealis) future mood.\(^\text{11}\)

We conclude that propositional complements are tensed, regardless of the type of complement.

4.4.2 Mood\(_{\text{IRREALIS}}\)

Because propositional complements have future tense, it is not possible to offer independent evidence in favor of Mood\(_{\text{IRREALISP}}\). So far, we have taken the grammaticality of temporal adverbs referring to the future and commitment marking zullen ‘will’ as evidence for Mood\(_{\text{IRREALISP}}\), but in propositional complements, these might as well diagnose tense. In the absence of any evidence to the contrary, we assume that Mood\(_{\text{IRREALISP}}\) is nevertheless available.

4.4.3 Anteriority

Past tense hebben ‘have’ is grammatical in the third construction (4.4.1). Anterior hebben ‘have’ is as well (cf. (58)). We know that hebben ‘have’ expresses anteriority here, because the moment at which Jan has persuaded Marie is in the future with respect to the moment of saying. Note also that the order in which zullen ‘will’ precedes hebben ‘have’ is incompatible with the past tense use of hebben

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\(^{11}\) This is also suggested by the fact that propositional object control constructions are compatible with zullen, cf. footnote 19.
'have', because that would imply the order $T_{\text{FUTURE}} > T_{\text{PAST}}$, if it is possible to have both future and past in the same tense domain at all.\(^{12}\)

(58) a. … omdat Jan zegt Marie voor volgende week te zullen hebben
   because Jan says Marie before next week to will have
   overgehaald
   persuaded
   
   b. … omdat Jan Marie voor volgende week zegt te zullen hebben
   because Jan Marie before next week says to will have
   overgehaald
   persuaded

   (both): ‘…because Jan says that he will have persuaded Marie by next week.’

4.4.4 Negation

In the extraposition construction, the scope of negation is clear. If negation follows the matrix verb (59)a, only embedded scope is possible. If negation precedes the matrix verb (59)a, only matrix scope is possible:

(59) a. … omdat Jan zei het meisje niet te kennen
   because Jan said the girl not to know
   ‘…because Jan said he didn’t know the girl.’

   b. … omdat Jan niet zei het meisje te kennen
   because Jan not said the girl to know
   ‘…because Jan didn’t say he knew the girl.’

In the third construction, negation may take scope over the embedded clause or the matrix clause, depending on the example. In (60), the embedded scope interpretation is preferred, but in (61), matrix scope is possible as well:

(60) … omdat Jan het meisje niet zei te kennen
   because Jan the girl not said to know
   ‘…because Jan said he didn’t know the girl.’

(61) … omdat Jan de wedstrijd niet verwachtte te winnen
   because Jan the game not expected to win
   ‘…because did not expect that he would win the game.’
   ‘…because Jan expected that he would not win the game.’

---

\(^{12}\) The order of the verbs in a verbal cluster tends to follow the scope order: the scopally highest verb precedes the scopally lower ones. Deviations from this order generally involve participles (cf. Zwart 1996). That is, the auxiliaries cannot be swapped, but the participle may surface in more than one position. Hence, both $1 > 2 > 3$ and $3 > 1 > 2$ are acceptable orders, but any order in which 2 precedes 1 is ungrammatical in standard Dutch.
4.4.5 v

In the absence of any evidence to the contrary, we assume that propositional complements contain a PRO subject, and hence, there is a v which is responsible for the assignment of the external thematic role.

Unfortunately, our two tests for the presence of PRO cannot be used for propositional verbs. All the propositional third construction verbs are subject control verbs, so the interpretation of a ‘without’-clause is not revealing.\(^{13}\)

\[(62)\] Jan\(_{v}\) vertelde me\(_{m}\) PRO\(_{v}\)\(_{m}\) de hele dag te hebben geslapen
Jan told me the whole day to have slept
zonder PRO\(_{v}\)\(_{m}\) zich\(_{m}\) * me\(_{m}\) ervoor te schamen
without himself myself for-it to shame
‘Jan told me that he had slept all day without being ashamed of it.’

PRO in the adjunct clause must be controlled by a subject. If the complement clause does not contain PRO, then the only possible controller is the matrix subject Jan. Coreference between the matrix indirect object ‘me’ and PRO in the adjunct clause is therefore predicted to be ungrammatical. However, if the complement clause does contain PRO, the prediction would be the same. Adjunct PRO must be controlled by a subject, and there are two possible controllers: the matrix subject Jan, and the covert subject of the complement clause, PRO. But this PRO is controlled by Jan, so whether or not the complement contains PRO, coreference between ‘me’ and adjunct PRO is impossible.

Our second test, partial control, is also unavailable. As in English, partial control is best with irrealis verb (Landau 2000); propositional verbs give rather bad results:

\[(63)\] a. \(^8\) De commandant omsingelde het pand
the commander surrounded the building
‘The commander surrounded the building.’

b. \(^7\) De commandant beweerde het pand te hebben omsingeld
the commander claimed the building to have surrounded
‘De commander claimed that he had surrounded the building.’

c. De commandant besloot het pand te omsingelen
the commander decided the building to surround
‘The commander decided to surround the building.’

\(^{13}\) Some of the verbs listed as propositional verbs may also show object control (cf. 0):

(i) Jan\(_{v}\) vertelde me\(_{m}\) PRO\(_{v}\)\(_{m}\) de afwas te gaan doen
Jan told me the dishes to go do
‘Jan told me that he was going to do the dishes.’

But on the object control interpretation, *vertellen* ‘tell’ is an irrealis verb. The complement has a different structure: it may not contain past tense or *zullen* ‘will’ (cf. (19)). For this reason, we may not conclude that the presence of PRO in the complement to irrealis *vertellen* ‘tell’ entails that PRO is also present in the complement to propositional *vertellen* ‘tell’.
The collective predicate *omsingelen* ‘surround’ requires a plural agent. Since the singular matrix subject *de commandant* ‘the commander’ does not satisfy this requirement, the acceptability of (63)c must be due to the presence of a covert plural subject PRO in (63)c.

It is not clear why (63)b is degraded. We presume that there is an independent explanation for the unacceptability of the partial control interpretation, rather than take (63)b as evidence for the absence of PRO.

### 4.5 Summary

We have demonstrated that with the exception of CP, the third construction projects all the contentful functional heads which are compatible with the matrix verb:

<table>
<thead>
<tr>
<th>matrix verb</th>
<th>third construction</th>
<th>CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>strong implicative</td>
<td>VP or vP</td>
<td>*</td>
</tr>
<tr>
<td>weak implicative</td>
<td>Mood$_{irrealis}$P</td>
<td>*</td>
</tr>
<tr>
<td>irrealis verbs</td>
<td>Mood$_{irrealis}$P</td>
<td>*</td>
</tr>
<tr>
<td>propositional</td>
<td>TP</td>
<td>*</td>
</tr>
<tr>
<td>other</td>
<td>VP or vP</td>
<td>*</td>
</tr>
</tbody>
</table>

Table 11: The complement to the third construction

The size of the complement ranges from VP or vP to TP. We discuss the implications of this finding 4.7.

Next, we turn to the opaque complements.

### 4.6 Opaque complements

Finally, we turn to the third type of infinitival complement, the so called extraposition construction. The infinitival complement is continuous:

\[(64)\]

\[a.\] ... omdat Jan besefte *zijn sleutels te moeten zijn verloren*  
because Jan realized his keys to must have lost  
‘...because Jan realized he must have lost his keys.’

\[b.\] * ... omdat Jan *zijn sleutels besefte te moeten hebben*  
because Jan his keys realized to must have  
verloren  
lost  
‘...because Jan realized he must have lost his keys.’

We find this word order with factive verbs, like *beseffen*, non-bridge verbs, and with all the third construction verbs if the complementizer is overt.

We do not observe any transparency effects. This is shown for the IPP-effect:
a. omdat Jan heeft * besluiten/ besloten om cake te bakken
   because Jan has decide.INF decided COMP cake to bake
   ‘…because Jan decided to bake a cake.’

b. omdat Jan heeft * beseften/ beseft cake te moeten bakken
   because Jan has decide.INF decided cake to must bake
   ‘…because Jan realized he had to bake a cake.’

The lack of transparency is also shown for the ordering of matrix participle and auxiliary. Recall from 2.2.5.1 that a temporal auxiliary must precede the matrix verb in a verbal cluster, but need not in other constructions:

(66) a. … omdat Jan besloten2 heeft1 om een boek te lezen3
   because Jan decided has COMP a book to read
   (both) ‘…because Jan has decided to read a book

b. … omdat Jan beseft2 heeft1 een boek te moeten lezen3
   because Jan decided has a book to must read
   (both) ‘…because Jan realized he had to read a book

Long object raising is equally impossible:

(67) a. * … omdat Jan zijn huis besloot om te verkopen
   because Jan his house decided COMP to sell
   ‘…because Jan decided to sell his house.’

b. * … omdat Jan zijn huis besefte te moeten verkopen
   because Jan his house decided to must sell
   ‘…because Jan realized he had to sell his house.’

So is particle placement:

(68) a. omdat Jan ( * terug) besloot om ( terug) te gaan
   because Jan back decided COMP back to go
   ‘…because Jan decided to go back.’

b. omdat Jan ( * terug) besefte ( terug) te moeten gaan
   because Jan back decided back to must go
   ‘…because Jan realized he had to go back.’

As is participle placement:

(69) a. omdat Jan ( * gekozen) beloofde om ( gekozen) te worden
   because Jan elected claims COMP elected to become
   ( gekozen)
elected
   ‘…because Jan promised to be elected.’
b. omdat Jan (* gekozen) besefte (gekozen) te kunnen
because Jan elected realized elected to can
worden (gekozen)
become elected
‘…because Jan realized that he could be elected.’

The placement of secondary predicates also argues against transparency:

(70) a. omdat Jan (* beroemd) besloot om (beroemd) te worden
because Jan famous decided \textsc{comp} famous to become
‘…because Jan decided to become famous.’
b. omdat Jan (* beroemd) besefte (beroemd) te worden
because Jan famous realized famous to become
‘…because realized he would to become famous.’

And finally, the placement of adverbs shows that the construction is opaque:

(71) a. omdat Jan (* voorzichtig) belooft om (voorzichtig) te rijden
because Jan carefully promises \textsc{comp} carefully to
‘… because Jan promised to drive carefully.’
b. omdat Jan (* voorzichtig) beseft (voorzichtig) te moeten rijden
because Jan carefully realizes carefully to moeten rijden
‘… because Jan realizes that he must drive carefully.’

The structure of these infinitival complements is very much like the structure of the corresponding third construction, if this type is available. The only difference seems to be the presence of CP. Thus, implicative verbs like \textit{wagen} ‘dare’ have the same properties in the third construction and the extraposition construction, except for C, which is absent in the third construction, but present in the extraposition construction:

(72) a. … omdat Jan het (zijn moeder) waagde om *(zijn moeder)
because Jan it his mother dared \textsc{comp} his mother voor te liegen
for to lie
‘…because Jan dared lie to his mother.’
b. … omdat Jan zijn moeder waagde *(om) voor te liegen
because Jan his mother dared \textsc{comp} for to lie
‘…because Jan dared lie to his mother.’

However, the complement is not tensed in either construction:
Nor does it project Mood\textsubscript{IRREALIS}:

(74) a. … omdat Jan het boek (* morgen) waagde te lezen because Jan the book tomorrow dared to read
b. … omdat Jan het waagde het boek (* morgen) te lezen because Jan it dared the book tomorrow to read

(both) ‘…because Jan dared to read the book tomorrow.’

Or T\textsubscript{ANTERIOR}:

(75) a. * … omdat Jan zijn huiswerk voor morgen waagde te hebben gedaan because Jan his homework before tomorrow dared to have done
b. * … omdat Jan het waagde zijn huiswerk voor morgen te hebben gedaan because Jan it dared his homework before tomorrow to have done

(both) ‘…because Jan dared to have done his homework by tomorrow.’

Hence, it looks like the structure of the extraposition construction involves just the projections which are semantically compatible with the matrix verb, plus the complementizer.

We can make the same point for the irrealis verbs. The third construction differs from the extraposition construction in the presence of the complementizer:

(76) a. … omdat Jan zijn fiets besloot (* om) te repareren (=13) because Jan his bike decided COMP to repair

‘…because Jan decided to repair his bike.’

b. … omdat Jan besloot om zijn fiets te repareren because Jan decided COMP his bike to repair

‘…because Jan decided to repair his bike.’

But the third construction lacks tense, and so does the extraposition construction:
(77) a. * … omdat Jan de afwas besloot gedaan te hebben toen Marie binnenkwam
because Jan the dishes decided done to have then Marie entered
b. * … omdat Jan besloot de afwas gedaan te hebben toen Marie binnenkwam
because Jan decided the dishes done to have then Marie entered
(both) ‘…because Jan decided to have been doing the dishes when Marie came in.’

We conclude that the opacity of the extraposition construction is due to the presence of the CP-layer.

4.7 Implications

In the past two chapters, we have investigated the syntactic structure of the three types of infinitival complement in Dutch. Our findings are shown in Table 12:

<table>
<thead>
<tr>
<th>Clustering verbs</th>
<th>Third construction</th>
<th>Extraposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>matrix verb</td>
<td>structure</td>
<td>matrix verb</td>
</tr>
<tr>
<td>modals</td>
<td>TP</td>
<td>strong implicative</td>
</tr>
<tr>
<td>aspectual 1</td>
<td>VP or vP</td>
<td>weak implicative</td>
</tr>
<tr>
<td>aspectual 2</td>
<td>vP</td>
<td>irrealis</td>
</tr>
<tr>
<td>ECM</td>
<td>vP</td>
<td>propositional</td>
</tr>
<tr>
<td>raising</td>
<td>TP</td>
<td>propositional</td>
</tr>
<tr>
<td>raising control 1</td>
<td>VP or vP</td>
<td>factive</td>
</tr>
<tr>
<td>raising control 2</td>
<td>VP</td>
<td></td>
</tr>
</tbody>
</table>

Table 12: The structure of Dutch infinitival complements

In most cases, infinitives in verbal clusters are associated with vP- or VP-structures. This is by no means a necessary condition for a verbal cluster. Raising constructions and epistemic modal constructions involve TP-complements, but the clustering effects are nevertheless obligatory.

In the third construction, the syntactic structure depends almost entirely on the semantic properties of the matrix verb. If the matrix verb is a strong implicative, the complement projects a VP or vP, but if it is a weak implicative or irrealis verb, Mood\_IRREALIS is present as well. Unlike in verbal clusters triggered by verbs like proberen ‘try’, which may lack contentful Mood\_IRREALIS, even though they are compatible with it, a third construction containing proberen ‘try’ projects all contentful projections it is compatible with; the projection is available regardless of whether the construction shows transparency effects. This also holds for the presence of TP with propositional verbs: whether transparency effects are observed or not, TP is available. The corresponding extraposition constructions differ only in that CP is also projected.

Our findings are significant for the view that transparency phenomena are ‘graded’. Although the complement to a clustering verb comes in a variety of sizes,
the size of the complement does not predict which transparency phenomena are observed. As an example, take particle placement. It is sometimes argued that particles move to PredP, a functional projection dominating VP (Zwart 1993; Koster 1994). In its turn, PredP is dominated by AgrOP, the functional projection to which the internal argument moves. In this theory, the following (partial) clausal architecture is assumed:

(78) TP > AgrOP > PredP > VP

(Zwart 1993)

If transparency effects are ‘graded’, this architecture may lead us to predict the following. Since the internal argument must move into AgrOP, the embedded internal argument may move into the matrix AgrOP only in case the embedded clause does not have one. Furthermore, if a particle must occupy PredP, it may be placed in the matrix PredP only in case the embedded clause does not contain PredP. Now, assuming that the absence of PredP entails the absence of AgrOP, we predict that if the embedded particle may be placed in the matrix clause, (long) raising to object is possible as well. This is correct: there are no instances of an embedded particle preceding the matrix verb, while the embedded internal argument follows it:

(79) * … omdat Jan terug besloot Marie te bellen
   because Jan back decided Marie to call
   (intended): ‘…because Jan decided to call Marie back.’

However, it is not predicted that particle placement or long raising to object may take place if the embedded clause contains a TP, because the presence of TP would entail that the embedded clause also contains AgrOP and PredP. Examples of long object raising and particle placement are therefore predicted to be ungrammatical with propositional verbs, contrary to fact.

This is strong evidence that Dutch restructuring is not ‘graded’ in the way German is, if Wurmbrand (2001) is correct. Rather, the Dutch transparency effects all seem to depend on one and the same factor. In 4.6, we have seen an important clue as to what this factor is. In the absence of the complementizer, (all) transparency phenomena may be observed, but in the presence of a complementizer, no transparency phenomena are observed. We therefore suggest that the possibility of transparency effects depends on the absence of locality boundaries between the infinitival clause and the matrix clause.

The formulation is important here: we are speaking of locality boundaries, not clause boundaries. This is because the absence of the clause boundary CP is not sufficient. Consider (80):

(80) … omdat Jan vaak besloot Marie te bezoeken
    because Jan often decided Marie to visit
    ‘…because Jan often decided to visit Marie.’
    not: ‘because Jan decided to visit Marie often.’
Although besluiten ‘decide’ is a third construction verb, and embedded clause adverbs may precede the matrix verb in the third construction, vaak ‘often’ in (80) cannot be interpreted as modifying the embedded clause. The generalization seems to be that an adverb which precedes the matrix verb may be interpreted as modifying the embedded clause only if the embedded internal argument precedes the matrix verb as well.\footnote{Or, as shown in 6.4, if the embedded verb does not have an internal argument.}

Thus, it seems that transparency in adverb placement depends on transparency with respect to the position of the internal argument. Is restructuring in Dutch then graded after all? This would make sense if adverbs are systematically licensed lower in the tree structure than objects, presupposing the hypothetical clause structure ObjectP > AdvP, where ObjectP is the functional projection which licenses objects, and AdvP the one which licenses adverbs. If something like this hypothetical structure were correct, then we correctly predict that an infinitival complement of the form ObjectP is not transparent with respect to adverb placement, because the adverb can be licensed internal to the embedded clause.

But the hypothetical clause structure cannot be correct, because adverbs and arguments are not ordered with respect to each other; any adverb may precede or follow the (definite) object in Dutch. We therefore suggest another explanation for the correlation between the position of the embedded internal argument and adverb placement. We propose that their position is restricted by the same factor, namely the presence of a locality boundary.

If Chomsky (2000 et seq.) is correct, then locality domains are defined by the presence of a phase head. According to Chomsky, CP is not the only locality boundary in the clause; in certain circumstances, $v$ is also phase head, hence $vP$ may be a locality boundary. If object licensing involves accusative case licensing, then the relation between $vP$ and the position of the object is clear. In fact, we will propose in chapter 6 that $v$ in Dutch is a phase head precisely when it checks accusative case. We will develop an account of adverb placement which is sensitive to the presence of a phase boundary. This derives the correlation between adverb placement and long raising to object. In the same way, we analyze the other placement effects as dependent on the absence of the $v$ phase head in the embedded clause.

The account will rely heavily on the phase structure of the sentence. Since $v$ is not overt, the presence of a $v$ phase head can only be established indirectly. As we relate phase status in Dutch to case licensing, the availability of the external argument is only evidence for a $v$ head, not for a $v$ phase head. In other words, we read off the phase status of the embedded $v$ from the position of the internal argument. For this to be a reliable diagnostic, we have to be sure that the embedded internal argument is in the position in which it is licensed. Thus, we have to be sure that examples like (81) involve long raising to object:

\begin{quote}
(81) … omdat Jan zijn huis besloot te verkopen
\hspace{1cm} because Jan his house decided to sell
\hspace{1cm} ‘…because Jan decided to sell his house.’
\end{quote}
The next chapter is devoted to justifying this analysis, after which develop our account of transparent infinitivals in chapter 6.
5 On case in transparent constructions

Now we finally turn to a question we have postponed so far. We have seen evidence for the presence of the vP-projection with various classes of verbs, both in the clustering construction and in the third construction. We have also seen evidence for the presence of other functional projections. It would seem that we may therefore straightforwardly assume that the complement clause has the capacity to check accusative case on the internal argument of the embedded verb in the third construction and some of the clustering constructions. In this chapter, we discuss several reasons why we do not believe that the presence of vP necessarily means that the embedded internal argument checks case with the same vP.

The chapter is organized as follows. In 5.1, we discuss the status of the position of the embedded internal argument. We demonstrate that there is no reason to assume that this would not be a case position. We then show in 5.2 that the embedded internal argument occupies a position in the matrix clause in transparent constructions, excluding an analysis in which the embedded internal argument is internal to a preverbal evacuated complement clause.

5.1 DP is in a case position

In this paragraph, we present five arguments that those embedded clause elements which precede the matrix verb are in a position which is essentially the same as the position occupied by such elements in a simple clause. The evidence comes from the obligatoriness of the word order pattern (5.1.1), the absence of a contrastive interpretation (5.1.2), idioms (5.1.3), information structure (5.1.4), and binding (5.1.5). We summarize the arguments in 5.1.6.

5.1.1 DP precedes the matrix verb obligatorily

Let us recapitulate the various structures that we have arrived at. These are shown in Table 13:

<table>
<thead>
<tr>
<th>Obligatory transparency</th>
<th>Optional transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td>modal verbs</td>
<td>TP (some cases)</td>
</tr>
<tr>
<td>aspectual 1</td>
<td>VP or vP</td>
</tr>
<tr>
<td>aspectual 2</td>
<td>vP</td>
</tr>
<tr>
<td>ECM-verbs</td>
<td>vP</td>
</tr>
<tr>
<td>raising verbs</td>
<td>TP</td>
</tr>
<tr>
<td>control 1</td>
<td>VP or vP</td>
</tr>
<tr>
<td>control 2</td>
<td>vP</td>
</tr>
<tr>
<td>strong implicatives</td>
<td>weak implicatives</td>
</tr>
<tr>
<td>irrealis verbs</td>
<td>irrealis verbs</td>
</tr>
<tr>
<td>propositional</td>
<td>other</td>
</tr>
<tr>
<td>VP or vP</td>
<td>VP or vP</td>
</tr>
</tbody>
</table>

Table 13: The structure of transparent complements
‘Aspectual 1’ verbs are the verbs of manner of motion and posture, which express duration, e.g. lopen ‘walk’, zitten ‘sit’ (cf. 3.2.3.1). The other aspectual verbs, e.g. gaan ‘go’, blijven ‘stay, continue’ are labeled ‘aspectual 2’ (cf. 3.2.3.2). The control verbs are also divided into two classes; the strong implicative verbs (cf. 3.2.6.1) like weten ‘manage’ belong to ‘control 1’, and the others, like proberen ‘try’ are grouped under ‘control 2’ (cf. 3.2.6.2).

The ‘control 2’ class is particularly relevant. We have argued that these verbs take a bare VP-complement on their clustering use. This means that we can be sure that the embedded internal argument in such a construction cannot check case in the complement, and we assume that it gets licensed in the matrix clause:

(1) … omdat Jan Marie de auto heeft [ helpen [ VP repareren t, ]] because Jan Marie the car has help-INF repair
‘…because Jan has helped Marie repair the car.’

We assume that the position in which a DP is licensed is an A-position. Thus, A-positions are positions in which a thematic role is assigned or in which an argument is licensed. If an argument-DP occupies a position in which it does not receive a thematic role and in which it is not licensed as the subject or object, we assume it is in an A’-position. Hence, we assume that de auto ‘the car’ in (1) is in an A-position.

The verbs under ‘aspectual 2’ and the ECM-verbs are also relevant, because in these classes we can be sure that the complement contains vP. If we assume that blijven ‘stay, continue’ is a raising verb, then the matrix subject Jan in (2)a originates as the agent of opzoeken ‘visit’ in the embedded clause. Similarly in (2)b: the agent of the embedded predicate aaien ‘pet’ is Marie. The presence of the external argument is indicative of the presence of vP, so we know that the embedded clause is at least a vP:

(2) a. … omdat Jan Piet altijd is blijven [ vP (t, )] opzoeken t, ] because Jan Piet always is stay-INF visit
‘…because Jan continued to visit Marie.’

b. … omdat Jan Marie de hond zag [ vP (t, ) aaien t, ] because Jan Marie the dog saw pet
‘…because Jan saw Marie pet the dog.’

This would lead us to suppose that the embedded internal arguments Piet and de hond ‘the dog’ check case with the embedded vP. Nevertheless, the internal arguments of the verbs opzoeken ‘visit’ and aaien ‘pet’ precede the matrix verb obligatorily; they are ungrammatical in the expected position [spec, vP] in the embedded clause:

1 The word order would be explained if we assumed that the complement clause actually precedes the matrix verb, and the infinitive somehow ends up to the right of it. We argue against such an approach in 5.2.
The fact that these elements must precede the matrix verb makes it unlikely that they would move into the matrix clause by some kind of A’-movement. As we illustrate in the following sections, the properties of the embedded argument also argue against an analysis in terms of A’-movement. In all instances, the embedded internal argument of an ECM-verb, a third construction, and a VP-complement show the same behavior.

Granting, for the moment at least, that the embedded internal arguments are really in the matrix clause, we may have to assume that their matrix position is explained by their licensing requirements; that is, that the DPs are licensed in the matrix clause. We assume that the formal licensing of DPs involves checking of a case feature. As a consequence, we have to assume that the presence of vP in the embedded clause does not entail that the embedded vP checks accusative case on the internal argument.\(^2\)

### 5.1.2 No interpretive effect

If the DP which precedes the matrix verb in a transparent infinitival construction is not in its licensing position, then we may assume that it comes to precede the matrix verb through A’-movement. In early works on scrambling, it has been proposed that scrambling generally involves a sequence of two movements, first an A-movement and then an A’-movement (cf. Vanden Wyngaerd 1989, Mahajan 1990, among others):

(4) … omdat Jan die jongen\(_i\) op het feest (t\(_i\)) heeft t\(_i\) ontmoet\(^3\)

because Jan that boy on the party has met

‘…because Jan met that guy on the party.’

Nothing rules out a derivation in which a DP first moves into its case position, then the adjunct is merged onto the structure, and lastly, the DP undergoes a second movement, across the adjunct. But we cannot be sure about the position of the DP. It may involve two movement steps, but it also possible that the DP moves across the adjunct in one step; hence the brackets around the intermediate trace.\(^4\)

\(^2\) We elaborate on this point in chapter 6.

\(^3\) Note that we assume a head-initial VP. The trace in the base position in (4) is preverbal because Vanden Wyngaerd (1989) assumes a head-final VP.

\(^4\) Neeleman (1994) investigates the properties of scrambling and Dutch and concludes that the DP is in an A-position even if it precedes an adjunct. A’-properties may only be observed in the case of focus scrambling, in which case the argument precedes the subject.
To find out whether there is evidence for an A’-movement step in (4), we compare this example with two constructions in which we can be sure that the DP moves out of its licensing position, and hence, in which it undergoes A’-movement. We then demonstrate that the DP in a transparent infinitival construction has different properties.

5.1.2.1 Movement out of a finite clause

First, consider (5), in which the DP moves into the middle field of the higher clause, so we can be sure that there is an intermediate trace in the embedded clause:

(5) a. ... omdat Jan de jongen, zegt dat hij t_k' heeft ontmoet t_k because Jan that boy says that he has met ‘...because Jan says that he has met THAT guy (not the other one).’
   b. ... omdat Jan een MEISJE zegt dat hij heeft t_k' ontmoet t_k because Jan a girl says that he has met ‘...because Jan says that he has met a GIRL (not a BOY).’

We assume that movement out of the finite clause into the higher clause is A’-movement. Note the interpretational effect: a DP which moves into the higher clause, must be pronounced with emphasis and is interpreted as contrastive; a DP which precedes an adjunct in a simple clause need not be.

Note also that although the interpretation of the indefinite in (5)b is not neutral, it does not receive a strong (specific or generic) reading. Movement out of a finite clause seems to behave different than clause-internal ‘scrambling’ in this respect, but the difference is apparent, as we will see:

(6) a. ... omdat Jan vaak een liedje fluit because Jan often a song whistles ‘...because Jan often whistles a song.’
   b. ... omdat Jan een liedje vaak fluit because Jan a song often whistles ‘...because Jan often whistles a particular song.’

The position of an indefinite DP determines its interpretation. If an indefinite object DP is adjacent to the verb, it may receive an existential interpretation. If it is separated from the verb by an adjunct, the existential interpretation is unavailable (Diesing 1992, De Hoop 1992; but see Zwart 1993, 1997). In (6)a, Jan may have the habit of whistling, but it might be a different song every time. This interpretation is not available if the object precedes the adverb. The indefinite may be interpreted as specific in (6)b, such that there is one particular song that Jan whistles, or as generic, in which case it expresses that what Jan does with songs is whistle them.

The contrast in (6) has been analyzed in various ways. According to the Mapping Hypothesis (Diesing 1992), the object is in its base position in the VP in

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5 We ignore movements to the CP-domain like topicalization and wh-movement.
(6)a, but scrambles out of it in (6)b. As a consequence, at the level of interpretation, it is outside of the domain of existential closure, the VP, which excludes the existential interpretation in (6)b.

This analysis elegantly accounts for the contrasting interpretations. But if we look into the facts in more detail, it turns out that it is too simple. Diesing’s (1992) examples involve adverbs like ‘often’. The contrast is quite sharp with these adverbs, but if a different adjunct is used, the contrast is much less sharp, and sometimes non-existent (Zwart 1993; Ter Beek 2006):

(7) a. Jan neemt regelmatig een aankoop zonder te betalen mee
   Jan takes often a purchase without to pay with
   ‘Jan often takes home a purchase without paying for it.’

b. Jan heeft al drie keer een tas in het park gevonden
   Jan has already three time a bag in the park found
   ‘Jan has found a bag in the park three times already.’

The adjuncts zonder te betalen ‘without paying’ and in het park ‘in the park’ mark the edge of VP. The fact that the indefinites precede an adjunct demonstrates that they have moved out of VP in these instances as well, yet the existential interpretation is possible; Jan may well steal a different (kind of) product every time, and he probably found a different bag on every occasion.

Furthermore, Diesing’s (1992) Mapping Hypothesis could not work if the VP is assumed to be head-initial (Zwart 1993), because on such an analysis, an object DP moves out of the VP in all cases. On this view, the derivations of (6) do not differ in the number of movements; in both examples, the object undergoes one movement to the left. The absence of scrambling in (6)b and its presence in (6)a are then apparent; the only difference is that the indefinite moves out of the VP before the adverb is merged in (6)a, but after merger of the adverb in (6)b. On this analysis, it is possible to maintain that all objects in the middle field necessarily occupy their licensing position, with their strong or weak interpretation determined by different factors.

For this reason, we assume that the interpretation of an indefinite as weak or strong is not related to whether it occupies an A- or A’-position, or whether it occupies the base position or a derived position. Taking (5) as the uncontroversial example of a DP in A’-position in the middle field, we may conclude that such DPs are interpreted contrastively.

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6 The particle mee ‘with’ marks the base position of V (Koster 1975); therefore the adjunct could not be right peripheral.

7 Possibly, the intonation pattern of the sentence determines whether an indefinite receives a strong or weak interpretation; see Zwart (1995).

8 Note also that indefinites tend to receive a strong interpretation in the subject position, and a weak interpretation in there-constructions. This argues against associating a strong interpretation with A’-positions.
5.1.2.2 Focus scrambling

Second, consider focus scrambling (Neeleman 1994):

(8) … dat zulke boeken zelfs Jan niet koopt
    that such books even Jan not buys
    ‘…that even Jan wouldn’t buy such books.’
    (Neeleman 1994; 84)

Focus scrambling is different from the kind of scrambling which accounts for the variation in the position of arguments with respect to adjuncts. Focus scrambling may alter the order of the arguments, as in (8), which is an indication that it involves A’-movement. The presence of focus markers like zulke ‘such’ and zelfs ‘even’ facilitates the interpretation of focus scrambling. Without such markers, the order is in fact ungrammatical:

(9) * … dat de boeken, Jan niet koopt
    that the books Jan not buys
    ‘…that the books, Jan does not buy.’
    (Neeleman 1994; 84)

The term ‘focus scrambling’ needs some comment. This term suggests that what is scrambled is the focus. However, if the topic presents old information, and the focus new information, it seems that the focus actually stays in situ, while the topic moves around it. Consider (11), in the context of (10):

[I don’t believe that Piet bought a doctor novel.]
(10) Piet zou nooit zulke boeken kopen!
    Piet would never such books buy
    ‘Piet would never buy such books!’

(11) (Ik durf te stellen) dat zulke boeken zelfs Jan niet koopt!
    I dare to state that such books even Jan not buys
    ‘I would even say that such books, even Jan would not buy.’

(11) seems most natural as a response to an utterance like (10). That is, in a context which the moved element is already present in the discourse, and the in situ element is presented as an alternative to an element in the preceding utterance. Zelfs ‘even’ invokes a scale, in this case, a scale which ranks people according to their likeliness to buy a doctor novel. Jan is established as the most likely person to buy such a book. In this sense, Jan is the new information, hence focus, and zulke boeken ‘such books’ is old information, hence topic.

The requirement that focus scrambling is marked by focus markers also needs some comment. It seems to be the case that a focus marker is more strongly required for the element that stays in situ than for the moving element:
There is a contrast between (12)a and (12)b. In (12)a, the subject carries the focus marker *zelfs* ‘even’. The object, which has undergone focus scrambling, does not carry any focus marker, and the example is relatively acceptable. (12)b, in which the object carries the focus marker *zo* ‘such’, and the subject is not preceded by any marker, is much less acceptable, and even ungrammatical if the object is not pronounced with emphasis. The fact that the focus marker may be dropped on the moving element, but not on the in situ element, suggests that what we have called focus scrambling, is actually topicalization across focus. We might therefore argue that topicalization and focus scrambling are the same operation, differing only in the status of the in situ focus. We do not pursue this unification, because there are some differences between the two operations. For instance, an object may be moved across the subject in embedded clauses in focus scrambling (13)b, but ordinary topicalization of the object is excluded in embedded clauses (13)a:

(13) a. * ... dat Marie Jan gisteren kuste*  
    that Marie Jan yesterday kissed  
    ‘...that Marie, Jan kissed yesterday.’  
  
   b. * ... dat Marie zelfs Jan gisteren niet kuste*  
    that Marie even Jan yesterday not kissed  
    ‘...that Marie, even Jan didn’t kiss yesterday.’  

(Zwart 1993; 246)

For this reason, we continue to assume that although there is an element of topicalization present in focus scrambling, topicalization and focus scrambling are different operations. The important point to note is that focus scrambling requires a certain context, in which the element undergoing the focus scrambling is already present in the discourse.

### 5.1.2.3 The status of DP preceding the matrix verb

We have shown that in clear cases of A'-movement in the middle field, the DP in A'-position does not receive a neutral interpretation. In movement out of a finite clause, the DP is contrasted, and also in focus scrambling the DP is already established in discourse.

We now demonstrate that these interpretive effects are absent in transparent infinitival clauses. This is not surprising in the case of VP-complements. Since the
embedded clause fails to license the DP, its movement into the matrix clause may be assumed to be A-movement:

\[(14)\]

a. … omdat Jan Marie de auto heeft helpen \[vp repareren\]
   because Jan Marie the car has help,INF repair
   ‘…because Jan helped Marie repair the car.’

b. … omdat Jan Marie altijd een liedje heeft helpen \[vp uitzoeken\]
   because Jan Marie always a song has help,INF pick
   ‘…because Jan always helped Marie pick a song.’

The interpretive effects of focus scrambling and movement into the higher clause (cf. (5)) are absent. The sentence does not have the particular intonation contour associated with focus scrambling, and no focus markers are required. Furthermore, *de auto* ‘the car’ and *een liedje* ‘a song’ do not have to be pronounced with emphasis, and there is no implication that the listener was under the impression that Jan helped Marie repair something other than the car (say the clock) or pick something other than her song (say her costume – imagine a context in which Marie frequently sings in talent shows), so it behaves differently from movement out of a finite clause into the higher clause. Of course, if the DP moves into the matrix clause to satisfy its licensing requirements, then such interpretational effects are not expected.

But we would expect such effects for ECM-verbs, because if the embedded vP licenses the embedded internal argument, the movement into the matrix clause must have a different motivation. However, the embedded internal argument in an ECM-construction behaves exactly like the one in (14):

\[(15)\]

a. … omdat Jan Marie het boek ziet lezen
   because Jan Marie the book sees read
   ‘…because Jan sees Marie read the book.’

b. … omdat Jan Marie iedere dag een liedje hoort zingen
   because Jan Marie every day a song hears sing
   ‘…because Jan hears Marie sing a song every day.’

(15)b is perfectly acceptable in a context in which Jan hears Marie sing a different song every day, so the existential interpretation is available. Also, *een liedje* ‘a song’ and *het boek* ‘the book’ are not contrastive, as in movement out of a finite clause; it is not implied that the listener is under the impression that Marie reads something other than a book, or sings something other than a song. Focus markers or a particular intonational contour are also absent, which excludes focus scrambling.

Finally, we get the same interpretation in the third construction. Both definites and indefinites behave like in simple clauses. The existential interpretation is available in the extraposition construction if the indefinite follows the adverb (16)a: it is possible that Jan asks a different girl out on every occasion. If the indefinite precedes the adverb, as in (16)b, the existential interpretation is lost: Jan is now considering asking the same girl out more often:
(16) a. … omdat Jan besloot vaker een meisje uit te vragen
   because Jan decided more-often a girl out to ask
   ‘…because Jan decided to ask a girl out more.’
b. … omdat Jan besloot een meisje vaker uit te vragen
   because Jan decided a girl more-often out to ask
   ‘…because Jan decided to ask a certain girl out more.’

This pattern is reproduced in the third construction:

(17) a. … omdat Jan vaker een meisje besloot uit te vragen
   because Jan more-often a girl decided out to ask
   ‘…because Jan decided to ask a girl out more.’
b. … omdat Jan een meisje vaker besloot uit te vragen
   because Jan a girl more-often decided out to ask
   ‘…because Jan decided to ask a certain girl out more.’

As long as the indefinite follows the adverb (17)a, the existential interpretation is available. If it precedes the adverb (17)b, the existential interpretation is lost, and a specific interpretation is forced. The fact that the indefinite is separated from the theta role assigning verb by the matrix verb does not seem to matter.

Furthermore, a definite DP does not have to be interpreted as contrastive in the third construction; this interpretation is only forced when the DP moves out of a finite clause:

(18) a. … omdat Jan dat huis besloot te kopen
   because Jan that house decided to buy
   ‘…because Jan decided to buy that house.’
b. … omdat Jan DAT huis besloot dat hij zou kopen
   because Jan that house decided that he would buy
   ‘…because Jan decided to buy THAT house (not the other one).’

Similarly for indefinites:

(19) a. … omdat Jan een huis besloot te kopen
   because Jan a house decided to buy
   ‘…because Jan decided to buy a house.’
b. … omdat Jan een HUIS besloot dat hij zou kopen
   because Jan a house decided that he would buy
   ‘…because Jan decided to buy a HOUSE (not an apartment).’

Movement out of a finite clause requires emphasis on the DP. The construction in (19)b is slightly degraded, and the DP is contrasted. In the third construction (19)a, no emphasis is needed, and ‘a house’ is not contrasted with any other potential purchase, nor need there be a particular house.
Finally, we note that the different classes of third construction verbs all behave in the same way; replacing the irrealis verb *besluiten* ‘decided’ with a propositional verb or an implicative verb gives the same results.\(^\text{10}\)

The fact that all the transparent structures receive the same interpretation suggests that they should receive the same analysis. But if we assume that the preverbal position of the object DP associated with a VP-complement is explained by the licensing requirements of the DP, then we are forced to adopt the same analysis for vP (and larger) complements. This suggests that the representation in (20) is not correct, and we may consider (21) instead:\(^\text{11}\)

That is, since we cannot assume that the DP undergoes an intermediate movement within the embedded clause in the case of VP-complements, we cannot assume such a movement step in infinitival clauses like (20) either. Therefore, we reject (20) in favor of (21), in which the DP moves in one fell swoop:

\(^\text{10}\) With the exception of *wagen* ‘dare, venture’, the existential interpretation is only marginally available with the implicative verbs. We suppose this is related to the fact that apart from *wagen* ‘dare’, the implicative third construction verbs happen to be downward entailing. The irrealis verb *verbieden* is downward entailing, and shows the same judgments. Furthermore, the implicative clustering verbs are not downward entailing, and the existential interpretation is available with those. We leave an account of these observations for further research.

\(^\text{11}\) For expository reasons, the movement of the matrix clause subject is not represented. The analysis in (20)b and (21)b will be revised in chapter 6, where it is proposed the PRO is also licensed in the matrix clause.
The absence of any interpretational effects in the transparent word order suggests that transparency does not involve any kind of A’-movement. But in this representation, the DP does not make an intermediate landing in what looks like a case checking position. This is exactly what we argue in 6.2.3: the embedded v does not check case on the embedded internal argument.

We have shown that in clustering constructions as well as in the third construction, indefinites, and definites, for that matter, behave as if they were in a simple clause. We believe that these facts argue against a derivation in which the DP moves in two steps, one moving it into its case licensing position in the embedded vP, and with a second movement into the matrix clause. This implies that in spite of the presence of a v in the complement clause in the third construction and some of the clustering constructions, case need not be licensed by this v.\textsuperscript{12}

\textbf{5.1.3 \hspace{1em} Idioms}

The interpretation of parts of idioms is strongly determined by word order. The idiomatic interpretation is lost if the DP precedes an adjunct:

\textsuperscript{12} This is also argued in Zwart (2001).
(22) a. … omdat Jan in het park de zak kreeg
   because Jan in the park the sack got
   ‘…because Jan got sacked in the park.’
   b. … omdat Jan de zak in het park kreeg
   because Jan the bag in the park got
   ‘…because Jan got the bag in the park.’

(23) a. … omdat Jan zonder reden de zak kreeg
   because Jan without reason the sack got
   ‘…because Jan got sacked for no reason.’
   b. … omdat Jan de zak zonder reden kreeg
   because Jan the bag without reason got
   ‘…because Jan got the bag for no reason.’

Movement into a higher clause has the same effect:

(24) a. … omdat Jan zei dat hij de zak zou krijgen
   because Jan said that he the sack would get
   ‘…because Jan said that he would be sacked.’
   b. … omdat Jan de ZAK zei dat hij zou krijgen
   because Jan the bag said that he would get
   ‘…because Jan said that he would get the BAG (not the SUITCASE).’

The DP is pronounced with emphasis in (24)b, and it is interpreted as contrastive. A literal interpretation results. 13

Finally, focus scrambling is not possible for idiomatic DPs:

(25) a. … omdat zelfs Jan de zak zou krijgen
   because even Jan the sack would get
   ‘…because even Jan would get sacked.’
   b. … omdat de ZAK zelfs Jan zou krijgen
   because the bag even Jan would get
   ‘…because even Jan would get the bag.’

As before, we assume that focus scrambling and cross-clausal movement out of the finite clause involve at least two movement steps; one from the base position to the licensing position in the embedded clause, and from there, further movement to its surface structure position.

The transparent constructions allow the idiomatic interpretation:

(26) a. … omdat Jan Marie de zak heeft helpen krijgen
   because Jan Marie the sack has help get
   ‘…because Jan has helped Marie get sacked.’

13 The idiomatic interpretation is also lost when the DP is pronounced with emphasis in (24)a, but as emphasis is not required there, the idiomatic interpretation is available as well.
b. ... omdat Jan Marie de zak heeft zien krijgen
   because Jan Marie the sack has see get
   ‘...because Jan has seen Marie get sacked.’

(27) a. ... omdat Jan de zak beweert te krijgen
   because Jan the sack claims to get
   ‘...because Jan claims to get sacked.’
   
b. ... omdat Jan Marie een loer besloot te draaien
   because Jan Marie a lurk decided to turn
   ‘...because Jan decided to play a nasty trick on Marie.’

If these constructions involve multiple movement steps, it is unclear what drives
movement of the idiomatic DP from its licensing position in the embedded clause
into the matrix clause. It is also unclear why the latter movement does not have any
interpretive effect. These puzzles are avoided if we assume that there is just a single
movement; that is, there is no licensing position in the embedded clause:

(28) because Jan Marie the sack, has help [VP get t]
    because Jan Marie, the sack, has see [vP t to VP get t]
    because Jan Marie a lurk, decided [to turn t]
    because Jan the sack, claims [to get t]

5.1.4 Information structure

In an all-new context, the entire sentence is in focus. The focus of a sentence always
contains the most prominent element, which, according to Cinque (1993), is the
most deeply embedded constituent of that phrase:

(29) [CP John [VP [DP MARY]]]

Hence, if the nuclear stress is on Mary, the focus is either Mary, the VP, or the entire
sentence, since in all instances the most deeply embedded constituent is ‘Mary’.

Assuming an OV-base order, the same explanation holds for Dutch:

(30) [CP Jan eet [VP [DP een BROODJE] t]]
    Jan eats a sandwich
    ‘Jan is eating a sandwich.’

Whether the verb undergoes verb second or stays in its base position, the object is
the most deeply embedded element, and hence, carries the nuclear stress if it is part
of the focus. If we assume a VO-base order, however, the object is the most deeply
embedded constituent in the base generated structure, but not in the surface structure.
Nevertheless, the focus in (30) may be the object, the VP or the entire sentence, just
like in the English (29). Apparently, the theory must be adjusted to allow for focus to project from the object even if it is not the most deeply embedded constituent.

Clearly, the conditions under which the object may be the most prominent element, but not the most deeply embedded constituent of the focus need to be defined more precisely. For instance, object movement out of a finite clause is not acceptable in an out of the blue context:

[What happened?]

(31) a. # Jan zegt net dat Piet Harry Potter beweert dat hij heeft gelezen Jan says just that Piet Harry Potter claims that he has read
   ‘Jan just said that Piet claims that he has read Harry Potter.’

   b. Jan zegt net dat Piet beweert dat hij Harry Potter heeft gelezen Jan says just that Piet claims that he Harry Potter has read
   ‘Jan just said that Piet claims that he has read Harry Potter.’

Even though the object is the most prominent element, and it is the most deeply embedded constituent in its base position, the word order in (31)a is not compatible with sentence wide focus.

We will not undertake the task of explaining why sentence wide focus is possible after clause internal movement of DP to the preverbal position, but not after movement out of a finite clause. We merely note that a verb cluster or third construction is acceptable in an all-new context:

[What happened?]

(32) a. Jan heeft Marie een taart helpen bakken
   Jan has Marie a pie help.bake
   ‘Jan has helped Marie bake a pie.’

   b. Jan heeft Marie een taart zien bakken
   Jan has Marie a pie see.bake
   ‘Jan has seen Marie bake a pie.’

   c. Jan heeft Marie een taart gevraagd te bakken
   Jan has Marie a pie asked to bake
   ‘Jan has asked Marie to bake a pie.’

14 Examples (32)c–d are not fully acceptable. The third construction is more readily accepted in the present tense than in the perfect, for reasons which we do not understand. A better example would be an embedded clause. In the following context, (i) is fine:

[Everybody’s laughing. Pete comes in and asks what’s up. Bill says everyone is laughing…]

(i) … omdat Jan een kabouter beweert te hebben gezien
   because Jan a gnome claims to have seen
   ‘…because Jan claims to have seen a gnome.’
d. Jan heeft een KABOUTER beweerd te hebben gezien
   Jan has a gnome claimed to have seen
   ‘Jan has claimed to have seen a gnome.’

The third construction behaves exactly like the corresponding extraposition
construction, which is also acceptable in an all-new context:

[What happened?]  
(33) a. Jan heeft Marie gevraagd een TAART te bakken
      Jan has Marie asked a pie to bake
      ‘Jan has asked Marie to bake a pie.’

b. Jan heeft beweerd een KABOUTER te hebben gezien
   Jan has claimed a gnome to have seen
   ‘Jan has claimed to have seen a gnome.’

Whatever the ultimate explanation for these facts, it looks like the embedded
internal argument of a transparent construction has the same properties as the
internal argument of a simple clause. This makes it unlikely that the transparent
word order would be derived by some kind of A’-movement.

5.1.5 Binding

Generally, A-movement creates a binding configuration, but A’-movement does not:

(34) a. Jan en Marie zijn door elkaar opgegeven voor de wedstrijd
      Jan and Marie are by each other enrolled for the contest
      ‘Jan and Marie were enrolled in the contest by each other.’

b. * Aan Piet en Marie heeft Jan elkaar voorgesteld
   to Piet and Marie has Jan each other introduced
   ‘To Piet and Marie, Jan introduced each other.’

The internal argument Jan and Marie in (34)a does not c-command the by-phrase in
its VP-internal base position, but it does after moving into the subject position. From
this derived position, it may bind the reciprocal in the by-phrase. In (34)b, the
indirect object does not c-command the reciprocal in its case position, but after
topicalization, it does. However, binding is not possible in this position. Note that
binding from a PP is not impossible:

(35) (?) Door Joop werd alleen zichzelf geprezen
      by Joop was only himself praised
      ‘By Joop, only himself was praised.’
      (De Vries 1998: 150)

Thus, A-movement creates new binding possibilities, but A’-movement does not.
In this respect, word order variation in the middle field patterns with
A-movement; an object may bind an anaphor embedded in an adjunct:
(36) We hebben (* in zijn eigen huis) Jan, ( in zijn eigen huis) bezocht.
we have in his own house Jan in his own house visited
'We visited Jan in his own house.'

This is predicted if the internal argument moves from its postverbal base position into the position preceding the adjunct in one fell swoop.

The transparent constructions behave in the same way. An argument of the embedded verb may bind into a matrix clause adjunct:

(37) a. Jan kon Marie in haar eigen kamer onder de douche horen zingen
Jan could Marie in her own room under the shower hear sing
'Jan could hear Marie sing in the shower from her own room'

b. Jan heeft Marie in haar eigen kamer leren negeren
Jan has Marie in her own room learn ignore
'Jan learned how to ignore Marie in her own room.'

If the complement to a clustering verb like leren ‘learn, teach’ is a bare VP, then the complement in (37)b does not contain a case position for the internal argument Marie. It is likely that its preverbal position is due to A-movement, and it is predicted that it may bind into a matrix clause adjunct. This is borne out: it is more plausible that in haar eigen kamer ‘in her own room’ modifies the place in which Jan learned to ignore Marie; it is unlikely that he would acquire the skill to ignore Marie in her room, while acknowledging her in other places. Similarly for (37)a: the matrix predicate is modified by the locational PP; ‘in her own room’ is the place where Jan perceived the singing, not the location at which it took place, because Marie was singing in the bathroom. Marie is the external argument of zingen ‘sing’, so it is base generated in the embedded [spec, vP], and undergoes movement into the matrix clause. From its derived position, Marie may bind the variable in the adjunct. Hence, the movement into the matrix clause shows the same properties as clause internal scrambling in the middle field.

This not only holds for verbal clusters. We also see it in the third construction:

(38) a. * … omdat Jan in haar eigen kamer verklaarde Marie, te bewonderen
because Jan in her own room stated Marie to admire
‘…because in her own room, Jan stated that he admired Marie.’

b. … omdat Jan Marie, in haar eigen kamer verklaarde te bewonderen
because Jan Marie in her own room stated to admire
‘…because Jan stated that he admired Marie in her own room.’

On the intended interpretation, ‘in her room’ is the location of Jan’s statement; Jan admires Marie independently of where she is. The variable cannot be bound in (38)a, in which the binder does not c-command the variable, but it can in (38)b, in which
Marie is in the matrix clause. This shows that the DP in the third construction behaves exactly like the DP in a verbal cluster and the DP in a simple clause. We take this as evidence that the movement into matrix clause does not reflect any kind of A’-movement.

5.1.6 Summary

In this section, we have considered the properties of the embedded internal argument in a number of constructions. We have seen that the DP has the same properties in the two transparent constructions. That is, idiomatic DPs and existential indefinites may precede that matrix verb in both a verbal cluster and the third construction. Also, the DP may bind an adjunct from its preverbal position in a verbal cluster and the third construction, and both constructions are acceptable in an all-new context. Based on these similarities, we suggest that the two kinds of constructions should be analyzed in the same way. Since we know that some verbal clusters involve VP-complements, we must assume that the preverbal position of the embedded internal argument reflects A-movement in these cases. Furthermore, as the properties of the embedded internal argument are exactly the same in verbal clusters in which we know a vP-layer is present, we may assume that the preverbal position of the embedded argument in these constructions is also due to A-movement, despite the fact that these complements potentially contain a case position. Finally, the properties of the embedded internal argument in the third construction are exactly like those in ECM-constructions and other verbal clusters. We may again assume A-movement, and again, in spite of the apparent presence of a case position in the complement clause.

5.2 DP is in the matrix clause

So far, we have assumed that the head-initial structure of the Dutch VP is correct. This clause structure has important implications for our analysis of infinitival complementation. We will therefore spend some time on justifying our position.

One important argument in favor of the head-initial VP comes from the Linear Correspondence Axiom (LCA) (Kayne 1994). Unlike DP objects, clausal complements must follow the matrix verb.  

\[
\begin{align*}
\text{(39)} & \quad \text{a. } \ldots \text{ omdat Jan dacht dat Piet ziek was} \\
& \quad \text{because Jan thought that Piet ill was} \\
& \quad \text{‘…because Jan thought that Piet was ill.’} \\
\end{align*}
\]

\[
\begin{align*}
\text{b. } & \quad \text{…” omdat Jan dat Piet ziek was dacht} \\
& \quad \text{because Jan that Piet ill was thought} \\
& \quad \text{‘…because Jan thought that Piet was ill.’}
\end{align*}
\]

15 Finite factive clauses may also precede the matrix verb (Barbiers 2004).
If (39)a represents the base order, then no rightward is necessary to account for the postverbal position of the complement clause (Zwart 1993, 1994). The preverbal position of DP objects is not problematic, because leftward movement is not excluded by the LCA.

However, the head-initial analysis leads to a paradox in the analysis of infinitival complements. The head-initial structure forces us to analyze (40) as involving movement of the DP ‘het boek’ into the domain of the matrix verb.

(40) … omdat Jan het boek heeft proberen te lezen
because Jan the book has try.INF to read
‘…because Jan tried to read the book.’

This is indeed what has been proposed (Zwart 1993), and what is predicted if restructuring effects indicate deficiency of the infinitival complement (Wurmbrand 2001). Assuming that the infinitival complement in (40) is a bare VP is not controversial, as the complement to proberen ‘try’ is not tensed and there is some evidence that it does not project a PRO subject (cf. 3.2.6.2). But the absence of an accusative case-licenser is more controversial for some of the other types of verbal clusters, and also for the third construction:

(41) … omdat Jan het boek morgen besloot te lezen
because Jan the book tomorrow decided to read
‘…because Jan decided to read the book tomorrow.’

(42) … because Jan [the book], tomorrow decided [MoodIRR to read t]

The derivation of (42) is paradoxical: on the one hand, we have argued that the infinitival complement is a MoodIRR P (4.3), but on the other (5.1), we have proposed that the movement in (42) is essentially the same movement that we see in examples of ECM and other verb clustering constructions (40). This would be surprising, because the presence of MoodIRR P in (42) suggests that functional heads lower than MoodIRR would also be present. Specifically, the presence of MoodIRR P suggests the presence of vP, hence the presence of the accusative case licensing head v. Moreover, we have seen evidence for the presence of the external argument PRO in the third construction with an irrealis verb, which also suggests that v is present. This implies that the case feature of the DP should be inactivated in the infinitival clause, rendering it invisible to any probe in the matrix clause, the presence of which is surprising enough by itself, given that many of the third construction verbs do not select DP arguments.

There are two possibilities to solve the paradox. The first possibility is that we are wrong about the properties of the DP in (42). It could be that despite appearances, the DP comes to precede the matrix verb through some kind of focus scrambling, and hence, is in an A’-position. However, we have shown in 5.1 that the properties of the DP are exactly those of the moved DP in a full restructuring construction or an ECM-construction. Moreover, we have seen that the DP does not
have any obvious A’-properties. Lastly, the internal argument of, for instance, a verb embedded under a raising verb surfaces to the left of the matrix verb obligatorily, again suggesting that no A’-movement is involved. By analogy, we presume that the third construction does not instantiate cross clausal A’-movement. If it would, we would expect the construction to alternate with a construction in which the A’-movement does not take place. The third construction indeed shows an alternation, but the raising construction does not. Given the similarities of the properties of the moved DP in the third construction and in verb clusters, we have to accept that the DP is in an A-position.

The second possibility is that we are wrong about the clause in which the DP sits. If we are willing to give up the head-initial analysis, then we could analyze the transparent word orders by rightward movement of the infinitive in the case of verbal clusters. The third construction might be analyzed as involving rightward movement of a subpart of the infinitival clause (43):  

$$ (43) \quad \text{CP} \quad \text{because} \quad \text{TP} \quad \text{Jan} \quad T \quad \nu \quad \text{vP} \quad \text{vP} \quad \text{VP} \quad \text{MoodIR} \quad \text{decided} \quad \text{t} \quad \text{to read} \quad \text{XPn} \quad \text{MoodIR'P} \quad \text{PRO} \quad \text{MoodIR'YP} \quad \text{the book} \quad t_0 \quad \text{t} $$

If we allow for preverbal complements, then we can maintain that the infinitival complement is as large as MoodIR'P, or TP in the case of propositional verbs. We can also maintain that the DP is in an A-position. The crucial difference between (43) and (42) is that the A-position is in the matrix clause in (42), but in the embedded clause in (43). Given what we know about restructuring, the analysis in (43) may be preferable to the one in (42), because the head-initial analysis presupposes cross-clausal A-movement out of a clause which is not supposed to be deficient concerning object licensing, while the head-final analysis presupposes clause-internal A-movement of the type commonly assumed for simple clauses. The challenge for (43) is to offer a plausible account for the position of the infinitive. So let us investigate some possibilities.

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16 I thank D. Pesetsky, A. Marantz and S. Wurmbrand, who independently suggested this possibility.
5.2.1 OV after all?

We discuss and reject three possible analyses to account for the word order in the third construction and the clustering construction, which assume that the DP does not move into the matrix clause.

5.2.1.1 Reanalysis and PF-inversion

Haegeman & Van Riemsdijk (1986) propose an analysis of verbal clusters and verb projection raising which makes use of PF-inversion, but in which it is also possible to separate elements contained in the same maximal projection. In this way, they can derive the orderings in (44):

(44) a. das er **en arie** hät1 wele2 chöne3 singe4
that he a aria has want can sing
b. das er hät1 **en arie** wele2 chöne3 singe4
that he has a aria want can sing
c. das er hät1 wele2 **en arie** chöne3 singe4
that he has want a aria can sing
d. das er hät1 wele2 chöne3 **en arie** singe4
that he has want can a aria sing

(all): ‘That he has wanted to be able to sing an aria.’
(Haegeman & Van Riemsdijk 1986; 428)

The DP *en arie* ‘an aria’ is the internal argument of the most deeply embedded verb *singe* ‘sing’. But the DP is separated from this verb in all the orders except (44)d. In order to account for these orders without assuming movement of the DP, Haegeman & Van Riemsdijk (1986) propose the following. The base order is as in (45):

(45) das er [[[en arie singe] chöne] wele] hät
that he a aria sing can want has

To account for the discontinuity of constituents, they propose that reanalysis may take place. The resulting structure may be the input to PF-inversion, which, in its turn, may be the input to another cycle of reanalysis. Reanalysis affects adjacent elements, but it may affect them at different levels. The orders in (44)b-d are derived by the same processes, but they differ in the size of the element that is reanalyzed. In this way, Haegeman & Van Riemsdijk (1986) succeed in accounting for the variation in the ordering of verbs and the position of the complement.

We could account for the alternation between the third construction and its extraposition counterpart in a similar fashion. Starting from the base order in (46), reanalysis could affect only the bare verbs (47)a. Inversion then yields the order in (47)b. Alternatively, no reanalysis could take place (48)a, and the matrix verb and its complement could invert, with the resulting order (48)b. Both are grammatical outputs:
However, an analysis along these lines is not without problems. First, the analysis resorts to two processes to account for the observed variation. The success of the analysis therefore relies on the extent to which these processes are independently justified. Simplicity of analysis argues against reanalysis. As we will see in 5.2.1.2, a combination of scrambling and PF-inversion derives the same orders as the combination of reanalysis and PF-inversion (Vanden Wyngaerd 1989; Broekhuis 1993). As the existence of scrambling is well motivated, this casts doubt on the existence of reanalysis.

Moreover, it has been shown that there are orderings which cannot be derived using reanalysis and inversion (Schoenenberger 1989), casting doubt on the feasibility of such a complex analysis.

### 5.2.1.2 PF-inversion

The second possibility also involves PF-movement. It has been established that reordering of the verbs in a verb clusters does not bring about any change in interpretation. (49)a and (49)b receive the same interpretation, and so do the examples in (50):

(49) a. … omdat Jan het boek heeft gelezen  
    because Jan the book has read

b. … omdat Jan het boek gelezen heeft  
    because Jan the book read has

(50) a. das de Jonas hat mües Schwimme  
    that the Jonas has must swim

These orders are found in dialects of Swiss-German. It is not clear whether these examples display the IPP-effect, because the past participle and the infinitive are homophonous in Swiss-German.
b. das de Jonas hält, schwimmt, müsste
that the Jonas has swim must
(both) ‘That Jonas has had to swim.’
(Wurmbrand 2005; 331)

For this reason, it has been proposed that the operations which establish the various orders, are not part of the narrow syntactic derivation. Locating the reordering mechanism in the PF-component does not offer a motivation for the variation in orderings, but it does account for the uniformity in the interpretation of the various orders. Like (49) and (50), the alternation in (51) could be without a difference in interpretation:

(51) a … omdat Jan het boek besloot te lezen because Jan the book decided to read
b. … omdat Jan besloot het boek te lezen because Jan decided the book to read
(both): ‘… because Jan decided to read the book.’

It is therefore worth investigating whether any of the analyses proposed for reordering in verb clusters may be carried over to the third construction. Wurmbrand (2003, 2004, 2005) develops an analysis for constructions like (49) and (50) which invokes PF-inversion of sister nodes, based on the analysis of verb projection raising of Haegeman & Van Riemsdijk (1986). Inversion of sister nodes derives four possible orderings for a three-verb cluster (regardless of whether the base structure is head-initial or head-final). From the head-initial base (52)a, we derive (52)b by inverting the lower pair of sisters, and (52)c by inverting the nodes of the higher branch. Inverting both derives (52)d. Note that the hierarchical order remains intact:

(52) a. [IP 1 [VP 2 [VP 3]]] (1-2-3)
b. [IP 1 [VP 2 [VP 3]] 2] (1-3-2)
c. [IP [VP 2 [VP 3]] 1] (2-3-1)
d. [IP [VP 2 [VP 3]] 2 1] (3-2-1)

Starting from a head-final base (53)a, we derive the same orders by inverting once (53)b-c or twice (53)d:

(53) a. [IP [VP 2 [VP 3 ] 2 ] 1 ] (3-2-1)
b. [IP [VP 2 [VP 3 ] ] 1 ] (2-3-1)
c. [IP 1 [VP [VP 3 ] 2 ] ] (1-3-2)
d. [IP 1 [VP 2 [VP 3 ]] ] (1-2-3)

PF-inversion does not derive all the possible orderings. The two orders in which the highest verb 1 separates the lower verbs, 2-1-3 and 3-1-2, cannot be derived using

---

only PF-inversion of sister nodes. It is also not possible to derive the alternation in (51) using only inversion of sister nodes. As the matrix verb is sister to the entire infinitival complement, the infinitival complement cannot be split by inversion with the matrix verb. The only way out seems to be to allow the DP to move out of the complement, so that the infinitive and the matrix verb can invert. 19 However, this does not solve our paradox. A combination of scrambling and PF-inversion allows us to account for the postverbal position of the infinitive on a head-final base structure, but nevertheless forces us to assume that the DP is no longer in the embedded clause. But our paradox crucially concerns the position of the DP. For our purposes, a head-final base order is only to be preferred over a head-initial base order if a head-final base would solve the paradox of cross-clausal A-movement out of a non-deficient clause. But since both the head-initial base order and the head-final base order lead to the paradox on the PF-inversion account, there is no reason to prefer the head-final analysis over the head-initial analysis.

5.2.1.3 Partial extraposition

Finally, we discuss an approach to word order variation which is more powerful than the approaches based on inversion. We sketch the outlines of a ‘partial extraposition’ approach, and discuss why it could not handle the Dutch data. 20 We may assume that a complement, or any subpart of it, may be extraposed to the right periphery. Hence, various options are available for one and the same base structure. A base structure like (54), for instance, gives rise to five different surface word orders (55):

(54) … omdat ik [ MoodInfl PRO Marie het boek te geven] besloot
     because ik Marie the book to give decided

(55) a. * … omdat ik PRO Marie het boek te geven besloot
     because I Marie the book to give decided

b. … omdat ik besloot PRO Marie het boek te geven
     because I decided Marie the book to give

c. … omdat ik PRO besloot Marie het boek te geven
     because I decided Marie the book to give

d. … omdat ik PRO Marie besloot het boek te geven
     because I Marie decided the book to give

19 The combination of syntactic movement of the argument of the infinitive followed by PF-inversion of the matrix verb and its complement has been put forth as an alternative to the rule of Verb Raising by Broekhuis (1993). He suggests that the verb clusters we find in Dutch, where the verbs are obligatorily adjacent, may be assimilated to Verb Projection Raising constructions. The difference between the two constructions is in the degree to which non-verbal material is evacuated from the infinitival VP. In Dutch, evacuation would be obligatory for all arguments; in Swiss German and West Flemish, it would be optional for all arguments.

20 Some authors are skeptical about the existence of extraposition and have proposed alternative analyses, cf. Koster (2000). See also the references in chapter 2, footnote 47.
e. … omdat ik PRO Marie het boek besloot te geven
   because I Marie the book decided to give
   (all): ‘…because I decided to give Marie the book.’

We get the order (55)a if extraposition does not take place. This word order is
ungrammatical in Standard Dutch, but German allows this word order:

(56) … dass ihr, der Hans [t zu helfen] beschlossen hat
   that her the Hans to help decided has
   ‘…that Hans decided to help her.’
   (Wurmbbrand 2001; 292)

Extraposition of the entire complement clause results in (55)b. Extraposition of
subparts of the infinitival clause yields the orders (55)c-e:
The label of the extraposed chunk is not crucial; what is important is that part of the infinitival clause is extraposed, while the remnant is stranded in preverbal position. For now, it does not matter whether we assume that the DPs *het boek* 'the book' and *Marie* are in their base positions, or whether they have moved into a licensing position within the infinitival clause.

This approach is not prominent in the literature on Dutch. Nevertheless, it bears some resemblance to the standard analysis of the third construction, which involves remnant extraposition (Den Besten et al. 1988; Broekhuis et al. 1995). This analysis assumes (A'-)scrambling of the DP out of the (preverbal) IP-complement, followed by extraposition of the IP:

(57)

As far as we have been able to determine, the possibility of analysing discontinuous complements as derived by partial extraposition (55) is discussed only
in Wurmbrand (2006).\(^{21}\) Wurmbrand (2006) suggests that for some reason, an infinitive surfaces to the right of the matrix verb in Dutch. In some cases, like (55)e, it is indeed only the infinitive that surfaces to the right. In other cases, (55)a-d, it is the infinitive plus some extra material. Because the matrix verb and the infinitive may be separated by material associated with the infinitival clause, head movement cannot be the correct analysis of the third construction. Moreover, the category which surfaces to the right of the matrix verb is the sister of the matrix verb only in (55)b; in the orders in (55)c-d, what surfaces on the right of the matrix verb is a subpart of the sister of the matrix verb. An analysis in terms of (PF-)inversion of sister nodes is therefore not powerful enough. We may assume a mechanism like reanalysis to create the right sisterhood configurations, but as long as existing mechanisms can account for the phenomenon at hand, the postulation of new mechanisms should be avoided.

We admit that extraposition of subparts of the clause is a bit of an innovation as well, but we feel that this innovation may be justified. It has been claimed that verbal complements may only be extraposed if they have CP-status. This claim is based on the contrast between extraposition of the complement to a raising verb (58) and a control verb (59) in German:

\[
\begin{align*}
(58) & \quad \ast \ldots \text{dass Hans schien den Kuchen gegessen zu haben} \\
\hspace{1cm} & \text{that Hans seemed the cake eaten to have} \\
\hspace{1cm} & \text{‘…that Hans seemed to have eaten the cake.’} \\
\hspace{1cm} & \text{(Wurmbrand 2001; 157)}
\end{align*}
\]

\[
\begin{align*}
(59) & \quad \ldots \text{dass Hans versuchte den Kuchen zu essen} \\
\hspace{1cm} & \text{that Hans tried the cake to eat} \\
\hspace{1cm} & \text{‘…that Hans tried to eat the cake.’} \\
\hspace{1cm} & \text{(Wurmbrand 2001; 156)}
\end{align*}
\]

Raising verbs select TP-complements rather than CP-complements. The fact that the TP-complement in (58) fails to be extraposed, in contrast to the control complement (59), may be taken as evidence that TPs cannot extrapose, while CPs can.

If only CPs may extrapose, it is predicted that extraposed complements are opaque. This is not always the case, however:

\[
\begin{align*}
(60) \quad \text{Ich habe \{ meiner kleinen} & \text{ Nichte\}, versucht \{ t, die Zähne zu putzen\} } \\
\hspace{1cm} & \text{I have my little niece tried the teeth to brush} \\
\hspace{1cm} & \text{‘I tried to brush my little niece’s teeth.’} \\
\hspace{1cm} & \text{(Lee-Schoenfeld 2005; 149)}
\end{align*}
\]

\(^{21}\) See also Wurmbrand & Bobaljik (2005). The possibility of deriving the third construction as in (55) is alluded to in Neelmaen & Reinhart (1998; 318, fn. 7), who adopt a base generation approach to scrambling, for which the standard analysis of the third construction (Den Besten et al. 1988), involving movement of a DP and extraposition of the infinitival clause, is obviously problematic. They do not work out an analysis of the third construction, however.
In (60), the DP *meiner kleinen Nichte* ‘my little niece’ is scrambled out of the infinitival complement. Since the infinitival complement is to the right of the verb, extraposition must have taken place, and the infinitival complement must be a CP. Scrambling out of CPs is supposed to be impossible, however.\(^{22}\) If only CPs may extrapose, (60) is problematic. The problem disappears if an alternative explanation can be found for the contrast between (58) and (59); see Wurmbrand (2001) for a possible explanation that is not based on the label of the infinitival complement.

The restriction of extraposition to CPs is also problematic if we assume a head-final base structure for Dutch. If we take the standard view of the third construction in Dutch, extraposition of non-CPs is inevitable. Movement out of CP is clearly blocked (61)a, but movement out of TP is not (61)b:

\[
\begin{align*}
(61) & \quad a. \quad * \ldots \text{omdat Jan zijn moeder besloot [CP om een brief te schrijven] because Jan his mother decided COMP a letter to write} \\
& \quad b. \quad \ldots \text{omdat Jan zijn moeder besloot [MoodIRR een brief te schrijven] because Jan his mother decided a letter to write} \\
& \quad \quad \quad \quad \quad \text{‘…because Jan decided to write his mother a letter.’}
\end{align*}
\]

If Dutch has a head-final base order, then (61)b must involve extraposition. But the contrast between (61)a and (61)b shows that movement out of CP is ungrammatical, and movement out of smaller categories is grammatical. It seems, therefore, that extraposition of categories smaller than CP must be permitted.

We conclude that in order to maintain a head-final base structure, we have to allow for extraposition of categories smaller than CP. While this may be an innovation, it is not one which cannot be justified, because to our knowledge, a satisfactory account of why extraposition should be restricted to CPs is not available. If the contrast between (58) and (59) is explained differently, there is a priori no reason to assume such a condition to hold.

We therefore assume that (55) is a possible analysis of the third construction.\(^{23}\) This analysis has one advantage and one disadvantage when we compare it to our original analysis of long raising to object out of the postverbal complement clause. The advantage of the head-final analysis is that it avoids the paradox of the DP A-moving into the matrix clause, from what looks like a non-deficient complement clause. In this respect, the head-initial analysis is problematic.

On the other hand, the head-initial analysis does not require additional assumptions to account for the position of the infinitive. In this respect, it seems

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\(^{22}\) The problem may be avoided if we assume that postverbal infinitival complements are base generated in postverbal position, as Lee-Schoenfeld (2005) notes.

\(^{23}\) But see footnote 20. One problem for this analysis is the ungrammaticality of (i) (Jan-Wouter Zwart, p.c.):

\[\text{(i) } * \ldots \text{omdat Jan [CP om het boek, t] besloot [COMP te lezen t], because Jan COMP the book decided to read} \]

‘…because Jan decided to read the book.’

If any chunk may freely undergo PF-extraposition, then it is not expected that the chunk may not be part of a CP.
preferable to the head-final analysis, which has to assume movement of the infinitive.

To decide which of these analyses is to be preferred, the next section develops an empirical test to determine the headedness of VP.

5.2.2 The position of DP

As we have seen above, the most important difference between the head-initial and the head-final analysis of the third construction is in the position of the DP. On the head-initial analysis, the DP occupies a position in the matrix clause:

(62) CP
    because
    Jan
    T
    vP
    the book,
    V'
    VP
    decided
    Mood_{InfP}
    to read t

On the head-final analysis, the DP occupies a position internal to the infinitival complement:

(63) CP
    because
    Jan
    T
    vP
    VP
    Mood_{InfP}
    decided
    MoodRR'
    Mood_{InfP}
    the book,
    V'
    VP
    t
    t
In 5.1, we established that *het boek* ‘the book’ in (62) and (63) occupies an A-position. We may add (64) as another argument for this claim:

(64) … omdat niemand ook maar iemand dacht te kunnen overtuigen because nobody also just somebody thought to can convince ‘…because nobody thought he could convince anybody.’

In (64), the internal argument of the infinitival clause is the negative polarity item (NPI) *ook maar iemand* ‘anyone’. Phrases of the type *ook maar N* ‘any N’ must be licensed by an element of the appropriate type. In (64), this element is the matrix clause subject. There are two ways to account for the position of the NPI in (64). Either the NPI is in its base position (or has moved into its licensing position within the infinitival complement), conform the head-final analysis (63). Alternatively, it has moved out of the infinitival clause to a position in the matrix clause, conform the head-initial analysis.

The matrix clause subject may license an NPI embedded in a complement clause, whether the complement clause is infinitival (65) or finite (66):24

(65) … omdat niemand dacht [ ook maar iemand te kunnen overtuigen] because nobody thought also just somebody to can convince ‘…because nobody thought he could convince anybody.’

(66) … omdat niemand dacht [ dat hij ook maar iemand kon overtuigen] because nobody thought that he also just somebody could convince ‘…because nobody thought he could convince anybody.’

A’-movement of the *ook maar*-phrase is not possible; this holds for topicalization (67)b, movement out of a finite clause (68)b, and also for focus scrambling, as we will see below:25

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24 Whether the matrix clause subject may license an NPI embedded in the complement clause depends on the choice of the matrix verb. NPI-licensing seems to be clause bound, but the domain may be extended if the matrix verb allows so-called neg-raising. In that case, there seems to be no difference in acceptability between infinitival and finite complement clauses.

25 *Ook maar*-phrases may be topicalized if they are part of a larger constituent:

(i) a. *Ook maar iemand teleurstellen wil niemand* also just someone disappoint wants nobody ‘Nobody wants to disappoint anyone.’

b. *Dat ook maar iemand ontslagen zou worden had niemand verwacht* that also just anyone fired would become had nobody expected ‘Nobody had expected that anyone would be fired.’

See De Swart (1998) for discussion. We restrict our attention to bare *ook maar*-phrases.
(67) a. Niemand wil ook maar iets kopen
nobody wants also just something buy
‘Nobody wants to buy anything.’

b. * [Ook maar iets], wil niemand iets kopen,
also just something wants nobody buy
‘Anything, nobody wants to buy.’

(68) a. … omdat Jan zegt dat niemand ook maar iets wil
because Jan says that nobody also just something wants
kopen
‘…because Jan says that nobody wants to buy anything.’

b. * … omdat Jan OOK MAAR IETS zegt dat niemand wil
because Jan also just something says that nobody wants
kopen
‘…because Jan says that nobody wants to buy ANYTHING.’

If NPIs have to be c-commanded by their licenser, the ungrammaticality of (67)b
and (68)b follows. It is unclear, however, why NPIs and anaphors behave differently
in this respect. If the topicalized object in (69) may reconstruct, it is unclear why
reconstruction cannot save (67)b (Hoekstra et al. 1988):

[Everybody criticizes others…]

(69) … maar zichzelf, neemt niemand iets kwalijk
‘…but nobody takes something ill of himself.’

We do not want to claim that movement into [spec, CP] is in itself impossible for the
ook maar-phrase, or that reconstruction is impossible in principle in these examples.
We only establish that whichever the ultimate explanation, A’-movement does not
yield good results for ook maar-phrases, so descriptively, we may state that ook
maar-phrases cannot undergo A’-movement.

5.2.2.1 Sidetrack: ook maar in A’-position

There are two possible lines of reasoning to explain why topicalization of ook
maar-phrases has interpretively bad results. First, we may argue that topicalization
creates an unfriendly environment for the ook maar-phrase because it removes the
NPI from under its licenser, and for some reason, the scope configuration
established by topicalization cannot be undone. Second, we may assume that
A’-movement has an interpretive effect which conflicts with the meaning of the ook
maar-phrase. Specifically, we might assume that topicalization gives rise to a
contrastive interpretation, which is incompatible with the ook maar-phrase.
5.2.2.1 Scope

We might assume that topicalization creates a scope constellation in which the licensing requirement of the ook maar-phrase, c-command by a negative element, is violated. This explanation is problematic in the light of (70):

(70) * Iets zou Jan nooit kopen
   anything would Jan never kopen
   ‘Anything, Jan would never buy.’

If NPIs resist topicalization because they cannot be licensed unless they are c-commanded by their licenser, then we would not predict that non-NPI indefinites may resist topicalization too. Iets ‘something’ is not dependent on nooit ‘never’, so we would not expect any problem in moving it away from negation.

Or would we? Iets ‘something’ does not need the presence of nooit ‘never’ to be felicitous, but iets ‘something’ and ook maar iets ‘anything’ have in common that in the presence of nooit ‘never’, they must take narrow scope. In a context in which the wide scope interpretation is facilitated, (70) improves, albeit only marginally:

(71) ? Iets zou Jan nooit kopen, namelijk een stropdas
   anything would Jan never kopen, namely a tie
   ‘Something, Jan would never buy, namely a tie.’

The follow-up utterance namelijk een stropdas ‘namely a tie’ specifies what iets refers to. Iets ‘something’ then refers to a particular inanimate object. On the specific reading, an indefinite can take wide scope over negation, so it seems that the possibility of a wide scope interpretation is relevant to the possibility of topicalization.

There are three problems with assuming a restriction like this. First, it is not clear why the possibility of a wide scope interpretation should matter, because there are cases in which a topicalized element takes narrow scope with respect to a scope taking expression lower in the sentence:

(72) a. Iedereen heeft wel een slechte gewoonte
   everybody has a bad habit
   ‘Everybody has a bad habit (that does not make you a bad person).’
 b. Een slechte gewoonte heeft iedereen wel
    a bad habit has everyone
    ‘Everybody has a bad habit (that does not make you a bad person).’

(72) contains two scope taking expressions, the universally quantified subject and the existentially quantified object. If the subject takes scope over the object, the sentence is true in a situation in which everyone has at least one bad habit, but different people may have different bad habits. If the object takes scope over the subject, the sentence is only true if everybody has the same bad habit. The most natural interpretation in both examples is that different people have different bad habits.
habits, that is, the subject takes scope over the object, even if the object is topicalized, as in (72)b. For the sake of completeness, we also show an example with nooit ‘never’:

(73) a. Jan zal nooit een dure auto kopen
Jan will never a expensive car buy
‘Jan will never buy an expensive car.’

b. Een dure auto zal Jan nooit kopen (maar hij is niet meer zo’n vrek als vroeger)
anymore such-a scrooge as before
‘Jan will never buy an expensive car (but he is not a Scrooge anymore).’

If nooit ‘never’ takes scope over een dure auto ‘an expensive car’, then the sentence is true in case Jan will never buy any kind of expensive car. If the object takes scope over nooit ‘never’, then the sentence is true if Jan will never buy a particular kind of expensive car, but he may buy other types of expensive car. The object takes narrow scope in (73)a. After topicalization (73)b, both interpretations are possible. This means that the linear order established after topicalization does not necessarily coincide with the scope order.

Given that wide scope for the topicalized element is not a necessity, it is not clear why there would be a requirement that wide scope has to be available. If narrow scope is in principle possible, we may expect that indefinites always take narrow scope if they cannot take wide scope, even after topicalization.

Moreover, there seem to be cases in which wide scope is not available for the topicalized element, but topicalization is nevertheless possible:

(74) a. Jan zal nooit veel vrienden hebben
Jan will never many friends have
‘Jan will never have many friends.’

b. Veel vrienden zal Jan nooit hebben (maar hij is nooit eenzaam)
many friends will Jan never have but he is never lonely
‘Jan will never have many friends (but he is never lonely).’

(74) contains two scope taking expressions, nooit ‘never’ and veel vrienden ‘many friends’. If nooit ‘never’ takes scope over the object, we get the interpretation that Jan will never have a large number of friends. If the object takes scope over nooit ‘never’, we get the odd interpretation that for a large proportion of friends, it holds that Jan does not have them. But this interpretation is not well-formed: ‘friend’ is a relational noun, so one cannot have the property of being a friend without being someone’s friend. Jan is the only person of interest in (74), so in denying that many people are Jan’s friend, we attribute them the property of being a friend without being a friend to someone. Hence, (74)b does not have a well-formed interpretation in which the object takes wide scope. If topicalization would have the effect that the resulting word order dictates the scope interpretation, then we would expect that

\[\text{If the particle wel is dropped, the wide scope interpretation is possible, depending on the intonation.}\]
topicalization would not be possible in (74)b, just like topicalization is impossible in (67)b and (70). But topicalization is fully acceptable.

Finally, we note that topicalization of an indefinite is also ungrammatical in the absence of negation:

(75) * Iets heeft Jan gekocht
something has Jan bought
‘Jan bought something.’

(75) could not be ungrammatical because of the scope constellation, because there is only one scope taking element in the sentence. Topicalization is nevertheless impossible.

Thus, we have to conclude that the possibility of taking wide scope is not a necessary condition for topicalization.

5.2.2.1.2 Contrast

We now turn to another line of reasoning. Recall the ungrammatical cases of topicalization:

(76) a. * [ Ook maar iets]i wil niemand kopen t
also just something wants nobody buy
‘Jan bought something.’

b. * Iets zou Jan nooit kopen (=70)
something would Jan never buy
‘Anything, Jan would never buy.’

Recall also that anaphors may be topicalized, despite the fact that they are like NPIs in the requirement that they have to be c-commanded by their licenser:

(77) … maar zichzelf neemt niemand iets kwalijk (=69)
but himself takes nobody something nasty
‘…but nobody takes something ill of himself.’

When we compare (76) and (77), we notice a difference. In (77), the topicalized element seems to be contrasted. In stressing that nobody takes something ill of himself, the speaker implies that people do take something ill of others.

Perhaps topicalization is only legitimate if the moved element can be contrasted. *Iets* ‘something’ and *ook maar iets* ‘anything’ do not allow for the implication of contrast. (76)b expresses that Jan is unlikely to buy things. *Things* characterizes the entire set of inanimate objects, so there are no other members of the set that *iets* ‘something’ may be contrasted with.\(^\text{27}\) If this were the reason (76)b is

\(^\text{27}\) If we take the relevant set to be the set containing everything, i.e. the set containing all inanimate objects and all people, then *iets* ‘something’ may be contrasted with *iemand* ‘somebody’, and topicalization is possible:
ungrammatical, then the fact that certain indefinites resist topicalization does not reflect any deep property of the grammar. There is nothing wrong with moving *iets* ‘something’ per se, but in the case of (76)b, there is no reason to do so. If topicalization induces a contrast, then it is pointless to topicalize an element that is inherently uncontrastable.\textsuperscript{28}

In a context in which *iets* ‘something’ is contrasted, (76)b improves (a little):

(78) \begin{align*}
\text{iets zou Jan nooit kopen, namelijk een stropdas (}\approx(71)) \\
\text{‘Something would Jan never buy, namely a tie.’}
\end{align*}

Above, we suggested that the contrast between (76)b and (78) might be related to the fact that (78) has a wide scope interpretation, but (76)b does not. But (76)b and (78) also differ in that *iets* ‘something’ is contrasted in (78), but not in (76)b.

The difference in contrastability can be brought out more clearly by using indefinite nouns:

(79) a. \begin{align*}
\text{# Een ding zou Jan nooit kopen} \\
\text{‘A thing, Jan would never buy.’}
\end{align*}

b. \begin{align*}
\text{Een kind zou Jan nooit wegsturen} \\
\text{‘A child, Jan would never turn away.’}
\end{align*}

Topicalizing the object in (79)a induces the implication that Jan would not buy ‘a thing’, but he would buy something else. The implication is awkward, because ‘a thing’ characterizes the entire set of inanimate objects, and it is not clear what Jan could buy, if not an inanimate object.

If the topicalized element is part of a larger set, like ‘a child’ in (79)b, then contrast is possible. ‘A child’ may be part of a contextually relevant set that also contains ‘a doorstep salesman’ or ‘a Jehovah’s Witness’, and hence, if Jan would not turn away a child, the context makes available other people who Jan might turn away. Topicalization is therefore acceptable in (79)b.

We may be tempted to generalize this account to the ungrammaticality of (76)a. Like *iets* ‘something’, *ook maar iets* ‘anything’ refers to the entire set of things, so that contrasting *ook maar iets* ‘anything’ is not possible, because the context does not contain any alternatives - the topicalized element exhausting the set of

\begin{itemize}
\item[(i)] *iets zou Jan niet willen fotograferen, maar iemand des te liever something would Jan not want to photograph, but someone of to rather ‘something, Jan wouldn’t want to photograph, but someone all the better.’
\end{itemize}

The sentence is still rather marginal, however.

\textsuperscript{28} Note that topicalization does not always induce contrast. In (72)-(74), the moved element is not contrasted with alternatives; in (72), the speaker does not imply that not everyone has good habits, and in (73), the speaker does not suggest that Jan would ever buy a cheap car or an expensive non-car, and in (74), it is not implied that Jan has few friends or many enemies. Furthermore, frame setting adverbs, like *gisteren* ‘yesterday’, are not necessarily contrastive.

\textsuperscript{29} On the specific interpretation, (79)a is acceptable.
contextually relevant things. This assumption would be premature, however. *Ook maar* not only combines with the nouns *iets* ‘something’ and *iemand* ‘someone’, but also with nouns introduced by the indefinite article or the numeral *één* ‘one’:

(80) Niemand heeft ook maar één vraag correct beantwoord.
    nobody has also just one question correctly answered
    ‘Nobody answered any question correctly.’

Numerals other than *één* ‘one’ are awkward, however:

(81) # Niemand heeft ook maar twee vragen correct beantwoord.
    nobody has also just two questions correctly answered
    ‘Nobody answered two questions correctly.’

The contrast between *één* ‘one’ and other numerals is due to the fact that *ook maar*-phrases are minimizers (Hoeksema & Rullmann 2001). Minimizers denote a minimal quantity, extent, or degree. The use of an *ook maar*-phrase invokes a pragmatic scale shared between the interlocutors. In (80), for instance, the speakers may presume a scale of ‘ likeliness to be answered correctly’, with zero questions being the minimal number of questions that might be answered correctly. The *ook maar*-phrase in (80) indicates that the amount in the complement of *ook maar* is at the lower endpoint of the scale. Combining the *ook maar*-phrase with *twee* ‘two’ (81) is odd because two is not the minimal number we may imagine.

Similarly, *ook maar* combines with indefinite or definite DPs if the DP may be interpreted as the lower endpoint of the contextually relevant scale:

(82) a. Niemand heeft ook maar een beetje lef
    nobody has also just a bit guts
    ‘Nobody has any guts.’

b. # Niemand heeft ook maar een flinke dosis lef
    nobody has also just a tough dose guts
    ‘Nobody has considerable nerve.’

(83) a. Niemand kon ook maar de makkelijkste vraag beantwoorden
    nobody could also just the easiest question answer
    ‘Nobody could answer even the easiest question.’

b. # Niemand kon ook maar de moeilijkste vraag beantwoorden
    nobody could also just the easiest question answer
    ‘Nobody could answer even the most difficult question.’

*Een flinke dosis* ‘a considerable amount’ is unlikely to be the lower endpoint on any scale, because we can always imagine lesser amounts like *een beetje* ‘a bit’. In (83), the speaker may have in mind a scale of ‘likeliness to be answered correctly’. The easiest question would be the lower endpoint of this scale, hence, *de makkelijkste vraag* ‘the easiest question in (83)a may combine with *ook maar*. On the same scale,

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30 Hoeksema & Rullmann (2001) notice some exceptions to this claim, but they appear to be rare.
de meeiikste vraag 'the most difficult question' does not refer to the lower endpoint, because easier questions are more likely to be answered correctly. For this reason, the ook maar-phrase in (83)b is infelicitous.

Note that the scale is pragmatical, not absolute. Een rug ‘a thousand euros’ could hardly be the lower endpoint on an absolute scale of amounts of money. But een rug ‘a thousand euros’ may form a minimizing expression with ook maar if the context allows for a scale at which it indicates the lower endpoint. Thus, the minimizer ook maar een rug ‘a thousand euros’ is felicitous in (84)b, but not in (84)a:

(84) a. Niemand heeft ook maar een rug uitgegeven bij de veiling in het buurthuis.
   Nobody has also just a back spent at the auction at the community centre.
   ‘Nobody spent even a thousand euros at the community centre auction.’

b. Niemand heeft ook maar een rug uitgegeven bij de veiling bij de miljonairsclub.
   Nobody has also just a back spent at the auction at the millionaire’s club.
   ‘Nobody spent even a thousand euros at the auction at the millionaire’s club.’

If we assume that the DP in an ook maar-phrase marks the lower endpoint of a pragmatic scale, then the interlocutors necessarily presuppose other values of the scale as well. We would then expect that the element denoted by the minimizer may be contrasted with the other values on the scale, and topicalization would be possible. This is not the case, however.

(85) Als je geen titel nodig had om een baan te krijgen, zou niemand zijn proefschrift afmaken.
   If you didn’t need a title to get a job, no one would finish his PhD-dissertation.
   ‘His PhD-dissertation’ may be contrasted with other achievements. The response to (85) sets up a context for contrast. The response to (85) may contain an ook maar-phrase (86), as long as it is not topicalized (86):

(86) a. Sterker nog, niemand zou ook maar de middelbare school afmaken.
   Stronger still, nobody would also just the intermediate school finish
   (both): ‘More than that; nobody would finish even high school.’

b. Sterker nog, ook maar de middelbare school zou niemand afmaken.
   Stronger still also just the intermediate school would nobody finish
   (both): ‘More than that; nobody would finish even high school.’
Thus, the *ook maar*-phrase may be used to express contrast with an alternative value on the scale, in this case ‘a PhD-dissertation’. Nevertheless, topicalization is impossible. To complicate matters further, it does not seem to be the case that minimizers in general cannot topicalized. Phrases introduced by *zelfs* ‘even’ seem to act like minimizers as well, but topicalization is possible:

(87) Sterker nog, *zelfs* de middelbare school zou niemand afmaken
‘More than that; nobody would finish even high school.’

The contrast in acceptability between (86)b and (87) suggests that the problem with topicalization of *ook maar*-phrases is not simply that the interpretive effect of topicalization conflicts with the semantic properties of the *ook maar*-phrase. It seems that the *zelfs*-phrase in (87) is sufficiently similar to the *ook maar*-phrase, in that both mark the lower endpoint of a contextually relevant scale. The most salient difference between the two phrases is the fact that *ook maar*-phrases are NPIs, but *zelfs*-phrases are not:

(88) *Zelfs* de middelbare school heeft Jan verprutst
‘Even high school, Jan messed up.’

*Zelfs* ‘even’ phrases are minimally different from *zelfs maar* ‘even just’ phrases. *Zelfs maar*-phrases are NPIs:

(89) a. Niemand heeft *zelfs maar* de middelbare school afgemaakt
‘Nobody finished even high school.’

b. *Iedereen heeft zelfs maar* de middelbare school afgemaakt
‘Everybody finished even high school.’

Like *ook maar*-phrases, *zelfs maar*-phrases cannot be topicalized:

(90) *Sterker nog, zelfs maar* de middelbare school zou niemand afmaken
‘More than that; even high school, nobody would finish.’

We leave the discussion of topicalization at this. Unfortunately, our observations are inconclusive; we are unable to determine whether the impossibility of topicalizing *ook maar*-phrases should be ascribed to a structural requirement of NPIs, or to a semantic requirement of certain indefinites. The observation that non-NPI minimizers may undergo topicalization (88), but NPI minimizers may not (86)b, (90), would seem to suggest that the impossibility of topicalization is related to the fact that *ook maar*-phrases are NPIs, and that there is a structural requirement
that NPIs be c-commanded by their licenser at surface structure. On the other hand, the fact that ook maar-phrases share the impossibility of topicalization with indefinites like iets ‘something’ ((75)-(76)), which resist a contrastive interpretation, suggests that the ungrammaticality may also be due to some interpretive effect of topicalization.

The descriptive generalization is clear, however: ook maar-phrases must be c-commanded by their licenser at surface structure. From this perspective, our claim that ook maar-phrases cannot undergo A'-movement is suspect. If what is wrong with topicalizing NPIs is the fact that movement removes the NPI from the position in which it is c-commanded by its licenser, then it might be the case that A'-movement is not in itself illegitimate, but that the acceptability depends on the landing site. It could be that A'-movement is possible if it targets a position which is c-commanded by the licenser of the NPI.

5.2.2.1.3 Focus scrambling

To investigate whether A'-movement is possible if the NPI moves to a position c-commanded by its licenser, we look into focus scrambling. It is a bit difficult to construct a minimal pair, because ook maar-phrases tend to be degraded when the subject is focused even without focus scrambling, but in the right context, an example like (91) is acceptable:

[The boss always tries to make his employees fix his mistakes. Jan is very obliging, and usually offers all kinds of suggestions. The employees are tired of fixing the boss’s mistakes. The boss has made yet another mistake and has asked the employees for help, but nobody seemed willing to offer a solution]

(91) Niemand geloofde dat zelfs Jan ook maar één oplossing zou aandragen
nobody believed that even Jan also just one solution would suggest
‘Nobody believed that even Jan would suggest even one solution.’

In (91), the subject of the embedded clause is focused. Zelfs ‘even’ establishes Jan as the person most likely to propose a solution. The matrix clause subject licenses the ook maar-phrase. Movement of the ook maar-phrase to a position preceding the embedded subject is ungrammatical:

(92) * Niemand geloofde dat ook maar één oplossing zelfs Jan zou aandragen
nobody believed that also just one solution even Jan would suggest
‘Nobody believed that even Jan would suggest any solution.’

The landing site of the ook maar-phrase in (92) is c-commanded by the matrix clause subject. The ungrammaticality of focus scrambling the ook maar-phrase can therefore not be ascribed to the licensing requirement of NPIs.  

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31 Hoeksema (2004) shows that the NPI in het minst ‘in the least’ precedes negation in older stages of Dutch, but must follow it in present day Dutch. He argues that the older word order is the result of focus scrambling, and suggests that focus scrambling is itself disappearing from the language, which accounts for the change in the position of in het minst ‘in the least’. Hoeksema’s characterization of focus scrambling is different from ours in that focus scrambling does not target a position preceding the subject.
It is unclear whether this restriction is a property of minimizing expressions in general, or of NPI-minimizers, because our only non-NPI-minimizer is a zelfs-phrase. Constructing an example with this phrase and another element in focus is difficult, because sentences containing two such scalar expressions are not acceptable (93). (93) invokes two scales. One ranks people according to their cooking skills, and establishes Jan as the best cook. The other ranks dishes according to the cooking skills required to prepare them, and it establishes ‘fried egg’ as the least demanding dish:

[The kitchen is so dirty that Piet couldn’t make lasagna]  
(93) * Logisch; in deze keuken zou zelfs zelfs Jan zelfs geen ei kunnen bakken  
logical in this kitchen would even Jan even no egg can fry  
‘No surprise; in this kitchen, even Jan couldn’t fry even an egg.’

But given the similarities between topicalization and focus scrambling, we may assume that focus scrambling behaves like topicalization in the relevant respects. Like topicalization, focus scrambling of an indefinite is only acceptable if the indefinite can be contrasted:

[I heard that Piet bought something]  
(94) * Onwaarschijnlijk; iets zou zelfs Jan niet kopen  
unlikely something would even Jan not buy  
‘Unlikely; something, even Jan would not buy.’

[I heard that Piet bought something expensive/ a villa]  
(95) a. Onwaarschijnlijk; iets duurs zou zelfs Jan niet kopen  
unlikely something expensive would even Jan not buy  
‘Unlikely; even Jan wouldn’t buy something expensive.’

b. Onwaarschijnlijk; een villa zou zelfs Jan niet kopen  
unlikely a villa would even Jan not buy  
‘Unlikely; even Jan wouldn’t buy a villa.’

It is not clear why there is a contrast between (94) and (95). The scope constellation cannot be the problem, as the indefinite takes narrow scope with respect to negation in both examples; in neither example does the indefinite refer to a particular item, expensive object, or villa. Moreover, if the unacceptability is related to the scope constellation, we would expect the contrast to disappear if negation is dropped, such that there is no scope issue. This is not the case, however:

in his examples, and in that the moved element is the only focus in the sentence. Clearly, focus scrambling is possible in present day Dutch, as shown in Neeleman (1994), so it is not clear whether our observations should be taken as evidence for the decline of focus scrambling, along the lines of Hoeksema (2004), or whether the unacceptability of focus scrambling of ook maar--phrases is to be explained independently.
[I heard that Piet didn’t buy anything (expensive)]

(96) a. * Onwaarschijnlijk; iets zou zelfs Jan kopen
   unlikely something would even Jan buy
   ‘Unlikely; even Jan would buy something expensive.’

   b. Onwaarschijnlijk; iets duurs zou zelfs Jan kopen
      unlikely something expensive would even Jan buy
      ‘Unlikely; even Jan would buy something expensive.’

The unacceptability is also unlikely to be related to world knowledge, although a pragmatic explanation may seem possible at first blush. The focus marker zelfs ‘even’ invokes a scale, as discussed above. In (96)a, Jan is the most unlikely person to engage in the activity in question, here ‘make a purchase’, and the moved object specifies what kind of purchase. In this case, the purchase is iets ‘something’, hence ‘any inanimate object whatsoever’. Since even Jan would buy something, everybody would. This proposition conflicts with our real world knowledge: everyone makes purchases, so it does not make sense to set up a scale which ranks people according to their likeliness to buy something. It is thus implausible that Jan would be the most unlikely person to buy anything. Perhaps the reference of iets ‘something’ is so wide that it is not possible to set up a scale of people according the likeliness that they would engage in the specified activity. Ranking people according to the likeliness that they would buy something expensive seems more plausible, and (96)b is indeed more acceptable than (96)a. But if the problem in (96)a is the difficulty of envisaging a scale of likeliness to make any purchase, then the unacceptability of (96)a should be independent of word order. Without focus scrambling, however, (96)a is fine:

(97) Onwaarschijnlijk; zelfs Jan zou iets kopen
   unlikely even Jan would something buy
   ‘Unlikely; even Jan would buy something.’

Apparently, envisaging the scale is not impossible.

To conclude this section, we tested the possibility of focus scrambling of ook maar-phrases to check whether the impossibility of topicalization of ook maar-phrases is related to the lack of surface c-command, or to an (unidentified) semantic property of indefinites. Since focus scrambling of ook maar-phrases is not possible even if the condition of surface c-command is fulfilled, and since topicalization of non-NPI minimizers is possible, we conclude that surface c-command is not the crucial factor in the movability of ook maar-phrases. Instead, we have to assume that ook maar-phrases are inherently incompatible with focus scrambling and topicalization. We generalize this claim: ook maar-phrases cannot be in an A’-position.

5.2.2.2 Ook maar in transparent constructions

Recall that we have three competing analyses. (98) assumes a head-initial VP. The DP undergoes A-movement into the matrix clause:
The other two analyses assume a head-final VP. In the partial extraposition analysis (99), the DP moves within the infinitival clause, after which a lower portion of the clause extraposes to the right.

Finally, analysis (100) assumes A'-movement of the DP out of the preverbal complement, followed by extraposition of the infinitival clause (the original remant extraposition analysis; Den Besten et al. 1988).
With the observation that _ook maar_-phrases may not undergo A’-movement, but may participate in the third construction (cf. (64), repeated below), we can eliminate (100): 32

(100) ... omdat niemand ook maar iemand dacht te kunnen overtuigen ...

because nobody also just somebody thought to can convince

‘...because nobody thought he could convince anybody.’ (= (64))

This leaves (98) and (99). The main difference between these analyses is in the position of the DP. Under analysis (98), the DP occupies an A-position in the main clause, but under analysis (99), it is inside the infinitival clause, or what is left of it after movement of the infinitive.

If it were the case that _ook maar_-phrase cannot undergo any kind of movement, then the fact that it may participate in the third construction would seem to support analysis (99). But if the internal argument in Dutch always undergoes movement out of VP, we must assume that _ook maar_-phrases can undergo movement. Moreover, the fact that _ook maar_-phrases may be subjects, provided the subject position is within the c-command domain of a licenser, shows that A-movement is possible:

(102) a. Nooit heeft [ ook maar iemand], Jan ti gewaarschuw
never has also just someone Jan warned

‘Never has anyone warned Jan’

---

32 We could adapt the analysis by Den Besten et al. (1988) such that scrambling of the DP is A-movement, but then the analysis is very close to the head-initial VP-analysis. The two then differ only in the application of extraposition, but there are no independent arguments for such a process. For reasons of simplicity, we therefore prefer the head-initial analysis over the adapted remnant extraposition analysis.
b. Niemand geloofde dat [ ook maar iemand] zou worden ontslagen,

nobody believed that also just someone would be fired

‘Nobody believed that anyone would be fired.’

Therefore, we cannot yet choose between analyses (98) and (99).

We use the distribution of ook maar-phrases to decide between the two analyses. Ook maar-phrases may be licensed by adversative predicates. Such verbs may license an NPI embedded in their complement clause (103)a, but if they select a DP-complement, this DP may not be an NPI (103)b,(103)c:

(103) a  Jan ontkent ook maar iemand to hebben gezien
        Jan denies also just someone to have seen
        ‘Jan denies that he has seen anyone.’

b. * Jan ontkent ook maar iets
        Jan denies also just something
        ‘Jan denies anything.’

   (Hoekstra 1991; 52/53)

   c.  Jan ontkent de aantijging
        Jan denies the allegation
        ‘Jan denies the allegation.’

(103)b shows that adversative verbs cannot license an NPI if the NPI is the verb’s object. This observation allows us to make the following prediction. If the DP in the third construction occupies a position in the infinitival clause, as in analysis (99), then we expect that an ook maar-phrase may be licensed by an adversative matrix verb in the third construction, as well as in the extraposition construction. This is because the two constructions differ only in the position of the infinitive. The position of the DP is the same in both constructions.

If analysis (98) is correct, then the third construction is essentially a case of ECM. We assume that in ECM, an argument of the embedded verb is licensed as the object of the matrix verb. We then predict that an adversative verb may license an ook maar-phrase only in the extraposition construction, because the NPI is embedded in the complement clause only in this construction. In the third construction, on the other hand, the DP has become the object of the matrix verb, which leads us to expect the third construction to pattern with (103)b.

It seems that the data support analysis (98):33

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33 The contrast in (104) was first noted by Zwarts (1986; 164). I thank Jack Hoeksema (p.c.) for this reference. Zwarts (1986) judges a similar example as ungrammatical. However, some of the speakers I consulted do not find such examples completely ungrammatical, although they agree that the third construction (104)b is less acceptable than the extraposition construction (104)a.
(104) a. ... omdat de agent weigerde ook maar één demonstrant te arresten
‘...because the cop refused to arrest a single protester.’
b. * ... omdat de agent ook maar één demonstrant weigerde te arresten
‘...because the cop refused to arrest a single protester.’

The *ook maar-phrase is licensed in the extraposition construction (104)b, but not in the third construction (104)b. The contrast would be unexpected if the ook maar-phrase is in the same position in both (104)a-b.

(104)b cannot involve an illegitimate instance of A’-movement. As shown above, A’-movement is excluded under all circumstances. (104)b, on the other hand, improves if the NPI is not licensed by the matrix verb:

(105) a. Zou de agent ook maar één demonstrant weigeren te arresten?
‘Would the cop refuse to arrest a single protestor?’
b. Als de agent ook maar één demonstrant weigert te arresten,
if the cop also just one protestor refuses to arrest
wordt hij ontslagen
becomes he fired
‘If the cop refuses to arrest a single protestor, he will be fired’
c. Geen enkele agent heeft ook maar één demonstrant geweigerd te arresten
‘No cop has refused to arrest a single protestor.’
d. De agent is te bang om ook maar één demonstrant te weigeren te arresten
‘The cop is too afraid to refuse to arrest a single protestor.’
e. Iedere agent die ook maar één demonstrant weigert te arresten
‘Every cop who refuses to arrest a single protestor will be fired.’

Hence, the *ook maar-phrase is licensed if the third construction is a question (105)a or the antecedent of a conditional (105)b, or if it is part of a too-construction (105)d.
or a relative clause headed by a universal quantifier (105)e, or if the matrix clause subject is a negative phrase (105)c.

There are several alternative explanations for the contrast between (104)a and (104)b. One might, for instance, appeal to the c-command requirement. Ook maar-phrases must be c-commanded by their licenser.\[34\] If objects always undergo movement to their licensing position, then the verb c-commands the ook maar-phrase in (103)a and (104)a, but not in (103)b and (104)b, because DP-objects are never in their base position in Dutch. This cannot be the source of the ungrammaticality of the (b)-examples, however. The contrast between DP-object NPIs and NPIs embedded in complement clauses in (103) is also found in English:

(106)

a. Mary forgot that anyone visited her on Monday  
b. * Mary forgot anything

(Progovac 1993; 152)

If anything in (106)b is in its base position, then the verb c-commands ‘anyone’ in (106)a as well as ‘anything’ in (106)b. Lack of c-command therefore cannot be the reason for the ungrammaticality in (106)b.

One could also account for the ungrammaticality (104)b along the lines of Progovac (1993, 1994). Progovac proposes that polarity items follow the principles of binding theory. Like anaphors, NPIs are subject to principle A. This explains why NPIs and anaphors must be licensed within a local domain (107)a, in which pronouns and positive polarity items (PPIs), like ‘someone’ in (107)b, are not grammatical:

(107)

a. Peter, likes *him/himself  
b. John did not see *someone/ anyone\[35\]

(Progovac 1993; 151)

In (107)b, the NPI is licensed through binding by negation. But NPIs may also be licensed in environments which do not contain overt negation, like the antecedent of conditionals, the clausal complement of an adversative predicate, certain PPs, or comparatives. Adversative verbs, PPs and comparatives are interesting, because they may take clausal or nominal complements:

(108)

a. Jan weigerde met Piet te praten  
Jan refused with Piet to talk  
‘Jan refused to talk to Piet.’  
b. Jan weigerde het aanbod  
Jan refused the offer  
‘Jan refused the offer.’

\[34\] See De Swart (1998) for a discussion of counterexamples to this claim.

\[35\] If someone takes scope over negation the sentence is grammatical.
NPIs are only licensed in the clausal variant, not in the nominal structure. We have seen this for adversative verbs in (103). (111) demonstrates the point for comparatives:

(111) a. Het feest duurde langer dan ook maar iemand verwacht had
   ‘The party lasted longer than anyone had expected.’
   b. * Wim is gevaarlijker dan ook maar iemand
      ‘Wim is more dangerous than anyone else.’
      (Hoeksema 1983; 405)

That (109)b and (111)b are nominal comparatives, and not clausal comparatives which have undergone ellipsis, can be seen from (112):

(112) a. Niemand is sterker dan zichzelf
   ‘Nobody is stronger than himself.’
   b. * Niemand is sterker dan zichzelf is
      ‘Nobody is stronger than himself is.’
      (Hoeksema 1983; 405)

If (112)a would involve ellipsis, then the anaphor in subject position would violate principle A, and the sentence would be ungrammatical, exactly like (112)b. The fact that it is not suggests that there are two different comparatives, one clausal and one nominal. This suggests that the examples in (111) also involve different structures. Hence, it seems that the clausal comparative, but not the nominal one, licenses NPIs.
We can make the same point for *zonder* ‘without’. The fact that the anaphor is licensed in (113)a, but not in (113)b, suggests that *zonder* ‘without’ may take a nominal or a clausal complement:

(113) a. Jan en Marie presteren het beste zonder elkaar
   Jan and Marie work best without each other
   ‘Jan and Marie work best without each other.’

   b. *Jan en Marie gaan nooit weg zonder dat elkaar
gedag hebben gezegd
   ‘Jan and Marie never leave without saying goodbye to each other.’

As in case of comparatives and adversative verbs, *zonder* ‘without’ only licenses NPIs contained in the clausal complement:

(114) a. *zonder ook maar iets
       without also just something
       ‘without anything.’

   b. zonder ook maar iets te doen
      without also just something to do
      ‘without doing anything.’

(Hoekstra 1991; 55/57)

According to Progovac (1993, 1994), these facts reflect the conditions on NPI-licensing: only overt negation or a polarity operator can license NPIs. Any CP may contain the polarity operator, but the polarity operator is filtered out in upward entailing clauses. Hence, in the absence of overt negation, NPIs are only licensed in downward entailing environments, like the antecedent of conditionals, questions, comparatives, or the complement to adversative verbs or prepositions like *zonder* ‘without’. The contrast between the nominal and clausal variants of these environments is explained by the position of the polarity operator: it sits in CP, and therefore only clausal environments license NPIs in the absence of overt negation (see also Laka 1990).

Progovac’s account predicts the contrast in (104), repeated here:

(115) a. … omdat de agent weigerde ook maar één demonstrant te arresteren
       ‘…because the cop refused to arrest a single protester.’

   b. *… omdat de agent ook maar één demonstrant weigerde te arresteren
       ‘…because the cop refused to arrest a single protester.’
Weigeren ‘refuse’ being an adversative verb, it licenses NPIs only indirectly, by virtue of the polarity operator in CP. The grammaticality of (115)a therefore follows if we assume that the complement is a CP:

(115) a’. because the cop refused [\[\text{CP}\] \[\text{Op}\] \[\text{TP}\]\text{any protester to arrest}]]

The ungrammaticality of (115)b also follows. If the complement is a CP in (115)b as well, movement into the matrix clause constitutes an island violation, on a par with (116)b:

(116) a. * 

b. * 

(116)b’ * … omdat Jan Marie besloot om te bezoeken because Jan Marie decided to visit ‘…because Jan decided to visit Marie.’

Alternatively, the complement in (115)b may be a Mood\textsubscript{IRREALIS}\textsubscript{P}. In this case, movement does not create an island violation, but because the polarity operator is necessarily absent, the NPI is without a licenser.

The contrast between (115)b and the examples in (105) is also predicted. Movement out of the complement clause is permitted in (105), because the complement clause is not a CP. Because of this, the complement clause does not provide a licenser for the ook\textsubscript{maar}-phrase. If the matrix clause does not provide a licenser, the result is ungrammatical (115)b. But if there is a licenser elsewhere, as in (105), the result is fine:

(105) b’. [\[\text{CP}\] \[\text{Op}\] if [\[\text{TP}\] the cop \text{any protester} refuses [\text{Mood}\textsubscript{IRREALIS}\textsubscript{P} to arrest]], becomes he fired]

If Progovac’s account could be carried over to Dutch, then the contrast in acceptability of the NPI in (115) may have nothing to do with the headedness of the Dutch VP. To maintain our claim that (115) is an argument for a head-initial VP in Dutch, we have to show that Progovac’s analysis is not correct. We have an
argument against Progovac’s analysis if it can be shown that an adversative verb may license an NPI in the absence of the embedded CP-layer. The following is a case in point, hence, (117) is problematic for Progovac’s analysis:

(117) ... omdat Jan de bedelaar weigerde ook maar een dubbeltje te geven
because Jan the beggar refused also just a nickel to give
‘...because Jan refused to give the beggar even just a nickel.’

(118) ... omdat Jan het verhaal weigerde aan ook maar één journalist
because Jan the story refused to also just one journalist
uit de doeken te doen
out the cloths to do
‘...because Jan refused to tell the story to any journalist.’

The embedded verb in (117) and (118) takes two internal arguments. The lower internal argument is an ook maar-phrase. If Progovac is correct, then the adversative verb cannot license the NPI directly, since the NPI must be bound by the polarity operator in [spec, CP]. This presupposes that the complement clause in (117) and (118) is a CP. But if it is a CP, then movement of a DP out of the complement clause is predicted to be ungrammatical, like in (116)b. Nevertheless, the goal DP de bedelaar ‘the beggar’ and the theme het verhaal ‘the story’ may move into the matrix clause. The fact that movement out of the complement clause is grammatical shows that it is smaller than CP. In turn, this means that NPIs do not require the presence of CP to be licensed if there is no overt negation.

5.3 Summary

In this section, we have discussed the properties of the DP in transparent constructions (5.1). We first established that the DP has the same properties in simple clauses, verbal clusters which contain an embedded vP-projection, verbal cluster which lack an embedded vP, and the third construction. Furthermore, we have demonstrated that the DP has the properties of a DP in its case position. We also provided an argument for the claim that the DP in transparent constructions is in the matrix clause (5.2). The NPI ook maar ‘any’ may not undergo A’-movement, but is grammatical in the third construction. However, if the licenser for the NPI is the matrix verb, the NPI is only grammatical in postverbal position, not in preverbal position. These facts find a parallel in the contrast between DP-objects and CP-objects: the preverbal DP-object may be an NPI, as long as its licenser is not the matrix verb. CP-objects, on the other hand, may contain an NPI licensed by the matrix verb. This suggests that DPs in the third construction behave like DP-objects of the matrix verb, which in turn implies that the DP is in the domain of the matrix verb.

This conclusion has important consequences for how we view restructuring. If long raising to object is grammatical out of a vP-complement or even complements as large as TP, then restructuring in Dutch is not graded: the presence
of functional projections in the infinitival complement does not predict which transparency phenomena are grammatical. Specifically, the presence of any functional head above $v$ does not predict whether $v$ can license accusative case.

Instead, the possibility of transparency effects depends on the phase structure of the complement. In the presence of a phase head $C$ or $v$, transparency effects are blocked. We develop an analysis along these lines in the next chapter.
6 The derivation of transparent infinitivals

Having established the outlines of the functional structure of Dutch sentences involving verb clusters, the third construction, and extraposed infinitival complements (chapters 3 and 4), and having argued that restructuring in Dutch is not graded (chapter 5), let us take a more detailed look into the derivation of sentences containing infinitives.

We present an analysis of argument licensing which accounts for the fact that the arguments of an embedded verb are sometimes licensed in the functional domain of the matrix verb. Assuming the functional structure of the infinitival complement argued for in 3.2, chapter 4 and section 4.6, it is clear that Wurmbrand’s (2001) account cannot be carried over to Dutch for all cases. Specifically, Dutch has constructions in which we observe long raising to object, a lexical or full restructuring effect, but in which the complement does not conform to the restructuring configuration. We suggest that Wurmbrand (2001) is essentially correct in claiming that full restructuring reflects the inability of the embedded clause to license a certain element. Our analysis differs from Wurmbrand’s (2001) in that we assume that this inability is not necessarily related to the presence of the contentful functional projections in the complement clause. We agree that in the absence of the argument licensing heads T and v, the embedded arguments are licensed in the matrix clause. However, as shown in chapter 5, an embedded argument may be licensed in the matrix clause even in the presence of a potential licensing head in the complement clause. In this chapter, we demonstrate in more detail how these constructions are derived.

This chapter is organized as follows. Section 6.1 summarizes the data we have to account for. We lay out our assumptions in 6.2. We present our analysis of argument placement in 6.3, and in 6.4, we demonstrate how the analysis accounts for the position of non-arguments in infinitival constructions.

6.1 The data

In this section we summarize the relevant data. The observations may be divided into two classes. On the one hand, we observe transparency in the positioning of arguments, which are discussed in 6.3, but on the other hand, non-arguments like adjuncts and participles also show transparency effects. These are discussed in 6.4.

As for arguments, we discuss the following sentence types:

(1) a. … omdat Jan [i [vP schijnt [TP te slapen]]] because Jan seems to sleep
   ‘…because Jan seems to sleep.’
(1)a-d are clustering constructions; the embedded arguments precede the matrix verb obligatorily. (1)a and (1)b are subject raising constructions. In (1)a, the embedded external argument moves into the matrix subject position. (1)b shows that the embedded internal argument moves into the matrix clause as well, despite the presence of vP in the embedded clause. (1)c and (1)d are also clustering constructions. In (1)c, the embedded internal argument moves out of the embedded VP into the matrix clause. The ECM-construction (1)d involves movement out of the embedded VP of both of the embedded arguments. (1)e is a third construction, and it shows movement of the embedded internal argument out of MoodIRREALIS. It exemplifies an apparently optional movement of the embedded argument, and it also exemplifies transparency effects in the presence of PRO. Finally, (1)f illustrates an opaque complement.

Accounting for the transparency effects related to the position of the embedded arguments is just one part of our task. We also have to account for the fact that various non-arguments may precede the matrix verb. In clustering constructions, the particle of a verb-particle combination may precede the matrix verb, but this is not obligatory (2)a. The same holds for the embedded lexical verb, if it is a past participle (2)b. Secondary predicates must precede the matrix verb, as shown in (2)c, as do adjuncts (2)d:

(2) a. … omdat Jan Marie ( terug / op) moet [TP ( terug / op) bellen ]
   because Jan Marie back up must back up call
   ‘…because Jan must call Marie back/up.’

b. … omdat Jan ( geslapen) moet [TP hebben ( geslapen) ]
   because Jan slept must have slept
   ‘…because Jan must have slept.’

c. … omdat Jan Marie ( gelukkig) moet [TP (* gelukkig) maken ]
   because Jan Marie happy must happy make
   ‘…because Jan must make Marie happy.’
As for the third construction, the distribution of non-arguments associated with the embedded verb is a little different. The particle of a verb-particle combination may precede the matrix verb, but unlike in clustering constructions, this word order is more acceptable with some verb-particle combinations than with others (3)a. Past participles may precede the matrix verb (3)b. Secondary predicates may precede the matrix verb, but this is not obligatory (3)c. Finally, adjuncts may precede the matrix verb (3)d.

(3) a. omdat Jan Marie ( terug / op) besloot [ModaltA ( terug / op) te bellen ]
   because Jan Marie back up decided back up to call
   ‘…because Jan decided to call Marie back/up.’

b. omdat Jan ( geslapen) beweert [TP ( geslapen) te hebben ( geslapen) ]
   because Jan slept claims slept to have slept
   ‘…because Jan claims to have slept.’

c. omdat Jan ( beroemd) besloot [ModaltA ( beroemd) te worden ]
   because Jan famous decided famous to become
   ‘…because Jan decided to become famous.’

d. omdat Jan ( voorzichtig) belooft [ModaltA ( voorzichtig) te rijden ]
   because Jan carefully promises carefully to drive
   ‘…because Jan promised to drive safely.’

These word order possibilities are predicted on our assumptions about locality. In a nutshell, we propose that past participles may, and particles, secondary predicates and adjuncts must, be merged with the predicate. However, the order in which elements are merged is to some extent flexible. We elaborate on this in 6.4.

### 6.2 Assumptions

In order to derive the sentences (1)a-f, we make the following assumptions. First, for all types in (1), we argue that the movement of the argument is motivated by the object licensing requirement of the DP, which we assume is case checking through movement (6.2.1). Second, if the DP is in the middle field of the matrix clause, it is licensed in this position (6.2.2). Third, whenever the embedded internal argument precedes the matrix verb, we assume that its case cannot be checked in the embedded clause, even if the embedded clause clearly contains v, as in (1)d-e (6.2.3). Fourth, whenever the embedded internal argument precedes the matrix verb, we assume that the matrix v checks its case, even when the matrix verb does not normally select a DP internal argument, as in (1)a-c (6.2.4). Fifth, we argue that
whenever the embedded internal argument precedes the matrix verb, the matrix vP and the complement clause constitute a single phase (6.2.5).

We develop these assumptions below. In 6.3, we demonstrate how each sentence type is derived.

### 6.2.1 Object licensing requires movement

Object DPs obligatorily precede the verb in Dutch. Assuming a head-initial VP, this means that the object DP must have moved from its postverbal base position to the preverbal surface position. The object is not necessarily adjacent to the verb, which demonstrates that the preverbal position is indeed a derived position:

(4) … omdat Jan het boek, ([zorgvuldig]) las t

‘…because Jan read the book (carefully).’

It is common to assume that this movement is motivated by the licensing requirements of the DP (Vanden Wyngaerd 1989; Zwart 1993, among others). The connection with case checking is suggested by the fact that sentential complements, which do not check case, follow the verb, while complement DPs must precede the verb. This view finds a natural implementation in early minimalist analyses, in which the spec-head relation was considered crucial in establishing agreement. Our analysis follows this tradition.

### 6.2.2 Surface position is licensing position

The embedded internal argument precedes the matrix verb in all sentence types (1)a-f. In chapter 5, we argued that this position is the licensing position of the DP. We briefly repeat the arguments for this claim. In 5.2, we argued that the position preceding the matrix verb is indeed a matrix clause position, rejecting the possibility

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1 We are aware of the problems with the assumption that object movement is case driven. Unlike in early minimalist works, the spec-head relation is no longer considered a prerequisite for feature checking. This means that case checking does not necessarily trigger movement, and an independent motivation for movement must be found. Zwart (2004) proposes that object licensing is not related to any feature, but involves externalization of the internal argument. However, both object licensing as externalization and object licensing as case checking face the problem that not only objects are in a derived position, but any non-sentential argument. Thus, oblique arguments, PP-arguments and small clause predicates also surface to the left of the verb. None of these are necessarily adjacent to the verb, suggesting that these too occupy a derived position.

2 We follow Chomsky (2001) in assuming that the functional head responsible for accusative case licensing is v. Chomsky (2005) assumes that the relevant probe is V, with the corresponding movement targeting [spec, VP]. The shift in perspective is motivated by Chomsky’s (2004; 13) view that T does not act as a probe independently, but inherits this quality from the phase head C. In Chomsky (2005; 14), this view is generalized to all phase heads. Thus, not only C passes on its EPP-feature and case checking properties to the head it selects, but so does v. Since we are not committed to the position that only phase heads are probes, we do not follow Chomsky’s (2005) account of case checking.
that the DP is contained in the partly evacuated embedded clause. As the DP precedes the matrix clause obligatorily in (1)a-d, it is unlikely that the preverbal position reflects some discourse driven movement. In addition, we have shown in 3.2 that in some of the sentence types, that is, type (1)c, the infinitival complement is a VP. On the assumption that object licensing involves case checking by v, the infinitival complement does not have the capacity to check case, lacking v altogether. The fact that the embedded internal argument precedes the matrix verb obligatorily is then straightforwardly explained as the result of movement driven by licensing requirements.

By analogy, the fact that DP obligatorily precedes the matrix verb in clustering constructions in which the complement is larger than VP is explained in the same way. Extending the analogy even further, we assumed that the preverbal position of the embedded internal argument in the third construction also reflects the requirements of object licensing.

This is supported by the observation that indefinite objects, which generally may not be separated from the theta assigning verb on the existential interpretation, may precede the matrix verb (5.1.2). The same holds for parts of idioms: they are generally adjacent to the verb they form an idiomatic expression with, but may be separated from this verb by the matrix verb (5.1.3). Since the various types of infinitival clause in (1) show the same behavior, there is no need to assume different analyses.

The fact that the preverbal position is not associated with any obvious discourse effect (5.1.4) suggests again that the DP in the matrix clause is in fact in a licensing position. This is also suggested by the fact that the DP may bind from this position (5.1.5).

For these reasons, we assume that a DP in a transparent infinitival construction occupies its licensing position, which is in the matrix clause.

### 6.2.3 The embedded clause fails to license DP

If the DP is licensed in the matrix clause, it must not be licensed in the embedded clause. This assumption is unproblematic for sentences of the type (1)c, in which the matrix verb embeds a VP (cf. 3.2.6.2):

\[
\text{(5) ... omdat Jan een taart \_VP bakken \_t_i \_]
\]

because Jan a pie had try-INF to bake

‘...because Jan had tried to bake a pie.’

If object licensing involves case checking, then it is obvious that the complement in (5), lacking v, fails to license the embedded internal argument. However, it is not so clear that complements which project vP could fail to license case on the embedded internal argument:
because Jan Marie bread has see.bake
‘…because Jan saw Marie baking bread.’

The activity condition (Chomsky 2001) requires that the goal of movement be visible to the probe. That is, it must not have its uninterpretable features checked. So in order for the matrix $v$ to be able to attract $brood$ ‘bread’, the embedded $v$ must not check the case feature on the embedded internal argument.

This is potentially problematic, because it leads to the following feature specification for the embedded $v$: $[+\theta]$. 3 This specification violates the specifications allowed by the $vP$-approach to Burzio’s Generalization. Burzio’s Generalization (7)c is the combination of the two conditions (7)a, (7)b:

(7) a. $-\theta_s \rightarrow -\text{Acc}$
    b. $-\text{Acc} \rightarrow -\theta_s$
    c. $\theta_s \leftrightarrow \text{Acc}$

(Burzio 1986; 179/184/185)

(7)a expresses that the absence of an external argument entails the absence of accusative case, (7)b states that the absence of accusative case entails the absence of the external argument, and by (7)c, the presence of the external argument entails the presence of accusative case, and vice versa. It has been noted that Burzio’s Generalization follows elegantly if the two features responsible for thematic role assignment and accusative case licensing are represented on a single head $v$ (Chomsky 1995). We refer to this account as the $vP$-approach to Burzio’s Generalization, or the $vP$-approach, for short.

The feature composition we proposed for the embedded $v$ in (6), in which it has the feature to assign the external thematic role, but not the one to license accusative case, seems problematic for the $vP$-approach to Burzio’s Generalization, because by (7)c, the presence of the external thematic role entails the presence of the accusative case checking feature. The assumed $v$: $[+\theta]$ thus poses a problem for this account of Burzio’s Generalization.

In defense of the non-case checking $v$ in ECM-complements, we note that such a $v$ which assigns the external thematic role, but does not license case, is not unique to Dutch ECM-constructions. Unergative verbs do not take objects, such that there is no accusative in such constructions. This is problematic for the $vP$-approach, because the two features are represented on the same head $v$. But it is not necessarily problematic for Burzio’s Generalization as proposed by Burzio (1986), which is intended to capture that in special circumstances, an accusative argument is possible with unergative predicates, in contrast to unaccusative verbs:

3 For expository reasons, we represent a $v$ which assigns a thematic role as $[+\theta]$, but we are agnostic as to whether an actual theta feature is involved. Similarly, we represent a case licensing $v$ as $v$: $[+\text{acc}]$. For our purposes, nothing hinges on whether we assume that case licensing involves an actual case feature or the bundle of $\phi$-features.
Whatever the explanation of the contrast in (8), on the simplest analysis unergative verbs are introduced by $v$ which assigns the external thematic role, but does not have an accusative case feature.

We conclude that if the lexicon makes such an element available, there is no reason to assume that the selection of this type of $v$ is blocked with transitive predicates. Of course, this selection is not generally found, but this may well be due to other factors; in a transitive simple clause, the internal argument would not be able to get its case feature checked if VP is selected by $v: [+\theta]$. But as such a derivation is excluded for independent reasons, there is no need to stipulate that $v: [+\theta]$ may not be selected from the lexicon in the first place.

We conclude that a priori, it is not problematic to posit that transitive verbs may be introduced by non-case checking $v$. Whether or not this results in a well-formed structure depends on the properties of the other elements in the construction. In simple finite transitive clauses, the derivation crashes with this choice of $v$, but in certain Dutch infinitival constructions, further special circumstances can be identified, which conspire to yield a converging derivation. In 6.2.4, we discuss the ‘accusative unaccusative’ construction (Lavine & Freidin 2002). Like ECM in Dutch, this construction also involves a choice of $v$ which would normally lead to an ill-formed derivation, but in combination with another special circumstance, the choice of $v$ nevertheless yields a converging derivation.

We conclude that it is possible for a non-defective $vP$ to fail to license the internal argument.\(^4\)

### 6.2.4 The matrix $v$ licenses DP

In 4.6 and 6.2.2, we proposed that the embedded internal argument is licensed in the position preceding the matrix verb in Dutch transparent infinitival constructions. As discussed above, a necessary condition for this is that the argument cannot be licensed in the embedded clause. But there is a further condition: the matrix clause must have the capacity to check case on the DP. It is not immediately clear that the matrix clause has this capacity. Many verbs which select a transparent infinitival clause are incompatible with DP objects. But we know that these predicates must have the capacity to check case in certain environments, like (9)a:

(9) a. ... omdat Jan dat probeerde
    because Jan that tried
    ‘...because Jan tried that.’

\(^4\) Non-defective in the sense that $v$ assigns the external thematic role.
b. ... omdat Jan Marie een brief probeerde te schrijven
   because Jan Marie a letter tried to write
   ‘...because Jan tried to write Marie a letter.’

The proform *dat* ‘that’ is a DP and may be assumed to have the same licensing requirement as any other DP-object. From this, we may infer that vP associated with *proberen* ‘try’ could in principle check accusative case.

The indirect object *Marie* in (9)b, on the other hand, may be assumed to bear an inherent case. If this case must be checked by movement (which is not standard, but has been proposed before, cf. McGinnis 1998; Lee-Schoenfeld 2005), then the matrix v must have the capacity for that too, in spite of the fact that it would never check an inherent case on an argument of the matrix verb.

As in 6.2.3, we suppose that whether VP may be introduced by a certain choice of v does not depend on selectional properties. We assume that in principle, any choice of v may introduce any type of verbal complement. Whether the combination yields a well-formed structure depends on other factors. An accusative case checking v could not normally introduce a VP which does not contain a DP argument, because then the case feature on v would remain unchecked. Ultimately, this would cause the derivation to crash. But if, due to special circumstances, a DP with an unchecked case feature is accessible to v, then v could check case on this DP and no uninterpretable features would reach the interface. We propose that in such a situation, case checking v may combine with a VP which does not provide a DP to check case with.

In a nutshell, this is the key to transparent Dutch infinitival clauses. It is the interaction between several non-standard circumstances (the absence of case checking v in the embedded clause, the presence of case checking v in the matrix clause, and, as we argue in 6.2.5, the absence of a phase boundary between the two clauses) which produces the transparency effects we observe in these constructions.

However, there is one issue we have to address. Even if any choice of v may freely combine with any type of VP, we have to make sure that the assumed choice of v is indeed available in the lexicon. If v checks case on the internal argument of a verb embedded under *proberen* ‘try’, we have to assume that v has the following feature specification: v: [+θ, +acc]. This is the same v we find in transitive simple clauses, so we may safely assume that this choice of v exists. But now consider the type we would have to assume for constructions like (1)b:

(10) … omdat Jani [vP Mariej v schijnt [ te t1 kennen t2 ]]
    because Jan Marie seems to know
    ‘...because Jan seems to know Marie.’

We know that the matrix verb *scheijnen* ‘seem’ does not assign a thematic role to the matrix subject. Its v is defective, neither assigning a thematic role nor, in standard circumstances, checking case. The thematic role of the subject must therefore be assigned by the embedded predicate. But we also know that the embedded predicate does not check the accusative case feature of the embedded internal argument, or
this DP would not be expected to move into the matrix clause. This leads to the following feature specification for the matrix v: [+acc]. But this specification is in violation of the vP-approach to Burzio’s Generalization.

In the remainder of this section, we argue that although the vP-approach is attractive, it does not derive Burzio’s Generalization. If this is the case, then the feature specification it predicts, v: [+θ, +acc], is not a necessity, and the vP-approach would reduce to a stipulation rather than an explanation of Burzio’s Generalization. If this is the case, then v: [+acc] is not necessarily an impossible feature specification.

We have already argued that in addition to the predicted v: [+θ, +acc], there is evidence for a choice of v: [+θ], in violation the vP-approach to Burzio’s Generalization. We now present evidence that additional types of v must be assumed. First, it has been proposed that not only verbal phrases which are associated with an external thematic argument have a vP-projection, but that any verb does (Chomsky 2001, 2004, 2005). But if unaccusative verbs and passives also involve a vP of some kind, then the correlation between the presence of the external thematic role and the availability of accusative case does not follow from the fact that a vP is projected. While the two properties still correlate, this correlation is independent of the presence of v. Thus, it seems that it is necessary to define the feature composition of at least three heads v; one for transitive verbs in the active voice, specified as v: [+θ, +acc]; another for passives and unaccusatives, which has neither of these features; and finally, one for unergative verbs, or verbs which a sentential complement (but see Koster 1999a), and also for certain cases of restructuring, like (6) above. This v has the specification v: [+θ].

The latter two types violate the vP-approach to Burzio’s Generalization. With this state of affairs, it does not seem unreasonable to assume that the features responsible for theta role assignment and accusative case checking may also be represented on a functional head independently of each other, that is, nothing blocks the existence of a choice of v which has only a case feature. This is the type we find with Dutch raising constructions like (10).

It may seem like we introduce this type only to account for the special properties of Dutch infinitival clauses, but it is in fact independently motivated. If double object constructions involve a layered verbal phrase, double object passives are problematic for the vP-approach. In active clauses, according to McGinnis (1998), v assigns a theta role to the external argument, and checks case on the goal. The goal is base generated in the specifier of the head R, which, in its turn, checks case on the theme:

\[
(11) \quad \begin{array}{c}
\text{[vP agent]} \quad \begin{array}{c}
\text{v} \quad \begin{array}{c}
\text{[vP goal]} \quad \begin{array}{c}
\text{R} \quad \begin{array}{c}
\text{[VP theme V]} \end{array}
\end{array}
\end{array}
\end{array}
\end{array}
\end{array}
\]

In a ‘short’ passive, the higher of the two internal arguments of a double object construction becomes the subject in a passive sentence, such that I gave John a book.
becomes *John was given a book* under passive. The fact that the goal in (11) moves to the subject position in a passive structure follows if \( v \) is responsible for both the assignment of the external thematic role, and for the licensing of accusative case on the goal argument. In the passive variant of (11), \( v \) has neither the ability to assign a thematic role, nor the ability to check accusative case with the goal argument. But alongside short passives, British English also allows long passives, in which the lower of the two internal arguments moves to the subject position:

(12) a. A book was given Colin for his birthday
(McGinnis 1998; 145)
   b. \([\text{TP a book, } \left[ v_P [v_R \text{ Colin R }] \right] ]\] )

For the theme argument *a book* to be eligible for raising to the subject position, it must not have its case checked in \( v_P \). McGinnis (1998) argues that in active clauses, both \( v \) and \( R \) check accusative case. \( R \) checks the case of the theme argument, while \( v \) checks the case of the goal argument. In a long passive, \( v \) loses the ability to assign the external thematic role, but it does not lose the ability to check accusative case with the goal argument *Colin*. Instead, it is the lower head \( R \) in (12)a whose case feature is suppressed, leaving the theme argument without case. Thus, the feature composition of \( v \) in (12) is problematic for the \( v_P \)-approach to Burzio’s Generalization. Although \( v \) fails to introduce the external argument, its case licensing potential is the same as in active sentences.

Another construction in which the case licensing potential of \( v \) seems to be intact, despite the absence of an external thematic argument, is the ‘accusative unaccusative’ construction found in Russian and Ukrainian (Lavine & Freidin 2002; Pesetsky 1982):

(13) Soldata ranilo pulej
    soldier,ACC wounded-[AGR] bullet,INST
    ‘A soldier was wounded by a bullet.’
    (Lavine & Freidin 2002; 256)

(14) Inozemca bulo posadženo do v’jaznyci
    foreigner,ACC was,-[AGR] placed,DFT to prison
    ‘A foreigner was put into prison.’
    (Lavine & Freidin 2002; 257)

---

5 The terms ‘short’ passive and ‘long’ passive indicate which of the two internal arguments in a passive ditransitive is raised to the subject position. They should not be confused with the term ‘long passive’ as used by Wurmbrand (2001), which refers to a passive in which an argument of the embedded verb is raised to the subject position of a passive matrix clause.

6 Note that the fact that the theme argument bears accusative case is unexpected on (7)c. To account for the availability of accusative case on the theme argument, Burzio (1986; 187) distinguishes between case assigned by the verb and assigned by the structural configuration. Only the former case is relevant for (7)c.

7 Burzio (1986; 187) acknowledges that examples like (12) are problematic for Burzio’s Generalization.
Lavine & Freidin (2002) argue that in this construction, T is defective: it does not check nominative case, and it shows no agreement. Moreover, the interpretation is impersonal. These properties suggest that the external argument is not projected.

Furthermore, Lavine & Freidin (2002) present arguments that the accusative case we see on the theme arguments in (13) and (14) is a structural accusative, hence checked in the same way as the accusative on the direct object in a transitive clause. First, the accusative may undergo the process of ‘genitive of negation’, in which an argument that checks structural accusative case, bears genitive case when it is in the scope of negation. Arguments which bear an inherent case do not undergo this process. In this respect, the accusative in the accusative unaccusative construction shows the same behavior as the structural cases, not as the inherent cases.

Second, if a noun is quantified by a numeral, then the noun will bear genitive case if the numeral bears a structural case. If the numeral bears an inherent case, then the noun bears the same inherent case. Again, the accusative in the accusative unaccusative construction patterns with the structural cases rather than with the inherent cases. The noun bears genitive, suggesting that the accusative on the numeral is really a structural accusative.

For these reasons, the accusative in the accusative unaccusative construction may be taken to bear structural case, licensed in the exact same way as structural accusative is licensed in transitive sentences. But the external thematic role is not assigned in these constructions, suggesting that v has the feature composition v: [+acc].

Thus, the type of v we find in Dutch clustering constructions with raising verbs is also attested in other languages. This feature composition violates Burzio’s Generalization, as accusative case is licensed on the internal argument, while the external argument is not assigned, which suggests that the vP-approach to Burzio’s Generalization cannot be maintained.

The accusative unaccusative construction is interesting for another reason as well. The observations suggest that unconventional feature specifications are possible, as long as there is a way for the derivation to converge. The v which selects an unaccusative VP does not assign accusative in languages like English, but if it would, this would lead to an ill-formed derivation. With the case of the internal argument checked by v, there is no way for T to have its nominative case feature deleted. Thus, the feature composition [+acc] for v leads to a crashing derivation. But note that this is only so if there is a T which has uninterpretable features to begin with. This choice of v does not lead to a crashing derivation if a T is available that does not have a case feature to check. For reasons which are unclear to us, such a T is available in Russian and Ukrainian, but not in languages like English.

To summarize, we assume that Burzio’s Generalization cannot be used as an argument that the feature composition of v has to be [+θ, +acc]. Additional choices of v must be assumed. So far, we have seen evidence for v: []; v: [+θ]; v: [+θ, +acc] and v: [+acc]. But if the feature specification of v is not restricted, we may wonder whether further types may be identified, for instance, a type which assigns multiple

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8 Moreover, T must be defective. If T were to have uninterpretable features, the derivation would crash, as there is no DP available that could check its features and be assigned nominative. Lavine & Freidin (2002) argue that T only has an EPP-feature, and that the accusative argument raises to the subject position. This aspect of the construction is irrelevant for our purposes.
thematic roles or checks multiple accusative case features: \( v: [+\theta, +\theta] \) or \( v: [+\text{acc}, +\text{acc}] \). To our knowledge, there are no examples of multiple external arguments which receive their thematic role from the same functional head. However, this need not be taken to mean that \( v: [+\theta, +\theta] \) is impossible in principle; we assume that whether a certain choice of \( v \) yields a convergent output can only be determined by taking properties of the entire sentence into account. It could be that there just aren’t any circumstances in which a derivation which contains \( v: [+\theta, +\theta] \) yields a well-formed output. The element \( v: [+\theta, +\theta] \) is then predicted to be non-existent, but not because it is in itself ill-formed.

Things are different for \( v: [+\text{acc}, +\text{acc}] \). We know that there are various constructions in which a DP receives its thematic role in a different domain than where it gets its case licensed. T and \( v \) license case on a DP which originates in a lower clause in raising to subject and ECM. It does not seem implausible that, in the right circumstances, it could license more than one case feature (pace Koster 1987, whose bi-uniqueness condition forbids that an antecedent \( \alpha \) have more than one dependent \( \delta \)). In 6.3.4 and 6.3.5, we show that this is indeed possible in Dutch ECM-constructions and the third construction. But Dutch is not unique in this respect. Hiraiwa (2001) argues that \( v \) may check accusative case on more than one DP in Japanese. Consider (15), a possessor raising construction:

\[
\text{(15) John-ga CP [TP Mary-ga me-ga waru-i] to omoikondei-ta JAPANESE}
\]
\[
\begin{array}{ll}
\text{John-NOM} & \text{Mary-NOM eyes-NOM bad-PRES C believe-PAST} \\
\end{array}
\]

‘John thinks that Mary has a bad eyesight.’

(Hiraiwa 2001; 73)

Due to raising of the possessor out of its host DP, the embedded clause in (15) is a multiple subject construction, having two nominative DPs, Mary-ga ‘Mary’ and me-ga ‘eyes’. Japanese allows ECM with finite complements (Kuno 1976). If ECM involves case checking by the matrix \( v \), we may expect that the ECM-equivalent of (15) contains two accusative DPs. This is borne out:

\[
\text{(16) John-ga CP [TP Mary-wo me-wo waru-i] to omoikondei-ta JAPANESE}
\]
\[
\begin{array}{ll}
\text{John-NOM} & \text{Mary-ACC eyes-ACC bad-PRES C believe-PAST} \\
\end{array}
\]

‘John believes Mary’s eye to be bad.’

(Hiraiwa 2001; 75)

Hiraiwa (2001) notes that (16) is not perfect, but certainly not ungrammatical either.\(^9\) He attributes the contrast between (15) and (16) to the so called double-o

\[^9\] According to Hiraiwa (2002), judgments on multiple accusative constructions show some speaker variation. Multiple accusatives are uniformly judged ungrammatical in causative constructions, but other multiple accusative constructions, like possessor raising with objects, show more varied judgments. Also, the effects of the double-o constraint can be avoided in possessor raising constructions, for instance by dropping the accusative suffix on one of the DPs, scrambling, clefting or sluicing.
constraint, which blocks the occurrence of more than one accusative marked element in the sentence.\textsuperscript{10}

In addition to (16), there is a variant in which only the higher of the two DPs is exceptionally case marked:

(17) John-ga [\textit{TP Mary-\textit{wo me-ga} waru-i] to} omoikondei-ta JAPANESE
John-NOM Mary-ACC eyes-NOM bad-PRES C believe-PAST
‘John thinks that Mary has a bad eyesight.’
(Hiraiwa 2001; 73)

This shows that the two DPs have their case licensed independently of each other. If such constructions like (16) are indeed grammatical, as Hiraiwa (2001) suggests, then we have to assume that a v probe may license case on more than one DP. We take this to mean that the lexicon makes available a choice of v which is specified as v: [+acc, acc]. We return to Japanese ECM in 6.2.5.

6.2.5 The embedded clause forms a single phase with the matrix vP

Our last assumption concerns the phase structure of infinitival clauses. We propose that whenever the embedded internal argument is licensed in the domain of a higher clause, the two clauses constitute a single phase. Given the Phase Impenetrability Condition (PIC) (Chomsky 2000 \textit{et seq}.), the domain of a phase head is not accessible to operations outside the phase. Hence, the matrix v does not have access to the domain of a lower phase, so if the embedded vP is a phase, the matrix v could not access the embedded internal argument inside the embedded vP:\textsuperscript{11}

(18) a. [\text{\textit{PHASE v [\textit{NON-PHASE v XP}]]}}

b. [\text{\textit{PHASE v [\textit{PHASE v XP}]]}}

The assumption that the embedded clause and the matrix vP form a single phase is uncontroversial for sentences of the type (1)c, in which the matrix verb embeds a VP:

\textsuperscript{10} The exact formulation of the double-\textit{o} constraint has been the topic of some debate, see Hiraiwa (2002). Hiraiwa (2001) notes that multiple ECM is ungrammatical in Korean, which is like Japanese in allowing multiple subject constructions. Korean and Japanese differ in that multiple accusative constructions are possible in Korean, in contrast to Japanese.

\textsuperscript{11} There is an alternative. Cross-phasal movements proceed successive cyclically. An element which moves into the specifier of a phase head is accessible to the next higher phase head. We might assume that transparent infinitival constructions consist of multiple phases, with the effects of the PIC circumvented by successive cyclic movement. We do not assume this alternative because if there is successive cyclic A-movement through Chomsky’s (2000 \textit{et seq}.), it is unclear why there is no successive cyclic A-movement through [\text{\textit{spec, CP}}], for instance in raising to subject or the third construction.
(19) ... omdat Jan een taart had proberen te bakken t_i 
    because Jan a pie had try.INF to bake
    ‘...because Jan had tried to bake a pie.’

The derivation of (19) is straightforward. The sentence then contains two phases, the matrix CP and the matrix vP. As the embedded clause is a bare VP, it does not constitute a phase. But now consider raising:12

(20) ... omdat Jan Marie schijnt te kussen (=1)b
    because Jan Marie seems to kiss
    ‘...because Jan seems to kiss Marie.’

We assume the lexical array (21):13

(21) / kussen, Marie, te, v_2; [+0], Jan, T_{2-def}, schijnen, v_1; [+acc], T_{1}, omdat / 
    kiss Marie to Jan seem because

The embedded V merges with the embedded internal argument. Then v is added, and the embedded external argument:

(22) [vP Jan v [VP kussen Marie ]]

Jan kiss Marie

In an opaque construction, the next step in the derivation would be movement of the internal argument into the specifier of v, motivated by the need to get the case feature of the internal argument checked. But in (20), Marie ends up to the left of the matrix verb, which we assume indicates that its case is checked by the matrix v instead of the embedded v. This implies that the embedded v must not be able to check case on Marie, or Marie would be frozen in place, as discussed in 6.2.3. It also implies that the embedded vP must not constitute a phase, or Marie would not be able to move out. But this means that unlike English, Dutch has transitive vPs which are not phases.

The assumption that unlike English, Dutch has non-phase defining transitive vPs looks like a stipulation. In defense of our analysis, we note that if we study phases in more detail, it is not entirely clear when a phrase is a phase, and if it is a phase, what makes it so. So if it could be shown that a similar indeterminacy is observed in the phase status of CP and PP, we may assume that the variation in the phase structure of Dutch infinitival clauses actually reflects a general, yet poorly understood property of phases. We note that there is indeed some evidence that the status of a head as a phase head may not always be reduced to inherent properties of the head, and moreover, that there is variation in the status of heads as phase heads for C and P as well.

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12 The point equally holds for ECM.
13 Functional heads which occur more than once in the lexical array are subscripted. The number indicates hierarchical order, such that a head with a lower subscript c-commands the ones with higher subscripts.
6.2.5.1 A note on phases and phasehood diagnostics

To assess to what extent our analysis of the Dutch vP is problematic for phase theory, we have to say a little bit about what constitutes a phase. Chomsky (2000 et seq.) offers several diagnostics for phasehood, but they are difficult to apply, as Matushansky (2003) notices. On the conceptual side, Chomsky (2000 et seq.) suggests that only ‘propositional’ structures can be phases. Empirically, phases are defined by locality and edge effects. We discuss these criteria below.

6.2.5.1.1 Interpretive diagnostic: propositionality
Chomsky (2000 et seq.) posits that what distinguishes a phase from a non-phase has to do with propositionality. Unlike VP, vP has full argument structure, and unlike TP, CP has force indicators.

6.2.5.1.1.1 vP: full argument structure
We might argue that the variation in the phase status of vP in Dutch infinitival clauses actually follows from Chomsky’s (2001) assumptions. Chomsky proposes that a phase defining v has full argument structure, that is, projects an external (and internal) argument. By virtue of the vP-approach to Burzio’s generalization, this v checks accusative case, and if case checking and phase status correlate, then a vP which introduces an external argument is necessarily a phase. But Chomsky does not discuss the special circumstance in which v assigns the external thematic role but fails to check case on the internal argument, so it is not immediately clear whether he would take this type of v to be phase defining. There are two options. Either the criterion of ‘full argument structure’ should be understood as ‘full argument structure and case checking capacity’, in which case the type of v we propose is not a phase head, or the criterion should be taken as ‘full argument structure, regardless of case checking capacity’, in which case the v we proposed above is a phase head by definition, and something needs to be said about why Dutch behaves differently from English.

For standard Dutch, the phase status of vP seems to correlate strongly with the capacity to check case. In 6.4, we argue that merger of an adverb may in principle be postponed indefinitely, as long as the adverb is merged before any material from the next higher phase is merged. This explains why adverbs may precede or follow the direct object in simple clauses. The adverb is added to the structure either before or after the internal argument moves into [spec, vP]. It also explains the interpretation of adverbs in the third construction:

(23) a. … omdat Jan snel besloot zijn auto te verkopen
   because Jan quickly decided his car to sell
   ‘…because Jan quickly decided to sell his car.’
   not: ‘…because Jan decided to sell his car quickly.’
   b. … omdat Jan snel zijn auto besloot te verkopen
   because Jan quickly his car decided to sell
   ‘…because Jan quickly decided to sell his car.’
   ‘…because Jan decided to sell his car quickly.’
If an adverb is interpreted in the phase it is merged in, then the fact that *snel* ‘quickly’ may modify the embedded clause in (23)b means that the adverb is in the same phase as the embedded predicate. We may therefore assume that the embedded vP does not define a phase, which is also suggested by the position of *zijn auto* ‘his car’ preceding the matrix verb. In (23)a, on the other hand, the embedded scope interpretation is not available for *snel* ‘quickly’, which suggests that it is not in the same phase as the embedded predicate. Again, this is also suggested by the position of the embedded object. So far, the position of the object, hence the position of the case licenser, correlates with the phase status of the embedded vP: vP is a phase if it licenses case, and if it does not license case, it is not a phase. This also seems to hold in the case of unergative verbs:

(24) a. … omdat Jan snel besloot te handelen
    because Jan quickly decided to act
    ‘…because Jan quickly decided to act.’
    ‘…because Jan decided to act quickly.’

In (24), the embedded verb does not take an internal argument, so v does not license case. Accordingly, the embedded vP does not define a phase, and merger of the adverb may be postponed until after merged of the matrix v. This is because the embedded clause is part of the matrix vP. If the proposed analysis is correct, then we could define the vP-phase in terms of case licensing. We assume that this is indeed true for standard Dutch.

However, the capacity to check case does not necessarily make vP a phase. In West-Flemish, an adjunct which precedes the matrix verb may modify the embedded predicate even if the embedded v checks case:

(25) da Jan Valère drie kiers deeg da boek lezen
    that Jan Valère three times made that book read
    ‘that on three occasions Jan made Valère read that book.’
    ‘that Jan made Valère read that book three times.’
    (Haegeman 1992; 110)

(25) is an ECM-construction, so the infinitival clause projects up to, at least, vP. *Da boek* ‘that book’ does not precede the matrix verb, so we may assume that it is licensed by the embedded v. Hence, the embedded v has the capacity to license case, but it must not define a phase, or merger of the adjunct *drie kiers* ‘three times’ could not be postponed.14

We can draw the same conclusion from (26), also from West-Flemish:

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14 A word of caution is in order. In (i), the adverb can only take scope over the matrix verb:
(i) da Jan Valère dikkerst liet geen vlees eten
    that Jan Valère often let no meat eat
    ‘that Jan often allowed Valère to eat no meat.’
    (Haegeman 1992; 142)

This is what we would predict if case licensing v is necessarily a phase head.
The verb *lezen* ‘read’ takes two arguments, *dienen tekst* ‘that text’ and *nnen student* ‘a student’. One of the arguments is licensed in the vP associated with *doen* ‘make’, but the other argument is licensed by the higher vP associated with *moeten* ‘must’. However, if the vP associated with *doen* ‘make’ were to define a phase, we would not expect *nnen student* ‘a student’ to move from the domain of *doen* ‘make’ into [spec, vP] of the verb *moeten* ‘must’. Hence, *doen* ‘make’ is introduced by v: [+θ, +acc] (assuming modal verbs are raising verbs and the matrix subject is the external argument of *doen* ‘make’), but this v is not a phase head.

We conclude that vP with 'full argument structure’, whether understood as a case licensing vP or not, is not necessarily a phase. If this is correct, we have to address the question of why Dutch (and West-Flemish) differs from English in allowing - apparently randomly, if we extend the analysis to the third construction - a transitive verb to be selected by a non-phase defining v.

In the next subsection, we discuss the criterion of ‘propositionality’ in relation to CP.

### 6.2.5.1.1.2 CP: propositional

The ‘propositionality’ diagnostic seems to be of limited use in clarifying the notion ‘phase’, because it is not clear what exactly is meant by ‘propositional’. The complement to a raising verb is propositional in the sense that it has a truth value independently of the matrix clause (see chapter 3, footnote 25):

(27) … omdat de opossum dood lijkt te zijn, wat niet waar is …because the opossum appears to be dead, which is not true.

On the most obvious reading of (27), the speaker denies that the opossum is dead, not that it appears to be dead. Modification with a phrase like ‘which is true’ is a diagnostic for propositional status (Pesetsky 1991). Yet raising verbs take TP complements, which are not phases in Chomsky (2000 et seq.).

Furthermore, still assuming that ‘propositional’ should be taken as ‘having a truth value’, not all CPs are propositions. As shown in chapter 3, footnote 18, the complement of an irrealis verb may be a CP, but this CP is not propositional:

(28) a. Jan besloot dat hij naar Rome zou gaan wat niet waar is ‘Jan decided that he would go to Rome, which is not true.’

15 Perhaps the movement of *nnen student* ‘a student’ is a form of A’-scrambling, as the example may be interpreted contrastively, such that first a student should read the text, and then others. However, the contrastive interpretation is not forced, suggesting that A-movement is also possible.
Yet propositional and non-propositional CPs are subject to the same locality conditions, which suggests that phase status is independent of propositionality.

Chomsky (2001: 12) suggests that the relevant notion of propositionality must make reference to the difference between CP and TP with respect to force. But it is not clear why force is a necessary requirement for propositionality. Also, it is not clear what force in CP and full argument structure in vP have in common, such that only these phrases are phases.

But even if these issues could be cleared up, the notion of ‘propositionality’ may still be problematic, because it has been proposed that not only vP and CP are phases, but also DP (Svenonius 2003) and PP (Abels 2003). But the latter two phrases are not propositional in any sense. We therefore assume that ‘propositionality’ is not a crucial factor in determining whether a phrase is a phase. We suggest that empirical facts should be decisive.

6.2.5.1.2 **Empirical diagnostic: the edge**

Empirically, phases can be identified by the effects of the Phase Impenetrability Condition (PIC), which states that only the head of the phase and the edge are accessible to operations outside the phase (Chomsky 2001; 13). Because of the PIC, movement from one phase to another is only possible from the edge of the lower phase. The edge consists of the phase head and the specifier(s) and adjoined elements, and it functions as an escape hatch, providing an intermediate landing site. Conversely, the presence of an intermediate trace is diagnostic for the presence of an edge, hence the presence of a phase head.

If all phases have an edge, then it should be possible to diagnose intermediate landing sites in the specifier domain of all heads which are assumed to define phases. We take this to be the strongest indication that a phrase is a phase. We use this criterion to show that the alleged phases vP, CP and PP are indeed phases.16 We further demonstrate that the findings lead to the conclusion that the status of a phrase as a phase is not connected to any identifiable characteristic of the phase head. This makes the proposed variation in the status of v in Dutch less unique.

6.2.5.1.2.1 **CP as a phase**

As for CP, Chomsky proposes that wh-movement to intermediate [spec, CP] takes place precisely to make movement across phases possible. There are various other arguments for intermediate movement through [spec, CP] (see Chomsky 2001, and references therein). The phase status of CP is therefore uncontroversial.

However, it seems that there are some transparency phenomena in the presence of a complementizer. We present three such cases.

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16 Matushansky (2003) uses a variety of tests to determine whether DP is a phase, concluding that the mixed results indicate uncertainty as to which are the relevant tests. For this reason, we only look into the edge property, and ignore DP.
6.2.5.1.2.1.1 Superraising

Consider (29), an example of superraising (Ura 1994):

(29) * John seems that it was told ṭ that Mary is a genius
    (Ura 1994; 5)

Superraising is movement across a subject to an A-position in a higher clause. Although ungrammatical in English, Ura (1994; 5) argues that superraising is grammatical in a considerable number of languages. In languages which allow superraising, the superraising argument commonly appears to have its source in a finite clause containing a complementizer, as in this example from Bouma Fijian:

(30) a. Au kila [CP ni vinakata-i iko ko Timaima] BOUMAA FIJIAN
    I think COMP want-proper you PROP-ART Timaima
    ‘I think that Timaima likes you.’

b. Au kila-i iko [CP ni vinakata ṭ ko Timaima]
    I think-proper you COMP want PROP-ART Timaima
    ‘I think that Timaima likes you.’
    (Ura 1994; 20)

Ura (1994) argues that iko ‘you’ occupies an A-position in the matrix clause in (30)b, as evidenced by the object agreement marker on the matrix verb. According to Ura (1994), this A-position is the regular object position [spec, AgrOP], or [spec, vP] in current terminology.

Superraising is generally held to be impossible due to violation of the locality conditions. Crucially, Ura (1994) argues that the relevant locality condition concerns a minimality effect induced by the intervening subject, not the fact that the element moves out of a CP. In order to explain the apparent locality violation of superraising, Ura (1994) proposes that superraising involves successive cyclic A-movement. The superraising element does not move into the matrix clause in one fell swoop, but it makes an intermediate landing in [spec, AgrSP], or [spec, TP], in our terminology. This makes the superraising element and the embedded subject equidistant from the matrix AgrOP, which explains the absence of an intervention effect. Furthermore, it is supported by the typological generalization that all languages which allow superraising also allow multiple subjects. This suggests that an extra subject position is available in these languages, which may function as the landing site for the intermediate movement.\(^{18}\)

\(^{17}\) The suffix glossed ‘proper’ is a marker of agreement of the verb and object, and it is used with object pronouns and proper nouns.

\(^{18}\) It could be that languages which allow superraising are special not only in having an extra subject position, but in addition in allowing movement out of CP. Ura (1994) argues that only intervention effects are relevant, and that the view that CP blocks A-movement is simply wrong. In support of this claim, he states that all languages which have multiple subject constructions also allow superraising. If this claim holds up, it suggests that A-movement across C is not in itself excluded.
Let us suppose that Ura’s (1994) analysis is correct. Superraising poses a problem for phase theory. Given the Phase Impenetrability Condition, the matrix $v$ does not have access to the domain of a lower phase. If the embedded CP is indeed a phase, then it is impossible for the matrix $v$ to attract any material from the complement of the embedded C. One might avoid this problem by assuming that the superraising element makes an intermediate landing in [spec, CP]. From the edge of the CP-phase, it would be accessible to the matrix $v$. But this is problematic, because [spec, CP] is standardly taken to be an A’-position. If this holds for the edge of the CP-phase in general, then superraising constitutes improper movement. While it is not entirely clear whether the edge of CP could not be an escape hatch for A’-movement, all evidence in favor of [spec, CP] as an escape hatch involves A’-movement (see Chomsky 2001, and references therein).

For this reason, we assume that superraising does not involve an intermediate landing in the edge of CP. Instead, we suggest that the matrix $v$ in (30) can therefore attract the superraising element from [spec, TP] (assuming Ura (1994) is essentially correct) across the complementizer. This is possible, we speculate, because in superraising constructions the embedded CP does not define a phase.

6.2.5.1.2.1.2 Japanese ECM
We can make a similar argument based on Japanese. As discussed in 6.2.4, Japanese allows ECM in finite clauses:

(31) a. John-ga Bill-ga baka-da-to omot-teiru
   John-NOM Bill-NOM fool-COP-COMP think-PROG
   ‘John thinks that Bill is a fool.’

b. John-ga Bill-o baka-da-to omot-teiru
   John-NOM Bill-ACC fool-COP-COMP think-PROG
   ‘John thinks of Bill as a fool.’
   (Tanaka 2002; 637)

In (31)a, Bill is the subject of the embedded clause, as evidenced by the nominative marking. In (31)b, Bill bears accusative morphology, which has been taken to indicate that (31)b is an ECM-construction (Kuno 1976). If this is correct, then the matrix $v$ in (31)b has access to material below C, in violation of the PIC.

But before we can draw this conclusion, we have to show three things. First, we have to show that the accusative DP is in the matrix clause. Second, we have to demonstrate that it is not base generated there, and third, that it occupies an A-position.

19 A thorough examination of the facts reported in Ura (1994) would be beyond the scope of this thesis. Ura’s (1994) analysis is compatible with the facts, but he does not present enough data to show that an analysis in terms of prolepsis must be rejected. In prolepsis, the embedded clause contains an (empty) pronoun which is coreferent with the alleged superraising element, which is base generated in the matrix clause. It seems that this is a possible analysis for superraising in Boumaa Fijian which, contra Ura (1994), must be assumed to allow pro in object position, based on evidence in Dixon (1998). I thank Jan-Wouter Zwart (p.c.) for pointing out this problem, and for the reference to Dixon (1988).
There are various arguments for the first point (cf. Kuno 1976, Tanaka 2002). We present one. The accusative DP in (31)b may precede a matrix adverb ((32)a), but this is ungrammatical in the non-ECM equivalent (32)b:

John-NOM Bill-ACC stupidly genius-COP-C think-PROG  
‘John thinks of Bill stupidly as a genius.’  

John-NOM Bill-NOM stupidly genius-COP-C think-PROG  
‘Stupidly, John thinks that Bill is a genius.’  
(Tanaka 2002: 637-8)

This shows that the accusative DP is in the matrix clause in ECM-constructions.20

As for the second point, it is conceivable that (31)b and (32)a is the Japanese equivalent of such constructions as (33), sometimes referred to as prolepsis (see Massam 1980):

(33) John thinks of Bill that he is a genius

We may assume that Bill in (33) is base generated in the matrix clause. If the Japanese ECM-construction is of the same type, then there is no movement relation between the embedded clause and the matrix object position. The fact that the subject position of the embedded clause may not contain a pronoun suggests that this is incorrect:

(34) * John-ga Bill-o [ kare-ga baka-da-to] omotteita  
John-NOM Bill-ACC he-NOM fool-COP-COMP thought  
‘John thought of Bill, that he was a fool.’  
(Tanaka 2002: 646)

If Bill-o ‘Bill’ is base generated in the matrix clause, there is no reason why the subject position of the embedded clause could not be filled. We take this as evidence that Bill-o indeed originates in the embedded clause.

Finally, we demonstrate that the movement into the matrix clause is an A-movement. A reciprocal must be c-commanded by its antecedent ((35)a). The reciprocal may be bound after clause-internal scrambling, as in (35)b, but not after cross-clausal scrambling (35)c:

(35) a. Otagai-no, sensei-ga karera-o hihansita  
each.other-GEN teacher-NOM they-ACC criticized  
‘Each other’s teachers criticized them.’
b. Karera-o otagai-no-i sensei-ga t_i hihansita
   they-ACC each.other-GEN teacher-NOM criticized
   ‘Them, each other’s teachers criticized.’

c. ?? Karera-o otagai-no-i sensei-ga [ Mary-ga t_i hihansita-to] itta
   they-ACC each.other-GEN teacher-NOM Mary-NOM criticized-COMP said
   ‘Them, each other’s teachers said that Mary criticized.’
   (Tanaka 2002; 640)

This has been taken as evidence that clause-internal scrambling is A-movement, while cross-clausal scrambling is A’-movement. Note that the ECM-subject may also bind the reciprocal in the matrix subject:

(36) Karera-o otagai-no-i sensei-ga [ baka-da-to] omot-teiru JAPANESE
   they-ACC each.other-NOM teacher-NOM fool-COP-COMP think-PROG
   ‘Them, each other’s teachers think of as fools.’
   (Tanaka 2002; 640)

This suggests that karera-o ‘them’ occupies an A-position, which, in its turn, suggests that (31)b and (36) are truly ECM-constructions.

But if this is correct, then we have to account for the fact that the matrix v can access the ECM-subject in the domain of the embedded complementizer, in violation of the PIC. Tanaka (2002) proposes that ECM involves successive cyclic movement through the edge of CP. That is, A-movement, like A’-movement, may make an intermediate landing in [spec, CP].

But if Hiraiwa (2001) is correct, then successive cyclic movement cannot be the right explanation for ECM with finite complements in Japanese. Hiraiwa argues that in ECM, the matrix v licenses case on the ECM-subject, but the ECM-subject does not necessarily move into the matrix clause. One of his arguments concerns clefting. Japanese allows multiple clefts, but only if the clefted elements are clause mates. 21 (37) is therefore predicted to be ungrammatical:

(37) *[ Mary-wo t_i mutenai to] omot-ta no]-wa JAPANESE
   Mary-ACC suitable-NEG-PRES- C think-PAST-ADN C-TOP
   John-ga sono sigoto-ni da
   John-NOM the job-DAT COP
   ‘(Lit.) It is John, to the job that considers Mary not be suitable.’
   (Hiraiwa 2001; 72)

(37) is the result of clefting the matrix subject with the embedded dative argument. The construction is ungrammatical because the clefted DPs belong to different clauses. This makes the following prediction. If the ECM-subject moves into the matrix clause, then it should be possible to cleft it with the matrix subject. This is borne out:

21 Tanaka (2002) rejects these judgments.
The grammaticality of (38) shows that the ECM-subject Mary belongs to the same clause as the matrix subject John. This is evidence that ECM indeed involves raising. However, the following is also grammatical:

(39) [John-ga [t_i t_j muite-na-i to] omot-ta no]-wa
John-NOM suitable-NEG-PRES C think-PAST-ADV C-TOP
Mary-wo, sono sigoto-ni da
Mary-ACC the job-DAT COP
'(Lit.) It is Mary to the job that John considers to be not suitable.'
(Hiraiwa 2001; 72)

In (39), the ECM subject is clefted with the embedded dative DP. Hiraiwa (2001) takes this as evidence that ECM does not require movement. The fact that both (38) and (39) are grammatical suggests that raising is possible, but not obligatory. Hiraiwa concludes that Japanese ECM involves optional raising into the matrix clause. But if this is correct, then it must be the case that the matrix v establishes an Agree-relation with the ECM-subject in the embedded clause, across the embedded complementizer.

So called 'indeterminate agreement' (Hiraiwa 2005) provides another argument that movement is optional in ECM-constructions. Japanese has indeterminate NPs, which form a universal quantifier or NPI when combined with the particle mo. The particle may be attached to the indeterminate element (40)a, but they may also be split, as in (40)b.22 The latter word order is called indeterminate agreement:

(40) a. Taro-wa dare-mo seme-nakat-ta
Taro-TOP indet-Q blame-NEG-PAST
'Taro didn’t blame anyone.'

b. Taro-wa dare-wo seme-mo si-nakat-ta
Taro-TOP indet-ACC blame-INF-Q do-NEG-PAST
'Taro didn’t blame anyone.'
(Hiraiwa 2005; 160)

Hiraiwa (2005) shows that indeterminate agreement is possible as long as mo c-commands the indeterminate. Hence, indeterminate agreement is also grammatical if mo attaches to the complementizer:

22 On the NPI interpretation, mo and the case marker are incompatible if mo attaches to the indeterminate.
(41) Taro-wa [CP dare-ga baka da to]-mo omowa-nakat-ta JAPANESE
  Taro-TOP indet-NOM stupid COP C-Q think-NEG-PAST
  ‘Taro didn’t consider anyone to be stupid.’
  (Hiraiwa 2005; 164)

This makes the following prediction. If the ECM involves an Agree-relation between the matrix \( v \) and the ECM-subject, optionally followed by movement of the accusative phrase into the matrix clause, then indeterminate agreement must be possible, depending on the position of the accusative phrase. This is borne out:

(42) a.  Taro-wa orokanimo dare(-no-koto)-wo baka da to-mo
       Taro-TOP stupidly indet(-GEN-thing)-ACC stupid COP
       C-Q think-NEG-PAST
       Stupidly, Taro didn’t consider anyone to be stupid.’
   (Hiraiwa 2005; 165)

   If Hiraiwa is correct in assuming that ECM involves optional movement, then the contrast in (42) can be explained by the difference in the position of the ECM-subject. In (42)a, the indeterminate follows the matrix adverb. This is compatible with the view that the indeterminate does not move into the matrix clause, but remains in the embedded clause. In this position, it is c-commanded by \( mo \), which is attached to the complementizer. In contrast, indeterminate agreement is ungrammatical in (42)b, which differs from (42)a only in that the accusative DP now precedes the matrix adverb ‘orokanimo ‘stupidly’. As shown in (32)a, this word order is possible, which suggests that the ungrammaticality of (42)b is due to the indeterminate agreement. The accusative DP is in the matrix clause, as diagnosed by the fact that it precedes a matrix adverb, but in this position, \( mo \) does not c-command it.

   It follows that an Agree-relation can be established between the matrix \( v \) and the ECM-subject across CP. Hence, the complementizer \( to \) does not constitute a phase head in Japanese ECM-constructions.

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**Note:**

23. Note that (42) also provides an argument against prolepsis: if the matrix \( v \) checks accusative case on the ECM-subject in the embedded clause in (42)a, then Japanese ECM cannot be analyzed as involving a base generated accusative phrase in the matrix clause, which is coreferent with the embedded subject. Case assignment into a lower clause must be possible, witness (42)a, but if a relation between a matrix probe and an embedded goal is possible in principle, then nothing is gained by assuming that the ECM-subject is base generated in the matrix clause in (42)b. We therefore assume that (32)a and (42)b involve movement into the matrix clause.

24. Hiraiwa’s (2005) analysis is more complicated, but the bottom line is the same. Hiraiwa (2005) proposes a layered CP-structure \([CP [TP … [C ] C ]]\). The higher CP is headed by the complementizer \( to \), to which \( mo \) attaches. The ECM-subject moves from TP to the specifier of the lower CP. In this position,
are phase heads. Hence, the Japanese ECM-construction may be used as an argument that the phase status of C is variable.

6.2.5.1.2.1.3 Swedish copying

We now turn to another argument which shows that there is variation in the status of C as a phase head. For this case, it can be shown not only that C is not necessarily a phase head, but also that the same complementizer may define a phase in one environment but not in another. Recall from 2.1.2.1 and 3.1 the copying phenomenon found in certain Swedish dialects:

(43) a. Han började o / att skriva brev
    he start,PAST o att write,INF letter,PL
    'He started writing letters.'

b. Han började o / * att skrev brev
    he start,PAST o att write,PAST letter,PL
    'He started writing letters.'

(Wiklund 2005; 75)

The possibility of copying depends on the choice of infinitival marker. In the absence of copying (43)a, both o and att may introduce the infinitival complement. Furthermore, att also introduces finite complement clauses. Finite and infinitival att behave the same with respect to deletion, which suggests that it is a complementizer in both constructions. Furthermore, infinitival att shows the same behavior as infinitival o, the only difference being that o allows copying, which is ungrammatical with att. Wiklund (2005) concludes that att and o are both complementizers. She argues that they are situated in Cfin, the projection which encodes finiteness. They differ in their feature specification: att is always valued, and has the feature specification C: [fin: -] in infinitives, and C: [fin: +] in finite clauses. O may be valued or unvalued. In non-copying infinitivals, it is valued as C: [fin: -], but it is unvalued in case of copying (C: [fin: ]).

If copying is a restructuring phenomenon, as Wiklund argues, then we have to assume that some complementizers are compatible with transparency:

(44) Försök [CPfin o [CPforce gör det!]]
    try,IMP o do,IMP it
    'Try to do it!'

(Wiklund 2005; 173)

According to Wiklund (2005), copying of imperative morphology reflects an Agree-relation between the matrix and embedded Cforce heads. This means that an Agree-relation between these heads may be established across Cfin. One way to account for this using phase theory is to assume that o, although a complementizer, is not a phase head.

it is c-commanded by mo, permitting indeterminate agreement, while it is also accessible to the matrix v, due to the fact that the higher CP is assumed not to be a (strong) phase.
So it seems that there is indeed variation in the phase status of C. **Att** is a phase head, but copying **o** is not. If we accept Wiklunds’ (2005) suggestion that C\textsubscript{res} is a phase head in the sense of Chomsky (2001) if it is valued, then we may assume that **o** is a phase head if the construction shows copying, but not if no copying takes place. That is, the complementizer **o** has a variable phase status.\(^{25}\)

6.2.5.1.2.1.4 **Summary**

We conclude that C certainly defines a phase in many cases, but that there are complementizers which are not phase heads. We have not studied the properties of non-phase defining complementizers in any detail, but the fact that the same complementizer is used in the construction which shows transparency effects ((31)b; (43)b) and the one that does not (cf. (31)a; (43)b) in Swedish and Japanese suggests that whether or not a complementizer is a phase head is not a function of any characteristic of the complementizer.

6.2.5.1.2.2 **vP as a phase**

We now turn to vP. Evidence for successive cyclic movement through [spec, vP] comes from reconstruction. If we assume that an element may only reconstruct to positions which contain a copy left behind by movement, then a reconstruction site diagnoses the base position or an intermediate landing site. Legate (2003) uses reconstruction sites to argue for successive cyclic movement through [spec, vP]. Following Fox (1998), she shows that a wh-phrase may reconstruct to a position higher than its base position, but lower than the subject:

\[
\begin{align*}
(45) \text{a.} \quad \text{[Which of the papers that he gave Mary] did every student, \text{\_ ask her,\text{\_ to read \_ \_ carefully}}}
\text{b. * [Which of the papers that he gave Mary] did she, \text{\_ ask every student,\text{\_ to revise \_ \_ ?}}}
\end{align*}
\]

(Fox 1998; 157)

The wh-phrase is the complement of V. In order for he to be interpreted as a bound variable, it has to reconstruct to a position lower than its antecedent every student. In (45)b, reconstruction is ungrammatical because she c-commands Mary, inducing a violation of principle C. In contrast to (45)b, (45)a is grammatical, even though

\(^{25}\) If we assume that such constructions as (i) involve movement across the complementizer, then we may assume that the phase status of Dutch **om** is also variable:

(i) Studenten, worden geacht \[CP \text{\_ om t} \text{\_ deze lastige opdrachten ... uit te voeren \text{COMP these difficult assignments out to carry}}
\]

‘Students are supposed to carry out these difficult assignments.’

(from:mips.hro.nl/CourseDetails.aspx?id=85200.121408&ru=%2FBrowseLessons.aspx)

If studenten ‘students’ is indeed the external argument of uitvoeren ‘carry out’, then (i) may be a case of raising to subject out of a CP. It is not clear that this is the correct analysis of (i), however. The active equivalent of acht ‘consider’ seems to be restricted to the archaic proverb \text{\_ ieder acht zijn uil een valk te zijn ‘everyone overestimates his own’} (literally: ‘everyone considers his owl to be a falcon’), and **om** is ungrammatical here. Moreover, the word order in (i) in which \text{\_ deze lastige opdrachten ‘these difficult assignments’} precedes the matrix verb is ungrammatical, but improves if **om** is absent. This suggests that **om** is a phase head in these constructions as well, and the matrix subject is not raised from the embedded clause.
reconstruction to the base position would violate principle C in this example as well. The contrast can be explained if reconstruction may not be to the base position, but to a position between the matrix subject and the indirect object. (45)b is still predicted to be ungrammatical, because in this intermediate position, she binds the R-expression Mary, but (45)a would be grammatical, because he is c-commanded by its antecedent, while Mary is not c-commanded by the indirect object her. The position of the intermediate reconstruction site is explained if vP is a phase, such that movement out of it must proceed through its edge. Hence, Legate (2003) provides evidence for the phase status of vP.

However, she notes that the intermediate landing site is not only available with transitive constructions, but also in constructions in which vP is not supposed to define a phase, like passives:

(46) a. [At which of the parties that he invited Mary to] was every man introduced to her?
 b. * [At which of the parties that he invited Mary to] was she introduced to every man?
(Legate 2003; 507)

Reconstruction to the base position (assuming a cascade structure) is predicted to be ungrammatical in either case, as this would violate principle C. (46)a is nevertheless grammatical. This would be explained if movement of the wh-phrase makes an intermediate landing on the boundary of the verbal phrase in the case of passives as well. The intermediate landing site allows he to be interpreted as a variable bound by every man, while avoiding the principle C violation in (46)a. The intermediate landing site does not rescue (46)b, because Mary is c-commanded by she in the VP-internal base position as well as the intermediate position at the boundary of the verbal phrase.

Legate (2003) concludes that if the presence of an intermediate landing site is diagnostic of the presence of a phase head, then the verbal phrase associated with passive and unaccusative verbs must define a phase as well.

Chomsky (2001) acknowledges these facts, but draws a different conclusion from them. He proposes that there are two distinct kinds of phases; weak and strong phases. Weak phases host reconstruction sites, but are not phases in the sense of the PIC. According to Chomsky, vP in passive and unaccusative structures defines a weak phase vP, while vP in transitive constructions defines a strong phase v*P. But it is not clear whether this distinction is tenable. If reconstruction to the boundary of the verbal phrase diagnoses the presence of a copy left behind by movement, we have to explain why movement targets this position. Ideally, intermediate copies in [spec, vP] receive the same explanation as intermediate copies in [spec, v*P]. If intermediate copies in [spec, v*P] are motivated by the edge property, that is, movement to this position is driven by the need to move out of the phase, then it is unclear what motivates the intermediate copy in [spec, vP]. So if we take the edge property seriously, any copy in a specifier position that is not the head or the foot of a chain is motivated by the PIC. As long as no argument is provided that shows that the reconstruction site in [spec, vP] is of a different nature than the reconstruction site in [spec, v*P], then there is no motivation to distinguish the two.
For this reason, we consider the argument in Legate (2003) a valid argument for the phase status of vP. Hence, v is a phase head (at least in English), regardless of whether it is associated with full argument structure. But if this is the case, then Chomsky’s (2001) supposition that phases are in a sense propositional no longer holds. We have already discussed some problems with this criterion in 6.2.5.1.1 above. If propositionality is not a valid criterion for phase status, it is difficult to determine what makes vP a phase.

We conclude that in the absence of identifiable inherent characteristics of v which determine whether it is a phase head, at the present state of our understanding, the property of defining a phase is a random property which may or may not be associated with v.

6.2.5.1.2.3 PP as a phase

Next, we turn to PP. Abels (2003) argues that prepositions may be phase heads. He notes a contrast between stranding of P (47)a and subextraction out of PP (47)b:

(47) a. Čego, sleduet otkazat’sja ot ti?
   what follows give-up-self of
   ‘What should one give up?’

b. [Na čto], sleduet otkazat’ja ot [vsjačeskih pretenzij ti]?
   on what follows give-up-self of whatsoever hopes
   ‘What should one rid oneself of any kind of hope for?’
   (Abels 2003; 160/161)

Movement of the complement of P, stranding the preposition, is ungrammatical ((47)a). But PPs are not generally opaque to movement, as movement of a subpart of the complement of P ((47)b) is possible.

This contrast follows directly from Abels’ (2003) Stranding Condition: a phase head cannot be stranded after movement of its complement. The Stranding Condition is derived from general properties of phase theory and locality. Phases are characterized by their edge: movement out of a phase requires an intermediate landing in the specifier of the phase head, the edge. This restricts the maximal distance between two links in a chain. Abels (2003) now suggests that there is also a limit to the minimal distance between two chain links: a phrase may not be both the complement and the specifier of the same head. The combination of this anti-locality constraint and the requirement of movement through the edge leads to the Stranding Condition. The complement of a phase head may not move out of the phase, as this would require an intermediate movement of a complement to the specifier of the same head (cf. (47)a). However, nothing blocks movement of a subpart of the complement to the edge, followed by movement out of the phase ((47)b). Thus, subextraction out of PP is more acceptable than movement of the complement of P.

Note that languages differ in whether stranding of the preposition is grammatical:

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26 Abels’ (2003) work on preposition stranding is partly inspired by seminal work on prepositions in Van Riemsdijk (1978).
Abels (2003) concludes that apparently, languages differ as to whether P defines a phase. Russian has phase defining prepositions, but English and Frisian have non-phase defining prepositions. Crucially, Abels (2003) argues that the phase status of P is not connected to any particular property of the preposition, the complement, or other properties of the language. Apparently, a preposition may define a phase in one language, while the equivalent preposition in another language may not. This shows that the phase defining characteristic of a head cannot always be related to inherent properties of the head.

Moreover, in languages in which P-stranding is possible, that is, in which P does not define a phase, it is not the case that all prepositions may be stranded by movement of their complement:

\[
\begin{align*}
&\text{(49) a. Which movie did he fall asleep before } t_i/\text{ during } t_i? \\
&\text{b. the movie, that I fell asleep during the course of } t_i \ldots
\end{align*}
\]

(Culicover 1999; 75)

Stranding of \textit{during} is degraded (49)a. The contrast between stranding (49)a and subextraction (49)b is predicted by the Stranding Generalization, but only if \textit{during} is a phase defining preposition. Movement of the entire complement of \textit{during} is then excluded, because in order to move out of the PP phase, \textit{which movie} must make an intermediate landing in [spec, PP], in violation of the anti-locality constraint that an element may not be the complement and the specifier of the same head. Subextraction is permitted by the anti-locality constraint, so (49)b is not predicted to be ungrammatical.

It follows that even within one language, there is variation in the phase status of prepositions. Again, the status of a preposition as a phase head does not seem to be connected to any property of the preposition in question. The fact that a DP moves out of an adjunct PP in (49)a cannot explain why stranding of \textit{during} is degraded, because the subextraction in (49)b equally involves movement out of an adjunct PP, unproblematically. That movement out of an adjunct is possible is also suggested by the fact that stranding \textit{before} seems to be fine, despite the fact that the \textit{before}-PP is an adjunct. The grammaticality of stranding \textit{before} in (49)a also shows that stranding of a temporal preposition is not impossible in principle.

Hence, the phase status of P varies not only across languages, but it also shows variation within a language. In the absence of a compelling account of why certain prepositions should be phase heads while others are not, we are forced to assume that the status of an element as a phase head is less closely connected to inherent properties of the element than suggested by Chomsky (2000 \textit{et seq.}). The fact that the phase status of \textit{v} seems to be variable in Dutch is then less of a quirk.

But the situation concerning prepositions is not entirely parallel to the situation concerning \textit{v} in Dutch. If our analysis is correct, then the phase status of \textit{v}
not only varies depending on the lexical verb in question, but one and the same verb may be associated with a phase defining or non-phase defining v.

The Stranding Generalization predicts that P-stranding is possible if P is not a phase head, and impossible if the preposition in question does define a phase. If we take this diagnostic seriously, then it seems that variation in the phase status of prepositions may even be found for one and the same preposition:

(50)  a. Whose place do you live at t₁?
    b. *What time did you arrive at t₁?

(Ross 1986; 133)

Preposition stranding is grammatical in (50)a, but ungrammatical in (50)b. If we follow the Stranding Generalization, then we must assume that at is a phase head in (50)b, but not in (50)a. It may seem ad hoc to attribute the contrast in (50) to variation in the phase status of the preposition, but as long as we cannot relate the phase status of P to any inherent property of P, either cross-linguistically or within a language, variable phase status is a reasonable hypothesis.

We conclude that the status of P as a phase head is subject to variation. To our knowledge, the property of defining a phase is not related to any particular property of the preposition.27 This suggests that the property of defining a phase may be a random property of certain heads.28

6.2.5.2 Summary

We have shown that there is variation in the phase structure of sentences. We demonstrated that the three phase heads C, P and v are not phase heads in all environments. For each of the heads, it is possible to find cases in which the head does not define a phase. At this point, the property of being a phase head cannot systematically be related to a characteristic of the head. Pending better understanding of the nature of phases, we assume that phases are locality domains, and that the boundary of the domain is defined by the phase head. At least, C, P and v are potential phase heads, but whether they actually are depends on other factors.

This is not to say that no generalizations can be made. The Dutch complementizer om, for instance, seems to be a phase head invariably. This may also be said of the Swedish complementizer att, but the phase status of Swedish o seems to vary. As for vP, it seems to define a phase invariably in English, if we accept the arguments in Legate (2003). In standard Dutch, on the other hand, v seems to be a phase head only if it licenses case. This does not hold for West-Flemish, however, in which even case licensing v is not necessarily a phase head. Finally, prepositions are generally phase heads in Russian, if Abels (2003) is correct.

Of course, we do not want to claim that such properties do not exist; a more careful investigation of this topic may well reveal generalizations that are unknown at present.

This raises the possibility that other heads than v, C, P and D may be phase heads in certain environments. The possibility of a broader inventory of phase heads has indeed been suggested, see, for instance, Butler (2003), who reaches this conclusion for independent reasons.
In English and Frisian, they generally are not, but in these languages, too, phase defining prepositions can be identified. Hence, there is a degree of variation in the size of the locality domain. We propose that the variation in the size of the locality domain manifests itself in the word order variation and the transparency effects observed in Dutch infinitival clauses.  

6.2.6 Summary

In this section, we developed the assumptions we need to analyze the various word order possibilities in Dutch infinitival clauses. In 6.2.2, we argued that DPs in the middle field are in their licensing position. This implies that if they precede the matrix verb, they are licensed by the matrix vP (cf. 6.2.4). In 6.2.4, we discussed the consequences this has for the feature composition of the licensing heads in the matrix clause and the embedded clause, and concluded that although we have to adopt some unconventional feature specifications, such choices are available in the lexicon, and there is independent evidence that in the right circumstances, an unconventional choice results in a well-formed structure. We also discussed the implications that the assumption that DP is in its licensing position has for the phase structure of the sentence. The implication that depending on the particular sentence, v may or may not define a phase seems stipulative, but a closer look at the phase heads C and P (cf. 6.2.5) demonstrates that seemingly unexplained variation in the phase status of the heads in question is also observed here. From this, we concluded that the property of defining a phase cannot be reduced to inherent properties. We accept the conclusion that CP, vP and PP are potential phases, or locality domains, but they need not be. We demonstrate how the various word order possibilities follow on these assumptions in the next sections.

6.3 The position of arguments

In this section, we illustrate the derivation of Dutch infinitival clauses. We identified six different cases, repeated here for convenience:

(51) a. omdat Jan [vP schijnt [TP t_i te slapen]]]  
   because Jan seems to sleep  
   ‘…because Jan seems to sleep.’

b. omdat Jan [vP Marie [vP schijnt [TP t_i te kussen t_i]]]  
   because Jan Marie seems to kiss  
   ‘…because Jan seems to kiss Marie.’

---

29 See Svenonius (2003), who also relates word order variation to the size of the phase. On Svenonius’ view, the variation in the phase status of phrases is not random, but must be related to differences in interpretation.
Five constructions are characterized by licensing of the embedded argument(s) in the matrix clause. We distinguish raising to subject (51)a; licensing of both the external and internal argument in the matrix clause (51)b; raising to object out of a VP (51)c; ECM (51)d; and the third construction (51)d. We also demonstrate the ungrammaticality of raising to object out of CP (51)f. We demonstrate the derivation of each of these in the subsections below.

6.3.1 Raising to subject

We begin with constructions of the type (51)a, a standard case of raising:

(52) … [CP omdat Jan, schijnt [TP t, te slapen]]
   because Jan seems to sleep
   ‘…because Jan seems to sleep.’

We assume the standard explanation for this phenomenon: the external argument Jan of the embedded verb slapen ‘sleep’ fails to be licensed in the embedded clause, because infinitival T cannot license an overt argument. Moreover, the matrix T fails to check its uninterpretable features. If there is no way for the elements carrying uninterpretable features to have these features checked, the derivation crashes. In (52), the derivation may converge after movement of the embedded external argument into the matrix subject position.

6.3.2 Raising to object out of VP

Unlike English, Dutch not only has raising to subject as in (52)a, but also raising to object in constructions which are not strictly ECM, like the construction in (51)c:

(53) … [CP omdat Jan een taart, had proberen te [VP bakken t]]
   because Jan a pie had try.INF to bake
   ‘…because Jan had tried to bake a pie.’
We argued in chapter 3 that the complement to clustering *proberen* ‘try’ is a bare VP. This means that the infinitival complement fails to license the embedded internal argument. The embedded internal argument *een taart* ‘a pie’ precedes the matrix verb, which suggests that it is licensed in the matrix clause instead, as in ECM. But this is not an ECM-construction of the familiar kind in which the matrix predicate licenses the external argument of the embedded predicate.\(^{30}\)

The derivation of (53) is straightforward. The sentence contains two phases, the matrix CP and the matrix vP. As the embedded clause is a bare VP, it does not constitute a phase. We have the following lexical arrays:

\[(54)\]

| a. / bakken, te, proberen, had, een, taart, Jan, v/  |
| bakke to try had a pie Jan |
| b. / omdat, T/  |
| because |

After the embedded VP is formed, the matrix verb, matrix v and the matrix external argument are merged (DPs which have uninterpretable features are in italics):\(^{31}\)

\[(55)\]  
\[\{p\ Jan v [vp bakken een taart]\]\n
Jan bake a pie

We assume that a DP is licensed as the object through case checking. In Dutch, case checking apparently requires movement into the specifier of the case checking head. Hence, a case checking head always goes with an EPP-feature. The embedded internal argument now moves into the matrix [spec, vP]:

\[(56)\]

| [p Jan [p een taart, v proberen [vp bakken tie]]]  |
| Jan a pie try bake |

The derivation continues as normal. The only new assumption that we have to make is that the *v* which selects a VP headed by a verb like *proberen* ‘try’ has the capacity to check case.

As discussed above, we assume that a case checking *v* may combine with any kind of complement. In some cases, the result will be ill-formed, but in the right circumstances, an unorthodox choice of *v* may lead to a convergent derivation, as in (53). Had the complement of *proberen* ‘try’ been a CP, then the assumed lexical arrays would not result in well-formed structures. *Een taart* ‘a pie’ would or would not have its case checked, depending on the feature specification of the embedded *v*, and furthermore, the matrix *v* would be left with an unchecked case feature. However, in the special circumstance in which (i) the matrix *v* has a case feature; (ii) the embedded clause is a VP, the construction comes out just fine.

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\(^{30}\) In the absence of the vP-layer, we assume that the external argument is simply not projected.

\(^{31}\) We ignore the infinitival marker *te* in our derivations.
6.3.3 Long raising to object in raising constructions

Now let us turn to more complex cases of object licensing. As shown above, raising to subject is unproblematic. But consider raising to subject with a transitive predicate in the embedded clause, of the type (51)b:

(57) … [CP omdat Jan, Marie, schijnt [TP te kussen tj]]
    because Jan Marie seems to kiss
    ‘…because Jan seems to kiss Marie.’

The matrix clause not only licenses the external argument of the embedded verb as the subject, but unlike in English, it also licenses the embedded internal argument as the object. If modal verbs are raising verbs on the epistemic as well as the root interpretations, then (57) and (58) should be analyzed in the same way:

(58) ... omdat Jan een boek moet lezen
    because Jan a book must read
    ‘...because Jan has to read a book.’
    ‘...because Jan must be reading a book.’

We assume the lexical arrays (59):^{32,33}

(59) a. / kussen, Marie, te, v2: [+θ], Jan, T2:de:s [+EPP], schijnen, v1: [+acc, +EPP] /
    kiss Marie to  Jan  seem
    b. / T1, omdat /
    because

The embedded V merges with the embedded internal argument. Then v is added, and the embedded external argument:

(60) [vP Jan v [vP kussen Marie]]
    Jan kiss Marie

In an opaque construction, the next step in the derivation would be movement of the internal argument into the specifier of v, motivated by the need to get the case feature of the internal argument checked. But in (57), Marie ends up to the left of the matrix verb, which we assume indicates that its case is checked by the matrix v instead of by the embedded v. This implies that the embedded v must not be able to check case on Marie, or Marie would be frozen in place, and it must not constitute a

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^{32} Functional heads which occur more than once in the lexical array are subscripted. The number indicates hierarchical order, such that a head with a lower subscript c-commands the ones with higher subscripts.

^{33} We assume that argument licensing involves movement in Dutch. In the present framework, this means that the licensing head always has an EPP-feature. To simplify the notation, we only write [+EPP] if the movement does not license an argument. Hence, v [+acc, +EPP] denotes a v which attracts the argument with which it checks case, and also another argument.
phase, or Marie would not be able to move out. We therefore assume that the embedded v neither checks case, nor defines a phase. 34

The derivation continues with the merger of infinitival T_{def}. Raising T_{def} is deficient, so it does not check case or agreement with the external argument. However, we posit an extra EPP-feature on the embedded T_{def}. T_{def} attracts the external argument, and by virtue of its additional EPP-feature, it also attracts the internal argument:

(61) [TP Jan, [TP Marie, T_{def} [v_P t_i v [VP kussen t_j ]]]]

We need the extra EPP-feature to create a configuration in which Jan and Marie are equidistant from the matrix v, in a later stage of the derivation (i.e. leapfrogging; Ura 1994; Anagnostopoulou 1998; McGinnis 1998).

The next step is merger of the matrix verb, followed by merger of the matrix v:

(62) [v_P [v_P [TP schijnen [TP Jan, [TP Marie, T_{def} [v_P t_i v [VP kussen t_j ]]]]]]]

Had we not stipulated the extra EPP-feature on infinitival T, the matrix v would attract the closest visible DP, Jan, and check its case feature. This would result in accusative marked Jan, leaving Marie with an unvalued case feature, due to defective intervention by Jan.

Matrix v also has an extra EPP-feature. We need this feature to create a configuration in which Jan and Marie are equidistant from matrix T. If this feature were not assumed, v would attract one of the DPs. Either one is eligible, as the DPs are equidistant. However, once v attracts a DP, the two DPs are no longer equidistant, and the one that is left behind in the embedded clause is trapped there, because from this position, it is not visible to matrix T, due to defective intervention by the DP in [spec, vP]. For this reason, we assume that both DPs move into the edge of the matrix vP. Marie checks the uninterpretable features on v; Jan merely checks the additional EPP-feature:

(63) [v_P [v_P [TP Jan, Marie, v [schijnen t_j, T_{def} t_i v [VP kussen t_j ]]]]]

Matrix T is now merged. It attracts Jan, and the derivation converges with the word order (57):

(64) [TP Jan T [v_P Marie, v [schijnen [TP Jan, T_{def} t_i [TP Marie, v [VP kussen t_j ]]]]]]]

34 Alternatively, we might assume that the embedded vP is a phase, but assign an additional EPP-feature to the embedded v, such that Marie moves to the edge.
In the derivation of (64), we assumed that the embedded \(v\) is of a special type. For the derivation to converge, the embedded \(T\) and the matrix \(v\) must also be of a special type. We may wonder what blocks the more straightforward choices \(v_2: [+θ, +\text{acc}]\) and \(v_1: [\_]\). With this selection, we would not need to postulate an additional EPP-feature on \(T\_\text{def}\). These choices would lead to the following word order:

(65) * … omdat Jan schijnt Marie te kussen
   because Jan seems Marie to kiss
   ‘…because Jan seems to kiss Marie.’

We may wonder why (65) is ungrammatical. The derivation seems impeccable, and it requires no unconventional assumptions concerning the feature composition of \(v\) and \(T\). The fact that the conventional derivation leads to ungrammaticality, while an unconventional one leads to the correct word order, may lead us to question whether our analysis is on the right track.

However, we do not propose that the derivation leading to (65) should be excluded in principle. When we investigate other languages and dialects in which cluster formation takes place, we find that orders like (65) do in fact arise. If modal verbs are indeed raising verbs, as suggested in 3.2.2, then West-Flemish and Swiss German are of interest here. In these dialects, the embedded internal argument may precede the matrix verb or stay in the embedded clause in the ‘verb projection raising’ construction:

(66) a. da Jan een hus wilt kopen  \(\text{WEST-FLEMISH}\)
    that Jan a house wants buy
    ‘That Jan wants to buy a house.’
   b. da Jan wilt een hus kopen
    that Jan wants a house buy
    ‘That Jan wants to buy a house.’
    (Haegeman & Van Riemsdijk 1986; 419)

(67) a. das de Hans es huus wil chaufe \(\text{ZÜRITÜÜTSCH}^{35}\)
    that the Hans a house wants buy
    ‘That Hans wants to buy a house.’
   b. das de Hans wil es huus chaufe
    that the Hans wants a house buy
    ‘That Hans wants to buy a house.’
    (Haegeman & Van Riemsdijk 1986; 419)

‘Verb projection raising’ is usually illustrated with the verb ‘want’, but according to Haegeman & Van Riemsdijk (1986; 427), the word order pattern is found with modal verbs in general.

If transparency in the position of the object is to be described as variation in the feature composition and phase status of the \(v\)-probes, as we suggest, then it

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35 Züritüütsch is the Swiss German dialect spoken in Zürich.
comes as no surprise that there are dialects in which both of the predicted word orders are attested.

The variation in (66) and (67) may be also explained in a different way, however. Recall Wurmbrand’s (2001) explanation of the contrast between (68)a and (68)b in German:

(68) a. dass der Traktor und der Lastwagen zu reparieren versucht wurden
   that [the tractor and the truck]-NOM to repair tried were
   ‘That they tried to repair the tractor and the truck.’

   b. dass versucht wurde /* wurden den Traktor und den Lastwagen zu
   that tried was were [the tractor and the truck]-ACC to
   reparieren
   repair
   ‘That they tried to repair the tractor and the truck.’

   (Wurmbrand 2001; 19/38)

In (68)a, the embedded internal argument bears nominative case and shows agreement with the matrix verb. In (68)b, it bears accusative case, and agreement with the matrix verb is not possible. This is because the matrix verb selects a fully transparent complement in (68)a, but an opaque complement in (68)b. Full transparency is always obligatory in Wurmbrand’s (2001) framework; transparency effects appear to be optional because the verb may have more than one complementation option, but if a transparent complement is selected, transparency effects arise obligatorily.

One might argue that a similar explanation accounts for the contrast in (66) and (67). The matrix verb may select a transparent complement or an opaque complement. If it selects the former, the order in (66)a and (67)a arises, and if it selects the latter, only the order in (66)b and (67)b is possible. We suggest that an explanation along these lines would not work for (66). If the IPP-effect is indicative of the highest degree of transparency, then (69) suggests that the structure of the complement is the same in (66)a and (66)b:

(69) a. da Valère dienen boek ee willen kuopen
   that Valère that book has want-INF buy
   ‘That Valère has wanted to buy that book.’

   b. da Valère ee willen dienen boek kuopen
   that Valère has want-INF that book buy
   ‘That Valère has wanted to buy that book.’

   (Haegeman 1994; 511)

Assuming that West-Flemish phrases are head-initial, the order in (69)a follows on Wurmbrand’s theory. The matrix verb willen ‘want’ surfaces as the infinitive, instead of the participle gewild ‘wanted’. If the IPP-effect diagnoses the highest degree of transparency, then the complement of willen ‘want’ is predicted to show
transparency effects. This is borne out: the embedded internal arguments surface to the left of the matrix verb, suggesting that they are licensed in the matrix clause.

The word order in (69)b is unexpected on such an account: (69)b displays the IPP-effect, suggesting that willen ‘want’ takes the smallest possible complement, but the internal arguments of the embedded verb are not licensed in the functional domain of the higher verb. This state of affairs is compatible with our analysis: transparency in the position of arguments is not a question of the size of the complement, but of the feature composition of \( v \). If a potentially transparent complement (lacking CP and phase defining \( vP \)) fails to provide a licenser for the internal argument, transparency is observed. If there is one, the internal argument is licensed in the embedded clause, with no movement into the higher clause taking place. The size of the complement may be the same in either case, however. Thus, the complement to willen ‘want’ may be a Mood\(_{IRREALIS} P\) or TP in both (69)a and (69)b. The difference in transparency is determined at the level of \( vP \): the embedded \( v \) has case checking capacity in (69)b, but does not define a phase or check case in (69)a.

We would like to suggest that the derivation resulting in (65) is not impossible, but for reasons which, admittedly, are beyond our understanding, only the option resulting in (57) is instantiated in Standard Dutch.

### 6.3.4 ECM

ECM in Dutch differs from English ECM in that the matrix verb not only licenses the embedded external argument, but also the internal argument, such that both DPs precede the matrix verb:

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56 Note the use of the conditional here. Although the IPP-effect is not restricted to VP-complements, as raising verbs also show the effect, we believe that the correlation between the IPP-effect and the highest degree of transparency is correct for Dutch, despite the fact that the complement is a TP. There is one phenomenon that casts doubt on this claim. The possibility of auxiliary switch in West Flemish seems to depend on word order:

(i) a. da Valère nie no t schule eet/ is willen goan
   `That Valère did not want to go to school.’

   b. da Valère nie eet/ * is willen no t schule goan
   `That Valère has not want to go to school.’

   (Haegeman 1994: 520)

   Auxiliary switch is possible if the object precedes all the verbs (i)a, but not if it intervenes between them in a non-verb second context (i)b. Nevertheless, both examples show the IPP-effect. Possibly, auxiliary switch requires an even higher degree of transparency than the IPP-effect, but we do not have enough data to make any claims about this.

57 This account presupposes that the IPP-effect is not restricted to VP-complements. We believe that this is correct. As pointed out in 2.2, the IPP-effect obtains with all clustering verbs in standard Dutch, although many of them take infinitival complements which are larger than VP. Furthermore, Haegeman & Van Riemsdijk (1986) show that the complement to willen ‘want’ in West-Flemish and Swiss German may be modified by ‘tomorrow’ (cf. (140)), suggesting that the complement is a Mood\(_{IRREALIS} P\).
We assume the following lexical arrays:

(71) a. / bakken, brood, \( v_2: [+θ] \), Marie, zien, \( v_1: [+θ, +acc, +acc] \), Jan /
   bake bread Marie see Jan

b. / omdat, T /
   because

The sentence consists of two phases, the matrix CP and the matrix vP. Although the embedded vP projects an external argument, we assume it is not a phase, as discussed in 6.2.3.

The beginning of the derivation is uneventful. The embedded vP is formed:

(72) \([_vP \text{Marie } v [VP bakken brood]]\)
Marie bake bread

As discussed in 6.2.3, the embedded v does not license the internal argument, which stays in situ. The derivation continues with the merger of the matrix verb, the matrix v and the matrix external argument:

(73) \([_vP \text{Jan } v [VP zien } [_vP \text{Marie } v [VP bakken brood]]]\)
Jan see Marie bake bread

The matrix v is a special choice of v: it has two accusative case features. We have shown evidence for such a choice of v in 6.2.4. In order to check the case features, v must Agree with and attract two DPs. It first attracts the embedded external argument. If the embedded vP were a phase, the embedded internal argument would not be accessible to \( v_1 \), due to the PIC. For this reason, we assume that the embedded vP is not a phase. Matrix v therefore attracts the internal argument as well:

(74) \([_vP \text{Jan } [vP Marie, [vP brood, v [VP zien } [vP \text{tij v [VP bakken tij]]]}]\)
Jan Marie bread see bake

The rest of the derivation is as in simple clauses. Matrix T is merged, and it attracts the only active DP left, Jan. The derivation converges with the word order (70):

(75) \([TP \text{Jan, T [vP tij [vP Marie, [vP brood, v [VP zien } [vP \text{tij v [VP bakken tij]]]}]}]\)
Jan Marie bread see bake

ECM-constructions in Dutch are special in that apparently, the embedded v is unable to license the internal argument. Moreover, the matrix v does have this capacity. While we do not have an explanation for why Dutch employs these special choices of v in ECM-constructions, we note that there are dialects which employ both the special choices of v found in Standard Dutch, and the conventional ones.
involving an object licensing v in both clauses. We observe this in those dialects which have ‘verb projection raising’, like West-Flemish:

(76) a. da Valère Marie zenen oto doe wassen
      that Valère Marie his car makes wash
      ‘that Valère makes Marie wash his car.’
   b. da Valère Marie doe zenen oto wassen
      that Valère Marie makes his car wash
      ‘that Valère makes Marie wash his car.’
     (Haegeman 1994; 514/515)

(77) a. da Valère Marie an Jan dienen boek zag geven
      that Valère Marie to Jan that book saw give
      ‘that Valère saw Marie give that book to Jan.’
   b. da Valère Marie an Jan zag dienen boek geven
      that Valère Marie to Jan saw that book give
      ‘that Valère saw Marie give that book to Jan.’
     (Haegeman 1994; 509)

The a-examples illustrate the word order found in standard Dutch. The b-order is the one expected if the lexical array has the conventional choices of v. Apparently, languages vary as to which choice is made. In West-Flemish, both choices are grammatical, but in Dutch, only the non-conventional lexical array yields a grammatical output.

6.3.5 Raising to object in the third construction

The last type of infinitival clause we have to discuss is the third construction:

(78) … [CP omdat Jan [TP Marie, beweert [TP te kennen t]],]
      because Jan Marie claims to know
      ‘…because Jan claims to know Marie.’

We assume the following lexical arrays:

(79) a. / kennen, Marie, v₂: [+θ], PRO, T₁: [+EPP], beweren,
       know Marie claim
       v₁: [+θ, +acc, +acc], Jan /

   b. / omdat, T / because

There are five points to note. First, the embedded v is an unconventional choice. While we know that this choice of v is available in the lexicon, it is not normally found with transitive verbs. In simple clauses, this choice of v would not result in a well-formed output, because in the absence of a case licenser for the internal
argument, this DP would not get its case checked. However, in the special circumstance in which there is an alternative way for the internal argument to get licensed, this choice of \( v \) leads to a grammatical sentence.

Second, we have to discuss the position of PRO. In moving into the matrix clause, the embedded internal argument would have to cross PRO, if PRO sits in its normal position in [spec, TP]:

(80)

We might expect that such movement induces a violation of relativized minimality. There are two ways to deal with this issue. First, we could propose that the minimality violation is apparent. If 'minimality effects' in fact reflect a condition on the ordering of elements, then the order \( \text{Marie} > \text{PRO} \) need not be problematic. In Dutch, the unmarked order of argument DPs is subject > indirect object > direct object. If we could show that this ordering is not due to narrow syntactic conditions like relativized minimality, but reflects, for instance, a condition on linearization, perhaps along the lines of Fox & Pesetsky (2005), then it could be that the ordering condition does not apply to non-overt DPs. If such an alternative would prove feasible, then we might assume that the embedded internal argument may move across PRO in [spec, TP] without violating any syntactic condition.

Third, we may assume a derivation in which no minimalty is respected, that is, PRO precedes \( \text{Marie} \) in the surface structure. The derivation of the third construction would then be analogous to the derivation of ECM-constructions in that both PRO and the internal argument are licensed in the matrix clause. We can derive this word order by positing extra EPP-features at strategic moments in the derivation.
As we discuss below, there is some evidence that like Marie, PRO is in the matrix clause.

The fourth point to note in (79) is the feature specification of the embedded T. $T_{def}$ is the T we normally find in raising constructions. That is, T does not check uninterpretable features, but it has an EPP-feature. In fact, the $T_{def}$ we propose has two EPP-features: one attracts the embedded external argument, as usual, and an additional one to ensure that the external and internal arguments are equidistant from the matrix v.\[38\]

The last unconventional assumption in (79) is the feature specification of the matrix v. We propose that this is the same type of v we find in Dutch ECM-constructions. The third construction and ECM are then fully parallel, the only difference being that in ECM-constructions, the matrix verb licenses an overt argument, and in the third construction, it licenses PRO.

This view presupposes that like overt DPs, PRO may bear accusative case. We assume that PRO indeed has essentially the same licensing requirements as overt DPs. As shown in Sigurdsson (1991), Icelandic PRO behaves the same as overt subjects in various respects.\[39\] For instance, participles and finite verbs show up in the default form if the subject is non-nominative, but show agreement with nominative subjects. This holds for overt subjects as well as PRO. Furthermore, floating quantifiers bear the same case as the argument they are associated with. In infinitival clauses, a floating quantifier associated with PRO is nominative if the subject would be nominative in a finite clause, but bears a quirky case if the verb takes a quirky subject in finite clauses. These arguments show that PRO behaves the same as overt subjects with respect to case, which makes it unlikely that PRO-subjects have special licensing properties.

On this assumption, we may assume that the licensing requirements of PRO are the same as those of overt subjects. But if PRO is essentially like overt DPs, we have to address the question why control clauses have a PRO subject instead of a lexical subject.\[40\] We will not answer this question here. We merely note that there is some evidence that the distribution of PRO is not explained by the absence of finiteness. On the one hand, there are infinitival clauses in which the external argument is overt, like ECM-constructions, or for-to infinitives in English. On the other hand, there are finite clauses which show control, for instance in Hebrew (see Landau 2004). Note also that the presence of tense is not decisive: not all tenseless infinitival clauses lack an overt external argument (ECM), and propositional infinitives are tensed, but do not permit a lexical subject in Dutch (cf. 4.4.1; Zwart 2007).

Now let us illustrate how the lexical array in (79) leads to the word order in (78). The first part of the derivation is not remarkable. The embedded vP is formed,

\[38\] As an alternative, we might assume that embedded T licenses PRO and also attracts the internal argument, while matrix v licenses the embedded internal argument and attracts PRO by virtue of an additional EPP-feature.

\[39\] This observation was also made in earlier work by Andrews (1982), which I have not read.

\[40\] This question does not come up in frameworks in which control is viewed as movement (Hornstein 1999; Boeckx & Hornstein 2003; Boeckx & Hornstein 2004, among others). Various problems with this view have been discussed in Landau (2003) and Culicover & Jackendoff (2001).
and as in the derivations of the other transparent infinitival clauses, \(v\) does not license the embedded internal argument, nor does it define a phase. On the next step, \(T_{def}\) is added:

\[
T_{def} [\Phi \text{PRO} v [vP \text{know} \text{Marie}]]
\]

Because \(T_{def}\) has two EPP-features two check, it attracts both arguments. Because it is defective, it does not check any other features:

\[
[TP \text{PRO} [TP \text{Marie} \ T_{def} [\Phi t_i v [vP \text{know} t_j]]]]
\]

The derivation continues with the merger of the matrix verb, the matrix \(v\) and the matrix external argument:

\[
[\Phi \text{Jan} v [vP \text{beweren} [TP \text{PRO} [TP \text{Marie} \ T_{def} [\Phi t_i v [vP \text{know} t_j]]]]]]
\]

The matrix \(v\) has two case features, as in ECM in Dutch. It therefore attracts both embedded arguments:

\[
[\Phi \text{Jan} [\Phi \text{Marie} v [vP \text{beweren} [TP t_i [TP t_j T_{def} [\Phi t_i v [vP \text{know} t_j]]]]]]]
\]

The derivation now continues as usual, and eventually converges as (78).

The assumption that PRO is in the matrix clause requires justification. We present one piece of evidence which supports the present analysis. Recall from chapter 5 that the DP in the third construction may bind into a matrix clause adjunct:

\[
\ldots \text{omdat Jan Marie, in haar eigen kamer verklaarde te bewonderen} \ldots \text{because Jan Marie in her own room stated to admire}
\]

This shows that there is no LF-reconstruction for binding. From this, we infer that an anaphor does not reconstruct for the purposes of binding either. This leads us to predict that for the purposes of binding, an embedded argument is part of the matrix binding domain in the third construction. However, the indirect object in (86) must be a pronoun, not an anaphor:

\[
\begin{align*}
86 \text{a. } & \ldots \text{omdat ik Piet het boek aan mij vroeg te geven because I Piet the book to me asked to give} \\
& \ldots \text{because I asked Piet to give the book to me.}
\end{align*}
\]

\[
\begin{align*}
86 \text{b. } & \ldots \text{omdat ik Piet het boek aan mezelf vroeg te geven because I Piet the book to myself asked to give} \\
& \ldots \text{because I asked Piet to give the book to me.}
\end{align*}
\]
From the contrast in (86), it would seem that *aan mij* ‘to me’ and the matrix subject *ik* ‘I’ belong to different binding domains. If Chomsky (1981) is essentially correct in assuming that the binding category for $\alpha$ is “the minimal category containing $\alpha$, a governor of $\alpha$, and a SUBJECT accessible to $\alpha$” (Chomsky 1981: 211), then the presence of PRO is relevant in determining the binding domain. The observations in (85) in (86) can be now be reconciled:

(87) a. … omdat *ik* Piet [PRO het boek aan *mij* vroeg te geven] because I Piet the book to me asked to give

‘…because I asked Piet to give the book to me.’

b. … omdat Jan [PRO Marie, in haar eigen, kamer verklaarde te because Jan Marie in her own room stated to bewonderen] admire

‘…because Jan stated that he admired Marie in her own room.’

The embedded arguments are in the matrix clause for the purposes of binding. This explains why the embedded internal argument *Marie* can bind into a matrix clause adjunct in (87a), while at the same time, the matrix subject *ik* ‘I’ and the embedded goal *aan mij* ‘to me’ are in different binding domains in (87)a, by virtue of the presence of PRO.41

If the contrast in (86) is explained by the presence of PRO, we would predict a contrast between examples like (86)a, transparent infinitival clauses containing PRO, and infinitival complements which lack PRO. This is borne out:

(88) a. Mijn baas *heeft* me geholpen [CP PRO hem, te fotograferen] my boss has me helped him to photograph

‘My boss helped me photograph him.’

b. Mijn baas *heeft* me, zichzelf, helpen [VP fotograferen] my boss has me himself help photograph

‘My boss helped me photograph him.’

We argued in 3.2.6.2 that *helpen* ‘help’ takes a PRO-less VP-complement in the clustering construction. This implies that PRO is present in (88)a, but absent in (88)b. Hence, the matrix subject and the embedded internal argument are in different binding domains in (88)a, but not in (88)b.

This concludes our analysis of the third construction. We propose that the third construction is an ECM-construction, in which both PRO and the embedded internal argument are licensed in the matrix clause. This word order arises in the special circumstance that the embedded $v$ fails to license case or define a phase, the embedded $T$ is defective but has an additional EPP-feature, and the matrix $v$ licenses case on the embedded arguments.

41 Matters are considerably more complex than suggested here. If PRO in (87)a is an ECM-subject, and if ECM-subjects close off the binding domain, we would predict that the matrix subject may not bind anaphor across the ECM-subject. But there are constructions in which this is possible (cf. Everaert (1986), Lee-Schoenfeld (2005)).
6.3.6 Opaque complements

Finally, we turn to opaque complements:

\[(89) \quad \text{\ldots [CP omdat Jan \{CP te hebben beledigd t_i\}] (=(1)f) because Jan realized to have read \ldots because Jan realized he had insulted Marie.}\]

We assume the following lexical arrays:

\[(90) \quad \text{a. / beledigd, Marie, v: [+0, +acc], PRO, hebben / have insulted Marie} \]

\[(90) \quad \text{b. / C, T /} \]

\[(90) \quad \text{c. / beseffen, v: [+0], Jan, T, omdat / realize Jan because} \]

\[(91) \quad \text{represents the stage at which vP is formed:}\]

\[(91) \quad [\text{vP PRO hebben [vP beledigd Marie]}] \]

Since \(v\) is of the normal type, Marie moves into [spec, vP] in the next step, checking its uninterpretable features. T is added, which attracts PRO, after which C is merged:

\[(92) \quad [\text{CP C [TP PRO, T [\text{vP tijd [vP hebben [vP beledigd t_i]]]}]}] \]

All uninterpretable features have been checked, and the derivation continues as normal. But now consider the outcome if the embedded \(v\) had been of the special type \(v: [+0]:\)

\[(93) \quad [\text{CP C [TP PRO, T [\text{vP tijd [vP hebben [vP beledigd Marie]]}]]}] \]

In the next step, the matrix verb, \(v\) and the external argument are merged:

\[(94) \quad [\text{vP Jan v [vP beseffen [CP C [TP PRO, T [\text{vP tijd [vP hebben [vP beledigd Marie]]]]]]]}] \]

Even if the matrix \(v\) would have a case checking feature, it could not attract Marie, because the CP phase boundary intervenes. Unless a derivation is available in which the embedded clause does not project up to CP, there is no way for Marie to move out of the embedded clause.

Apparently, the sentential complement to a factive verb is always a CP. Factive complements are therefore opaque.
6.3.7 Summary

We have discussed various subtypes of infinitival clauses in Dutch. We have demonstrated that using the tools provided by phase theory, all the word order variations can be derived. The feature composition of the licensing heads and the position of the phase boundary are crucial in accounting for the observed variation; the presence of functional heads like tense to a much lesser extent.

In the next section, we demonstrate how our assumptions derive the variation in the position of adjuncts, participles, secondary predicates and particles.

6.4 Non-arguments

Transparency effects are not only observed with arguments of the embedded verb. We also have to account for the fact that various non-arguments may precede the matrix verb. In general, any element that is not necessarily adjacent to the verb in a simple clause may precede the matrix verb in a transparent construction. The relevant data are given below.

6.4.1 The distribution of non-arguments

As shown in 6.1, the particle of a verb-particle combination may precede the matrix verb in clustering constructions, but this is not obligatory (95):

(95) … omdat Jan Marie (terug/ op) moet [TP (terug/ op) bellen ]
    because Jan Marie back up must back up call
    ‘…because Jan must call Marie up/back.’

We know the particle is in a derived position because it is not necessarily adjacent to the verb. Stranded prepositions may intervene:

(96) a. … de schaar waar- mee Jan prikkeldraad door- knipt
    the scissors where with Jan barbed.wire through cuts
    ‘…the scissors using which Jan cuts through barbed wire.’

b. … de schaar waar Jan prikkeldraad door mee knipt
    the scissors where Jan barbed.wire through with cuts
    ‘…the scissors using which Jan cuts through barbed wire.’

The third construction shows the same behavior. The particle may precede the matrix verb or the embedded verb.\[^{42}\]

\[^{42}\text{According to Den Besten et al. (1988), particles and small clause predicates may not precede the matrix verb in the third construction. Such examples are not ungrammatical for the speakers I consulted.}\]
The word order in which the particle precedes the matrix verb is not preferred, and it is more acceptable with some verb-particle combinations than with others, but it is certainly not impossible in general.

It has been argued that the preverbal position of the particle is due to the licensing requirements of the particle. Zwart (1993) assumes that the particle must move into the predication phrase PredP, a functional projection above the VP. For our purposes, it suffices that the particle obligatorily undergoes movement to a position to the left of the verb it is associated with. We will not concern ourselves with the motivation for this movement, nor with the exact landing position.

In simple clauses, a participle may precede or follow the temporal auxiliary (98)a. In clustering constructions, the participle preferably precedes or follows all other verbs, but for some speakers, it may precede or follow any verb (cf. Zwart 1996: 234), as shown in (98)b. This also holds for the third construction, but here, the participle is perfectly acceptable in all three positions (98)c:

(98) a. … omdat Jan Marie (gekust) heeft (gekust) because Jan Marie kissed has kissed ‘…because Jan kissed Marie.’

b. … omdat Jan (geslapen) moet (geslapen) hebben (geslapen) because Jan slept must slept have slept ‘…because Jan must have slept.’

c. … omdat Jan (geslapen) beweert (geslapen) te hebben (geslapen) because Jan slept claims slept to have slept ‘…because Jan claims to have slept.’

Participles have also been argued to be licensed through movement (Zwart 1996). We assume this is basically correct, remaining agnostic about the details of the operation. It suffices to note that the participle is not necessarily adjacent to a verb, suggesting that the participle may indeed occupy a derived position:

(99) … de kruidenthee waar Jan zo lang (door) geslapen (door) heeft the herbal-tea where Jan zo long by slept by has ‘…the herbal tea that made Jan sleep so long.’

Secondary predicates may also be separated from the verb by a stranded preposition. This shows that the predicate is not in its base position:
It is not surprising then that the secondary predicate precedes the matrix verb in the clustering construction (101)a, and may precede it in the third construction, as shown in (101)b:

(101) a. … omdat Jan Marie (gelukkig) moet [TP (*gelukkig) maken] because Jan Marie happy must happy make
    ‘…because Jan must make Marie happy.’
   b. … omdat Jan (beroemd) besloot [MoodIrrP (beroemd) te worden] because Jan famous decided famous to become
    ‘…because Jan decided to become famous.’

We have no account for why the clustering construction differs from the third construction in this respect, but we note that it may not be a significant difference. In dialects which have ‘verb projection raising’, like Flemish, both orders in (101)a are grammatical.\textsuperscript{44}

Finally, we turn to adjuncts. Adjuncts must precede the matrix verb in clustering constructions (103)a, and may do so in the third construction (103)b:

(103) a. … omdat Jan (voorzichtig) moet [TP (*voorzichtig) rijden] because Jan carefully must carefully drive
    ‘…because Jan must drive carefully.’
   b. … omdat Jan (voorzichtig) belooft [MoodIrrP (voorzichtig) te rijden] because Jan carefully promises carefully to drive
    ‘…because Jan promised to drive carefully.’

The difference between the clustering construction and the third construction should not be taken to reflect a deep property of the language. An adjunct may separate the verbs in a verbal cluster in dialects which have ‘verb projection raising’:

\textsuperscript{44}The data in Vanacker (1970) are collected from spontaneous speech from speakers from various regions of the Flemish speaking part of Belgium. (102)a is by a speaker from Gent, (102)b by a speaker from Wervik.
(104) dass er da Buech (gnau) het soele (gnau) doere lese SWISS-GERMAN
    that he the book carefully had shall carefully through read
    ‘that he should have read through the book carefully.’
    (Wurmbrand 2005; 44)

In this section, we will not present an account which explains in which positions
these elements can and cannot occur. We simply take it for granted that past
participles may, and particles, secondary predicates and adjuncts must be (re)merged
with the predicate. We elaborate on the necessary assumptions below.

6.4.2 Assumptions

If it is assumed that the order of merge operations is flexible, then the word order
possibilities are predicted on our assumptions about the phase structure of
transparent constructions.

6.4.2.1 Flexibility in the order of merge

We assume that the position in which these elements are merged is free to a certain
extent. Consider (105):

(105) a. Jan heeft met plezier het boek gelezen
    Jan has with pleasure the book read
    Jan read the book with pleasure.’
    b. Jan heeft het boek met plezier gelezen
    Jan has the book with pleasure read
    Jan read the book with pleasure.’

Following Zwart (1993, 2004), we assume that both orders in (105) are derived with
just one movement of the internal argument. From its post-verbal base position, the
internal argument lands in a position preceding or following the adjunct (106):

(106) Jan has (with pleasure) [the book], (with pleasure) read t

In terms of freedom of the position in which the adjunct is merged, this means that
the movement of the internal argument takes place either before the adjunct is
merged, resulting in the order in (105)a, or after it is merged, resulting in (105)b
(Zwart 2004). Both derivations result in grammatical sentences. We therefore
assume that syntactically, both derivations are possible. In some cases, however,
only one of the derivations results in a well-formed sentence, as observed before (De
Hoop 1992; Diesing 1992):

(107) a. Jan heeft gisteren een boek gelezen
    Jan has yesterday a book read
    ‘Jan read a book yesterday.’
b. Jan heeft een boek gisteren gelezen
   Jan has a book yesterday read
   ‘Jan read a book yesterday.’ (intended)

(107)b is not a discourse neutral utterance.\textsuperscript{45} The example receives a partitive or specific interpretation; the object cannot be interpreted existentially (but see Zwart 1997). In (107)a, the existential interpretation is grammatical.

Note that indefinites may precede certain adjuncts on the existential interpretation:

\begin{equation}
\text{(108) Jan heeft een portemonnee in het park gevonden}
\end{equation}
\begin{equation*}
   \text{Jan has a wallet in the park found}
\end{equation*}
\begin{equation*}
   \text{‘Jan found a wallet in the park.’}
\end{equation*}

We therefore assume that the order in which the adjunct is merged and the internal argument is moved, is in principle free.\textsuperscript{46} We have nothing to say about how the interpretation comes about. We merely note that in some cases, one of the orders may lead to an ill-formed interpretation. This does not necessarily mean that the derivation is impossible in principle.

We would like to propose now that the timing of merge of an adjunct is not just free with respect to the timing of movement of internal arguments. As long as nothing excludes the resulting structure, (re)merger of a non-argument may be free in general. This assumption allows us to account for the distribution of non-arguments in sentences containing infinitives, as discussed below. But first, let us consider three factors which constrain the timing of merger of non-arguments.

\subsection*{6.4.2.2 \textit{No adjunction in or to VP}}

First, we assume that adjuncts may not be merged VP-internally, that is, before the internal argument(s) of the verb are merged. This is a stipulation, but it seems to be correct. Adjuncts never intervene between the verb and a DP object in English, if the DP is in its base position:

\begin{equation}
\text{(109) * John has read carefully the book}
\end{equation}

\textsuperscript{45} For some speakers, the existential interpretation is possible in (107)b if the stress is on the indefinite (see Zwart 1997).

\textsuperscript{46} We restrict attention to the middle field. We ignore examples like (i)a, in which an adjunct intervenes between the subject and the finite verb in a subject-initial main clause. We also ignore (i)b, in which an adjunct is between the complementizer and the subject in an embedded clause, which is grammatical for some (Zwart 1993; 304; Neeleman 1994; 76), but ungrammatical for other speakers:

(i) a. * Jan gisteren heeft een taart gebakken
   Jan yesterday has a pie baked
   ‘Jan baked a pie yesterday.’

   b. * dat gisteren Jan een taart heeft gebakken
   that yesterday Jan a pie has baked
   ‘that Jan baked a pie yesterday.’

(i)
Assuming English has V-to-v movement, we have to stipulate that adjuncts may not be merged to VP either. The first possibility for merging the adjunct would then be after merger of $v$. If we want to maintain our account of (105), and the internal argument is licensed as the object by case checking by $v$, then we have to assume that adjuncts can indeed be merged right after $v$ is added to VP.

It is not immediately clear whether we would want to block remerge to VP in the case of particles, participles and secondary predicates. These elements can only be separated from the verb they are associated with by stranded prepositions and higher verbs, and must follow object DPs. We therefore assume that they must be remerged before the internal argument is remerged, but leave it open whether they could be remerged before $v$ is added.

### 6.4.2.3 Adjunction only if it leads to the intended interpretation

The second factor that regulates the timing of merger of adjuncts is interpretation. If a certain timing leads to an ill-formed interpretation, or to an interpretation which does not conform to the proposition the speaker meant to convey, then this timing is excluded. We have already seen examples of this in (106) and (107). Consider the derivation of (106), after $v$ is merged. For ease of exposition, we use English words instead of Dutch words:

(110) $[v_P v [VP \text{read a book}]]$

Because of the condition that adjuncts may not be merged until $v$ has been merged, the stage in (110) is the first possibility to merge the adjunct met plezier ‘with pleasure’.

Suppose we merge the adjunct at this point:

(111) $[v_P \text{with pleasure } v [VP \text{read a book}]]$

The next step is movement of the internal argument:

(112) $[v_P \text{a book, with pleasure } v [VP \text{read } t_i]]$

However, (110) could equally well have proceeded with movement of the internal argument:

(113) $[v_P \text{a book, } v [VP \text{read } t_i]]$

The adjunct could then merge to the structure in (113), resulting in (114):

(114) $[v_P \text{with pleasure a book, } v [VP \text{read } t_i]]$

---

47 For ease of exposition, we ignore the external argument and the movement of the verb.
Either derivation leads to a well-formed interpretation conforming to what the speaker intended to convey.

In contrast, (107) only allows one of the two derivations. Assuming that both derivations are in principle possible, we assume that the one in which merger of the adjunct precedes movement of the indefinite does not lead to the proposition that the speaker had in mind. Therefore, the option in which movement of the internal argument precedes merger of the adjunct is instantiated.

This condition also holds for participles, secondary predicates and particles, but for these elements, the variation in the timing of remerge is much more limited. The internal argument is necessarily moved after movement of the participle, particle or secondary predicate; variation is only observed if the derivation involves an infinitival complement or preposition stranding.

It may seem like this system involves look ahead: if both derivations are possible, how is it determined which derivation takes place? While we do not have an answer to this question, we note that some form of look ahead is inevitable.

Suppose the speaker intends to utter the sentence ‘John kissed Mary’. The lexical array for the vP-phase is (115):

\[(115) \quad / \text{John, kissed, Mary, v} / \]

With this lexical array, two derivations are possible. Since both (partial) derivations in (116) lead to a convergent phase, and ultimately to a well-formed sentence, there must be a way to determine that (116)a conforms to the intended utterance but (116)b does not:

\[(116) \quad \text{a. } [\text{vP John v [VP kissed Mary]}] \]
\[\quad \text{b. } [\text{vP Mary v [VP kissed John]}] \]

We assume that whatever mechanism ensures that the derivation (116)a takes place, and (116)b does not, also ensures that the correct derivation for (107)b takes place.

\[6.4.2.4 \quad \text{Locality}\]

Third, the timing of merge may be restricted by locality, understood as the size of the phase. It seems to be the case that merger of the adjunct cannot be postponed indefinitely. The adverb terecht ‘rightly’ in (117) cannot take scope in the embedded clause:

\[(117) \quad \text{... omdat Jan terecht gelooft dat Marie veroordeeld is}
\quad \text{because Jan rightly believes that Marie convicted is}
\quad \text{‘...because Jan correctly believes that Marie has been convicted.’} \]

If this interpretation were possible, then (118) would be a contradiction, contrary to fact:
(118) ... omdat Jan terecht gelooft dat Marie onschuldig veroordeeld is
because Jan rightly believes that Marie innocent convicted is
‘...because Jan correctly believes that Marie has been convicted while she is not guilty.’

One way to account for the absence of the embedded scope interpretation in (117) would be to restrict the freedom of the timing of merger to one phase. This assumption would follow naturally if we assume that material from a higher phase may not be merged to the structure until the lexical array of the lower phase is exhausted. Furthermore, we have to assume that adjuncts are part of the lexical array of the phase in which they take scope. We illustrate the case of (117). The embedded clause in (117) being passive, the clause consists of one phase. The lexical array would be (119):

(119) / because, Marie, convicted, has-been, rightly, v, T /

If derivation of the matrix vP-phase could not be started until the lexical array of the lower phase were exhausted, then (117) could simply not be derived.48

Adopting this account forces us to develop a precise account of which adjuncts belong to which phase. In active transitive clauses, there will typically be two phases. For some adjuncts, determining to which phase they belong may not be a problem. Manner adverbs, for instance, take scope over the predicate, and are therefore likely to be merged in the vP-phase. On the other hand, sentence adverbs like probably take scope over the entire sentence, and may thus be assumed to be merged in the CP-phase. But note that probably is one of the highest adverbs in hierarchy of Cinque (1999), and manner adverbs are among the lowest. But between these, there are many more adverb classes. It would be a difficult task to classify all classes into ‘CP-adverbs’ and ‘vP-adverbs’.

We will not undertake this task. Instead, we argue that at least for Dutch, such a classification into ‘CP-adverbs’ and ‘vP-adverbs’ is empirically incorrect. Recall our account of the variable ordering of objects and adjuncts in Dutch (cf. discussion of (105) above). If movement of the internal argument targets a position within the lower vP-phase, and waarschijnlijk ‘probably’ is part of the higher phase, then we could only account for the order in (120)a:

48 There are exceptions to the claim that adjuncts take scope in the clause in which they surface. For some speakers, (i) is ambiguous between a matrix scope reading and an embedded scope reading for gisteren ‘yesterday’:

(i) ... omdat Jan gisteren zei dat hij het gras gem aaid had
because Jan yesterday said that he the grass mown had
‘...because yesterday, Jan said that he had mown the lawn.’
‘...because Jan said that he had mown the lawn yesterday.’

However, the adverb must be emphasized for the embedded scope interpretation to be possible. In this aspect, (i) is similar to (ii):

(ii) dat Jan zulke boeken zelfs onder vier ogen niet zegt dat hij gekocht heeft
that Jan such books even under four eyes not says that he bought has
‘As for such books, Jan wouldn’t even admit that he bought them in private.’
(Neeleman 1994; 86)

We might therefore assume that adverbs may undergo A’-movement to a higher clause, similar to focus scrambling (Neeleman 1994) in (ii), which also requires emphasis on the moved element.
(120) a. ... omdat Jan waarschijnlijk [het boek] heeft gelezen t,
   because Jan probably the book has read
   ‘...because Jan probably read the book.’
   b. ... omdat Jan [het boek], waarschijnlijk heeft gelezen t,
   because Jan the book probably has read
   ‘...because Jan probably read the book.’

The order in (120)b could arise only if waarschijnlijk ‘probably’ were part of the lexical array of the vP-phase, or if movement of het boek ‘the book’ targets a position outside of the vP-phase. Given our assumption that movement of the internal argument is driven by case checking, and assuming that the probe in question is t, the latter option must be rejected.

But if we adopt Cinque’s (1999) hierarchy, then waarschijnlijk ‘probably’ is in the Mod$_{Mood}$EPISTEMIC projection. This projection c-commands T, which means that waarschijnlijk ‘probably’ is necessarily part of the higher phase.  

We propose the following solution to this paradox. First, note that the interaction between objects and adverbs is the same for all adverbs. That is, any adverb must precede an indefinite object on the existential interpretation. This is shown for evaluative adverbs, which are very high, in (121), and for manner adverbs, which are low, in (122):

(121) a. * Ik heb een boek helaas verloren
   I have a book unfortunately lost
   ‘Unfortunately, I have lost a book.’
   b. Ik heb helaas een boek verloren
   I have unfortunately a book lost
   ‘Unfortunately, I have lost a book.’

(122) a. * Jan heeft een gedicht zorgvuldig voorgedragen
   Jan has a poem carefully cited
   ‘Jan carefully cited a poem.’
   b. Jan heeft zorgvuldig een gedicht voorgedragen
   Jan has carefully a poem cited
   ‘Jan carefully cited a poem.’

According to Cinque (1999), speech act adverbs like helaas ‘unfortunately’ are in the highest projection for adverbs, Mood$_{speech}$ACT. This projection c-commands T, so if Cinque’s (1999) analysis is correct, the adverb in (121) is part of the CP-phase.

Since the object may not precede the adverb, we cannot determine its position. We assume that zorgvuldig ‘carefully’ sits in the Voice projection, one of the lower projections available for adverbs in Cinque (1999). The object must follow the

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49 Note that it is problematic to assume that waarschijnlijk ‘probably’ sits in the specifier of Mod$_{Mood}$EPISTEMIC, because if this projection c-commands TP, then the adverb should precede the subject. We return to this point.

50 (121)a and (122)a are grammatical if the object is interpreted specifically. We ignore this interpretation.
adverb (122)b. Thus, (122)b shows that the object can be in the vP-phase. By analogy, we assume that it also occupies this position in (121)b. This result is compatible with the hierarchy of projection, if we assume that the lowest possible position for an adverb is higher than the licensing position for indefinite objects.

Now consider the interaction between adverbs and definite objects:

(123) a. Ik heb die film helaas niet gezien
   I have that movie unfortunately not seen
   ‘Unfortunately, I haven’t seen that movie.’
   b. Ik heb helaas die film niet gezien
   I have unfortunately that movie not seen
   ‘Unfortunately, I haven’t seen that movie.’

(124) a. Jan heeft de auto zorgvuldig gerepareerd
   Jan has the car carefully repaired
   ‘Jan repaired the car carefully.’
   b. Jan heeft zorgvuldig de auto gerepareerd
   Jan has carefully the car repaired
   ‘Jan repaired the car carefully.’

Assuming that helaas ‘unfortunately’ is part of the CP-phase, the object in (123)a must be as well. But the object may follow zorgvuldig ‘carefully’, which supposedly sits in the specifier of the Voice projection, the lowest projection available for adverbs in Cinque (1999). Thus, (124)b shows that the object can be in the vP-phase.

If we assume that Cinque’s (1999) findings can be generalized to Dutch, then (123)a and (124)b show that the object may occupy different positions. This is an unattractive assumption, because it is not clear what could trigger movement of the object to a position as high as required in (123)a. In fact, it is not clear that there is such a position. If speech act adverbs are in the specifier of a MoodSPEECH.ACT head, and if this projection is situated in the position Cinque (1999) assumes, then we predict that the object is in a position higher than TP, which is unlikely, given that the subject sits in [spec, TP]. Moreover, we would predict that the adverb always precedes the subject in [spec,TP] and the finite verb in root clauses, contrary to fact. \[51\]

Hence, we might conclude that the Cinque hierarchy does not hold in Dutch, and that all adverbs are alike. They may all precede or follow a definite object, and they must all precede an indefinite on the existential interpretation. But this conclusion would be wrong. Cinque’s hierarchy can be made visible for Dutch when we compare constructions with more than one adverb:

\[51\] That is, if we assume that root clauses are TPs. However, the problem also arises if we assume that main clauses are CPs, and the verb is always in C in verb second contexts, with the subject moving to [spec,CP] in subject-initial main clauses. (i) shows that speech act adverbs can be lower than TP.

(i) De verkoper zei dat hij de klant helaas niets had kunnen verkopen
   the salesman said that he the customer unfortunately nothing had can sell
   ‘The salesman said that unfortunately, he had not been able to sell anything to the customer.’
   If helaas ‘unfortunately’ were to be adjoined to TP, then the object must be in a position at least as high as TP. We assume that this is not the case.
Helaas ‘unfortunately’, may not follow zorgvuldig ‘carefully’. This confirms Cinque’s (1999) hierarchy, in which MoodSPEECH ACT c-commands Voice. Thus, it seems to be the case that the hierarchy correctly predicts the ordering of adverbs with respect to other adverbs. However, it wrongly predicts the ordering possibilities of adverbs with respect to arguments. We therefore conclude that the Cinque hierarchy accounts for the relative position of adverbs with respect to other adverbs (which may ultimately be explained by other principles, cf. Nilsen (2003)), but that the hierarchy does not tell us where the adverbs are located in the syntactic structure (Bobaljik 1999).

This conclusion allows us to maintain our earlier account of the interaction between objects and adverbs: adverbs, no matter how high they are on Cinque’s hierarchy, may be merged once v is merged to the structure, and their merger may precede or follow movement of the internal argument. As a consequence, adverbs are always part of the lexical array of the vP-phase. This holds even for sentence adverbs.

This may seem to be an unattractive conclusion, but given the distribution of arguments and adverbs in the clause, it turns out to be an inevitable one. Note that our claim is only about the position of adverbs in the syntactic structure; we are not making any claims about how the scope of an adverb is established.
We assume the same for remerge of particles, secondary predicates and participles; such elements must be remerged before any element of the lexical array of the next higher phase is added. Note that this restriction follows from the PIC; therefore, we do not have to stipulate it as a separate condition.

To summarize, the timing of merger of adverbs is free, but since derivation of a higher phase cannot begin until the lexical array of the lower phase is exhausted, an adverb must be merged within its phase. Similarly, the PIC forces remerge of a particle, secondary predicate, or participle before any material from the higher phase is added.

Note that our proposal only defines the maximal domain in which freedom of the timing of merger may be observed. Our proposal tells us nothing about which timing possibility is actually instantiated in cases in which we predict more than one option. This is a good result for examples like (105), repeated here, because both predicted word orders are observed:

(126) a. Jan heeft met plezier het boek gelezen (= (105)
    Jan has with pleasure the book read
    ‘Jan read the book with pleasure.’

b. Jan heeft het boek met plezier gelezen
    Jan has the book with pleasure read
    ‘Jan read the book with pleasure.’

However, our proposal overgenerates in other examples. Consider (127)a, derived from the lexical array (127)b:

(127) a. John seems to have been wrongly accused
b. / John, seems, to, have, been, wrongly, accused, v₂, v₁, T₂, T₁ /

We correctly predict that ‘wrongly’ can be merged after v has been added, resulting in (127)a. But given that the entire sentence consists of one phase, we also predict that merger of the adverb can be postponed, for instance until after the matrix v is merged, resulting in the ungrammatical (128):

(128) * John wrongly seems to have been accused

(128) is only one ungrammatical word order that is predicted to be possible on our account, but there are other word orders which are ungrammatical, but predicted to be possible on our proposal. We have nothing to say about the factors which regulate the word order options within the boundaries set in our account. We merely note that the derivation resulting in (128) is not impossible in principle, as its Dutch counterpart is grammatical:

53 It follows that sentence initial adverbs are moved to the initial position, rather than base generated in that position. As adverbs may not be merged before v is merged, their base position is in the edge of the vP-phase. In this position, they are accessible for the probe C.
(129) ... omdat Jan ten onrechte schijnt te zijn beschuldigd
because Jan to injustice seems to be accused
‘...because Jan seems to have been wrongly accused.’

6.4.2.5 Summary

We assume that non-arguments may be (re)merged to the structure at any stage of the derivation. We have proposed three restrictions on this freedom. First, an adverb may not be merged until \( v \) is merged (6.4.2.2). This restriction ensures that the derivations leading to (130)a and (130)b will not take place, and only (130)c is derived:

(130) a. John \([_P v \text{gave}_i [VP \text{probably Mary}_t \text{a present}_i]]\]
    b. John \([_P v \text{gave}_i [VP \text{Mary}_t \text{probably a present}_i]]\]
    c. John \([_P v \text{gave Mary}_t \text{a present}_i]]\]

Second, we suggested that the timing of merger of an adverb is restricted by the resulting interpretation (6.4.2.3). Derivations which lead to an utterance which does not have the intended interpretation, are discarded. This restriction accounts for the fact that the adverb may only be merged at one stage in the (simplified) derivation of (131):

(131) a. ... omdat Jan \([_P \text{een boek}_i \text{vaak}_v [VP \text{leest}_t]]\]
    b. ... omdat Jan \([_P \text{vaak}_v \text{een boek}_i [VP \text{leest}_t]]\]

Only the derivation in (131)b is possible. The proposition in (131)a may be paraphrased as ‘that there is one book which John often reads’. While this is a well-formed interpretation, the derivation is discarded because it is not the intended proposition, which is ‘that John often reads a book’. In (132), on the other hand, the two derivations both give rise to the proposition ‘that John often reads the book’, and hence, the adverb may be merged to the structure at either stage:

(132) a. ... omdat Jan \([_P \text{het boek}_i \text{vaak}_v [VP \text{leest}_t]]\]
    b. ... omdat Jan \([_P \text{vaak}_v \text{het boek}_i [VP \text{leest}_t]]\]

Third, we suggested that adverbs must be merged within their phase, and particles, secondary predicates and participles must be remerged in their phase (6.4.2.4). This accounts for the contrast between (133) and (134):

(133) ... omdat Jan ten onrechte schijnt te zijn beschuldigd
because Jan to injustice seems to be accused
‘...because Jan seems to have been wrongly accused.’
(134) ... omdat Jan **terecht** gelooft dat Marie onschuldig veroordeeld is
because Jan rightly believes that Marie innocent convicted is
‘...because Jan correctly believes that Marie has been convicted.’ (=118)
not: ‘...because Jan believes that Marie has been convicted while she is not
guilty.’

The adjunct *ten onrechte ‘wrongly’ in (133) is merged to the structure after merger of the matrix v. It modifies the embedded clause, however. Because (133) consists of only one phase, merger of the embedded clause modifier need not take place before matrix clause material is merged. This is not possible in (134). The embedded clause constitutes a phase, and hence the adverb *terecht ‘rightly’ must be merged in the embedded clause. When it does not, only the matrix scope interpretation is possible.

With these restrictions on the position of non-arguments, let us look into infinitival complements in more detail.

### 6.4.3 Derivations

We now investigate how our proposal accounts for the position of non-arguments in sentences containing verb clusters (6.4.3.1), the third construction (6.4.3.2) and opaque constructions (6.4.3.3).

#### 6.4.3.1 The clustering construction

In standard Dutch, adverbs obligatorily precede the matrix verb. This holds for low adverbs (135) as well as high adverbs (136):

(135) a. ... omdat Jan **hard** moet werken
because Jan hard must work
‘...because Jan must work hard.’

b. * ... omdat Jan moet **hard** werken
because Jan must hard work
‘...because Jan must work hard.’

As speech act adverbials cannot take scope over the embedded predicate to the exclusion of the matrix verb in the case of modals, we use a different verb to show the position of high adverbs:

(136) a. Jan zei dat hij **helaas** bleek te hebben gesnurkt
Jan said that he unfortunately turned.out to have snored
Jan said that unfortunately, he turned out to have snored.’

b. * Jan zei dat hij bleek **helaas** te hebben gesnurkt
Jan said that he turned.out unfortunately to have snored
Jan said that unfortunately, he turned out to have snored.’
We point out that the position of the adverb is independent of the choice of verb. Although raising verbs select TP-complements, and we might expect the complement to have a position for a (low) adverb, adverbs modifying the embedded predicate surface in the matrix clause:

(137) a. omdat Jan hard schijnt te werken
because Jan hard seems to work
‘...because Jan seems to work hard.’

b. * omdat Jan schijnt hard te werken
because Jan seems hard to work
‘...because Jan seems to work hard.’

The position of the adverbs helaas ‘unfortunately’ and hard ‘hard’ to the left of the matrix verb is compatible with our proposal. We illustrate the derivation of (135), noting that the same options exist for (136) and (137). We only demonstrate the derivation for adverbs, but remerge of a particle, participle or secondary predicate gives rise to the same options.

The lexical array (138) allows (at least) two stages at which the adverb could merge (139): 54

(138) / because, Jan, seem, hard, work, v₁, v₂, T₁, T₂ /

(139) a. omdat Jan [v₁ [VP seem [v₂ hard v [VP work]]]]

b. omdat Jan [hard v₁ [VP seem [v₂ v [VP work]]]]

The first stage at which the adverb could be merged, is right after the embedded v is merged. This results in the word order (137)b, ungrammatical in standard Dutch. The second is that merger of the adverb is postponed until after the matrix v is merged. This derivation leads to the word order (137)a, the only possible word order in (Standard) Dutch. Hence, our proposal predicts two word orders, but only one of them is observed. The fact that our account overgenerates may be taken as evidence against freedom in the timing of adjunction. However, we believe that this overgeneration is not necessarily problematic, because there is no reason to exclude the derivation in (139)a in principle. This word order is grammatical in Züritüütsch, the Swiss German dialect of Zurich (140), and in West Flemish:

(140) a. dassi wil moorn choo
that-she wants tomorrow come
‘That she wants to come tomorrow.’

b. dassi moorn wil choo
that-she tomorrow wants come
‘That she wants to come tomorrow.’

(Haegeman & Van Riemsdijk 1986; 446)

54 For ease of exposition, we ignore irrelevant details, like T, and the trace of the subject in (139). We also ignore other stages at which the adverb could be merged, but which do not result in a new word order.
Thus, our proposal overgenerates in the case of Standard Dutch, but not in the case of West-Flemish and Zürirüütsch. We presume that there is an independent explanation for the ungrammaticalness of the derivation (139)a for Dutch, but we do not attempt to formulate one. For our purposes, it suffices that the possibilities we predict are indeed attested, albeit not in the language we are primarily interested in.

So far, it seems that only locality is of importance in describing the position of non-arguments in sentences containing verb clusters. We would like to point out that as in simple sentences, the freedom in placement of non-arguments is also restricted by the resulting interpretation. If the interpretation is ill-formed, or fails to conform to the intended proposition, then the derivation in question is excluded. This severely restricts the freedom in the timing of remerge of particles, participles and secondary predicates. Remerge of such an element after remerge of the internal argument is excluded:

(141) a. ... omdat Jan (* terug) Marie ( terug) moet ( terug) bellen
   because Jan back Marie back must back call
   ‘...because Jan should call Marie back.’
 b. ... omdat Jan (* beledigd) Marie ( beledigd) moet hebben
   because Jan insulted Marie insulted must have
   ( beledigd) insulted
   ‘...because Jan must have insulted Marie.’
 c. ... omdat Jan (* boos) Marie ( boos) moet maken
   because Jan angry Marie angry must make
   ‘...because Jan must make Marie angry.’

As for adverbs, we have shown that in simple sentences, adverbs are ordered according to a hierarchy (Cinque 1999). This is shown here for the adverbs doorgaans ‘usually’ and langzaam ‘slowly’. The former expresses habituality, and must precede the latter, which expresses manner:

(142) a. Jan drinkt zijn thee doorgaans langzaam op
   Jan drinks his tea usually slowly up
   ‘Jan usually drinks his tea slowly.’
 b. * Jan drinkt zijn thee langzaam doorgaans op
   Jan drinks his tea slowly usually up
   ‘Jan usually drinks his tea slowly.’

One might object that the variation in the position of the adverb is not an optionality in placement, but an optionality in the choice of complement. When the complement is transparent, the adverb would surface in the matrix clause obligatorily, but if the complement is opaque, it would surface in the embedded clause. The example in (44) above shows that this account is incorrect. If the position of the adverb in the embedded clause were indicative of the opacity of the complement, the order in (44)b is predicted to be ungrammatical, contrary to fact. We take (44) as evidence that transparency of the complement extends the domain in which the adverb may be placed. It does not force that adjunction be postponed, however.
Note that the ordering restriction also holds in more complex examples, in which the adverbs modify different predicates:

(143) a. ... omdat de juf Jan doorgaans langzaam laat schrijven
   '...because the teacher usually lets Jan write slowly.'

b. * ... omdat de juf Jan langzaam doorgaans laat schrijven
   '...because the teacher usually lets Jan write slowly.'

In (143)a, doorgaans ‘usually’ modifies the matrix clause: the teacher has the habit of letting the pupil write slowly. Langzaam ‘slowly’ modifies the embedded predicate, although it surfaces in the matrix clause. Adjunction of langzaam ‘slowly’ may be postponed until after merge of the matrix v, as predicted on our proposal, but the adjunction may not be postponed until after doorgaans ‘typically’ is merged (143)b; conform the hierarchy of Cinque (1999), the manner adverb follows the habitual adverb (143)a, and as in simple clauses, the reverse order is ungrammatical.

It would be interesting to find out whether an adverb which takes scope in the embedded clause may precede a matrix scope adverb, if the order of the two adverbs respects the Cinque hierarchy. Unfortunately, such examples are hard to come by in sentences containing verb clusters. The verbs which trigger cluster formation roughly fall in two classes, the epistemic raising verbs, and all others. The verbs in the second class, e.g. the deontic modals, the verbs of perception, and a couple of control verbs, typically select tenseless complements. As these complements have a smaller structure, modification of the embedded predicate is restricted as well. Only adverbs on the lower part of the Cinque hierarchy may modify the embedded clause to the exclusion of the matrix predicate. But because these are low adverbs, it is difficult to construct examples in which the adverb modifying the matrix clause is even lower. A similar problem arises in connection with the epistemic raising verbs. While these verbs select bigger complements, it is nevertheless difficult to find an embedded scope adverb that is higher on the Cinque hierarchy than a matrix scope adverb. This is because the epistemic raising verbs tend to disallow modification by adverbs on the lower part of the hierarchy.

The interaction between adverbs with different scope domains is easier to study in the third construction. We therefore demonstrate the point with the third construction. Consider (144). Conforming to the Cinque hierarchy, the time adverb morgen ‘tomorrow’ precedes the volitional adverb vrijwillig ‘voluntarily’ (144)a. The reverse order is awkward (144)b with neutral intonation:

(144) a. ... omdat Jan morgen vrijwillig oppast
   '...because Jan volunteers to baby-sit voluntarily tomorrow.'

b. ?? ... omdat Jan vrijwillig morgen oppast
   '...because Jan volunteers to baby-sit voluntarily tomorrow.'
Now consider (145), in which the two adverbs modify different clauses. The lower adverb *vrijwillig* ‘voluntarily’ modifies the matrix clause, while the higher adverb *morgen* ‘tomorrow’ modifies the embedded clause:

(145) ... omdat Jan *vrijwillig* beloofde *morgen* op te passen
    because Jan voluntarily promised tomorrow up to baby.sit
    ‘...because Jan promised voluntarily to baby-sit tomorrow.’

When we turn (145) into a third construction, we observe that the order which violates the Cinque hierarchy is awkward ((146)a). The order which respects the hierarchy ((146)b) is grammatical, but seems to lack the intended interpretation:

(146) a. ?? ... omdat Jan *vrijwillig* *morgen* beloofde op te passen
    because Jan voluntarily tomorrow promised up to baby.sit
    ‘...because Jan promised voluntarily to baby-sit tomorrow.’

    b.  ... omdat Jan *morgen* *vrijwillig* beloofde op te passen
        because Jan tomorrow voluntarily promised up to baby.sit
        ‘...because Jan promised to baby-sit voluntarily tomorrow.’
        not: ‘...because Jan promised voluntarily to baby-sit tomorrow.’

We conclude that, whatever the ultimate explanation, the Cinque hierarchy must be respected.

We leave our discussion of the position of non-arguments. For our purposes, it is important to note that the variability in placement of non-arguments can be described as variation in the stage at which the element is (re)merged to the structure. The variation we find in the domain of verb clusters is restricted in the same way as the variation in placement in simple clauses. Our account simply defines the upper bound of the possible variation; we do not attempt explain the circumstances which restrict the placement within these boundaries in any detail.

### 6.4.3.2 The third construction

Since we assume that variation in the position of non-arguments in infinitival construction is dependent on the phase structure of the sentence, we predict that the placement of non-arguments should display a degree of freedom in the third construction. This is borne out. Adverbs may precede the matrix verb:

(147) a. ... omdat Jan beweert *voorzichtig* te rijden
    because Jan claims carefully to drive
    ‘...because Jan claims to drive safely.’

    b.  ... omdat Jan *voorzichtig* beweert te rijden
        because Jan carefully claims to drive
        ‘...because Jan claims to drive safely.’

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56 If the adverb surfaces in the matrix clause, it may also take matrix scope. We then have the (implausible) interpretation ‘...because Jan carefully claims that he is driving’. 
So do participles:

(148) ... omdat Jan (gefietst) beweert (gefietst) te hebben (gefietst)
because Jan biked claims biked to have biked
‘...because Jan claims to have been biking’

And secondary predicates:

(149) ... omdat Jan (beroemd) besloot (beroemd) te worden (=101)b
because Jan famous decided famous to become
‘...because Jan decided to become famous.’

And, finally, particles:

(150) ... omdat Jan Marie (weg) besloot (weg) te sturen
because Jan Marie away decided away to send
‘...because Jan decided to send Marie away.’

The fact that the proposition in (147)-(150) may be expressed by two different word orders follows from our proposal. We demonstrate the derivation of (147), but the other examples are derived in the same way. We assume the simplified lexical array (151):

(151) / because, Jan, claims, carefully, to, drive, v1, v2, T1, T2 /

The lexical array (151) gives rise to two possible derivations, shown in (152):

(152) a. because Jan [iP1 v [vP claims [TP [iP2 carefully v [vP drive]]]]]
   b. because Jan [iP1 carefully v [vP claims [TP [iP2 v [vP drive]]]]]

The derivation proceeds as usual. The first possibility to merge the adverb to the structure is after the embedded v is merged. The resulting word order is (147)a. Alternatively, merger of the adjunct may be postponed. If it is merged after the matrix v is merged, we obtain the word order (147)b.

We refer to the interpretation of (147)b, in which the adverb takes scope in the embedded clause but surfaces in the matrix clause, as the transparent interpretation. We have nothing substantial to say about how the scope of the adverb is determined. For our purposes, it is sufficient to note that transparency with respect to adjunct placement depends on the structure of the complement. The complement being a TP, not a CP, the entire sentence consists of one phase, which extends the domain in which the adverb may be merged considerably.

Now consider (153). This example is particularly relevant for us, because we can manipulate the structure of the complement. Unlike in the case of propositional
verbs like beweren ‘claim’, the complement to beloven ‘promise’ is optionally introduced by the infinitival complementizer *om*: 57

\[(153) \quad a. \quad \text{omdat Jan belooft op te passen} \quad \text{because Jan promises up to baby-sit} \]
\[\quad \text{‘...because Jan promises to baby-sit.’} \]
\[b. \quad \text{omdat Jan belooft *om* op te passen} \quad \text{because Jan promises \text{comp} up to baby-sit} \]
\[\quad \text{‘...because Jan promises to baby-sit.’} \]

We assume that (153)a is associated with the lexical array (154)a. (153)b is associated with the lexical arrays (154)b and (154)c:

\[(154) \quad a. \quad / \text{because, Jan, promises, to, baby-sit, } v_1, v_2, T_1, \text{Mood}_{\text{irr}-2} / \]
\[b. \quad / \text{because, Jan, promises, } v_1, T_1 / \]
\[c. \quad / \text{COMP, } v_2, \text{Mood}_{\text{irr}-2}, \text{baby-sit} / \]

What is crucial is that (153)a is a single phase, and (153)b consists of two phases. As we have proposed that an adverb must be merged within its phase, we predict that an embedded clause adverb may surface to the left of the matrix verb in case the complement is smaller than CP, but not in the case the CP-layer is present; recall that in standard Dutch, *v* is a phase head if it licenses case. The prediction is borne out:

\[(155) \quad a. \quad \text{omdat Jan voorzichtig belooft te rijden} \quad \text{because Jan carefully promises to drive} \]
\[\quad \text{‘...because Jan promises to drive safely.’} \]
\[\quad \text{‘...because Jan carefully promises to drive.’} \]
\[b. \quad \text{omdat Jan voorzichtig belooft *om* te rijden} \quad \text{because Jan carefully promises \text{comp} to drive} \]
\[\quad \text{‘...because Jan carefully promises to drive.’} \]
\[\quad \text{not: ‘...because Jan promises to drive safely.’} \]
\[c. \quad \text{omdat Jan belooft *om* voorzichtig te rijden} \quad \text{because Jan promises \text{comp} carefully to drive} \]
\[\quad \text{‘...because Jan promises to drive safely.’} \]

*Beloven* ‘promise’ does not take a CP-complement in (155)a. Transparent placement is therefore possible, as predicted. This case is analogous to (147) above. Transparent placement is not possible in (155)b, however. This is also predicted.

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57 Note that the absence of the infinitival complementizer is not necessarily diagnostic of CP-complementation. The complement to propositional verbs like beweren ‘claim’ never has the infinitival complementizer *om*, but the embedded internal argument surfaces in the matrix clause only if the embedded *v* fails to license the DP.

58 The embedded *T* is not represented in the lexical array, because we cannot be sure that this node is present in the complement to irrealis verbs (cf. 4.3). To avoid the impression that the embedded clause were a mere *vP*, we add the Mood\text{\_REALIS} functional head.
This is because (155)b consists of two phases, and the adverb is merged after material from a higher phase is merged. Note that (155)b is not ungrammatical; only the transparent interpretation is lost. Of course, the adverb may be interpreted as part of the higher phase, as indicated in the translation. Embedded scope for the adverb is only possible if it surfaces in the lower phase, as in (155)c.

Unlike adverbs, the other non-arguments can be associated only with the embedded clause. Therefore, they cannot precede the matrix verb if the embedded clause heads its own CP-phase:

(156) a. ... omdat de president (* herkozen) probeert om (* herkozen) te worden
    because the president re-elected tries COMP re-elected to become
    ‘...because the president tries to get re-elected.’
    b. ... omdat Jan (* beroemd) besloot om (* beroemd) te worden
    because Jan famous decided COMP famous to become
    ‘...because Jan decided to become famous.’
    c. ... omdat Jan (* door) besloot om (* door) te gaan
    because Jan through decided COMP through to go
    ‘...because Jan decided to continue.’

So far, we have only looked at sentences in which the embedded clause is either part of the matrix clause phase, or forms one CP-phase. We now test another prediction. Suppose we have a sentence which consists of two phases, like (157), with the lexical arrays (158):

(157) ... omdat Jan belooft het boek te lezen
    because Jan promises the book to read
    ‘...because Jan promises to read the book.’

(158) a. / because, Jan, promises, v1, T1 /
    b. / Moodint-2, v2, the, book, to, read /

As we assume that adverbs are part of the same lexical array of v, our proposal predicts that the transparent interpretation is not available for adverbs. The adverb must be merged in the embedded vP-phase, so merger may not be postponed until after the matrix v is merged. The prediction is borne out:

(159) ... omdat Jan vaak belooft het boek te lezen
    because Jan often promises the book to read
    ‘...because Jan often promises to read the book.’
    not: ‘...because Jan promises to read the book often.’

59. We ignore the external argument for the sake of exposition. We do assume that the embedded clause has a PRO-subject.
60. We cannot test the prediction for the other non-arguments, because these may not precede the object for independent reasons.
In (159), the adverb *vaak* ‘often’ may only be interpreted as modifying the matrix clause. We can bring out the effect more clearly by constructing an example in which the matrix scope interpretation is not available:\(^61\)

(160) \(\ldots\) omdat Jan **morgen** beloofde het boek te lezen because Jan tomorrow promised the book to read
   ‘...because Jan promised tomorrow to read the book.’

Now we turn to some problems with our proposal. Consider (161), minimally different from (155) in that there are two adverbs:

(161) a. \(\ldots\) omdat Jan **altijd voorzichtig** beweert te rijden because Jan always carefully claims to drive
   ‘...because Jan always claims to drive safely.’
   ‘...because Jan claims that he always drives safely.’
   ‘...because Jan always claims carefully that he is driving.’

b. \(\ldots\) omdat Jan **altijd** beweert **voorzichtig** te rijden because Jan always claims carefully to drive
   ‘...because Jan always claims to drive safely.’
   not: ‘...because Jan claims that he always drives safely.’
   not: ‘...because Jan always claims carefully that he is driving.’

In (161)a, both adverbs surface in the matrix clause. The sentence is three ways ambiguous: on one interpretation, they both take scope in the embedded clause; on the second, only the lower one *voorzichtig* ‘carefully’ does. The third interpretation, in which both adverbs modify the matrix clause, is unlikely, but not impossible. If the lower adverb surfaces in the embedded clause (161)b, however, the transparent interpretation for the adverb in the matrix clause is lost. Thus, our proposal wrongly predicts that the transparent interpretation is available. We do not attempt to explain the absence of the transparent interpretation in (161). As before, we merely note that our proposal predicts which placements are possible in principle, not which placements are actually observed.\(^62\)

Another problem has to do with the interaction between adverbs and arguments. An adverb modifying the embedded predicate may follow or precede the (definite) internal argument of that predicate, provided both surface in the matrix clause:

(162) a. \(\ldots\) omdat Jan **morgen het huis** besloot te verkopen because Jan tomorrow the house decided to sell
   ‘...because Jan decided to sell the house tomorrow.’

---

\(^{61}\) But see footnote 48. (160) is grammatical for some speakers, but the adverb must be stressed. No stress is required in examples like (155)a-b.

\(^{62}\) The third interpretation is also unavailable, but this is as predicted.
b. ... omdat Jan \textit{het huis morgen} besloot te verkopen
   because Jan the house tomorrow decided to sell
   ‘...because Jan decided to sell the house tomorrow.’

In this sense, the third construction reproduces the pattern we also see in simple clauses. But if the adverb and the argument are not associated with the same predicate, things are more complicated:

((163) a. ... omdat Jan \textit{zijn moeder blijkbaar} is opgehouden op te zoeken
   because Jan his mother apparently is stopped up to look
   ‘...because apparently, Jan stopped visiting his mother.’

b. ... omdat Jan \textit{blijkbaar zijn moeder} is opgehouden op te zoeken
   because Jan apparently his mother is stopped up to look
   ‘...because apparently, Jan stopped visiting his mother.’

c. * ... omdat Jan is opgehouden \textit{zijn moeder blijkbaar} op te zoeken
   because Jan is stopped his mother apparently up to look
   ‘...because apparently, Jan stopped visiting his mother.’

d. ... omdat Jan \textit{blijkbaar} is opgehouden \textit{zijn moeder} op te zoeken
   because Jan apparently is stopped his mother up to look
   ‘...because apparently, Jan stopped visiting his mother.’

(163)c shows that \textit{blijkbaar} ‘apparently’ may not modify an embedded clause selected by \textit{ophouden} ‘stop’. As shown in (163)d, it may only modify the matrix clause. (163)a and (163)b show that the embedded internal argument may either precede or follow the matrix adverbial.\textsuperscript{63} As in simple clauses, the adverb may be merged before or after the internal argument is moved. This is not the case in the opposite case, in which the internal argument is an argument of the matrix verb, and the adverb modifies the embedded clause:

((164) a. ... omdat Jan \textit{zijn moeder voorzichtig} belooft te rijden
   because Jan his mother carefully promises to drive
   ‘...because Jan promises his mother to drive safely.’

b. ... omdat Jan \textit{voorzichtig zijn moeder} belooft te rijden
   because Jan carefully his mother promises to drive
   ‘...because Jan carefully promises his mother to drive.’
   not: ‘...because Jan promises his mother to drive safely.’

\textsuperscript{63} Note that we predict another word order:

(i) * ... omdat Jan zijn moeder is opgehouden \textit{blijkbaar} op te zoeken
   because Jan his mother is stopped apparently up to look
   ‘...because apparently, Jan stopped visiting his mother.’

The ungrammaticality is not predicted on our proposal. As the embedded clause does not form its own phase, but is part of the higher phase, the adverb is in the same lexical array as the embedded clause. We would therefore predict that merger of the adverb could take place before the matrix $v$ is merged, contrary to fact. We leave this problem without a solution.
We have no explanation for this effect. We predict that in simple sentences, the adverb may be merged before or after the internal argument is moved. Apparently, only the former option is instantiated.

To summarize, we proposed that adverbs may merged onto the structure at various stages of the derivation. The first stage at which an adverb may be merged is after v is merged; the last chance to merge an adverb is after all material in the lexical array is merged, and all movements within the phase have taken place. As for the third construction, this means that adverbs modifying the embedded clause may surface in the matrix clause if the embedded v is in the same lexical array as the matrix v. This condition is not met in two cases. First, the embedded clause may contain the infinitival complementizer. Second, the embedded v assigns the external argument and checks accusative case, thus constituting its own phase. In both cases, the transparent interpretation is not available.

6.4.3.3 Adverbs and the extraposition construction

So called extraposed complements are always opaque. We have assumed that this is explained by the fact that they are CPs. Note that in some cases, we cannot tell whether the complement is a CP or a TP:

(165) ... omdat Jan beweerde zijn auto te repareren
     because Jan claimed his car to repair
     ‘...because Jan claimed to repair his car.’

In (165), the embedded v licenses the internal argument. Movement into the matrix clause will therefore not take place, which makes it impossible to determine whether there is an empty complementizer or not.

Now let us see how our account of adverb placement handles extraposed complements. In (165), the embedded vP is a phase. Any adverb modifying the embedded clause will therefore have to be merged before the embedded T is. With the lexical array (166), only two derivations are possible:

(166) / his, car, to, repair, quickly/

(167) a. [vP his car, quickly v [vP repair t]]
    b. [vP quickly his car, v [vP repair t]]

The two derivations correspond to (168)a and (168)b:

(168) a. ... omdat Jan beweerde vlug zijn auto te repareren
     because Jan claimed quickly his car to repair
     ‘...because Jan claimed to repair his car quickly.’

b. ... omdat Jan beweerde zijn auto vlug te repareren
     because Jan claimed his car quickly to repair
     ‘...because Jan claimed to repair his car quickly.’
c. ... omdat Jan vlug beweerde zijn auto te repareren  
   ‘...because Jan quickly claimed to repair his car.’

The third word order, (168)c, cannot be derived from the lexical array (166),  
because then the adverb would be merged after material from a higher phase is  
merged, an option we suggest is impossible.

If the embedded clause does not have an internal argument, the transparent  
interpretation is possible if there is no complementizer, as argued in 6.4.3.2. We  
assume that this also holds for verbs which never select a complement with an overt  
complementizer, as in (165). But consider (169):

(169) ... omdat Jan snel inziet te moeten vertrekken  
   ‘...because Jan will soon realize that he has to leave.’
   not: ‘...because Jan realizes that he has to leave soon.’

Factive verbs, like *inzien ‘realize’ in (169), are incompatible with the infinitival  
complementizer om. The transparent interpretation for the adverb snel ‘soon’ is not  
available, however. We therefore assume that factive verbs always select a  
CP-complement, even though we never see an overt C. (169) consists of two phases  
on this analysis, with the lexical arrays in (170):

(170) a. / to, must, leave, soon, v₂, T₂, C₂ /  
    b. / because, Jan, realizes, v₁, T₁ /

The lexical arrays in (170) do not give rise to the word order in (169). This word  
order can only be derived if the adverb were part of the lexical array in (170)b,  
ruling out the transparent interpretation. Similarly, the other non-arguments may not  
precede the matrix verb if this is a factive verb:

(171) a. ... omdat Jan (* gesnurkt) besefte (gesnurkt) te hebben (gesnurkt)  
   ‘...because Jan snored realized to have realized’
   because Jan snored realized that he had snored.’
    b. ... omdat Jan (* beroemd) besefte (beroemd) te zijn  
   ‘...because Jan realized he was famous.’
    c. ... omdat Jan (* door) besefte (door) te moeten (door-) gaan  
   ‘...because Jan realized he had to continue.’

We conclude that the possibility of transparency is determined by the size of the  
phase. CP-complements are phases, and therefore no transparency is observed.
6.4.4 Summary

In this section, we have shown that adverbs, secondary predicates, particles and particles may occupy various positions within their phase. For secondary predicates, particles and participles, variation in position is rather restricted. We only observe different word orders if the lexical array contains more than one verb, or if the derivation involves preposition stranding. For adverbs, there exist more word order possibilities. These are explained by the size of the phase and independent restrictions on the interpretation.

6.5 Summary

In this chapter, we proposed an analysis for the various transparency phenomena. We have proposed that the phase structure of the sentence is variable: the embedded clause may or may not belong to the same phase as the matrix verb. The matrix verb can be part of the same phase as the embedded clause if two circumstances apply. First, the embedded clause must lack C. Second, the embedded vP, if present, must not be a phase. We have argued that all phase heads are in fact potential phase heads. Whether the head is a phase head is subject to some variation. In the case of v in Dutch, this variation is striking. Apparently randomly, v may or may not be a phase head if it introduces a transitive verb. In the absence of an internal argument, v is not a phase head.

We have argued that the position of DP-arguments is determined by the phase structure of the sentence. A DP must move into the specifier of the head which licenses its case. It follows that if an embedded internal argument precedes the matrix verb, the embedded vP, if present, is not a phase. Because of this, various non-arguments may, but need not, sit in a position preceding the matrix verb. These elements must be remerged, or (first) merged, in the case of adverbs, before any material from the higher phase is added to the structure.

On the assumption that only the phase structure determines transparency it follows that the presence of functional structure like semantic tense is not relevant.
7 Summary and conclusions

In this thesis, we have examined transparency effects in infinitival complements in Dutch. Three types of infinitival complement may be distinguished: the clustering construction, the third construction, and the extraposition construction. The clustering construction is characterized by the (almost) complete evacuation of the infinitival complement: the infinitive itself and the infinitival marker *te* remain, but otherwise, all embedded clause material must precede the matrix verb. The result is what looks like a verbal cluster. The third construction is also characterized by evacuation of the infinitival complement, but in this construction, the evacuation may be partial. We speak of a third construction if at least one embedded clause element precedes the matrix verb. Finally, the extraposition construction is the word order pattern in which the entire embedded clause follows the matrix verb:

(1) a. … omdat Jan Marie gisteren een serenade had willen brengen because Jan Marie yesterday a serenade had want.INF bring ‘…because Jan had wanted to serenade Marie yesterday.’
   b. … omdat Jan Marie had geprobeerd een serenade te brengen because Jan Marie had tried a serenade to bring ‘…because Jan had tried to serenade Marie.’
   c. … omdat Jan heeft betreurd Marie een serenade te hebben gebracht because Jan has regretted Marie a serenade to have brought ‘…because Jan regretted that he had serenaded Marie.’

Two of these constructions show transparency phenomena. We have discussed which transparency phenomena are attested, and which phenomena are found in which environment. We have shown that the possibility of transparency effects is not strictly related to the fine structure of the complement clause. Instead, we proposed that it is the phase structure of the sentence that determines the possibility of transparency effects:

(2) a. \[\text{XP} \ldots \v \text{VP} [\ldots \text{C} \ldots \text{Y} \ldots ]]\n
   b. \[\text{XP} \ldots \v \text{VP} [\ldots \text{P-PHASE} \v \ldots \text{Y} \ldots ]]\n
(3) a. \[\text{XP} \ldots \v \text{VP} [\ldots \text{P-NON-PHASE} \v \ldots \text{Y} \ldots ]]\n
   b. \[\text{XP} \ldots \v \text{VP} [\ldots \text{VP} \ldots \text{Y} \ldots ]]\n
\(^1\) With the exception of participles and the particle, in case the embedded predicate is a verb-particle combination. These elements optionally precede the matrix verb.
A transparency effect is impossible in (2), because this would imply a relation across phase boundaries. If the embedded clause does not contain any phase boundaries, as in (3), the transparency effects may be observed.

7.1 Summary

The thesis is organized as follows. After a brief introduction to the topic of infinitival clauses and the history of restructuring effects in chapter, chapter 2 presents the empirical domain of the thesis. A number of cross-linguistic transparency effects were exemplified, after which went into a thorough examination of the restructuring effects attested in Standard Dutch. Three classes of effects are observed, effects related to the licensing of grammatical functions, morphological effects and placement effects. We speak of a placement effect when a non-DP argument associated with the infinitival complement precedes the matrix verb:

<table>
<thead>
<tr>
<th>Grammatical functions</th>
<th>Morphological effects</th>
<th>Placement effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>raising to subject</td>
<td>IPP</td>
<td>particles</td>
</tr>
<tr>
<td>raising to object</td>
<td>(auxiliary switch)</td>
<td>PP-arguments</td>
</tr>
<tr>
<td>long raising to object</td>
<td>(long passive)</td>
<td>secondary predicates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>participles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>negation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>adjuncts</td>
</tr>
</tbody>
</table>

Table 14: Transparency phenomena in Dutch

It was shown that the effects concerning the licensing of grammatical functions and the placement effects are possible in the same environments. Auxiliary switch seems to be grammatical with a subset of the so called clustering verbs, but for lack of reliable data, we have been unable to reproduce the distribution reported in the literature.

The IPP-effect differentiates between two classes of matrix verb. We observe the IPP-effect in the clustering construction, but not in the so called third construction. This leads to the following picture. In the clustering construction, we find all the phenomena in Table 14, and with the exception of particle placement, they are obligatory. In the so called third construction, the IPP-effect is ungrammatical, and the other phenomena are optional. The extraposition construction does not permit any transparency effects.
### Table 15: Transparency effects in Dutch infinitival complements

The fact that the transparency phenomena are either all obligatory, or all optional seems to suggest that there is a single factor which accounts for all the phenomena. This conclusion is also strongly suggested by the fact that the clustering construction, the third construction and the extraposition construction do not pick out a natural class of predicates. The following matrix verbs give rise to the clustering construction:

<table>
<thead>
<tr>
<th>Transparency effect</th>
<th>Cluster</th>
<th>Third construction</th>
<th>Extraposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPP</td>
<td>yes (obligatory)</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>raising to subject</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>(raising to object)</td>
<td>yes (obligatory)</td>
<td>(*)</td>
<td>*</td>
</tr>
<tr>
<td>long raising to object</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>particles</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>arguments</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>secondary predicates</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>participles</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>sentential negation</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
<tr>
<td>adjuncts</td>
<td>yes (obligatory)</td>
<td>yes (optional)</td>
<td>*</td>
</tr>
</tbody>
</table>

### Table 16: Clustering verbs

As can be seen in Table 16, the clustering verbs may be divided into five semantic classes. The same may be said of those verbs which are grammatical in the third construction:
The verbs in Table 17 belong to various semantic classes, and there is some overlap in the semantic classes found among the clustering verbs and the verbs of the third construction. Both contain strong and weak implicatives and irrealis verbs are found in both construction types, and since some of the raising verbs are propositional verbs, these verbs are also found in both types of construction.

Opaque complements do not show any transparency effects. We have argued that these complements are CPs (cf. 4.6; 6.3.6; 6.4.3.3). Complements to factive verbs are necessarily CPs, so in this class, we do not observe any transparency. But most other CP-complements alternate with a non-CP construal, hence they have a transparent counterpart.

In chapters 3 and 4, we established the fine structure of the infinitival complement in the two transparent constructions. We assume that a clause may contain all the functional projections in (4), but it is possible that only a subset of the projections is present in a complement clause:

\[(4) \text{CP} > \text{T}_{\text{Fast}} > \text{T}_{\text{Future}} > \text{Mood}_{\text{Irrealis}} > \text{T}_{\text{Anterior}} > \text{vP} > \text{VP}\]

After introducing a number of diagnostics for the presence of the functional projections in 3.1, chapter 3 focuses on the fine structure of the infinitival complement in the clustering construction. The results are shown in Table 18:

<table>
<thead>
<tr>
<th>Implicative</th>
<th>Irrealis</th>
<th>Propositional</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>vergeten</td>
<td>forget</td>
<td>recommend</td>
<td>claim</td>
</tr>
<tr>
<td>verleren</td>
<td>unlearn</td>
<td>advise</td>
<td>begin</td>
</tr>
<tr>
<td>vermijden</td>
<td>avoid</td>
<td>yearn</td>
<td>think</td>
</tr>
<tr>
<td>verzuimen</td>
<td>fail, neglect</td>
<td>promise</td>
<td>believe</td>
</tr>
<tr>
<td>wagen</td>
<td>dare</td>
<td>intend</td>
<td>hope</td>
</tr>
<tr>
<td>weigeren</td>
<td>refuse</td>
<td>decide</td>
<td>state</td>
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<td></td>
<td></td>
<td>order</td>
<td>tell</td>
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<td></td>
<td></td>
<td>threaten</td>
<td>expect</td>
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<td></td>
<td></td>
<td>force</td>
<td>fear</td>
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<td></td>
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<td>demand</td>
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<td>order</td>
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<td>order</td>
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<td>try</td>
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<td></td>
<td></td>
<td>forbid</td>
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<td></td>
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<td>desire</td>
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<tr>
<td></td>
<td></td>
<td>oblige</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>request</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>propose</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ask</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>wish</td>
<td></td>
</tr>
</tbody>
</table>

Table 17: Verbs of the third construction
The findings show that although all the clustering constructions give rise to the same syntactic transparency phenomena, the infinitival complement is not uniform. This is potentially problematic for the view that restructuring effects are graded in the sense of Wurmbrand (2001).

In chapter 4, the fine syntactic structure of the infinitival complement in the third construction is examined. As in the case of the clustering construction, the third construction is not associated with a uniform infinitival complement. The infinitival clause may take a variety of shapes:

<table>
<thead>
<tr>
<th>matrix verb</th>
<th>structure of the complement</th>
</tr>
</thead>
<tbody>
<tr>
<td>modal verbs</td>
<td>TP (some cases)</td>
</tr>
<tr>
<td>aspectuals: verbs of posture an manner of motion</td>
<td>VP or vP</td>
</tr>
<tr>
<td>aspectuals: other</td>
<td>vP</td>
</tr>
<tr>
<td>ECM-verbs</td>
<td>vP</td>
</tr>
<tr>
<td>raising verbs</td>
<td>TP</td>
</tr>
<tr>
<td>control: ‘try’ and ‘help’</td>
<td>VP</td>
</tr>
<tr>
<td>control: other</td>
<td>VP or vP</td>
</tr>
</tbody>
</table>

Table 18: The syntactic structure of infinitival complements in verbal clusters

On the other hand, the extraposition construction is shown to correlate with a uniform complement clause (cf. 4.6): the infinitival clause is a CP in this construction.\(^2\)

The contrast between the uniformity found in extraposition constructions, and the lack of uniformity in transparent complement clauses gives us two important clues as to the explanation of transparency phenomena. First, transparency effects are impossible in the presence of CP. Second, the fine structure of the infinitival clause is not a predictor for the grammaticality of particular transparency effects. In particular, Wurmbrand’s (2001) generalization that in German, transparency effects related to the licensing of grammatical functions are sensitive to the presence of T and v cannot be carried over to Dutch.

This is a significant claim. For this reason, chapter 5 is devoted to justifying the claim that all transparent infinitival constructions in Dutch - even those which contain T and/or v - are compatible with long raising to object. To this end, we compared the properties of DP-objects in simple clauses with DP-objects in transparent infinitivals. It was shown that regardless of the fine structure of the infinitival clause, the DP-object has A-properties. Furthermore, we compared the

\(^2\) Propositional complements in which no evidence of transparency is observed may be TP-complements.
properties of DP-objects in transparent infinitivals with those of DPs of which we may certain that they are in an A’-position. It was demonstrated that DP-objects in transparent infinitivals do not have the properties of DPs in A’-position.

Finally, an argument was developed for the claim that the object DP in a transparent infinitival is necessarily in a derived position, suggesting that the Dutch VP is head-initial. It was shown that the NPI *ook maar* may be contained in the complement clause to an adversative verb. However, the NPI may not be the object DP of an adversative verb. This leads to the following prediction: if the NPI is ungrammatical in the third construction to an adversative verb, the NPI functions as the object of the adversative verb. The prediction is borne out: the NPI is grammatical in the extrapolation construction, but not in the third construction. However, if there is an alternative licensor, in addition to the adversative verb, then the construction is grammatical. This suggests that the proposed analysis of the third construction as involving long raising to object is correct. The contrast between the pre- and postverbal position of the NPI in constructions with an adversative verb suggests that the preverbal position is necessarily a derived position.

Given that long raising to object is possible in transparent infinitival clauses, regardless of whether they contain T or v, we have to abandon the view that Dutch restructuring effects are explained in the same way as the German facts presented in Wurmbrand (2001). We proposed in chapter 6 that the possibility of transparency phenomena in Dutch depends on the phase structure of the infinitival complement. If the infinitival clause contains a phase head, no transparency effects are observed. If there is no phase head between the matrix verb and the infinitive, then each of the transparency effects is possible. We developed an analysis of infinitival complementation which predicts when transparency effects may be observed, proposing that the phase structure is not a given, but that one sentence meaning may be derived with different phase structures, resulting in different word orders.

In the absence of a v-phase, defined for Dutch as case checking v, the internal argument of the embedded clause cannot be checked internal to the complement clause. If the matrix clause happens to be of the case checking type, then the failure of the embedded DP to be licensed in the embedded clause does not cause the derivation to crash, but it results in a transparent infinitival. PRO (if present) and the internal argument DP are necessarily licensed in the matrix clause, and placement effects are possible. Placement effects are analyzed as the requirement that adjuncts, participles, particles and secondary predicates are (re)merged with the predicate. (Re)merger must take place before any element associated with the lexical array of a higher phase is added, but it is not specified when precisely this must happen. Hence, the absence of a phase boundary in the complement clause extends the timing possibilities of (re)merger of non-arguments, resulting in alternative word orders in certain circumstances.

### 7.2 Outlook

Our analysis is successful in predicting the properties of the third construction and the extrapolation construction. Projecting the phase head C, the extrapolation
construction could not give rise to transparency effects; locality conditions prevent an embedded element from moving out of the embedded CP. As for the third construction, the absence of a phase head does not mean that all effects must occur. Only (long) raising (to object) is directly linked to the position of the phase head; placement effects may or may not occur.

However, our account leaves several questions unanswered. First, we do not have an account for the distribution of transparency facts. Our proposal overgenerates in certain cases: the empirical facts show that restructuring effects are obligatory in the clustering construction in standard Dutch, and optional in the third construction, but our analysis does not derive this split. Given that we have not defined any constraints on the phase structure of the sentence, it is unclear why the clustering verbs apparently may not select for an infinitival complement which contains a phase head.

A related question arises in connection with opaque constructions. In our analysis, such constructions contain a phase head. But it is not clear why certain verbs may only select an infinitival complement which contains a phase head. One might suppose that factive verbs are introduced by an operator in the C-domain, which makes the presence of the phase head C inevitable. But there are numerous other verbs which are incompatible with a transparent infinitival complement for which no operator in the C-domain seems to be present. At this point, our analysis has nothing to say about why such complements are opaque.

Another puzzle concerning the clustering construction is the IPP-effect. Since this is the only transparency effect which differentiates the clustering construction from the third construction, it is potentially an important clue in understanding the clustering construction. Unfortunately, we are in no position to explain the IPP-effect. We have to leave these questions for future research.

Finally, our approach has shown that the fine structure of the complement clause is to a large extent irrelevant for the possibility of transparency effects. But this finding is in conflict with findings reported for other languages. We have suggested that unlike German, in which the fine structure of the complement predicts which transparency phenomena may be observed, Dutch restructuring depends only on the phase structure, and therefore, the effects of gradedness are not found. But we must address the question of whether it is reasonable to assume that such closely related languages differ in this way.

As for this issue, we note that the graded restructuring approach is not falsified by the Dutch data; we simply fail to see the effects of gradedness. But this might be due to fairly superficial factors. Unlike German, Dutch allows a non-case checking v in the presence of tense, which is apparently unattested in German, based on Wurmbrand (2001). Also, Dutch has a semantically contentful tense head which is deficient for case checking. But the possibility of transparency is determined by the same factor in both languages: there is no long raising to object in the presence of a structural case checking position in Dutch or German; the languages may simply differ in that the heads T and v in Dutch may fail to license structural case, while German only has case checking T and v.

A similar, but seemingly more serious issue is found in Hungarian. Den Dikken (2004) argues that Hungarian particle placement targets AspP, which is situated between vP and VP: vP > AspP > VP. The particle is in the matrix clause if
the embedded clause lacks AspP, but if AspP is present in the embedded clause, the particle may not be in the matrix clause. Thus, Hungarian has a class of transparent constructions with the following structure: \([p v \text{VP} [\text{AspP} \text{Asp VP}]]\). That is, a structure in which the embedded object must move into the matrix clause, but the embedded particle must remain in the embedded clause. This is in contrast to the situation in Dutch, in which there are no environments in which the object must move into the higher clause while the particle must stay in the embedded clause.

Such cross-linguistic differences are relevant, because they invite analyses of a potentially conflicting nature. While the Hungarian facts are compatible with a cartographic approach in which the object and particle are licensed in distinct designated slots, our analysis of Dutch assumes a more flexible approach to licensing requirements: placement effects reflect licensing requirements, but these requirements do not make reference to particular slots in the syntactic structure; particles, participles, secondary predicates and adjuncts simple have to be merged to the predicate. Confronted with the difference between Dutch and Hungarian, one must ask whether it is possible that elements have different licensing requirements in different languages.

Issues like these show that there is still plenty of ground for the future researcher of (Dutch) infinitivals to cover. Nevertheless, we feel that the findings in this thesis provide a solid base for the conclusion that special word order patterns in infinitival clauses should be analyzed as instantiating the very same operations we find in simple clauses.
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Samenvatting [Summary in Dutch]

Transparantie en infinitiefcomplementen in het Nederlands

Infinitiefcomplementen zijn complementen die een werkwoord als kern hebben en geen vervoegd werkwoord bevatten. Infinitiefcomplementen zijn interessant vanwege de verstrengeling die ze met de hogere deelzin te zien kunnen geven. In werkwoordsclusters, zoals (1), zijn hoofd- en bijzin bijvoorbeeld moeilijk te onderscheiden:

(1) … omdat de jongens Marie in het maanlicht een serenade schijnen te brengen

De verstrengeling is het resultaat van transparantie-effecten. Transparantie-effecten zijn het onderwerp van dit proefschrift. In deze studie komen verschillende aspecten aan bod. Ik bespreek welke verschijnselen er onder transparantie-effecten worden verstaan, in welke klasse van infinitiefcomplementen welke transparantieverschijnselen voorkomen, en hoe die verschijnselen verklaard kunnen worden.

Na de inleiding in hoofdstuk 1 wordt in hoofdstuk 2 het empirisch domein afgebakend. Er wordt een overzicht gegeven van transparantie-effecten, zoals transparantie in de licentiering van grammaticale functies. Hiervan is sprake wanneer een argument van een lagere deelzin een grammaticale functie vervult in de hogere deelzin. Naast transparantie met betrekking tot grammaticale functies onderscheiden we morfologische effecten en plaatsingseffecten. We spreken van transparantie in de plaatsing van elementen wanneer een element dat in de hogere deelzin staat, geïnterpreteerd wordt alsof het in de ingebedde zin thuishoort. Zo kan de hoofdzin een negatie bevatten die niet de hoofdzin, maar de ingebedde zin ontkent, of een adjunct bevatten dat de ingebedde zin modificeert.

In dit proefschrift zijn vooral de transparantieverschijnselen die betrekking hebben op een grammaticale functie en de plaatsingseffecten van belang. Ik beargumenteer dat beide gemotiveerd worden door de licentieringsvoorwaarden van het element uit de ingebedde zin. Argumenten worden gelicentieerd door middel van een A-verplaatsing naar een daarvoor bestemde positie; adjuncten en secundaire predicaten moeten met het predikaat gemerged worden. In beide gevallen geldt dat het gaat om een operatie die ook in monoclusale zinnen wordt aangenomen; in het geval van transparante infinitiefzinnen wordt hierbij echter het matrixwerkwoord gepasseerd.

Om erachter te komen onder welke omstandigheden er transparantieverschijnselen kunnen optreden wordt er een overzicht gegeven van de constructies waarin deze voorkomen. Het al dan niet optreden van transparantie-effecten wordt onder andere bepaald door de keuze van het werkwoord in de hogere deelzin. Er zijn drie typen werkwoord. Het eerste type werkwoord geeft de indruk dat er een werkwoordscluster wordt gevormd: het matrixwerkwoord en de infinitief zijn adjacent, terwijl (bijna) alle elementen die bij het infinitiefcomplement horen ter linkerkant van het matrixwerkwoord staan. Dit in tegenstelling tot het
tweede type matrixwerkwoord, waarbij een bepaalde mate van verstrengeling optreedt, maar waarbij het matrixwerkwoord en de infinitief niet noodzakelijk adjacent zijn. Het derde type matrixwerkwoord, tenslotte, geeft geen aanleiding tot transparantie.

Het ligt voor de hand om het optreden van transparantieverschijnselen te relateren aan de syntactische structuur van het infinitiefcomplement dat door de drie typen matrixwerkwoord wordt geselecteerd. In hoofdstuk 6 wordt betoogd dat de syntactische structuur inderdaad bepalend is voor het optreden van transparantieverschijnselen.

Opmerkelijk genoeg treden de effecten die betrekking hebben op grammaticale functies op in dezelfde omgeving waarin ook plaatsingseffecten kunnen optreden. Ik neem dan ook aan dat er één onderliggende factor is die voor beide soorten effecten bepalend is.

Het lijkt verleidelijk de syntactische structuur van het infinitiefcomplement te relateren aan de semantiek van de drie typen matrixwerkwoord. Tot welk transparantietype een matrixwerkwoord behoort, is namelijk tot op zekere hoogte af te leiden uit de semantische klasse van het werkwoord. Factieven en niet-brugwerkwoorden behoren zonder uitzondering tot het type dat geen transparantie vertoont. Irrealiswerkwoorden, propositionele brugwerkwoorden en implicatieven behoren over het algemeen tot de tweede klasse, waarbij transparantieverschijnselen optioneel voor lijken te komen. Bij hulpwerkwoorden van tijd, aspectuele en modale werkwoorden, ECM-werkwoorden, raising-werkwoorden en een klein aantal implicatieve en irrealis-controlewerkwoorden is het optreden van transparantie-effecten verplicht.

Uit deze opsomming blijkt echter al dat de drie transparantietypen wat betreft hun semantische classificatie geen natuurlijke klassen vormen: in ieder transparantietype zijn meerdere semantische klassen te onderscheiden, en sommige semantische klassen komen bij meerdere transparantietypen voor. In hoofdstuk 3 en 4 wordt aangetoond dat de correlatie tussen de semantische klasse van het matrixwerkwoord en het al dan niet optreden van transparantieverschijnselen inderdaad geen afdoende verklaring biedt voor het optreden van de verschijnselen.

Hoofdstuk 3 gaat in op de eigenschappen van die matrixwerkwoorden waarbij verplicht transparantieverschijnselen optreden. Hoewel de klassen dezelfde transparantie-effecten te zien geven, lijken er verschillen te bestaan in de syntactische structuur van het infinitiefcomplement. De controlewerkwoorden nemen een VP als complement, maar het complement bij de andere klassen bevat naast de VP meer of minder functionele projecties. Zo bevat het complement van een ECM-werkwoord een vP, en is er bij een raising-werkwoord zelfs sprake van een TP-complement.

In hoofdstuk 4 wordt de structuur van het infinitiefcomplement bestudeerd bij die werkwoorden waarbij transparantie optioneel is. Ook deze werkwoorden vormen in dit opzicht geen natuurlijke klasse: bij propositionele werkwoorden moet een TP-complement worden verondersteld, maar bij sterke implicatieven is er slechts sprake van een vP-complement. Desalniettemin hebben deze werkwoorden dezelfde eigenschappen wat betreft de transparantieverschijnselen.

Deze bevindingen zijn moeilijk te verklaren in een theorie die veronderstelt dat transparantieverschijnselen in gradaties kunnen vorkomen (Wurmbrand 2001).
Deze theorie voorspelt een oorzakelijk verband tussen de afwezigheid van functionele projecties in het infinitiefcomplement en het optreden van transparantie-effecten: naarmate het complement meer functionele projecties bevat, zijn er minder transparantie-effecten mogelijk.

De observatie dat A-verplaatsing van argumenten mogelijk is in dezelfde omgeving als plaatsingseffecten wijst er juist op dat beide gevoelig zijn voor dezelfde factor. Er wordt aannemelijk gemaakt dat die factor de fasestructuur in de zin van Chomsky (2001) is. Chomsky stelt dat een deelzin is opgebouwd uit twee fasen, de vP en CP, waarbij de fase het lokale domein definiëert, en vP slechts in sommige gevallen als fase geldt. Verplaatsing naar een positie in een hogere fase is alleen mogelijk wanneer er een tussenlanding wordt gemaakt aan de rand van de lagere fase.

Aangezien successief cyclische verplaatsing is voorbehouden aan A'-verplaatsing kunnen transparantie-effecten worden gebruikt als test voor de aanwezigheid van fasen. Een argument van het ingebedde werkwoord kan namelijk niet als object van de hoofdzin gelicentieerd worden als het infinitiefcomplement de C-laag projecteert; dergelijke “lange raising naar object” zou immers een fasegrens overschrijden. Evenzo zijn plaatsingseffecten niet mogelijk als daarvoor een fasegrens overschreden wordt; in hoofdstuk 6 neem ik aan dat adjuncten en secundaire predicaten gemerged moeten worden in de fase waarin ze geïnterpreteerd worden.

De mogelijkheid van lange raising naar object en plaatsingseffecten wijst ook op de afwezigheid van vP als fase; is er desalniettemin evidentie voor de aanwezigheid van v, dan is deze v niet het hoofd van een fase. De interactie tussen plaatsingseffecten en lange raising naar object is als volgt te omschrijven: plaatsingseffecten zijn mogelijk als de ingebedde vP geen object licentieert. Dit leidt tot de volgende generalisatie: in het Nederlands is vP alleen een fase indien het een [+acc] kenmerk checkt.

Deze bevinding heeft mogelijk een gunstige consequentie voor Chomsky’s fasetheorie. Hoewel Chomsky veronderstelt dat zowel CP als (een bepaalde soort) vP een fase definiëert, is dat voor de vP nooit onomstotelijk vast komen te staan. De bevindingen in dit proefschrift ondersteunen Chomsky’s veronderstelling dat de vP een lokaal domein definiëert.

De analyse valt of staat echter met de juistheid van de aanname dat de Nederlandse v als fase geldt als het een object licentieert. In hoofdstuk 5 worden daarom de eigenschappen van het ingebedde interne argument onderzocht. Er wordt aangetoond dat de eigenschappen onderdaad overeenkomen met de eigenschappen van het object in een simplexzin. Aan de hand van het negatief polaire ook maar wordt bovendien beargumenteerd dat het ingebedde intern argument door middel van verplaatsing ter linkerzijde van het matrixwerkwoord terecht komt. Samen leiden deze bevindingen tot de conclusie dat de woordvolgorde waarin het ingebedde argument voorafgaat aan het matrixwerkwoord het best kan worden geanalyseerd als lange raising naar object.

Het beeld dat dan ontstaat is het volgende: transparantieverschijnselen treden op wanneer de fasestructuur dat mogelijk maakt. Dit is het geval wanneer het infinitiefcomplement tot dezelfde fase behoort als het matrixwerkwoord. We moeten daarom aannemen dat infinitiefcomplementen in principe zowel als zonder
CP-laag gevormd kunnen worden, en dat de kleine sP zowel met als zonder
casuskenmerk kan voorkomen.

Worden deze aannemen geaccepteerd, dan laten de bevindingen in dit
proefschrift zien dat transparantie-effecten beschreven kunnen worden als de
gebruikelijke syntactische processen die we in monoclausale hoofdzinnen zien. Speciale structuren of processen worden daarmee overbodig.
Curriculum Vitae

Janneke ter Beek was born on May 10th, 1979 in Groningen, the Netherlands. She completed her secondary education in 1997 (Praedinius Gymnasium, Groningen). In the same year, she began her university studies as a student of English language and culture at the university of Groningen. After completing the Propaedeutic degree (cum laude), she switched to general linguistics (specialization theory of grammar) in 1998, also at the university of Groningen, from which she received her MA degree (cum laude) in 2002. From 2003 to 2007, she was employed as an AiO at the Center for Language and Cognition Groningen of the university of Groningen. This dissertation is the result of the research carried out in that period. Janneke ter Beek currently works at the university of Groningen and Hogeschool Utrecht as a teacher.