Interactions
in the
Dutch adpositional domain
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PROEFSCHRIFT

ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van de Rector Magnificus Dr. D. D. Breimer,
hoogleraar in de faculteit de Wiskunde en
Natuurwetenschappen en die der Geneeskunde,
volgens besluit van het College voor Promoties
te verdedigen op donderdag 14 november 2002
te klokke 15.15 uur

door

Marjon Helmantel

geboren te Sappemeer
in 1971
Promotiecommissie

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INTRODUCTION

1 Introduction

1.1 Goals and hypotheses

The Dutch adpositional domain offers an interesting field for linguistic research. One comes across syntactic variation, concerning both word order and adpositional complexity. Word order variation gives us prepositional, postpositional and circumpositional phrases. (1) illustrates this:

(1)  
  a. in de tunnel  
     in the tunnel  
     'in the tunnel'  
  b. de tunnel in  
     the tunnel in  
     'into the tunnel'  
  c. onder de brug door  
     under the bridge through  
     'under the bridge through'

Besides word order variation syntactic variety shows up in the number of adpositional elements in the adpositional phrase. The adpositional phrases in (1a,b) display one adposition (in), whereas (1c) has two such elements (onder, door). (2) demonstrates an adpositional complex with up to four adpositional elements:

(2)  
    van onder de brug uit vandaan  
    from under the bridge out away  
    'out from under the bridge'

Questions which arise concern the syntactic representations for the various adpositional possibilities in Dutch, the (syntactic) relation between the various adpositional phrases, regularities in the construction and restrictions for the extension possibilities.

The Dutch adpositional domain is of interest not only for syntax but also for semantics. Especially the interaction of these disciplines of grammar can be observed in the Dutch PP. The minimal pair in (1a,b) shows the influence of (syntactic) word order variation on (semantic) interpretation.

The adpositional domain offers both descriptive and theoretical challenges. The (semantico-syntactic) characteristics of this constituent will be summarised in a descriptive overview. This dissertation starts with such a descriptive survey providing an overview of all the PP possibilities in Dutch. The overview will be given in chapter 2. First, a motivated subclassification for the PPs is developed. Then, for each PP construction its syntactic properties are investigated. Chapter 2 serves as a starting point for the more theoretical part of this dissertation. It can also be read independently of the theoretical part, and can be used as a reference grammar for Dutch PPs.
The theoretical part will be concerned with the syntactic representation of the Dutch PP in Minimalism and special attention will be paid to interactions in adpositional grammar. Chapters 3 and 4 explore the internal syntactic structure of Dutch PPs. The various adpositional phrases are fitted into the (generative) theoretical framework, doing justice to both its syntactic and semantic properties. Moreover, the syntactic variety and in particular the (apparent) optionality found in the adpositional domain challenge Minimalism (Chomsky 1995), which considers the latter notion to be problematic.

Two types of interaction in the adpositional domain can be distinguished. The first type concerns the relation between the internal syntactic structure of the PP and the PP's distribution. Chapters 5 and 6 then investigate the relation between the internal structure of the PP and its external syntax against the background of the hypothesis in (3).

(3) The internal structure of the PP restricts the PP's external syntax.

The example in (4) demonstrates that the complex circumpositional PP onder zijn toga aan 'underneath his robe' cannot appear in a position to the right of the finite verb, i.e. in extrapoosed position, whereas the simplex PP onder zijn toga can. It will be argued in chapter 5 that the internal syntax of the complex PP blocks the movement operation which results in the extrapoosed word order and in this way restricts the PP's distribution or external syntax.

(4) dat Johan een t-shirt draagt [\text{pp onder zijn toga (*aan)}] 
that Johan a t-shirt wears under his robe on

'that Johan wears a t-shirt underneath his robe'

This interaction type will be illustrated for PP-extraposition and R-word PP formation.

The second type of interaction concerns the relation between the (inherent) semantic properties of the adposition(al phrase) and the syntactic structure in which the adposition(al phrase) is integrated. This is stated in (5):

(5) The semantic and syntactic structure of the PP interact:
(i) The semantic structure of the PP restricts the PP's syntactic (modification) possibilities.
(ii) The syntactic structure of the PP influences the PP's semantics.

This type of interaction will be demonstrated for the semantic notions directionality, restricted vector and dimension.

The relation between the semantic and syntactic structure of the PP goes both ways. First, the semantic characteristics of the adposition influence the syntactic structure of the PP. It will be shown that an (inherent) semantic property can restrict the syntax of a PP. In chapter 4, this is demonstrated for the semantic properties restricted vector and directionality. Cases which will be discussed in chapter 4
It will be argued that the PP \textit{op de tafel} 'on the table' in (6a) has a so-called restricted vector in its denotation, that is in its semantic structure. This semantic property makes (syntactic) length modification by 30 cm impossible. The PP \textit{onder de tafel} in (6b), which lacks such a restricted vector in its semantics, accepts a length modifier.

Second, the syntactic structure has an effect on the semantic properties of (an element in) the PP. Besides its lexical-semantic characteristics, semantic properties can be directly related to syntactic structure. Semantic properties can be attributed to an element depending on the element's position in syntactic structure. This will be demonstrated for DPs occupying the specifier position of the functional projection DIRP. The DP will have 1-dimensionality characteristics. In other words, it is interpreted as a path in this syntactic position.

(7) \[ \text{[DIRP de berg}_a \text{ [DIR}_p \text{-DIR}^0_t \text{ pp } t_i \ t_k ]} \]

The examples in (6) and (7) have shown that semantics influences syntax and that syntax, for its part, has an influence on the PP's semantics. The interaction between these disciplines of grammar in the adpositional domain will show up in various issues in this thesis.

1.2. Theoretical framework

The overview of the possible PP constructions in Dutch will be presented in theory independent terms in chapter 2. After that the syntactic structure for the PP possibilities in Dutch and its interaction with the PP's external syntax and with the PP's semantic information will be worked out within generative grammar. The assumptions and argumentation in this thesis follow the concepts of the Minimalist Program, as outlined in Chomsky (1995). For those readers who are not familiar with the minimalist framework, the basic ideas are summarised in this section. A complete overview of the Minimalist Program is not intended; the focus is rather on its main concepts and on the assumptions which will play a role in the argumentation in the theoretical part of this thesis. For a more detailed introduction the reader is referred to e.g. Haegeman (1994).

In the Minimalist Program, linguistic structure is built up by the bottom-up mechanism \textit{Generalised Transformation} (GT). Phrase markers from the lexicon are combined (Merge), and X's and XPs can move to a position higher up in the (expanded) structure (Move). The GT operations Merge and Move are illustrated in (8).
(8a)

\[
V' \\
\downarrow \\
V \quad e \\
\downarrow \\
\rightarrow \quad NP \\
\downarrow \\
V \quad NP
\]

(8b)

\[
IP \\
\downarrow \\
e \quad I' \\
\downarrow \\
I \quad V' \\
\downarrow \\
V \quad NP
\]

At some point in the derivation, viz. at Spell Out, we arrive at the overt form, formerly referred to as S-structure. Spell Out leads to the PF representation (PF = Phonological Form). After Spell Out the derivation continues, from then on covertly, towards the LF representation (LF = Logical Form). At the LF-level the interpretation of the structure is taken care of.

(9)

- lexicon
- overt syntax
- Spel Out
- covert syntax
- PF
- LF
Minimalism is economy-driven. The economy idea shows up in different forms. The movements are subject to economy in at least two ways. First, the guideline of Procrastinate entails that movement is delayed, when possible until after Spell Out. In other words, covert movement, i.e. movement after Spell Out, is more economical than overt movement. Second, movement takes place only when necessary. That is to say, motivations have to be provided for moving a phrase or a head of a phrase to another structural position. Moreover, the derivation itself must be economical; the movements should involve the shortest steps and the smallest number of steps.

Triggers for these movements are stated in terms of feature checking. It is argued that functional projections, FPs, host features, which must be checked in the course of the derivation. Checking the feature in a functional projection involves movement of elements lower in the structural representation to this FP. Strong features need to be checked overtly, that is before Spell Out; weak features are checked in covert syntax.

Minimalism offers two ways in which a feature in a functional projection can be checked. That is to say, two structural configurations are proposed in which a feature is checked off. The first option is in a Spec-Head configuration. In this case, an XP moves to the specifier position of FP. The second option is by head adjunction; an X° adjoins to F°. Both options are claimed to be equally economical. This claim will turn out to be decisive in the argumentation of seemingly optional movement in complex circumpositional PP structures and in extraposition configurations with particles.

In this thesis the syntactic analyses will be worked out from the perspective of the Minimalist Program. The guidelines of the Minimalist Program will, however, not be strictly followed in that I take the liberty of allowing other mechanisms than just feature checking to motivate syntactic movement. Extraposition will be assumed to be triggered by the need to establish a predication relation, not by feature checking (Barbiers 1995).

The syntactic structures and derivations are in accordance with the restrictions on phrase structure and movement as formulated in Kayne (1994). Kayne (1994) has developed a theory of syntactic structure in which phrase structure is universally head-initial, and movement is restricted to leftward movement. Zwart (1997) has already shown that Dutch syntax can be successfully described with these phrase structure restrictions.

Chapter 3 develops hierarchical structures for the PP configurations found in Dutch. The starting point for all the syntactic representations will be a head-initial structure, following Kayne (1994). In the discussion of the syntactic representations, the argumentation of previous approaches, involving both leftward and rightward branching, is included as well. Both empirical and conceptual arguments are taken into consideration. From the head-initial structures overt representations are derived by triggered, leftward movements.

Without much discussion, Dutch syntactic structure is taken to be head-initial, and the clause is considered to have a VO structure (see Zwart 1997). The VO clause structure hardly plays a role in a thesis which focusses on PP structure. Only in the chapter on PP-extraposition does the VO clause structure chosen determine the
analysis of the (structural) position of the PP. It is shown, however, that the extraposition analysis developed in chapter 5 can also be reformulated to fit an OV approach.

1.3. The notion **adposition**

Many efforts have been made in the past to give a definition of the notion *adposition* (or *preposition*); many different definitions have been proposed. This suggests that formulating an appropriate definition for *adposition* is not unproblematic.

The problem of defining *adposition* is roughly twofold. First, an adposition has many different aspects in the various domains of grammar. A definition which does justice to all these aspects is, as a consequence, not a simple definition but rather a set of definitions. Sets of definitions are found in e.g. Geerts (1984), Van den Toorn (1984) and Hus & Reinsma (1997). Geerts (1987: 506f.) presents the following definitions:

(10) **Adposition**

a. syntax: "[...] een taalelement dat in principe samen met een of meer andere woorden een constituent vormt die geen onderwerp of lijdend voorwerp van een zin kan zijn [...]" [Engl. a linguistic element which in principle makes up together with one or more other words, a constituent which cannot be the subject or direct object of a clause, translation M.H.]

b. semantics: "[...] een taalelement dat de aard van een relatie uitdrukt tussen de rest van de voorzetselselement en een of meer andere elementen in de zin" [Engl. a linguistic element which expresses the kind of relation between the rest of the PP constituent and one or more other elements in the clause, translation M.H.]

c. morphology: "onverbuigbaar, in beperkte mate met samenstellingen mogelijk" [Engl. cannot be inflected, possible to a limited extent in compounds, translation M.H.]

The formulations in (10) are rather general and these definitions are not without exceptions, as already noted in Geerts (1987). Counterexamples to (10a) are:

(11) a. **Via Schiphol is korter.**
    via Schiphol is shorter
    'Via Schiphol is shorter.'

b. **Ik kies door de polder.**
    I choose through the polder
    'I choose through the polder.'

Appendices 1.17-19 show that a subset of the Dutch adpositions does participate in morphological processes, thus constituting counterexamples to (10c).

The second problem with defining the notion *adposition* is that adpositions do not constitute a homogeneous class. Adpositions have originated in different stages
of the history of language and have various sources. Roughly, the class of adpositions consists of a group of old, or core adpositions, which have developed from locative adverbials (see Paul 1959) and a large group of younger adpositions, which have been derived from e.g. present participles and nouns, at a later stage in history. The different origin brings about adpositions with different syntactic, semantic and morphological characteristics. This makes it difficult to formulate a definition for *adposition*. Moreover, classifying elements as adpositions is hampered since the process of prepositionalisation is still going on. Especially, borderline cases are hard to classify.

Lindqvist (1994) recognises the problems for formulating a definition for *adpositionhood*. As an alternative, he propagates the concept of prototypes, formulating criteria for a so-called *ideal prepositional* (IP):

(12)
(a) The IP governs a nominal phrase either in the dative or accusative case (for German).
(b) The IP is continuous and precedes the nominal phrase which it governs.
(c) The IP is short.
(d) The IP does not belong to a paradigm.
(e) The IP occurs in various positions in a sentence.
(f) The IP can be combined with various nominal phrases.
(g) The IP has no inner dependence structure. (Lindqvist 1994:311)

The ideal prepositional is a prototypical construct. Lindqvist stresses that the above criteria are not meant to determine whether an element is an adposition, but merely to determine whether the element comes close to the ideal prepositional. Traditional prepositions like *in* and *on* fulfill most of the above criteria; they have a high p-degree. For each potential adposition it can be determined to what extent it fulfills these criteria, i.e. fix the height of p-degree.

In view of the problems of formulating a definition for the notion *adposition*, I make the pragmatic decision not to propose a definition. In this thesis, the discussions on PP structure and PP phenomena will be restricted to cases with unambiguous adpositions, that is, in Lindqvist's terminology, elements with a high p-degree, like *op* 'on', *in* 'in', *door* 'through'.

To determine which elements should be considered adpositions and are to be included in the list of Dutch adpositions, a working definition for *adposition* is used. I consider an element to be an adposition if it can appear in a construction typical for elements which have a high p-degree. Two such (adpositional) constructions are taken into consideration: prepositional phrases and R-word PPs. If an element appears either in a prepositional construction or in an R-word PP or both, the element is taken to be an adposition. An example is *in*, which appears as a preposition in (13a) and in an R-word PP in (13b).

(13)  a.  in de tuin
      in the garden
      'in the garden'
b.   er in
    there in
    'in it'

A list of all Dutch adpositions, including borderline cases, is provided in Appendix I.

1.4. The notion *directional*

1.4.1. Introduction

This section introduces and formalises the semantic notion *directional*. It is argued that this semantic property is inherent to a subset of the (Dutch) adpositions whereas other adpositions have this semantic property due to their syntactic position. In other words, this semantic term has a syntactic correlate. A directionality phrase will be proposed, which will play a crucial role in later chapters discussing the syntactic characteristics of postpositional PPs and R-word PPs.

The term *directional* is a frequently used notion in the syntactic and semantic literature on PPs (e.g. Koopman 1997; Wunderlich 1991; Zwarts 1997b; Zwarts & Winter 1997). I will use the notion *directional* at two different levels, viz. at the level of the adposition (in semantics), and at the level of the PP (in syntax).

First, let us consider *directional* at the level of the adposition. In general, core adpositions, having developed from locative adverbials, denote a location: *in (de trein) 'in the train' and op (de boot) 'on the boat*. In this thesis, a subset of the Dutch adpositions is called *inherently directional*. Informally, directional adpositions denote a change in location. Importantly, directionality does not exclude locativity but is considered to be a special case of locativity. Directional adpositions denote a movement of the *located object* (The notion *located object* from Gruber 1976): from location \( x \) to location \( y \). This is illustrated for the inherently directional adposition *naar*:

\[
(14) \quad \text{De man loopt naar het station.}
\]

the man walks to the station

'The man walks to the station.'

The located object (*de man*) ends up at the (endpoint) location, the station. 1.4.2. will discuss the semantics of *naar* in detail. For adpositions like *naar* the directional qualification is fixed in the lexicon (i.e. is inherent). The classification is not made on an intuitive basis; distributional tests will be discussed and the distinction is explicated in formal semantics later in this section.

The second instance of the notion *directional* is found on the level of PP, that is, in syntax. The terms can be employed to distinguish between the interpretation of prepositional and postpositional phrases in Dutch. Prepositional PPs denote a location, whereas postpositional PPs denote a direction (e.g. Koopman 1997; Van Riemsdijk 1978). This semantic difference between the two PP word orders is demonstrated in (15).
(15) a. Jan fietst \([_{\text{pp}} \text{ in de stad}]\). \(\text{prePP}\)  
Jan cycles in the city  
'Jan cycles in the city.'  
b. Jan fietst \([_{\text{pp}} \text{ de stad in}]\). \(\text{postPP}\)  
Jan cycles the city in  
'Jan cycles into the city.'

(15a) gives a situation in which Jan cycles at the location \text{in de stad} 'in the city'.  
(15b) denotes a change of location for Jan; from 'in the city' to 'in the city'. The syntax and semantics of the pre/post PP alternation is the topic of discussion in chapter 3.

The remainder of this section will focus on the first instance of the notion \textit{directional}; some adpositions are inherently directional whereas others are not. Subsection 1.4.2 presents the formalism for semantic directionality, giving the semantic tools for a subclassification in the set of adpositions. In support of the semantic subclassification distributional tests which distinguish between the subclasses of adpositions are discussed. Subsection 1.4.3 is concerned with directionality in syntax. A syntactic correlate for semantic directionality is proposed, the directionality phrase. Moreover, it is shown how adpositions which are not inherently directional get this property due to their structural position in syntax.

1.4.2. Directionality in semantics

It was suggested above that the class of adpositions contains at least two subclasses: directional and non-directional adpositions. This subsection will present the semantic formalism for this subclassification. Moreover, it will be argued that a subset of the adpositions has a \textit{path} specification in its denotation.

The idea of a path specification is not new and can be found in e.g. Jackendoff (1990), Wunderlich (1991), Verkuyl & Zwarts (1992) and Zwarts & Winter (1997). Especially in Verkuyl & Zwarts (1992), the notion \textit{path} is discussed in detail and formalised in model-theoretic semantics. Their approach will first be summarised. Then it will be shown what their theory tells us about the adpositional subclassification in terms of directional and non-directional.

For our discussion two notions in Verkuyl & Zwarts (1992) are of importance. Besides \textit{path}, the term \textit{dimension} must be clarified. Let us start with the latter. The notion \textit{dimension} is related to entities. That is to say, entities have a certain dimensionality. Pointlike entities are 0-dimensional, linelike entities are 1-dimensional, and so on (see also Jackendoff 1991; 1996). Or more formally: "The dimensionality of an object is the number of spatial orderings that can be imposed on the material parts of that object" (Verkuyl & Zwarts 1992: 496).

Dimensionality of an entity is a relative notion. Depending on the perspective, the dimensionality of an entity can change. Verkuyl & Zwarts (1992) give an example with a river, which can be considered 1-dimensional but which can be seen as 2-dimensional (with either width or depth) or as 3-dimensional (with width and depth) as well. Some syntactic environments trigger a certain dimensionality. This is for instance the case with Eng. \textit{along}, which requires a 1-dimensional object (Jackendoff 1996: 321). The entity \textit{river}, which can have 1-dimensionality, is thus
acceptable as the object of *along*:

(16) a. the road along the river  
     b. the road along the houses

(16b) shows that the plural noun phrase *the houses* can be the object of *along*. This does not come as a surprise since it has been claimed in the literature that plurality corresponds to 1-dimensionality of the DP (Jackendoff 1996; Verkuyl & Zwarts 1992). Importantly, in (16b) the individual houses do not have to be conceptualised as having 1-dimensionality; it is the plural which provides 1-dimensionality for (the set of) houses.

The story for the singular noun phrase *the house* is more complicated. Unlike *river*, its dimensionality is entirely open. This means that *the house* can be conceptualised as either 0, 1, 2 or 3-dimensional. Although the dimensionality of the *the house* is open, Verkuyl & Zwarts (1992: 496) take every object to be basically 0-dimensional. In other words, objects are considered to be point-like entities. As the object of *along*, however, *the house* must be conceptualised as 1-dimensional (see above). This is the case if we take a small located object like *the ant* in (17):

(17) The ant walked along the house.

We adjust the perspective, thus triggering a 1-dimensionality for *the house*. This shows that the dimensionality of an entity is a relative notion; it changes depending on the perspective. Compared to an ant, the house surely has 1-dimensionality (or better: > 0-dimensionality), and hence *the house* is a legitimate object of *along* in (17).

Now let us turn to the notion *path*. Both Verkuyl & Zwarts (1992) and Jackendoff (1991; 1996) analyse a path in the localistic tradition of Gruber (1976). The former formalise their ideas in model-theoretic semantics, the latter in conceptual semantics. Informally, John moves along a path (by walking) and ends up at the store in (18):

(18) John walks to the store.

Verkuyl & Zwarts (1992: 498) state it as follows: "The Path concept \[ [\text{path} \ TO([\text{STORE}])] \] denotes the linearly ordered homogeneous set of points of space \( \mathbb{P}_{\text{TO}} = <p_1, ..., p_n, p(s)> \) that is closed off by the spatial position of the store, \( p(s) \), which is conceptualized as a point in Space." TO is thus a function which takes its argument (*the store*) and maps it into a directional set that represents a path leading to the store \( s \). A set is defined as directional if it is linearly ordered in one direction, yielding one unique beginning point and a potential endpoint (Verkuyl & Zwarts 1992: 498). Thus, \( to \) maps its argument (*the store* in (18)) at the endpoint of the path.

Not only the endpoint of the path (or goal), but also the source or an intermediate point on the path can be explicated, choosing prepositions like *from* or *via*. This is formalised as follows:
(19) a. \[ \text{Path} \text{ FROM}([\text{STORE}]) \]
\[ \text{P}_{\text{FROM}} = \langle p(s), \ldots, p_i, \ldots, p_n \rangle \]

b. \[ \text{Path} \text{ VIA}([\text{STORE}]) \]
\[ \text{P}_{\text{VIA}} = \langle p_1, \ldots, p'(s), \ldots, p_n \rangle \]

The adposition \textit{via} can, however, also take objects which are 1-dimensional entities like \textit{river} (see above). The river is then represented as a linearly ordered homogeneous and unbounded set of slices of that river: \( \langle r_1, \ldots, r_i, \ldots, r_j \rangle \). The function-argument structure is then as in (19c):

(19) c. \[ \text{Path} \text{ VIA}([\text{RIVER}]) \]
\[ \text{P}_{\text{VIA}} = \langle p'(r_1), \ldots, p'(r_i), \ldots, p'(r_j), \ldots \rangle \]

As was shown in (16), the adposition \textit{along} also takes 1-dimensional entities as its object. Its function-argument structure will hence be analogous to (19c). Unlike \textit{from} and \textit{to}, the object of \textit{along} is not mapped to a single point on a path but is related to more than one point on the path. This is considered to be an inherent property of \textit{along}. The adposition has, as I will call it, path extension in its denotation. The object of the adposition is linked to two or more linearly ordered points, i.e., a path.

Besides adpositions with a \textit{path} specification (with or without extension, i.e., linked to one or to more than one point on the path) there is a large class of adpositions which lack a path specification in their function-argument structure. (20) illustrates this for the adposition \textit{in} in the PP \textit{in the store}.

(20) \[ \text{Path} \text{ IN}([\text{STORE}]) \]
\[ \text{P}_{\text{IN}} = p(s) \]

The PP \textit{in the store} denotes a point in space; no claims are made concerning a particular location of this point on a path.

The above discussion about the semantics of adpositions has shown that adpositions denote locations (base interpretation). The semantics has provided us a three-way distinction within the class of these locative adpositions. First, there are adpositions with and without a \textit{path} specification. Adpositions without a path specification are labelled \textit{narrow locative}; no dimensionality requirements have been formulated for the object of these adpositions. An example was given in (20). Second, within the class of adpositions with a \textit{path} specification (\textit{path} locatives), we can distinguish a subclass with and a subclass without (path) extension. In other words, the location denoted by the PP has extension (>0-dimensionality); the object of the adposition is linked to more than one point on the path and the adposition is classified as \textit{extended locative} (see (16)). Or the location has 0-dimensionality, and the adposition is coined \textit{point locative} (see (19)). The subclassification is summarised in (21):

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1 The base interpretation of adpositions like \textit{in} and \textit{on} is considered to be locative. Non-locative, e.g., temporal, interpretations can be derived from the locative interpretation, see for a proposal Weijnen (1964:133ff.).
LOCATIVE ADPOSITIONS

narrow locative      path locative
                        path locative (+dir) extended locative

Point locative adpositions like *naar* 'to' and *van* 'from' denote a change in location, i.e. a movement of the located object. These adpositions bring about a directional interpretation (= change of location) and are classified as (inherently) directional, see above.

(22)  (de  man) naar  het  station
      the  man  to  the  station
     'the man to the station'

Importantly, the change of location (directionality) is found on the level of the adposition; it has not been brought about by a verb. Extended locatives like *langs* 'along' can also be combined with an interpretation with movement of the located object. However, the adposition *langs* itself is not directional; the directionality is not located at the adpositional level but is caused by the VP. (23) illustrates this.

(23)  a.  De  palen  staan  langs  de  snelweg.
       the  posts  stand  along  the  highway
      'The posts stand along the highway.'

       b.  Jan  rent  langs  de  snelweg.
           Jan  runs  along  the  highway
         'Jan runs along the highway.'

The PP *langs de snelweg* denotes an extended location and only in (23b) the verb brings about movement of the located object (*Jan*). The PP combined with the stative verb *staan* 'to stand' does not result in a directional interpretation. It can thus be concluded that directionality is not related to the adposition but to the verbal phrase in (23b).

I will demonstrate that the formal semantic classification in (21) also has its reflex in syntax. Five distributional tests support the semantic subclassification proposed above.

The first distributional test distinguishes narrow locative adpositions from adpositions where the PP denotes a point location on a path (point locatives). This
subclassification can be tested with *honorary NPs.*\(^2\) The contrast in (24) shows that there must be agreement between the PP subject and the nominal predicate with respect to location/direction:

(24) a. Onder het bed is een fijne plek/*reis.
under the bed is a nice place/journey
'Under the bed is a nice place.'
b. Naar Amsterdam is een fijne reis/*plek.
to Amsterdam is a nice journey/place
'To Amsterdam is a nice journey.'

In essence, the PP _onder het bed_ 'under the bed', with the adposition _onder_, requires a location as its nominal predicate: _een fijne plek_ 'a nice place'. The preposition _naar_ 'to', on the other hand, is ungrammatical with a location like _plek_ as its predicate; it takes _reis_, which implies a path and not a location, as its predicate. The adpositions identified as extended locatives can be combined either with _plek_ or with _reis/route_ as their predicate.

(25) a. Langs de snelweg is een fijne plek.
along the highway is a nice place
'Along the highway is a nice place.'

a. Langs Schiphol is de kortste route.
along Schiphol is the shortest route
'Along Schiphol is the shortest route.'

In (25a), the PP _langs de snelweg_ denotes an extended location, hence it can be combined with _plek_. _Langs Schiphol_ in (25b) implies a change in location for the (absent) located object, and is, consequently, possible with _route_.

The second distributional test uses the verb _zich bevinden_ 'find one/itself'. It makes the same subdivision within the class of adpositions as the previous test. Adpositions whose PP denotes (an extended) location can be combined with _zich bevinden_ (see (26)), whereas the PPs which denote a point location on a path cannot, cf. (27):

(26) a. Jan bevindt zich achter het theater.
Jan finds REFLE behind the theatre
'Jan is behind the theatre.'

b. Jan bevindt zich beneden de grote rivieren.
Jan finds REFLE below the big rivers
'Jan is south of the big rivers.'

---

\(^2\) Honorary NPs are XPs occupying a typical NP position like the subjects in copular constructions. In (24) the PP is considered to be an honorary NP (Safr 1983).
c. De praatpalen bevinden zich langs de snelweg.
   'The emergency telephones are located along the highway.'

(27) * Jan bevindt zich naar / tot Amsterdam.
   Jan finds REFL to / until Amsterdam
   'Jan is to / until Amsterdam.'

The above tests have separated the class of directional adpositions (point locatives),
 i.e. van 'from', naar 'to', tot 'till', from the other two adpositional subclasses. In the
following I will present distributational tests in which the extended locative adpositions
(like door 'through', langs 'along' om 'around') can be distinguished from the
adpositions without a path specification. The tests will be presented without
discussion, since the (testing) construction will be explored in detail in later
chapters.

Extended locatives can but adpositions without a path specification cannot
appear in a postpositional PP which is combined with the verb zetten 'to put' (cf.
chapter 3):

       Jan puts the book the cupboard in
b. * Jan zet het boek de kast op.
       Jan puts the book the cupboard on

(29) a. Het pontje zet Mery het IJ over.
       the ferry puts Mery the IJ across
   'The ferry brings Mery across the IJ.'

b. Cohen zet de ilegalen het land uit.
   Cohen puts the illegals the country out
   'Cohen deports the illegal immigrants.'

Extended locative adpositions can but adpositions without a path specification
cannot appear in a prepositional PP which is part of a resultative construction with
the verb wandelen 'to walk':

(30) a. * Jan is op de berg gewandeld.
       Jan is on the mountain walked
b. * Jan is in de berg gewandeld.
       Jan is in the mountain walked
c. Jan is langs de berg gewandeld.
   Jan is along the mountain walked
   'Jan has walked along the mountain.'
d. Jan is door het bos gewandeld.
   Jan is through the forest walked
   'Jan has walked through the forest.'

Adpositions without a path specification can but extended locative adpositions
cannot appear in a postpositional PP which is equipped with length modification (cf.
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chapter 4):

(31) a. Piet fietst twee meter de tunnel in.
     Piet cycles two metres the tunnel in
     'Piet cycles two metres into the tunnel.'

b. Piet fietst twee meter de berg op.
   Piet cycles two metres the mountain on
   'Piet cycles two metres onto the mountain.'

c. * Hein rijdt twee meter de Erasmusbrug over.
   Hein drives two metres the Erasmus Bridge across
   'Hein drives two metres across the Erasmus Bridge.'

d. * Piet rijdt drie meter de Schiphol tunnel door.
   Piet drives three metres the Schiphol Tunnel through
   'Piet drives three metres through the Schiphol Tunnel.'

The above discussion has presented a three-way distinction within the class of adpositions, which has been semantically and syntactically motivated. With the above tests the Dutch core adpositions can be classified as follows (Appendix I.1 provides an exhaustive list):

(32) a. narrow locative adpositions (−path):
   achter 'behind', beneden 'under', bij 'near', binnen 'inside', boven 'above',
   buiten 'outside', in 'in', naast 'next to', onder 'under', op 'on', tussen
   'between'

b. point locative adpositions (+path) (inherently directional):
   naar 'to', tot 'until', van 'from'

c. extended locative adpositions (+path):
   door 'through', langs 'along', om 'around', over 'across', rond 'around', uit
   'out', via 'via'

Almost all the core (or: oldest) Dutch adpositions can be classified according to these criteria. Only the core adpositions met 'with' and zonder 'without' do not follow this pattern.

The remaining adpositions, which are relatively young, often cannot be classified in terms of location and direction. They have developed from nouns (e.g. krachtens 'by virtue of', ondanks 'in spite of', wegens 'because of'), present participles (gedurende 'during', hangende 'pending', ongeacht 'irrespective of'), or a combination of P and noun (ingevolge 'in accordance with', irzake 'concerning', vanwege 'because of'), or they have a foreign origin (e.g. à 'à', ab 'ab', ad 'ad', cum 'cum', de 'de', ex 'ex'). Actually, this development is still going on: the noun richting 'direction' is on its way to adopting an adpositional function:

(33) Jan fietst richting het station.
    Jan cycles direction the station
    'Jan cycles in the direction of the station.'
This thesis will mainly discuss the syntax and semantics of core adpositions as classified in (32).

1.4.3. **Directionality in syntax**

The previous subsection has offered us a semantic adpositional classification in which a subset of the adpositions has been classified as directional on the basis of their lexical-semantic characteristics. They are considered inherently directional. It will be shown in this subsection that directionality is not restricted to lexical semantics but that directionality as we have seen it so far also has a syntactic correlate. That is to say, the semantics of an element is determined by both inherent characteristics and the syntactic configuration in which it appears. Adpositions which are not classified as inherently directional may become directional in syntax. In this case, the semantics of the adposition is dependent on the syntactic position of the adposition.

I take the site of directionality in syntactic structure to be the *directionality phrase* (DIRP). DIRP is a functional projection in the adpositional domain; it tops off the (lexical) PP. The directionality projection will be shown to play a crucial role in the syntax of R-word PP formation (chapter 6). Directionality is located on DIR$^0$ and an adposition (here: the inherently directional adposition *naar* 'to') moves to this position, thus checking off the directionality feature:

(34) \[ \text{[DIRP} \text{naar}^r \text{-DIR}^0 \text{[PP } t_i \text{ DP ]] } \]

Hence, directionality manifests itself both in semantics and in syntax.

Not every PP will be topped off by an (active) DIRP. I assume that the directionality phrase is absent with selected PPs like *naar muziek* 'to music' in (35).

(35) Hij luistert naar muziek.
    he listens to music

    'He listens to music.'

Another syntactic construction which is identified as directional in Dutch is the postpositional PP. The syntax and semantics of the postpositional phrase will be discussed in detail in chapter 3. The directionality in a postpositional PP will be related to the syntactic structure of the PP and hence includes the directionality phrase introduced above. The syntactic representation of the postpositional PP is as follows, cf. chapter 3:

(36) \[ \text{[DIRP} \text{de} \text{ berg}^x \text{ [DIR}^0 \text{ op}^r \text{-DIR}^0 \text{[PP } t_i \text{ } t_k ]] } \]

In (36) the adposition *op* moves to the head of the directionality phrase, checking the directionality feature in DIRP, and the DP object moves to SpecDIRP. In this syntactic configuration, the PP displays directionality, in contrast with its prepositional counterpart. (36) is a clear case, showing the interaction of syntactic and semantic structure.

The structures in (34) and (36) display adpositional configurations with a
directionality phrase. As was indicated already above, a PP is not always provided with a DIRP. This has been shown in (35). Importantly, I assume that prepositional PPs with an adposition which is not classified as inherently directional, e.g. *door de tunnel* 'through the tunnel' will not project a DIRP.

Another construction in which I take the DIRP to be absent is in prepositional PPs in a small clause configuration. An example of such a configuration is given in (37):

(37)    dat Jan in de sloot gesprongen is
        that Jan in the ditch jumped is
        'that Jan has jumped into the ditch'

The sentence gets a directional interpretation: there is a jumping (movement) event followed by the resultant state [Jan in the ditch] (see Hoekstra 1984; 1988). Importantly, the PP *in de sloot* denotes a location in (37). Hence, directionality is not integrated into syntactic structure via an FP in the adpositional domain (that is, DIRP). The directional interpretation, i.e. change of location, is not located on the level of the PP but only a higher level in the syntactic structure. It is the entire configuration in (37) which is directional or rather resultative. I will follow Doetjes (1997) in taking a non-overt inchoative auxiliary in the small clause to be responsible for the resultative interpretation.

1.5. The structural position of the PP

Besides focussing on the internal structure of PPs, the PP's external syntax is investigated as well. Especially in the chapters on PP-extraposition and on R-word PP formation the hierarchical position of the PP in the clause structure plays an important role.

It was argued in Helmantel (1998a) that the structural position of the PP is determined by the PP's function. On the basis of several empirical tests the following conclusions were drawn:

(38)    a. PP objects and PP adverbs are structurally represented as adjuncts.
       b. Predicative PPs in the verbal domain are small clause predicates.

Two tests which are often used in generative syntax and which successfully distinguish between predicative PPs and adjunct PPs in Dutch are extraposition and auxiliary selection (see Hoekstra & Mulder 1990).³ PP adjuncts like in (39a) can extrapose, whereas predicative PPs in (39b,c) cannot:

(39)    a. dat Jan gespeeld heeft in de sloot
       that Jan played has in the ditch
       'that Jan has played in the ditch'

³ For a discussion of other, less successful tests offered in Hoekstra & Mulder (1990) the reader is referred to Helmantel (1998a).
b. * dat Jan geklommen is op de tafel
that Jan climbed is on the table

c. * Jan is gisteren geklommen op de tafel.
Jan is yesterday climbed on the table

The notion *extraposition* is used descriptively in this thesis. The PP is said to be extraposed in case it appears to the right of the finite verb in embedded sentences like (39b), or to the right of the verbal complex in root clauses, cf. (39c). A structural account will be given in chapter 5.

As was mentioned above, the second test to distinguish between adjunct and predicative PPs is auxiliary selection. A subset of Dutch verbs can take either the auxiliary *zijn* 'to be' or *hebben* 'to have'. Hoekstra (1984) notes that for these verbs adverbial PPs come with the auxiliary *hebben* 'to have', whereas predicative PPs come with *zijn* 'to be':

(40) a. dat Jan in de sloot gesprongen heeft ...adverb
that Jan in the ditch jumped has
‗that Jan has jumped in the ditch‘

b. dat Jan in de sloot gesprongen is ...predicate
that Jan in the ditch jumped is
‗that Jan has jumped into the ditch‘

Auxiliary selection successfully distinguishes between the two PP functions in a case like (40) (and the corresponding hierarchical positions, i.e. adjunct and SC predicate). The situation is, however, slightly more complex, as e.g. Hoekstra (1984) and Bennis & Hoekstra (1989: 167) show. The claim that predicative PPs always come with the auxiliary *zijn* is clearly too strong. Only constructions which are ergative select *zijn*. A predicative construction is ergative in case the SC subject leaves its base position and moves to the subject position of the matrix clause. This is the case in (40b), schematically represented in (41):

(41) dat Jan, [sc t, in de sloot] gesprongen is

(42a-c) show non-ergative predicative constructions; (42d) is ergative. Only in case the SC subject leaves the SC, the auxiliary is *zijn*, otherwise *hebben*:

(42) a. dat Jan [sc het boek op de plank] heeft gezet
that Jan the book on the shelf has put
‗that Jan has put the book onto the shelf‘

b. dat Jan [sc de auto in de garage] heeft gereden
that Jan the car in the garage has driven
‗that Jan has driven the car into the garage‘

c. dat Jan [sc de auto de garage in] heeft gereden
that Jan the car the garage in has driven
‗that Jan has driven the car into the garage‘
d. dat Jan, [sc t, de garage in] is gereden
    that Jan the garage in is driven
    ‘that Jan has driven into the garage’

From this discussion it can be concluded that the auxiliary can be used as a test to distinguish between adverbial PPs and a subset of the predicative PPs, viz. predicative PPs in ergative constructions.

Now let us return to the generalisation in (38a). If both PP 'objects' (i.e. selected PPs) and PP adverbs are structurally represented as adjuncts the question arises what their relative positions are. In other words, can we determine which position each of them has in the base structure?

There are several indications that the PP adverbs are structurally higher than PP 'objects'. The first argument concerns exposition. It has been noted before (Koster 1974, Nieuwborg 1978) that PPs in Dutch display the so-called mirror effect when the sentence is produced with neutral intonation. The order of the PPs to the left of the verb (i.e. the non-extraposed order) mirrors the PP order to the right of the verb (i.e. the extraposed sequence). This is demonstrated in (43) for two PP adverbs; in (44) for a PP adverb and a PP 'object' (with neutral intonation).⁴

(43) a. dat hij op dat moment op het station wachtte
    that he on that moment on the station waited
    ‘that he waited at the station at that moment’

b. * dat hij op het station op dat moment wachtte
    that he on the station on that moment waited

c. dat hij wachtte op het station op dat moment
    that he waited on the station on that moment

d. * dat hij wachtte op dat moment op het station
    that he waited on that moment on the station

(44) a. dat hij op dat moment op de bus wachtte
    that he on that moment on the bus waited
    ‘that he waited for the bus at that moment’

b. * dat hij op de bus op dat moment wachtte
    that he on the bus on that moment waited

c. dat hij wachtte op de bus op dat moment
    that he waited on the bus on that moment

d. * dat hij wachtte op dat moment op de bus
    that he waited on that moment on the bus

(43) shows that the locative adverbial op het station occupies a position linearly closer to the verb (wachtte) than the temporal PP op dat moment, both in the extraposed and in the non-extraposed word order. (44), which is relevant for the present discussion, shows that the PP 'object' (op de bus) must be closer to the verb than the PP adverb op dat moment. If adjuncts adjoin to the left of the verb (Kayne

⁴ In (43) and (44), the PP op dat moment must be interpreted as a temporal adverb, not as (selected) PP 'object', which would be grammatical in the syntactic positions in (43b,d).
1994), it can be concluded that the PP 'object' is structurally lower than the adverbial PP in the non-extraposed word order:

\[(XP \text{ PP-adverb } [XP \text{ PP-object } [VP \text{ V }]])\]

A second test to determine the relative position of 'object' and adverbial PPs is topicalisation, which is generally used as a constituent test. The following examples display both an adverbial and an 'object' PP. (46) shows that in this case topicalisation of the verb + PP is restricted to 'object' PPs:

   with Jan speak will he not at Piet
   'He will not speak with Jan at Piets place.'

   at Piet speak will he not with Jan

The object PP and the verb together make up a constituent, which implies that the \textit{met}PP is closer to the verb than the \textit{bij}PP. Following the argumentation in (45) this means that the selected PP, i.e. the \textit{met}PP, is lower in the structure than the adverbial PP.

Extraction facts complete the picture. The relative element \textit{waar} 'where' can extract from a PP. This movement is, however, restricted, as (47) demonstrates:

(47) a. * de man waar[i je [bij \(t_i\)] met Jan sprak
   the man where you at with Jan spoke
   'the man at whose place you spoke with Jan'

b. de man waar[i je bij Jan [mee \(t_i\)] sprak
   the man where you at Jan with spoke
   'the man you spoke with at Jan's place'

c. * de man waar[i je met Jan [bij \(t_i\)] sprak
   the man where you with Jan at spoke
   'the man at whose place you spoke with Jan'

d. ? de man waar[i je [mee \(t_i\)] bij Jan sprak
   the man where you with at Jan spoke
   'the man you spoke with at Jan's place'

If we study sentences with both a PP adverb and a PP 'object' as in (47), we can conclude that relating \textit{waar} to the selected \textit{met}PP in (47b,d) is substantially better than to the adverbial PP in (47a,c). Moreover, the preferred position for the PP 'object' related to \textit{waar} is close to the verb, cf. (47b) vs. (47d). The Freezing effect (i.e. moved elements become an island for extraction) suggests that the PP 'object' is in its base position in (47b), that is close to the verb. Extraction of R-words like \textit{waar} and the discussion of these and more complex cases can be found in chapter 6.

In the above it has been shown that extraposition, topicalisation and extraction facts justify the following generalisation:
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(48) PP adverbs c-command PP 'objects' in the base structure.

(38a) states that both PP adverbs and PP 'objects' are adjuncts; (48) can now be added, making the relative positions of the two adjuncts more precise. That is to say, the PP 'object' is structurally closer to the verb than the adverbia PP.

1.6. Outline

The outline of this thesis is as follows. Chapter 2 starts with a overview of the PP configurations found in Dutch. A classification is proposed considering both the structural complexity and the syntactico-semantic properties of the PPs. For each PP construction its characteristics are investigated on the basis of five empirical tests. The overview provided in chapter 2 serves as a starting point for the theoretical part of the thesis.

The theoretical part starts in chapter 3 with an investigation of the internal structure of the adpositional phrases found in chapter 2. The discussion starts with simplex pre- and postpositional phrases. Previous approaches will be compared and a structural representation for these two PPs will be proposed, based on both their syntactic and semantic properties. It will be claimed that pre- and postpositional PPs have a head-initial base structure and that the postpositional word order is derived from this base structure by movement. The directionality phrase, introduced in this chapter, plays an important role in this derivation.

Hierarchical representations for more complex adpositional phrases will be discussed in the second part of chapter 3, ranging from complex pre- and postpositional phrases to circumpositional PPs with up to four adpositional elements. In all cases, the starting point is a head-initial base structure followed by (leftward) movement operations.

Chapter 4 discusses modification of PPs. Zwarts's (1997b) vector analysis for simplex locative prepositional phrases is extended to postpositional PPs and to prepositional PPs with a directional adposition. It is illustrated for length modification that (inherent) semantic properties restrict the syntactic structure of a PP. Chapters 5 and 6, are concerned with the fact that the syntactic structure of the PP for its part brings about restrictions as well, viz. for the PP's external distribution. The interaction between internal and external syntax of the PP will be illustrated for PP-extraposition and R-word PP formation.

A case study on PP-extraposition in the verbal domain is presented in chapter 5. The account is based on Barbiers's (1995) work on extraposition but is slightly adjusted to fit into a VO clause structure for Dutch. For several PP configurations it is argued why they can or cannot be extraposed. It is shown that this restriction is partly determined by the hierarchical position of the PP and partly by the PP's internal structure. Furthermore, the restrictions on extraposition in German are dealt with.

A case study on R-word PP formation is conducted in chapter 6. It is assumed that R-word PPs have a head-initial base structure and that the R-word moves from the complement position to the right of P to a higher position, to the left of P (cf. Van Riemsdijk 1978). Structural requirements for R-word PP formation will be
formulated. Then, it is shown why some PP configurations participate in R-word PP formation whereas others do not. Again the internal syntactic structure of the PP turns out to play a decisive role in this process.
2 Adpositions in Dutch

2.1. Introduction

Chapter 1 has provided a working definition for adpositionhood and terminology. This chapter now discusses the constructions in which adpositions show up. As was indicated in chapter 1, Dutch displays various word order combinations in the adpositional domain. Variation is found in several ways. First, the word order of adposition and dependent object can vary giving pre- and postpositional orders. Second, the number of adpositional elements combined with a dependent object is subject to variation. Besides simplex pre- and postpositional PPs, Dutch exhibits several complex adpositional constructions, i.e. PPs with more than one adposition: complex prepositional PPs, complex postpositional PPs, and circumpositions.

In this chapter I present a descriptive overview of Dutch PP forms. Subclasses are formulated on the basis of both syntactic and semantic characteristics. The starting point for the subclassification is the syntactic composition, i.e. the relative position of adposition and dependent object, and the number of adpositions in the constituent. Further subclasses are stated in terms of semantic properties. The result is a subclassification of Dutch PPs. Each subclass is discussed in detail, listing the syntactic, semantic, and morphological characteristics of the PP. Representative examples illustrate these characteristics. The Appendix provides lists of all the adpositions found in each of the (sub)classes.

The classification and discussion presented in this chapter is descriptive in nature, and subclasses are stated in theory independent terms. This descriptive overview serves as a starting point for the theoretical part of this thesis (from chapter 3 onwards). The main aim of the theoretical part is to relate the (syntactic-)distributional properties (the so-called external syntax) to the syntactico-semantic make-up of the PP (the so-called internal syntax). The framework used to formulate and explicate this relation is Generative Grammar and in particular Minimalism (see chapter 1). This chapter and the Appendix can, however, be read independently of the theoretical part of this thesis and can be used as a reference grammar for Dutch PPs.

The outline of this chapter is as follows. Section 2.2 discusses the syntactic and semantic tests used to classify the Dutch PP forms and presents a fine-grained subclassification for Dutch PPs. For each subclass the syntactic-distributional properties of the PP forms are examined and listed in section 2.3. Finally, in section 2.4 I present a summary of the subclasses and their syntactic-distributional properties.
2.2. Towards a PP subclassification

The world's languages show both pre- and postpositional word orders. In general, languages take either a pre- or a postpositional order. Germanic generally opts for the prepositional variant. In this language family, Dutch and German occupy a special position in that they allow postpositions (see Braunmüller (1982) for an overview). The adposition can thus either precede or follow the dependent object.

As was indicated in the introduction to this chapter, more complex cases are found as well. Besides simplex pre- and postpositional phrases, Dutch has complex PP constructions consisting of more than one adposition. For two adpositions and one dependent object all the logically possible options are available in Dutch: complex prepositions (P-P-object), complex postpositions (object-P-P), and circumpositions (P-object-P). Circumpositions, for their part, can again be more complex. Besides the circumpositions consisting of one adposition on both sides of the object, there are circumpositions which consist of a complex preposition with a simplex postposition (P-P-object-P), a simplex preposition with a complex postposition (P-object-P-P), and circumpositions with both a complex pre- and a complex postposition (P-P-object-P-P). (1j) displays a complex adpositional phrase with up to five adpositional elements. My classification and determination of syntactico-semantic characteristics will include all these (complex) PPs. However, PPs can be extended to six or even more Ps. Examples and some discussion about extension of the PP can be found in section 4.7.3.

The possibilities for Dutch adpositional phrases are summarised in (1); the adpositions in the examples are in bold face:

(1) simplex PPs
   a. P DP op de tafel on the table
      'on the table'
   b. DP P de tafel op the table on
      'onto the table'

complex PPs
   c. P DP P van de tafel af from the table off
      'of the table'
   d. P-P DP van-af de tafel from-off the table
      'from the table'
   e. DP P-P de tafel onder-door the table under-through
      'under the table through'
   f. P-P DP P tot aan Leiden toe till on Leiden until
      'till (in) Leiden'
g. P DP P-P  
   tot  Leiden  aan  toe  
   till  Leiden  on  till  
   'till Leiden'

h. P-P-P DP  
   voor  tot  in  Leiden  
   for  till  in  Leiden  
   'for till in Leiden'

i. P-P DP P-P  
   tot  aan  Leiden  aan  toe  
   till  on  Leiden  on  till  
   'till (in) Leiden'

j. P-P-P DP  P-P  
   voor  tot  in  Leiden  aan  toe  
   for  till  in  Leiden  on  till  
   'for till in Leiden'

2.2.1. Syntactic-distributional criteria
The structural complexity of Dutch adpositional syntax in (1) will serve as the basis for the descriptive classification of PP forms in Dutch. For each of the adpositional constructions in (1) the distributional properties are investigated in section 2.3. It is shown that the various PP forms as classified in (1) differ with respect to a whole list of syntactic tests. The relevant tests are: (a) extraposition, (b) R-word PP formation, (c) incorporation, (d) topicalisation, (e) extraction. The following subsections clarify these notions.

2.2.1.1. Extraposition
Extraposition is used here as a descriptive term for constituents appearing to the right of the verbal complex (in Dutch and German). This is illustrated in (2):

(2) a. dat  Jan  wilde  overnachten  [\textit{PP}  in  een  hotel]  
   that  Jan  wanted  over-stay  in  a  hotel  
   'that Jan wanted to stay over in a hotel'

   b. Jan  wilde  gisteren  overnachten  [\textit{PP}  in  een  hotel]  
   Jan  wanted  yesterday  over-stay  in  a hotel  
   'Jan wanted to stay over in a hotel yesterday'

The PP in (2) appears to the right of the italicised verbal complex. The term \textit{extraposition} itself reflects a structural analysis of constructions such as (2) in which the PP moves from within the clause to the right of the verbal complex. Other terms for this construction are \textit{PP-over-V} and 'in German- Ausklammerung.

In this thesis, the notion \textit{extraposition} is used since this is the most common term for constructions such as (2). However, \textit{extraposition} is used here merely as a descriptive label. I do not subscribe to the rightward movement analysis mentioned above. For \textit{extraposition} I adopt Barbiers' (1995) proposal for elements to the right of the verbal complex; \textit{extraposition} does not involve rightward movement of the PP but leftward movement of the verbal complex to a position to the left of the PP. Technicalities and structural consequences of \textit{extraposition} are discussed in chapter 5, where PP-extraposition is analysed.
2.2.1.2. R-word PP formation

The second syntactic test is R-word PP formation. It is tested whether a PP form with a full DP object has a corresponding R-word PP.\(^1\) In these PPs, the full DP is replaced by a so-called R-word: er ‘there’, daar ‘there’, hier ‘here’, overal ‘everywhere’, ergens ‘somewhere’, nergens ‘nowhere’, and waar ‘where’.\(^2\) If such an R-word PP is possible, the relative position of the R-word is determined as well. (3) illustrates this alternation:\(^3\)

(3) PP with full DP object R-word PP
\[
\begin{align*}
\text{a. op de bank} & \quad \text{‘on the bench’} & \text{er op} & \quad \text{‘on it’} \\
\text{b. voor de school} & \quad \text{‘in front of the school’} & \text{daar voor} & \quad \text{‘in front of it’} \\
\text{c. na het eten} & \quad \text{‘after dinner’} & \text{hier na} & \quad \text{‘here after’}
\end{align*}
\]

R-words and the restrictions on R-word PP formation are discussed in chapter 6.

2.2.1.3. Incorporation

Like extraposition the notion incorporation is used merely descriptively. This notion is used to refer to elements appearing inside the (italicised) verbal complex in the literature on verbal complexes (e.g. Bennis 1992; Koopman 1995b; Model 1991):

(4) dat Jan de berg <op> is <op> gefietst\(^4\)
that Jan the mountain on is on cycled
‘that Jan has cycled onto the mountain’

The <x> bracketing indicates that either the first or the second instantiation of x is spelled out. The adposition op ‘on’ appears in (4) optionally inside the verbal complex is gefietst.

In generative syntax, incorporation involves adjunction of a head to another head (Baker 1988). Presenting a structural analysis of the distribution of adpositions in the verbal complex is beyond the scope of this thesis. The reader is referred to Helmantel (1998c) for an analysis. Irrespective of that analysis, the notion

---

\(^1\) In the tests, examples will be used with R-word PPs in the verbal domain; this construction will be explored in chapter 6. R-word PPs in relative constructions constitute a separate R-word PP class, with its own distributional characteristics. First, the only R-word possible in the relative construction is waar ‘where’. Second, its distribution is restricted to the leftmost position in the relative clause, following the noun it modifies. In this thesis, the focus will be on the R-word PP class as illustrated in (3). I will be mainly concerned with the internal structure of the R-word PP, which might be not that different from the relative construction, and the distributional possibilities of the various R-words in the Mittelfeld.

\(^2\) The notion R-word comes from Van Riemsdijk (1978); all R-words in Dutch contain an r.

\(^3\) According to Dutch orthography, R-word PPs with er, daar, hier, waar are spelled as one word, whereas overal and (mergens) are separated from the adposition. To make it easier to read the examples, especially for readers not familiar with Dutch data, the R-word PPs are consistently spelled as two words.

\(^4\) The sentences in this thesis display my judgements. In cases where I am aware of variation, this will be mentioned.
incorporation is used here in the non-technical sense. Hence, incorporation refers to configurations with nonverbal elements inside the verbal complex and is a descriptive term. Judgements about incorporation vary among speakers of Dutch, see Haeseryn (1990) for a descriptive overview.

2.2.1.4. Topicalisation
In topicalisation structures, a non-subject constituent occupies the first position of a clause, to the left of the finite verb in main clauses. This transformation is often used to determine constituency; only constituents can appear to the left of the finite verb in main clauses. An example of PP topicalisation is given in (5):

(5) [pp Op de kade] staat een vrouw.
    on the quay stands a woman
    'There is a woman standing on the quay.'

For each PP subclass it is determined whether the PP or part(s) of the PP can appear in topicalised position.

2.2.1.5. Extraction
In extraction configurations, part of the PP constituent is displaced and appears outside the PP. Descriptively, this means that the adposition and the dependent object are split up (both parts are in italics in (6)); the object is non-adjacent to the adposition with which it makes up an adpositional phrase:

(6) a. dat hij de berg waarschijnlijk op is gefietst
    that he the mountain probably on is cycled
    'that he probably cycled onto the mountain'
b. Welke berg is hij op gefietst?
    which mountain is he on cycled
    'Onto which mountain did he cycle?'
c. dat hij er waarschijnlijk op klom
    that he there probably on climbed
    'that he probably climbed onto it'
d. Waar is hij op geklommen?
    where is he up climbed
    'What did he climb onto?'

The extraction configuration has two possibilities, as shown in (6). First, full DPs can be extracted as in (6a,b). Second, R-words can undergo extraction, see (6c,d). Note that the extracted element can but need not display question word morphology. For each PP form, it is checked whether it allows for extraction of the object from the PP. Our focus will be on extraction of full DPs; R-word extraction is postponed to chapter 6.

2.2.2. The subclassification of Dutch PPs
An overview of Dutch adpositional phrases based on syntactic complexity was given
in (1). (7) is a refined version of (1), with a subclassification for simplex and complex prepositional phrases in (7a) and (7c). The subclassification in (7a,d) uses semantic criteria (locative and directional); cf. chapter 1. It will be shown in section 2.3 that syntactic properties support this semantic subclassification.

(7) simplex PPs
   a. P DP
      i. locative prepositions
      ii. directional prepositions
      iii. remaining prepositions
   b. DP P
complex PPs
c. P DP P
d. P-P DP
   i. van/voor/tot/sinds + P + object
   ii. locative complex preposition
   iii. opaque complex prepositions
   iv. vanaf, vanuit, totaan
e. DP P-P
f. P-P DP P
g. P DP P-P
h. P-P-P DP
i. P-P DP P-P
j. P-P-P DP P-P
k. P
l. P-P
m. P-V

Besides PPs consisting of (at least) one adposition and an object, intransitive adpositions are included in (7k-m). These intransitive adpositions lack an object, but should be considered PPs as well, projecting a PP without complements and/or specifiers (see Jackendoff 1973; Van Riemsdijk 1978; Den Dikken 1995). Finally, adpositions which function as verb particles like op in opbellen 'to call up' are added, see (7m). For each of the subclasses identified in (7) the syntactic-distributional properties will be determined in the next section, using the five tests discussed in section 2.2.1.

2.3. PP subclasses and their syntax

The previous section has presented the subclassification for Dutch PP forms. This section determines for each subclass the syntactic properties. Five distributional tests have been introduced in section 2.2.1 for this purpose, viz. (a) extraposition, (b) R-word PP formation, (c) incorporation, (d) topicalisation, and (e) extraction. Since most of the subclasses have a considerable number of items/item combinations, a few representative examples are discussed to illustrate the characteristics of the subclass in question. Not all the test results will be discussed extensively. We focus
on tests (a), (b) and (e). Each subsection concludes with a table representing the results of all the tests. At a single glance, it can be seen whether the adpositional construction in question can participate in a certain syntactic configuration.

2.3.1. P DP prepositional phrases
2.3.1.1. PrePPs with locative adpositions

This section discusses narrow locative and extended locative adpositions. Examples from both subclasses will be given. The subclass of point locative (or directional) adpositions is dealt with in section 2.3.1.2.

PrePPs with locative adpositions like achter 'behind', binnen 'inside' and in 'in' can be found in extraposed position, depending on their function (and as will be shown in chapter 5, on their structural position in the clause structure). Predicative PPs, i.e. PPs which are part of a small clause (cf. section 1.5, chapter 1), cannot appear to the right of the finite verb in embedded clauses, whereas adverbal and selected PPs (in traditional Dutch grammar voorzetselvoorwerp) can. This can be observed in (8) for narrow locatives and in (9) for extended locatives:

(8) a. * dat Hein gesprongen is in de sloot ...predicative 
   that Hein jumped is in the ditch 
   'that Hein has jumped into the ditch'

   b. dat Piet gesprongen heeft in de sloot ...adverbiaal
   that Piet jumped has in the ditch 
   'that Piet has jumped in the ditch'

   c. Het plan voorziet in een behoefte.6 ...selected
   the plan provides for a need
   'The plan fills a need.'

(9) a. * dat hij de auto rijdt [pp langs de paaltjes]
   that he the car drives along the posts

   b. dat de patient voedsel krijgt [pp door een rietje]
   that the patient food gets through a straw
   'that the patient gets food through a straw'

   c. dat de Tour dit jaar vertrekt [pp uit Ierland]
   that the Tour this year leaves from Ireland
   'that the Tour starts in Ireland this year'

PrePPs with a locative preposition can form R-word PPs. The following examples illustrate this:

(10) a. Willem zit erop.
    Willem sits thereon
    'Willem sits on it.'
b. Alex kijkt erdoor.
   Alex looks therethrough
   'Alex looks through it.'

Only a small subset of the locative prepositions cannot be part of an R-word PP: benevens 'besides', benoorden 'north of', beoosten 'east of', bewesten 'west of', bezijden 'beside', bezuiden 'south of', and te 'at'.

Locative prepositions, like all prepositions, do not incorporate into the verbal complex; neither the preposition op nor the entire PP op de stoel can appear between heeft and gezeten:

(11) a. * dat Maurits de stoel heeft op gezeten
    that Maurits the chair has on sat

b. * dat Maurits heeft op de stoel gezeten
    that Maurits has on the chair sat

(12)-(13) illustrate topicalisation and extraction of the full DP objects, respectively:

(12) Op de stoel zat een prins.
    on the chair sat a prince
    'There was a prince sitting on the chair.'

(13) * Deze stoel heeft Maurits op gezeten.
    this chair has Maurits on sat

The results of the syntactic tests are thus as follows:

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Distributional properties of prePPs with a locative adposition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EX</td>
</tr>
<tr>
<td>P DP loc</td>
<td>±</td>
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</tbody>
</table>

2.3.1.2. PrePPs with inherently directional adpositions
Just as with prePPs with a locative adposition, prePPs with a directional adposition can be found in extraposed position in case they have an adverbalial function or the selected PP (see (14ab)), but not if they are used predicatively, as in (14c):

(14) a. dat eekhoortjes slapen [pp tot de lente]
    that squirrels sleep till the spring
    'that squirrels sleep till spring'

---

7 In standard Dutch, (11b) is ungrammatical; in parts of Flanders (in so-called verb projection raising dialects), incorporation of the PP is possible.

8 Many speakers consider extraction examples like in (13) ungrammatical, but these sentences can be heard in spoken language.
b. dat ik luister [pp naar muziek]  
   that I listen to music 
   'that I listen to music' 

c. * dat hij is gelopen naar Leiden  
   that he is walked to Leiden 

Directional prepositional PPs do not have an R-word counterpart, see (15a,b).

(15) a. * Peter rent er naar.  
   Peter runs there to 

b. * Jan loopt er tot / er toe.  
   Jan walks there till 

Together with the postposition toe 'till', *naar is acceptable with an R-word, cf. (15c).

(15) c. Peter rent er naar toe.  
   Peter runs there to until 
   'Peter runs to it.'

In a selected PP as in (15d), *naar can participate in R-word PP formation.

d. Peter luistert er naar  
   Peter listens there to 
   'Peter listens to it.'

The semantic and syntactic restrictions on R-word PP formation, are studied in detail in chapter 6. An account for the contrast in (15a,b) versus (15c) and the grammaticality of (15d) will be given there.

Directional prepositions such as *naar and *tot, being prepositions, do not incorporate into the verbal complex:

(16) a. * dat Kees de stad is tot gereden  
   that Kees the city is till drove 

b. * dat Miep de stad is naar gelopen  
   that Miep the city is to walked 

Topicalisation of PPs with inherently directional prepositions is possible (with contrastive stress on station); extraction of full DP objects (in (18): het station) is not, see (17) and (18), respectively.

(17) Naar het station zal hij lopen.  
   to the station will he walk  
   'To the station, he will walk.'

(18) * het station zal hij naar lopen.  
   the station will he to walk
In sum:

**Table 2**  
**Distributional properties of prePPs with directional adpositions**

<table>
<thead>
<tr>
<th>P DP dir</th>
<th>EX</th>
<th>Rwd</th>
<th>Inc</th>
<th>Top</th>
<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td>±</td>
<td></td>
<td>-</td>
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</table>

### 2.3.1.3. PrePPs with remaining adpositions

As was indicated in chapter 1, the remaining prepositions are defined negatively; they are neither locative nor directional. These prepositions have developed from different sources (see chap. 1) but in their syntactic behaviour, they tend to pattern alike. An exhaustive list of these prepositions can be found in Appendix I.1.3.

The prePPs with the so-called remaining adpositions can be found to the right of the finite verb, unless in predicative constructions:

(19)

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<tbody>
<tr>
<td>a.</td>
<td>dat hij geen beslissing wilde nemen [pt betreffende de rellen] that he no decision wanted take concerning the riots 'that he did not want to take a decision concerning the riots'</td>
<td>b.</td>
<td>dat ze de burgemeester ontsloegen [pt conform de wet] that they the mayor fired in accordance with the law 'that they fired the mayor in accordance with the law'</td>
<td>c. *</td>
<td>dat hij is gegaan [pt met de bus] that he is gone with the bus</td>
</tr>
</tbody>
</table>

Of the remaining prepositions only a small group can form R-word PPs. The adposition *omtrent* 'concerning' and *omstreeks* 'about' can be part of an R-word PP. These adpositions cannot be combined with the full paradigm of R-words; only *daar* 'there' and *hier* 'here' are possible with these adpositions: *daar/hier omtrent* vs. *er/*ergens omtrent. Moreover, the R-words *daar* and *hier* cannot be separated from the adposition (*omtrent*), whereas this is possible with other R-word PPs:

(20)

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</thead>
<tbody>
<tr>
<td>a. *</td>
<td>Daar heeft hij omtrent geen uitspraak gedaan. there has he concerning no pronouncement done 'He did not pronounce upon it.'</td>
<td>b. Daar heeft hij over geen uitspraak gedaan. there has he about no pronouncement done</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The adpositions *met* 'with' and *zonder* 'without' are acceptable as part of an R-word PP (for *zonder* at least for a subset of the native speakers of Dutch).⁹

---

⁹ The distribution of the R-word with *zonder* is somewhat restricted in that the R-word and *zonder* are preferably split up, whereas other adpositions can also appear adjacent to the R-word:

(i) ? Daar zonder kan ik niet leven. there without can I not live 'I cannot live without it.'
(21) a. Daar kan ik niet zonder leven.
there can I not without live
'I cannot live without it.'

b. Daar kan ik niet mee leven.
there can I not with live
'I cannot live with it.'

The other prepositions in this subclass cannot participate in R-word PP formation:

(22) * er sedert 'there since', *daar volgens 'there according to', *hier overeenkomstig 'here in accordance with'

These prepositions do not incorporate into the verbal complex, as shown in (23). PP-topicalisation is possible, see (24). Extraction of full DP objects is not felicitous, as illustrated in (25).

(23) * dat Jan de vergadering is tijdens gevallen
that Jan the meeting is during fallen

(24) Tijdens de vergadering is Jan gevallen.
during the meeting is Jan fallen
'During the meeting Jan fell.'

(25) * De vergadering is Jan tijdens gevallen.
the meeting is Jan during fallen

In sum:

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Distributional properties of prePPs with remaining adpositions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EX</td>
</tr>
<tr>
<td>P DP rem</td>
<td>+</td>
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</table>

2.3.2. DP P postpositional phrases
The following adpositions can appear as simplex postpositions: af 'off', binnen 'inside', door 'through', in 'in', langs 'along', om 'around', onder 'under', op 'on', over 'across', rond 'round', uit 'out', and voorbij 'past'.

(26) a. Jan springt de sloot in.
Jan jumps the ditch in
'Jan jumps into the ditch.'

(ii) Daar mee kan ik niet leven.
there with can I not live
'I cannot live with it.'

10 The use of onder as a postposition is regionally restricted to Flanders and southern parts of the Netherlands.
b. Kees fietst de vijver rond.
   Kees cycles the pond around
   'Kees cycles around the pond.'

All these postpositions can be used prepositionally as well.11

The alternation between pre- and postposition is not arbitrary. As has been noted in the literature on Dutch PPs (e.g. Geerts et.al. 1997; Koopman 1997; Kraak & Klooster 1968; Van Riemsdijk 1978), prepositions denote a location whereas postpositions denote a direction. The object of the postposition denotes a path along which the climbing event in (27b) progresses. In combination with a movement verb, a prepositional phrase may give rise to two interpretations, as in (27c). Some illustrative examples with pre- and postpositions are:

(27) a. Piet speelt op de berg.
   Piet plays on the mountain
   'Piet plays on the mountain.'

b. Hein klimt de berg op.
   Hein climbs the mountain on
   'Hein climbs up the mountain.'

c. Hein klimt op de berg.
   Hein climbs on the mountain
   i. 'Hein climbs on the mountain.'
   ii. 'Hein climbs onto the mountain.'

Chapter 3 presents the syntactic structure for the two alternative word orders, accounting for the syntactic and semantic differences between them.

Before we come to the syntactic-distributional tests, a note is due on the status of postpositions in Dutch (traditional) grammar. The notion postposition (as opposed to preposition) is not found in all Dutch grammars and dictionaries. Many adpositions which are labelled as postpositions in this thesis are called adverbials or verb particles elsewhere.12 There are, however, some arguments for using the notion postposition and not adverbial/particle for these cases. First, using the notion postposition suggests that it is related to preposition. That is, within the class of adpositions, prepositions precede their dependent objects, whereas postpositions follow the object. The two options look alike; in both cases we have an adposition and an object. The tight relation between adpositions taking their object either to the

11 Prepositional af is very restricted. It is found in trade language and fixed expressions:
   (i) af fabriek
      off factory
      'ex factory'
   (ii) transfertijd af luchthaven (from Sudtours travel brochure)
        transfer time off airport
        'transfer time from airport'

12 Traditional grammars which do use the term postposition are e.g. Geerts et al (1997) and Paardekooper (1959; 1971:347). In the latter, the notion vz-az ('vz = voorzetsel 'preposition'; az = achterzetsel 'postposition') is introduced as an umbrella term for both pre- and postpositions.
left or to the right is supported by the subset relation between the two; the set of adpositions in a [DP P] postpositional PP is a subset of the set of adpositions in [P DP] prepositional PPs. A (syntactic) relation between adpositions preceding and following their object is not implied or recognised if the notions adverbial/particle are used.

A second reason not to use (verb) particle for these cases is that it implies a tight relation between verb and adposition, or at least that the adposition is closer to the verb than to the object. However, an adposition following its object is not dependent on the presence of a verb. There are several examples possible with an adposition following the object in which a verb is absent as in (28a-c) or in which adposition and verb cannot be considered a particle-verb combination (see (28d): *doorwonen):

(28) a. de weg [de berg op] ...adnominal
    the road the mountain on
    'the road up the mountain'
   
b. En nu [de berg op]! ...imperative
    and now the mountain on
    'And now up the mountain!'
   
c. [De gevangenis in] met die crimineel!
    the prison in with that criminal
    'Into the prison with that criminal!'
   
d. [Het hele jaar door] heb ik daar gewoond.
    the whole year through have I there lived
    'The whole year through I have been living there.'

I will use the notion postposition for adpositions in configurations like (28). The term particle is reserved solely for adpositions in constructions like opbellen 'to call up' and neerleggen 'to put down'. It will be shown in section 2.3.1.1 that particles display syntactic-distributional properties which are different from the ones found with simplex postpositions.

The syntactic behaviour of simplex [DP P] phrases is as follows. First, they do not appear in extraposed position unless a particle is added:13

(29) a. * dat Piet loopt [pp de gracht langs] that Piet walks the canal along
   
b. * dat Joris rijdt [pp de berg op] that Joris drives the mountain on

(30) a. dat Piet doorloopt [pp de gracht langs] that Piet throughwalks the canal along
    'that Piet walks on along the canal'

---

13 Van Riemsdijk (1978: 94) attributes the possibility to extrapose the postPP to the presence of the particle (in bold). I will present an analysis in chapter 6.
b. dat Joris meerijdt [pre de berg op]
that Joris withdrew the mountain on
'that Joris drives up the mountain as well'

As was noted in section 2.2.1, a subset of the simplex prepositions has the possibility to form R-word PPs. Except for rond 'around', all the adpositions listed as possible postpositions above are also included in the list of adpositions which are possible in an R-word PP (see Appendix 1.4). At first sight, R-word PP formation from postpositional phrases seems possible. The question whether simplex postpositions participate in R-word PP formation must, however, be answered negatively. Let me illustrate this with some examples. It is not clear in (31) whether er op 'thereon' is related to op de berg 'on the mountain' or de berg op 'up the mountain', that is to a pre- or a postpositional basis:

(31) a. dat Jan er op klimt
that Jan there on climbs
'that Jan climbs on it'
b. dat Jan op de berg klimt
that Jan on the mountain climbs
'that Jan climbs on(to) the mountain'
c. dat Jan de berg op klimt
that Jan the mountain on climbs
'that Jan climbs up the mountain'

In many cases, both the pre- and the postpositional word order are possible so that no conclusion can be drawn concerning the relation between R-word PPs and postpositions, see (31). Recall that it is always possible to relate the R-word PP to the prepositional word order. More insightful are cases in which only one word order is possible: either pre- or postpositional but crucially not both. The examples in (32) show that prePPs have an R-word PP variant (see (32a,b)), whereas postPPs do not have an R-word PP counterpart (see (32c,d)):

(32) a. Piet zet de vaas op de plank / *de plank op.
Piet puts the vase on the shelf / the shelf on
'Piet puts the vase on the shelf.'
a'. Piet zet de vaas er op.
Piet puts the vase there on
'Piet puts the vase on it.'
b. Klaas stapt op een tor / *een tor op.
Klaas steps on a beetle / a beetle on
'Klaas steps on a beetle.'
b'. Klaas stapt er op.
Klaas steps there on
'Klaas steps on it.'
c. Jan is de berg op / *op de berg gewandeld.  
    Jan is the mountain on / on the mountain walked  
    'Jan has walked up the mountain.'

c'. * Jan is er op gewandeld.  
    Jan is there on walked  

d. Jan is de tunnel in / *in de tunnel gewandeld.  
    Jan is the tunnel in / in the tunnel walked  
    'Jan has walked into the tunnel.'

d'. * Jan is er in gewandeld.  
    Jan is there in walked  

The prepositional phrases in (32ab) have an R-word PP; the postpositional phrase in (32c) cannot form an R-word PP.

If it is correct that postPPs do not form R-word PPs, af 'off' seems to be problematic. The adposition af is a productive postposition, whereas its use as a preposition is very restricted (see fn. 12). Hence, af -a postposition- is not expected to form R-word PPs, contrary to fact:

(33)  Henk skiede de berg af / er af.  
      Henk skied the mountain off / there off  
      'Henk skied down the mountain.'

Chapter 6 will show that this example is merely an apparent counterexample to my claim that postPPs do not participate in R-word PP formation. It will be argued that a more complex structure for af postPPs is justified; (de berg) af in (33) is not a simplex postposition and hence it is unproblematic for my claim that postpositions do not form R-word PPs.

Simplex postpositions can optionally appear inside the verbal complex:

(34)  a. dat Piet de berg <op> is <op> geklommen  
      that Piet the mountain on is on climbed  
      'that Piet has climbed up the mountain'

b. dat Jan de sloot <in> is <in> gesprongen  
    that Jan the ditch in is in jumped  
    'that Jan has jumped into the ditch'

Predicative PPs with a simplex postposition are not found in topicalised position, as is illustrated in (35a). Adverbial PPs, as in (35b,c), can be topicalised. Sometimes contrastive stress is required. This can be observed in (35b).

(35)  a. * [pp de berg op] is Piet geklommen.  
      the mountain on is Piet climbed

b. [pp de berg OP] heeft Piet geklommen.  
    the mountain on has Piet climbed  
    'Up the mountain Jan has climbed (but down the mountain he'll drive).'
c. [pp De hele dag door] regende het.
   the whole day through rained it
   'The whole day through it has been raining.'

Extraction of the object from a postPP is possible (the object and the adposition are italicised):

(36) dat Jan de tunnel waarschijnlijk in is gefietst
    that Jan the tunel probably in is cycled
    'that Jan has probably cycled into the tunnel'

Table 4  Distributional properties of simplex postpositional phrases

<table>
<thead>
<tr>
<th></th>
<th>EX</th>
<th>Rwr</th>
<th>Inc</th>
<th>Top</th>
<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP P</td>
<td>±</td>
<td>-</td>
<td>+</td>
<td>±</td>
<td>+</td>
</tr>
</tbody>
</table>

2.3.3. P DP P Circumpositional phrases
After the simplex adpositional phrases we now turn to more complex PPs. This subsection discusses circumpositional PPs consisting of an object both preceded and followed by a simplex adposition. Schematically: P₁ - object - P₂.

The syntactic properties of these circumpositions are as follows:
Circumpositions do not appear in extraposited position, unless an element such as door 'through' or weg 'away' is added to (37ab).\textsuperscript{14} This is demonstrated in (37cd).

(37) a. * dat Peter fietst [pp naar Groningen toe]
   that Peter cycles to Groningen till
b. * dat Jan vliegt [pp over de oceaan heen]
   that Jan flies across the ocean to
c. dat Peter door fietst [pp naar Groningen toe]
   that Peter through cycles to Groningen till
   'that Peter cycles on to Groningen'
b. dat Jan weg vliegt [pp over de oceaan heen]
   that Jan away flies across the ocean to
   'that Jan flies away across the ocean'

Circumpositions can have an R-word PP counterpart. The R-word then precedes P₁:

(38) a. hier naar toe
   here to till
   'to here'

\textsuperscript{14} Circumpositions which are an attribute to a noun can appear in extraposited position:

(i) dat hij het vliegtuig neemt [naar Groningen toe]
   that he the plane takes to Groningen to
   'that he takes the plane to Groningen'
b. daar over heen
there across to
'across it'

c. er achter vandaan
there behind away
'away behind it'

Of the circumpositions P₂ can be incorporated into the verbal complex, which is illustrated in (39). Judgements about the incorporability of the adposition seem to vary. For vandaan and to a lesser extent for toe the non-incorporated position is preferred:

(39) a. dat Peter naar Groningen is toe gegaan
that Peter to Groningen is till gone
'that Peter has gone to Groningen'

b. dat Jan over de oceaan is heen gevlogen
that Jan across the ocean is to flown
'that Jan has flown across the ocean'

c. dat hij het lint achter de eik heeft vandaan gehaald
that he the ribbon behind the oak has away taken
'that he has taken the ribbon away from behind the oak'

Predicative circumpositions are not found in topicalised position, see (40a,b). If the circumposition has an adverbial function, topicalisation is acceptable, as in (40c):

(40) a. *[pp Naar Groningen toe] is Peter gegaan.
to Groningen till is Peter gone

b. *[pp Over de oceaan heen] is Jan gevlogen.
across the ocean to is Jan flow

c. *[pp Tot Groningen toe] heeft het geregend.
until Groningen till has it rained
'Until Groningen it has been raining.'

Another peculiarity of circumpositions is that for some of the combinations P₂ is optional, as illustrated in (41a,b). For others P₂ cannot be left out without a change in meaning, as indicated by !, cf. (41c).

(41) a. dat Peter naar Groningen (toe) gaat
that Peter to Groningen till goes
'that Peter goes to Groningen'

b. dat Jan om Amerika (heen) vliegt
that Jan around America to flies
'that Jan flies around America'

c. Jan loopt onder de brug !(door).
Jan walks under the bridge through
'Jan walks under the bridge.'
Table 5  Distributional properties P DP P circumpositions

<table>
<thead>
<tr>
<th></th>
<th>Ex</th>
<th>Rwwrd</th>
<th>Inc</th>
<th>Top</th>
<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td>P DP P</td>
<td>±</td>
<td>+</td>
<td>+</td>
<td>±</td>
<td>-</td>
</tr>
</tbody>
</table>

2.3.4. P P DP prepositional phrases

Complex prepositions consist of at least two adpositions preceding an object; schematically: P₁ P₂ object. This class can be divided into four subclasses. For each of the subclasses the syntactic characteristics are determined with the five tests introduced in section 2.2.

2.3.4.1. van/voor/tot/sinds + P + object

The prepositions *van* 'from', *voor* 'for', *tot* 'till', and *sinds* 'since' can be followed by a P + object combination, i.e. a prepositional phrase. Lists of the possible combinations can be found in Appendix 1.5. These lists show that for *van* 'from', *voor* 'for', *tot* 'till' the set of adpositions following them (i.e. P) is more or less the same although some variation is found. The selection possibilities of the adposition *sinds* 'since', on the other hand, are more restricted; it can be followed by the prepositions *na* 'after' and *voor* 'for' only. Some examples are:

(42)  a.  van boven de grote rivieren
       from above the big rivers
       'from north of the big rivers'

       b.  voor bij de thee
           for near the tea
           'for during tea time'

       c.  tot na de afwas
           till after the dishes
           'till after doing the dishes'

       d.  sinds voor de oorlog
           since before the war
           'since before the war'

Semantically, *van*, *voor*, and *tot* can be informally labelled as "starting point", "destination", and "endpoint", respectively. The temporal adposition *sinds* denotes a starting point followed by an imperfective time interval.

The syntactic properties are as follows. The *van/voor/tot/sinds + P + object* PPs can appear in extraposed position, cf. (43ab). Predicative PPs cannot, as is illustrated in (43c):

(43)  a.  dat hij koekjes kocht [pp voor bij de thee]
       that he biscuits buyed for near the tea
       'that he buyed biscuits for tea time'
b. dat hij bleef [pp tot na de afwas]  
that he stayed till after the dishes  
'that he stayed till after doing the dishes'  
c. * dat hij is gereden [pp tot achter de grens]  
that he is driven till behind the border  

R-word PP formation is possible with these complex prepositions. The R-word then precedes P₂ and follows P₁: P₁ R-word P₂.

(44)  
a. voor er bij  
for there near  
'for then'  
b. * er voor bij  
there for near  
c. tot hier na  
till here after  
'till after this'  
d. * hier tot/toe na  
here till/till after  

Complex prepositions do not incorporate into the verbal complex:

(45)  
a. * dat hij de koekjes de thee heeft voor bij gekocht  
that he the biscuits the tea has for near bought  
b. * dat hij de koekjes voor daar heeft bij gekocht  
that he the biscuits for there has near bought  

Topicalisation is possible with these complex prepositions, as the examples in (46) show. (47) illustrates the impossibility of extracting the object out of the PP.

(46)  
Voor bij de thee kocht hij koekjes.  
for near the tea bought he biscuits  
'He has bought biscuits for tea time.'  

(47)  
a. * dat hij de koekjes de thee voor bij kocht  
that he the biscuits the tea for near bought  
b. * dat hij de koekjes daar voor bij kocht  
that he the biscuits there for near bought  

Table 6   Distributional properties of van/voor/tot/sinds + P DP

<table>
<thead>
<tr>
<th></th>
<th>EX</th>
<th>Rwr</th>
<th>Inc</th>
<th>Top</th>
<th>Ext</th>
</tr>
</thead>
<tbody>
<tr>
<td>van/voor/tot/sinds P DP</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

2.3.4.2. Locative complex prepositions

The second subclass of complex prepositions is syntactically and semantically quite different from the first. Strictly speaking, this subclass does not even consist of two
prepositions. This is not immediately clear if we consider a case like in (48a,b):

(48) a. boven in de la
above in the drawer
'above in the drawer'
b. onder in de la
under in the drawer
'down in the drawer'

Both boven and in are possible prepositions in Dutch (cf. Appendix I.1), so why would boven in de la not consist of two prepositions? There are several indications that boven is not a preposition selecting a (DP) object. I want to argue that there is not a selection but a modification relation between boven and in de la.

There are two arguments which support a modifier analysis for boven. First, besides boven also achter 'behind', midden 'middle', onder 'under', and voor 'in front of' are possible as a first element in this subclass. Although boven, being a possible Dutch adposition, might look like a preposition selecting a PP, for midden this is not likely; midden is not a possible preposition in Dutch since it does not take a DP as its object; see (48d):

(48) c. * midden op het voetbalveld
   middle on the soccer pitch
   'in the middle of the soccerpitch'
   d. * midden het voetbalveld
      middle the soccer pitch

Second, the German counterpart of boven, oben 'above', does not display prepositional but adverbal morpholgy (-n). Like in Dutch, oben 'above' and unten 'under' do not take a DP object.

(49) a. oben *(in) der Schublade
     above in the drawer
     'above in the drawer'
b. unten *(in) der Wohnung
   under in the house
   'down in the house'

So, boven does not select an object in boven in de la; as an intransitive adpositional phrase it modifies the PP. More on PP modification can be found in chapter 4.

---

15 In German, the following adverb-adposition pairs are found: oben/über 'above', unten/unter 'below', vorn(e)/vor 'in front of', hinten/hinter 'behind', außen/aus 'outside'.

16 The intransitive adpositions in this locative construction display adjectival characteristics; they exhibit adjectival distribution and can have superlative morphology: -st(e) in de bovenste la (this has been pointed out to me by Johan Rooryck (p.c.)), cf. Appendix I.19. Superlative opperste 'splendid' does not seem to belong to this class; it is the superlative of opper, which is the
It can thus be concluded that the first element in these locative complexes functions as an adverb, modifying the location denoted by the prePP following it, that is: boven in de la = in the upper part of (in) the drawer.\(^{17}\) Parallel to PP modification, boven can also modify the VP event as in (50):

(50) a. Hij woont boven. 
   'He lives upstairs.'  
   Dutch

   he    lives above
b. Er wohnt oben. 
   'He lives upstairs.'  
   German

   he lives above

Now let us turn to the syntactic-distributional properties of these locatives. Locative complexes can be found in extraposited position, in some cases preceded by a comma:

(51) a. dat Jan het wilde bewaren, boven in de la
   that Jan it wanted store above in the drawer
   'that Jan wanted to store it in the upper part of the drawer'

   b. dat Henk een lint vastbindt achter aan zijn fiets
   that Henk a ribbon ties behind on his bike
   'that Henk ties a ribbon on the back of his bike'

R-word PP formation is possible with complex locatives; the R-word precedes the entire complex, see (52). Note that this is different from the R-word position with real complex prepositions, where the R-word must appear between \(P_1\) and \(P_2\) (see 2.3.4.1):

(52) a. Het boek ligt daar boven in.
   the book lies there above in
   'The book lies in the upper part of it.'

---

\(^{17}\) The comparative form of op, and oppe is not a possible PP modifier: *opper in de la.

There is, however, a second interpretation possible. In case a comma intonation is added between boven and in, the phrase boven in de la can be understood appositionally: 'upstairs, in the drawer'. midden is not possible in this construction.
b. Hij bindt het er achter aan.18
   he ties it there behind on
   'He ties it on the back part of it.'

c. Jan woont daar midden tussen.19
   Jan lives ther middle between
   'Jan lives among them.'

The examples in (53) show that topicalisation is grammatical with locative complex prepositions. Object extraction out of the PP is not possible, see (54).

(53) Boven in de lade ligt een boek.
    above in the drawer lies a book
    'There lies a book in the upper part of the drawer.'

(54) * Het boek ligt de lade waarschijnlijk boven in.
    the book lies the drawer probably above in

Table 7  Distributional properties of locative complex preposition

<table>
<thead>
<tr>
<th>locative complex prePP</th>
<th>EX</th>
<th>Rwrds</th>
<th>Inc</th>
<th>Top</th>
<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

18 The complexes achteraan/vooruit (de rij) 'at the end/beginning of the queue' do not participate in R-word PP formation:
   (i) Jan staat achter aan de rij.
       Jan stands behind on the queue
       'Jan is standing in the back of the queue.'
   (ii) *Jan staat er achter aan.
        Jan stands there behind on

19 These two examples behave differently in other respects as well. Characteristic of the locative complex prepositions described in this section is that the first, modifying part can be omitted (see (iii)), but with vooruit/achteraan (de rij) this is not possible (see (iv)):
   (iii) Het boek ligt (boven) in de la.
        the book lies above in the drawer
        'The book lies in (the upper part of) the drawer.'
   (iv) Piet staat *(achter) aan de rij.
        Piet stands behind on the queue
        'Piet stands at the end of the queue.'

In achteraan de rij, achter does not modify aan de rij but the complex achteraan seems to modify an optionally spelled out in: achteraan in de rij. Helen de Hoop (p.c.) notes that for het in cannot be omitted.

19 Hans Bennis, Marcel den Dikken and Helen de Hoop (p.c.) accept midden daar tussen, midden then displays the same distribution as the modifier vlak 'close':
   (i) <daar> midden <daar> tussen
       there middle there between
   (ii) <daar> vlak <daar> na
       there close there after
2.3.4.3. Opaque PP DP phrases
The third subclass of complex prepositions, which are labelled here as opaque, consists of complex prepositions which do not fit in one of the two preceding subclasses. They are semantically opaque in the sense that most of them do not (any longer) exhibit a semantically transparent composition like the other two subclasses. They are syntactically opaque since they cannot be separated by syntactic processes like R-movement, incorporation, topicalisation etc. Some examples from this subclass are: tegenover 'across', and voorbij 'past'.

The syntactic characteristics are as follows. Opaque complex prepositions can be found in extraposed position:

(55) a. dat de jeugd zich verzamelt [pp voorbij de molen]
   'that the youth self gathers past the mill'
   'that the youngsters gather past the mill'

b. dat zij voetballen [pp tegenover de kerk]
   'that they soccerplay against across the church'
   'that they play soccer across from the church'

R-word PP formation is possible; the R-word precedes the prepositional complex:

(56) a. er voorbij
   'there past'
   'past it'

b. ergens tegenover
   somewhere against across
   'across from somewhere'

So-called opaque complex prepositions, being prepositional, do not undergo incorporation and extraction; topicalisation is possible with these PPs. The examples in (57)-(59) illustrate this.

(57) * dat zij de kerk hebben tegenover gevoetbald
   'that they the church have against across soccerplayed'

(58) Tegenover de kerk hebben zij gevoetbald.
    against across the church have they soccerplayed
    'They have played soccer across from the church.'

(59) * dat zij de kerk waarschijnlijk tegenover spelen
    'that they the church probably against across play'

The properties of these opaque complex prepositions are summarised in Table 8. These PPs turn out to display the same distributional properties as the two preceding subclasses of complex prepositional PPs, cf. Tables 6 and 7. Moreover, they exhibit more or less the same pattern as simplex locative prepositions, see Table 1.
Table 8  Distributional properties of opaque complex prepositions

<table>
<thead>
<tr>
<th></th>
<th>EX</th>
<th>Rwd</th>
<th>Inc</th>
<th>Top</th>
<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td>opaque P P DP</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

2.3.4.4. vanaf, vanuit, totaan

The complexes vanaf, vanuit, totaan constitute a separate class and are not classified as elements of the first subclass discussed in section 2.3.4.1. The reason that vanaf, vanuit, totaan are considered to be a subclass of their own is that their syntactic properties differ from the elements in the first subclass, as will be demonstrated below.

The characteristics of these three complex prepositions are as follows. First, vanaf, vanuit, totaan can appear in extrapositional position:

(60) a. dat de trein vertrekt vanaf perron 2 / vanuit Leiden
that the train leaves from-off platform 2 / from-out Leiden
'that the train leaves from platform 2 / from Leiden'
b. dat de trein rijdt totaan de stootblokken
that the train drives tillon the buffer stops
'that the train goes till the buffer stops'

Second, R-words can be combined with vanaf, vanuit, totaan; the R-word follows the complex preposition, cf. (61). (62) shows that the complex vanuit can have the R-word appearing between van and uit.

(61) a. De trein vertrekt vanaf daar / vanuit hier.
the train leaves from-off there / from-out here
'The train leaves from there / here.'
b. De trein rijdt totaan daar.
the train drives tillon there
'The train goes till there.'

(62) De trein vertrekt van hier uit.
the train leaves from here out
'The train leaves from there / here.'

---

20 The splitting of vanaf, vanuit, totaan and its semantic effect will be discussed in detail in chapter 3.

21 The order "R-word van af" is not related to the complex prePP vanaf DP but to the circumPP van .. af (cf. 2.3.3.1):
   (i) De trein vertrekt vanaf Groningen / *daar vanaf.
       the train leaves from-off Groningen there from-off
       'The train leaves from Groningen.'
   (ii) Hij springt van de tafel af / er van af.
        he jumps from the table off there from off
        'He jumps off the table.'

The syntax and semantics of the two PP orders differ; the reader is referred to chapter 3, see also below.
(63)-(64) demonstrate that topicalisation with vanaf, vanuit, totaan is possible; extraction out of these PPs is not found.

(63) Vanaf perron 2 vertrekt de trein naar Schiphol.
from-off platform 2 leaves the train to Schiphol
'The train to Schiphol leaves from platform 2.'

(64) * dat de trein perron 2 waarschijnlijk vanaf vertrekt
that the train platform 2 probably from-off leaves

Table 9 summarises the distributional properties of vanaf, vanuit, totaan:

<table>
<thead>
<tr>
<th>Table 9</th>
<th>Distributional properties of vanaf/vanuit/totaan DP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EX Rwrd Inc Top Extr</td>
</tr>
<tr>
<td>vanaf/vanuit/totaan DP</td>
<td>+  +  -  +  -</td>
</tr>
</tbody>
</table>

If we compare the results of tables 6 and 9, van/voor/tot/sinds + P + object PPs and vanaf/vanuit/totaan PPs exhibit the same syntactic behaviour. This should not come as a surprise; the latter class consists of adpositions also found in the former, viz. van and tot. There are, however, clear indications that we are dealing with two different classes of complex prepositions. The van/voor/tot/sinds + P + object PPs and vanaf/vanuit/totaan PPs display different distributional properties in tests not discussed so far. First, the former can be modified, whereas the latter cannot:

(65) a. Mijn ouders zijn van drie jaar na de oorlog.
my parents are from three years after the war
'My parents were born three years after the war.'
b. Ik kom van vlak boven de grote rivieren.
I come from close above the big rivers
'I was born just to the north of the big rivers.'

(66) a. * Twee meter vanaf perron 2 vertrekt een trein.
two metres from-off platform 2 leaves a train
b. * Van twee meter af perron 2 vertrekt een trein.
from two metres off platform 2 leaves a train
c. * Vlak vanaf perron 2 vertrekt een trein.
close from-off platform 2 leaves a train
d. * Van vlak af perron 2 vertrekt een trein.
from close off platform 2 leaves a train

Second, the position of the R-word differs: vanaf, vanuit, totaan take the R-word to the right (vanaf daar etc.); in van/voor/tot/sinds + P PPs the R-word appears between P₁ and P₂ (e.g. van daar voor). These distributional differences can be put forward as arguments in favour of a separate class for vanaf, vanuit, totaan.

There are more arguments which plead for this decision. First, with vanaf, vanuit, totaan the second adposition can be omitted; the complex prepositions in the
first subclass, on the other hand, do not allow omission without a change in meaning (indicated by !).

(67) a. De trein vertrekt van(af) perron 2.
the train leaves from platform 2
'The train leaves from platform 2.'

b. Ik kom van !(boven) de grote rivieren.
I come from above the big rivers
'I come from north of the big rivers.'

Second, vanaf, vanuit, totaan have a circumpositional word order variant; this possibility is lacking in the other complex prepositions. Circumpositional tot .. aan requires an additional adposition, toe:

(68) a. Jan skiede van de berg af.
Jan skied from the mountain off
'Jan skied down the mountain.'

b. Van het zuiden uit komen stapelwolken ons land binnen.
from the south out come cumuli our country inside
'From the south cumuli enter our country.'

c. De trein rijdt tot de stootblokken aan *(toe).
the train drives till the buffer stops on to
'The train goes until the buffer stops.'

The circumpositional variant has a slightly different meaning compared to the complex prepositional order. The complex preposition vanaf denotes a starting point; in (67a) perron 2. In (68a), on the other hand, Jan is involved in a movement process along the mountain slope. In this case, the object berg is not a starting point but a path. More on the syntax and semantics of these complex adpositional phrases can be found in chapter 3. It can thus be concluded that the syntactic differences discussed here vindicate a separate subclass for the complex prepositions vanaf, vanuit, totaan.

2.3.5. DP P P postpositional phrases
Complex postpositional phrases consist of an object followed by two adpositions: object-P₁-P₂. This is a regionally determined phenomenon in Dutch; speakers from different regions accept different complex postpositions. I have come across the following complex postpositions: achterlangs 'behindalong', achterna 'behindafter', bijlangs 'nearalong', onderdoor 'underthrough', tussenver 'betweenthrough', and voorbij 'past'. The complexes achterna and voorbij seem to be acceptable to all speakers.

The complex postposition bijlangs is found in the northern dialects of the Netherlands (Frisia, Groningen). Semantically, bijlangs is like a simplex postposition in that the object has extension i.e. is a path. The object alle PP constructies 'all PP constructions' in (69) denotes the (nonspatial) path along which
the research process progresses.\textsuperscript{22}

\begin{align}
(69) \quad & \text{In mijn onderzoek ga ik alle PP constructies bijlangs.} \\
& \text{in my research go I all PP constructions nearalong} \\
& \text{'}In my research, I will investigate all the PP constructions one by one.'}
\end{align}

Native speakers who accept onderdoor, achterlangs and tussendoor as possible postpositions confirm the path semantics as just sketched for bijlangs. The path semantics for the objects in (complex) postpositional phrases like DP onderdoor and DP achterlangs is illustrated in (70)-(71).\textsuperscript{23} The object is conceptualised as a path, i.e. it has dimension (see chapter 1 for the notion dimension). In case it is not likely for the object DP to have dimension (in the direction travelled by the located object: \textit{ik}), as demonstrated in the (b)-examples, the sentence is ungrammatical.

\begin{align}
(70) \quad & \text{a. Ik loop de brug onderdoor.} \\
& \text{I walk the bridge underthrough} \\
& \text{'}I walk under the bridge through.'} \\
& \text{b. * Ik loop het door de gang gespannen touw onderdoor.} \\
& \text{I walk through the hall streched rope underthrough} \\

(71) \quad & \text{a. Ik fiets de lantaarnpalen / het huis achterlangs.} \\
& \text{I cycle the lampposts / the house behindalong} \\
& \text{'}I pass by the back side of the lampposts/house by bike.'} \\
& \text{b. * Ik fiets de lantaarnpaal achterlangs.} \\
& \text{I cycle the lamppost behindalong}
\end{align}

For achterna in (72) no dimension requirements hold for the object; the mouse in (72) is not conceptualised as a path. Postpositional voerbij does not seem to require a path interpretation either; the lamppost does not need dimension in the direction of the cycling.\textsuperscript{24}

\begin{align}
(72) \quad & \text{De kat rent de muis achterna.} \\
& \text{the cat runs the mouse behindafter} \\
& \text{'}The cat is running after the mouse.'} \\
(73) \quad & \text{Ik fietste de lantaarnpaal voorbij en ging toen rechts.} \\
& \text{I cycled the lamppost past and went then right} \\
& \text{'}I have cycled past the lamppost and then turned right.'}
\end{align}

Now let us turn to the syntactic properties of complex postpositions. Complex postpositions are not found in extraposited position. Particles, however, make the extraposited word order possible (see Van Riemsdijk 1978; Den Dikken 1995). Recall

\textsuperscript{22} The path semantics of postpositions is discussed in detail in chapter 3.

\textsuperscript{23} (70) and (71) are from Johan Rooryck (p.c) and Marcel den Dikken (p.c.), respectively. I have not been able to regionally situate these complex postpositions.

\textsuperscript{24} There is another, more idiomatic interpretation for (73): I have passed by the lamppost without seeing it. For me this second reading is strongly preferred.
that this was also observed in (29) and (30).\textsuperscript{25}

\begin{align*}
(74) & \quad \text{a. dat ik *(verder) ga [pp alle constructies bijlangs]} \\
& \quad \quad \text{that I further go all constructions nearalong} \\
& \quad \quad \text{‘that I go on studying all the constructions’} \\
& \quad \text{b. dat ik *(weg) fiets [pp het huis achterlangs]} \\
& \quad \quad \text{that I away cycle the house behindalong} \\
& \quad \quad \text{‘that I cycle away behind the house’}
\end{align*}

Testing whether R-word PP formation is possible with complex postpositions is hampered by there being circumpositional variants of the complex postpositions. It is thus not immediately clear whether \textit{er achter langs} is derived from postpositional ... \textit{achterlangs} and not from \textit{achter ... langs}.

I will argue that complex postpositions do not form R-word PPs. The first argument comes from \textit{achterna}. Importantly, the complex postposition \textit{achterna} does not have a circumpositional counterpart: *\textit{achter ... na}. The circumposition related to \textit{achterna} is \textit{achter ... aan}, which has an R-word PP variant: \textit{er achter aan}. The complex postposition \textit{achterna}, on the other hand, cannot be combined with an R-word: *\textit{er achterna}. This shows that circumpositionals do and complex postpositions do not form R-word PPs.

The second argument for the claim that complex postpositions do not form R-word PPs comes from \textit{bijlangs}. The complex postposition \textit{bijlangs} has a circumpositional variant: \textit{bij ... langs}. There is, however, an interpretational difference between the two orders, as can be observed in the glosses:

\begin{align*}
(75) & \quad \text{a. Piet gaat bij de lantaarnpaal langs.} \\
& \quad \quad \text{Piet goes near the lamppost along} \\
& \quad \quad \text{‘Piet passes by the lamppost.’} \\
& \quad \text{b. Piet gaat de hele lantaarnpaal bijlangs.} \\
& \quad \quad \text{Piet goes the entire lamppost nearalong} \\
& \quad \quad \text{‘Piet is inspecting the entire lamppost.’}
\end{align*}

In (75b) but not in (75a), the lamppost is considered a (nonspatial) path, characteristic for DP objects in postpositional phrases. The nonspatial path, \textit{de lantaarnpaal (bijlangs)}, with the verb \textit{gaan} yield the (figurative) reading ‘to inspect’, which is absent in the circumpositional word order: (75a). Now consider R-word PPs with \textit{bijlangs}. For me, \textit{er bijlangs} can be understood only in the sense of ‘to pass by’. In other words, it is related to the circumpositional word order in (75a). From this discussion it can thus be concluded that \textit{bijlangs} provides the second argument in support of the claim that complex postpositions do not form R-word PPs.

Complex postpositions do not incorporate, as the examples in (76) show; the complex postposition does not appear inside the verbal complex. With \textit{achterna},

\textsuperscript{25} Helen de Hoop (p.c.) notes that she does not accept extraposition in (74), with or without the particle.
incorporation is marginally acceptable:  

(76) a. * dat ik alle constructies ben bijlangs gegaan.
that I all constructions am nearalong gone
b. * dat hij het huis is achterlangs gelopen.
that he the house is behindalong walked
c. ? dat hij de kat is achterna gerend.
that he the cat is behindafter run
‘that he has run after the cat’

Complex postpositions do not topicalise; extraction out of these PPs is possible. The examples in (77)-(78) illustrate this.

(77) a. * Alle constructies bijlangs ben ik gegaan.
all constructions nearalong am I gone
b. * Het huis achterlangs ben ik gefietst.
the house behindalong am I cycled

(78) dat hij de brug waarschijnlijk onderdoor vaart
that he the bridge probably underthrough drives
‘that he probably passes under the bridge’

Table 10  Distributional properties of complex postpositional phrases

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<tr>
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<th>EX</th>
<th>Rwr</th>
<th>Inc</th>
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<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP P P</td>
<td>±</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
</tr>
</tbody>
</table>

2.3.6. P P DP P circumpositional phrases
Circumpositions with a complex preposition and a simplex postposition display the pattern P₁ P₂ object P₃. P₁, P₂ is either van ‘from’, voor ‘for’, or tot ‘till’, e.g. tot aan ... toe ‘till on ... to’ and van achter ... uit ‘from behind ... out’. If P₁ = tot, then P₂ is occupied by an inherently directional adposition (in is an exception). Appendix I.7 provides lists of all the possible combinations with the P₁ P₂ object P₃ complex.

P₁ P₂ object P₃ complexes cannot extrapose in case the complex is predicative (especially with tot and van): (79a). Adverbial PPs can be found in extraposed position, see (79b).

(79) a. * dat hij kroop [ppvan onder de auto vandaan]
that he crawled from under the car away
b. dat hij een hek kocht [ppvoor bij de sloot langs]
that he a fence bought for near the ditch along
‘that he has bought a fence for along the ditch’

26 Incorporation of the non-complex counterpart is substantially better:
(i) dat ik alle constructies ben langs gegaan.
R-word PPs can be formed with these complexes. The R-word is found between P₁ and P₂:

(80) a. van daar onder vandaan
    from there under away
    ‘from under it’

   b. voor daar bij langs
    for there near along
    ‘for along it’

Incorporation of P₃ is possible, see (81a). The postposition toe in (81b) can, however, not appear inside the verbal complex. It is argued in Helmantel (1998c) that the adverbial PP in (81b) being an adjunct does not fulfil the structural/hierarchical requirements for incorporation.

(81) a. dat hij van onder de auto is uit gekropen
    that he from under the car is out come
    ‘that he came out from under the car’

   b. * dat het tot in Groningen heeft toe geregend
    that it till in Groningen has to rained

The object of the P₁ P₂ object P₃ complex cannot be extracted:

(82) * dat hij het hek de sloot waarschijnlijk voor bij langs koopt
    that he the fence the ditch probably for near along buys

<table>
<thead>
<tr>
<th>Table 11 Distributional properties of P₁ P₂ object P₃ complexes</th>
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<tr>
<td>Ex</td>
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<td>+</td>
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</table>

2.3.7. P DP P P circumpositional phrases
Schematically circumpositional phrases with a simplex preposition and a complex postposition are represented as: P₁ object P₂ P₃. For this pattern, only four candidates are found in Dutch: van .. af aan ‘from .. off on’, tot .. aan toe ‘till .. on to’, van .. af vandaan ‘from .. off away’, and van .. uit vandaan ‘from .. out away’. In the latter, vandaan can be freely - and for many speakers including myself preferably - omitted.

(83) a. Van jongs af aan ging zij naar de kerk.
    from young off on went she to the church
    ‘From childhood she went to church.’

   b. Je kunt tot Delfzijl aan toe schaatsen.
    you can till Delfzijl on to skate
    ‘You can skate until Delfzijl.’
These circumpositions can, when used adverbially, be found in extraposed position although some native speakers I have consulted need a comma intonation between the finite verb and the PP:

(84) a. dat ze naar de kerk ging, [PP van jongs af aan]  
that she to the church went from youth off on  
‘that she went to church from childhood’

b. dat je kunt schaatsen, [PP tot Delfzijl aan toe]  
that you can skate till Delfzijl on to  
‘that you can skate until Delfzijl’

An R-word PP is possible:

(85) a. van daar af aan  
from there off on  
‘(starting) from there’

b. Maar dat is tot daar aan toe.\(^{27}\)  
but that is till there on to  
‘But that is acceptable the way it is.’

Incorporation of (a part of) the complex is not possible as the examples in (86) show:

(86) a. * dat ze van jongs <af> heeft <af> aan geschaatst  
that they from young off has off on skated

b. * dat ze tot Delfzijl <aan> heeft <aan> toe geschaatst  
that she till Delfzijl on has on to skated

c. * dat ze van Groningen <uit> zijn <uit> vandaan gefietst  
that they from Gr. out are out away cycled

Topicalisation is possible with P₁ object P₂ P₃ complexes, as can be seen in (83a). Extraction out of the complex is not grammatical: (87).

(87) * dat ze Delfzijl waarschijnlijk tot aan toe schaatst  
that she Delfzijl probably till on to skates

Table 12  Distributional properties of P₁ object P₂ P₃ complexes

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<tbody>
<tr>
<td>PDP PP</td>
<td>±</td>
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</tbody>
</table>

\(^{27}\) It is demonstrated in chapter 3 that the following combinations are related:

(i) tot .. aan toe  -  tot daar aan toe
(ii) tot aan .. toe  -  tot aan daar toe
2.3.8. PP DP P P circumpositional phrases
The $P_1 P_2$ object $P_3 P_4$ pattern is possible for only a small set of lexical items. The following subpatterns are found:

(88) a. tot $P_2 \ldots$ aan toe ‘till $P_2 \ldots$ on to’ ($aan$ is optional)
    b. van $P_2 \ldots$ uit vandaan ‘from $P_2 \ldots$ out away’ ($uit$ is optional)
    c. voor tot $\ldots$ aan toe ‘for till $\ldots$ on to’ ($aan$ is optional)

All the combinations possible in this pattern can be found in Appendix I.9.

$P_1 P_3$ object $P_2 P_4$ circumpositions can be found in extrapoled position; some native speakers need a comma intonation, see (89a). Predicative PPs like in (89b) cannot appear in extrapoled position (especially with $P_1 = van/tot$); an inserted particle like weg ‘away’ makes extrapoled position possible.

(89) a. dat je kunt schaatsen(,) $[_{PP} \text{tot aan Delfzijl aan toe}]$
    that you can skate till on Delfzijl on to
    ‘that you can skate until Delfzijl’
    b. dat hij *(weg)* kroop $[_{PP} \text{van onder de auto uit vandaan}]$
    that he away crawled from under the car out away
    ‘that he crawled away out from under the car’

R-word PP formation is marginally possible with these circumpositions, see (90). The complex voor tot .. aan toe takes an R-word at the same position as in tot .. aan toe (cf. section 2.3.7) that is between tot and aan (see (90a)). In van onder .. uit vandaan the R-word follows van, just like in van onder .. vandaan in (80a). (90c) displays the R-word PP form of tot aan .. aan toe, see also chapter 3.

(90) a. ? genoeg benzine voor tot daar aan toe
    enough fuel for til there on to
    ‘enough fuel for until there’
    b. ? van daar onder uit vandaan
    from there under out away
    ‘out from under it’
    c. ? tot aan daar aan toe
    till on there on to
    ‘until there’

Incorporation of (a part of) the postposition is not acceptable with adverbial PPs like in (91a). Judgements vary for (91b); for me it is not grammatical but Hans Bennis (p.c.) accepts it. Speakers of Flemish tend to accept more complex material (heads and phrases) in the verbal complex than speakers of Dutch from the Netherlands, see Haesereyn (1990). This generalisation is confirmed in (91); incorporation of adpositional complexes like in (91) is completely acceptable for Johan Rooryck (Flemish).
ADPOSITIONS IN DUTCH

(91)  a. * dat ze tot aan Delfzijl heeft aan toe geschaatst
     that she till on Delfzijl has on to skated
     b. * dat hij van onder de auto uit is vandaan gekropen
     that he from under the car out is away crawled

Topicalisation is possible with P₁ P₂ object P₃ P₄ circumpositions, see (92); extraction
is not, see (93).

(92)  Tot aan Delfzijl aan toe schaatst ze.
     till on Delfzijl on to skates she
     'She skates until Delfzijl.'
(93)  * dat ze Delfzijl waarschijnlijk tot aan aan toe schaatst
     that she Delfzijl probably till on on to skates

Table 13  Distributional properties of P₁ P₂ object P₃ P₄ complexes

<table>
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<tr>
<th></th>
<th>EX</th>
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<tbody>
<tr>
<td>P P DP P P</td>
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</tbody>
</table>

Syntactically these circumpositions have much in common with the P₁ P₂ object P₃ discussed in section 2.3.6; in most of the tests they show the same results (see tables 11 and 13).

2.3.9. Simplex intransitive adpositions
So far only PPs consisting of an object and at least one adposition have been discussed. Some adpositions can also appear without an object (see Appendix I.10). The distributional properties of these so-called intransitive adpositions are studied in this subsection.

Intransitive adpositions are not found in extrapoised position:

(94)  a. * dat Becker staat achter
     that Becker stands behind
     b.  dat Becker achter staat
         that Becker behind stands
     'that Becker is behind'
     c. * dat de vuilnisauto al is langs
         that the dustcar already is past
     d.  dat de vuilnisauto al langs is
         that the dustcar already past is
     'that the dustcar has already past'

Since intransitives lack an object, R-word PPs cannot be formed. For extraction the
same holds; there is no object present to be extracted out of the PP. Incorporation is
generally possible with intransitives, see (95a,b). With idioms like binnen zijn 'to
have got it made' in (195), incorporation is infelicitous. The verbal complex is
italicised:
(95) a. dat Becker heeft achter gestaan 
that Becker has behind stand 
'that Becker was behind'
b. dat de vuilnisauto al is langs geweest
that the dustcar already is along been 
'that the dustcar has already passed by'
c. * dat Peter nu wel zal binnen zijn
that Peter now PRT-AFF will inside be

Topicalisation is possible with simplex intransitives; contrastive stress on the intransitive is needed, see (96).

(96) Achter heeft Becker nooit gestaan. 
behind has Becker never stand 
'Becker will never be behind.'

In table 14 I present the results of the syntactic tests for simplex intransitives:

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<th>EX</th>
<th>Rwr</th>
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<th>Top</th>
<th>Extr</th>
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<tbody>
<tr>
<td>simplex intransitive P</td>
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<td>ø</td>
<td>±</td>
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</tbody>
</table>

2.2.10. Complex intransitive adpositions

Complex intransitives consist of two adpositions without an object. A list of these complex intransitives with examples can be found in Appendix I.11.

The syntactic-distributional properties are as follows. Complex intransitives cannot be found in extraposed position:

(97) a. * dat Sampras staat bovenaan
that Sampras stand aboveon
b. dat Sampras bovenaan staat
that Sampras aboveon stands
 'that Sampras is (at the) top'
c. * dat Peter leunt voorover
that Peter leans in frontacross
d. dat Peter voorover leunt
that Peter in frontacross leans
 'that Peter leans forward'

R-word PP formation and extraction cannot be tested with complex intransitives, just like with simplex intransitives (see above). In general, incorporation of a complex intransitive is not possible or at best marginal:
(98) a. * dat Sampras heeft bovenaan gestaan
   that Sampras has aboveon stood
b. ?? dat Peter heeft voorover geleund
   that Peter has in frontacross leant

(99) shows topicalisation with complex intransitives; some stress on the intransitive adposition is needed:

(99) Bovenaan staat Sampras.
   aboveon stands Sampras.
   'Sampras is at the top.'

<table>
<thead>
<tr>
<th>Table 15</th>
<th>Distributional properties of complex intransitive Ps</th>
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<tbody>
<tr>
<td></td>
<td>EX</td>
</tr>
<tr>
<td>complex intransitive P</td>
<td>-</td>
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</tbody>
</table>

2.3.11. Verb particles
A subset of the Dutch adpositions can participate in so-called particle-verb constructions. Just like the intransitive adpositions discussed in the previous section, the particle in a particle-verb configuration does not select a DP. That is to say, the particle is an intransitive adposition, which exhibits a more or less close relation with the verb. In Appendix I.12 I present a list of all the adpositional particles, together with three particle-verb examples for each particle. For instance, for aan 'on' the following examples are given: aangeven 'to hand', aankijken 'to look at', aansluiten 'to connect'.

This section deals with the syntactic-distributional properties of verb particles and is restricted to particles with an adpositional basis. The syntactic characteristics of verb particles are as follows. Particles (here: aan) cannot be extraposed:

(100) a. * dat ik Eva een schaar geef aan
      that I Eva a scissors give on
b. * dat ik haar daarbij kijk aan
      that I her therewith look on

R-word PP formation and extraction cannot be tested since there is no object present, see also sections 2.3.9 and 2.3.10. Adpositional particles usually cannot be

---

28 Verb particles have already been discussed briefly in section 2.3.2. as the notion postposition (as opposed to particle) was clarified.
29 Particles with a nominal or adjectival basis are possible as well, viz. lesgeven lesson-give 'to teach', goedkeuren good-choose 'to approve'. A discussion of these cases is beyond the scope of this thesis.
topicalised (Van Riemsdijk 1978: 55). Verb particles can incorporate into the verbal complex:

(101) a. * Aan geef ik Eva een schaar.
      on give I Eva a scissors
b. * Aan kijk ik haar daarbij.
      on look I her therewith

(102) a. dat ik Eva een schaar heb aan gegeven
      that I Eva a scissor have on given
      'that I hand a pair of scissors to Eva'
b. dat ik haar daarbij heb aan gekoken
      that I her there with have on looked
      'that I have looked at her while doing so'

Table 16 Distributional properties of verb particles

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<thead>
<tr>
<th></th>
<th>EX</th>
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<th>Extr</th>
</tr>
</thead>
<tbody>
<tr>
<td>verb particle</td>
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</table>

If we now compare the tables 14 and 15 with table 16, it is clear that particles exhibit distributional properties different from the intransitive adpositions, viz. concerning topicalisation. Discussing them in different subsections is hence legitimate in this descriptive chapter. Most but not all theoretical approaches often put verb particles and intransitive adpositions together; they constitute a lexical unit (e.g. Model 1991; Neeleman & Weerman 1991). For instance in Booij (1997), it is argued that both verb particles and intransitives are SC predicates; they only differ with respect to the status of the predicate. That is to say, intransitives are independent predicates whereas with verb particles the predicate is not (or no longer) an independent predicate; it is combined with the verb in the lexicon. The dependency relation between particle and predicate might be an indication for the grammaticality judgements concerning particle topicalisation.

Bennis (1991) argues for a less strict connection between the particle and the verb. He shows that topicalisation of the particle is possible in configurations in which the particle bears contrastive stress, cf. (103a). Moreover, the particle, which he considers to be an intransitive P, can just like its transitive counterpart, be modified. This is illustrated in (103b,c) (data and judgements from Bennis 1991).

(103) a. OP gaat de zon in het oosten.
         up goes the sun in the east
      'The sun comes up in the east.'

30 Koopman (1997) notes in a footnote that contrastively focussed particles can be topicalised (see also Bennis (1991) for data and discussion):

(i) OP gaat de zon in het oosten.
    up goes the sun in the east
b. vlak over het doel
   straight over the goal
   'straight over the goal'

c. Vlak over schoot Jan de bal.
   straight over shot Jan the ball
   'Jan has shot the ball straight over.'

Bennis (1991) concludes that particles in (103) are intransitive Ps projecting X-bar structure (as the modification possibilities in (103b,c) suggest). I follow Bennis in that I consider the particle to be an intransitive adposition. Moreover, I take the particle to be part of the (SC) predicate in the underlying structure. The distributional possibilities of particles, both in the Vorfeld and within the verbal complex (cf. Helmantel 1998c), show that the relation between the particle and the verb is not so close that it hinders the particle from leaving its initial position.

2.4. Conclusion

With respect to adpositional phrases, Dutch displays much variation in that one comes across pre-, post- and circumpositions of varying complexity. This chapter has offered an overview of the PPs found in Dutch. The subclassification, which is based on both syntactic and semantic criteria, was developed in section 2.2. For each subclass the syntactic-distributional properties have been listed and illustrated with examples in section 2.3. These properties will form the basis for the theoretical part of this thesis. In chapter 3, the characteristics of the PPs as identified in this chapter form the starting point for the development of the structural representation of these PPs. For ease of reference the following table summarises the findings of this descriptive chapter. An extra column misc(ellaneous) is added for striking characteristics observed in the above discussions. Table 17 displays the order in which the PP constructions were presented in this chapter, that is from simplex tot (more) complex PPs.

Table 17 Summary PP properties

<table>
<thead>
<tr>
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<td>+</td>
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3 The internal syntax of adpositional phrases

3.1. The internal syntax of simplex pre- and postpositions

3.1.1. Introduction
Besides providing a descriptive overview of the distributional properties of Dutch PPs, this thesis works out the question why a particular PP form has which distributional properties. I will look for an explanation of these distributional characteristics in the internal structure of the PP in question. The previous chapter has presented a descriptive overview of the distributional characteristics of the PPs. This and the following chapters are concerned with the internal syntax of the PP. First, structural representations for simplex pre- and postpositional phrases will be presented, based on accounts in the literature. The second part of this chapter deals with the structure of more complex PPs. The question to what extent the internal structure of the PP forms can account for the distributional characteristics of the PPs found in chapter 2 is dealt with in later chapters, especially chapters 5 and 6.

This chapter is concerned with the internal structure of adpositional phrases. As a starting point, I assume with Kayne (1994) that syntactic structure is universally head-initial. Hence, adpositional phrases display a prepositional structure underlingly. Previous accounts of adpositional syntax will be reviewed in order to see to what extent they support a head-initial representation for Dutch PPs. Section 3.1.2 starts with a summary and discussion of recent proposals for Dutch PPs in generative syntax.

Section 3.1.3 presents the insights of Dutch early generative and traditional grammar, especially the informally stated semantic difference between pre- and postpositional PPs in terms of aspect. To be more precise, postpositional PPs have been claimed to display imperfective aspect, whereas prepositional PPs seem to be perfective in nature. This aspectual difference between the two PP word order variants is discussed in detail and these (aspectual) semantic properties are rephrased in terms of PATH/DIREction (for postPPs) and LOCation (for prePPs).

The distributional requirements for both pre- and postpositional PPs are discussed in section 3.1.4. It is shown that the syntactic environments in which these PP forms can appear are restricted. These restrictions are formulated, and it is argued that they confirm the syntactico-semantic approach put forward in section 3.1.3.

Extraction from the adpositional domain is the topic of discussion in section 3.1.5. Attention is paid to the so-called escape hatch position and to the landing site of the escaped element.

Finally, section 3.1.6 summarises the findings of the first part of this chapter. Structural analyses for simplex pre- and postpositional PPs are proposed, based on both syntactic and semantic criteria. We will return to these independently motivated structural representations when the interaction between internal and external syntax of PPs is investigated (cf. chapters 5-6).
3.1.2. Recent generative accounts
At least since Van Riemsdijk's (1978) seminal work on Dutch PPs, pre- and postpositions are taken to be structurally related, whether derivationally or representationally. In both PPs, an adposition comes with an object.¹ Since prepositions "are far more frequent and more productive" than postpositions, Van Riemsdijk (1978: 120) takes the Dutch PP to be prepositional underlyingly.² The postpositional word order is derived from the prepositional one.

Recent proposals on Dutch PPs take the prepositional word order to be the basis too. The theories can roughly be divided into two groups. On the one hand the proposals which take the PP structure to be head-initial throughout, i.e. in all its (functional) projections. This approach is defended in Koopman (1997) and Zwart (1993). Van Riemsdijk (1990) and Rooryck (1996), on the other hand, take the PP to be head-initial but its functional projection FP is head-final. In both approaches, a prepositional PP is taken as the starting point for the postpositional word order:

(1)  a. \([FP NP_1 [_{FP} P_1 [_{PP} t_1 t_1]]]\) (Koopman 1997; Zwart 1993)
b. \([FP [_{PP} t_1 NP] P_1 F]_{FP}\) (Van Riemsdijk 1990; Rooryck 1996)

The proposals will be summarised and discussed below.

3.1.2.1. Van Riemsdijk (1990)
Van Riemsdijk's (1990) prepositional phrase PP is head-initial, and the functional projection on top of it has a head-final structure. According to Van Riemsdijk (1990), \(P^6\) moves to the functional head \(F^6\) in a postpositional phrase, see (2a). Since the representation of postPPs is closely related to the one for circumpositional PPs in Van Riemsdijk (1990), his argumentation for circumpositional PPs will be discussed in this subsection as well.

According to Van Riemsdijk (1990), circumpositional PPs have an adposition base generated in the functional head position:

(2)  a. \([FP [_{PP} t_1 DP] P_1 F]_{FP}\) postPP
b. \([FP [_{PP} P DP] F]_{FP}\) circumPP

With case data from German, Van Riemsdijk shows that the bracketing for circumpositions is as in (2b); P determines the morphological case form found on the DP. (3) illustrates this; \(unter\) 'under' is a preposition which comes with either dative or accusative case, and \(durch\) 'through' governs accusative only. Since the noun \(Brücke\) 'bridge' displays dative, the preposition \(unter\) is responsible for case assignment, indicating a close (structural) relation between P and DP, as represented by the bracketing in (2b):

¹ The arguments for there being a postpositional constituent in addition to verb-particle combinations have been discussed in the previous chapter.
² The claim about productivity is among other things based on the observation that adpositions which have developed from verbs are prepositional: \(duren\) 'to last' - \(gedurende\) 'during'.
(3) unter der Brücke durch
    under the.DAT bridge through
    'under the bridge through'

A second argument Van Riemsdijk presents for the bracketing in (2b) is subcategorisation. P, not F, selects the DP; durch but not unter can be omitted:

(4) a. unter der Brücke (durch)³
    under the bridge through
b. *(unter) der Brücke durch
    under the bridge through

The selectional properties in a circumPP are visualised in (2b).

Another argument for the bracketing in (2b), not discussed in Van Riemsdijk (1990), is splitting. A circumpositional phrase can be split up, giving in (5) a prepositional phrase onder de brug and the adposition door. This suggests that onder and de brug form a close unit and not de brug and door:

(5) dat Jan onder de brug is door gevaren
    that Jan under the bridge is through driven
    'that Jan has driven under the bridge and beyond'

It can thus be concluded that these circumpositions are to be represented as in (2b).

Van Riemsdijk also discusses prenominal PPs. XPs to the left of nouns must be head-final (see Williams 1981 and for Dutch Bennis & Hockstra's 1989: 62 Head-final filter). As expected, prepositional phrases, which are not head-final, do not appear in this position. However, PPs which are on the surface head-final, like postpositional phrases and circumpositional phrases, are ungrammatical to the left of a noun as well:⁴

(6) a. der seinem Besitzer treue Hund
    the his.DAT owner faithful dog
    'the dog which is faithful to his owner'
b. * der nach dem Konzert Empfang
    the after the.DAT concert reception
c. * die den Berg hinauf Reise
    the the mountain up trip

---

³ Van Riemsdijk (1990: 236) exemplifies the subcategorisation properties of circumPPs with auf dem Berg oben 'on the mountain above' and im Tal unten 'in the valey down'. These examples are not well-chosen in that we are not dealing with circumPPs; as was shown in section 2.3.4.2, oben/ unten do not display a selection but a modification relation to the PP and exhibit adverbial morphology.

⁴ The examples are from Van Riemsdijk (1990: 238). The prenominal constituent is italicised; the head of the constituent is in bold print.
This suggests, according to Van Riemsdijk (1990: 238), that PPs are head-initial (see (2)). The ungrammaticality of these PP complexes in prepositional position can thus be interpreted as support for the head-initial adpositional structure assumed above (following Kayne 1994). As indicated in the introduction of this chapter, I adopt a (universally) head-initial syntactic structure, following Kayne (1994). Accordingly, the Dutch PP is prepositional underlyingly. The hierarchical representations for pre-, post- and circumpositional PPs are given in (7). Prepositional PPs display only a (lexical) PP structure as in (7b), unless there are indications for more (functional) structure. Recall that it was argued in chapter 1 that an adposition can receive directionality properties by movement to the head of the directionality phrase. In this case the PP will be topped off by a DIRP. This is illustrated in (7c). Circumpositional PPs and postpositional PPs are the result of movement of the PP, / DP to a specifier position to the left of PP:

(7) a. The PP and all its functional projections are head-initial.  
b. \[\text{[}_P \text{P DP]}\] ...prePP  
c. \[\text{[}_\text{DIRP} \; P, \; P \; \text{[}_P \; t, \; \text{DP}]\] ...prePPDIR  
d. \[\text{[}_\text{DIRP} \; \text{DP}, \; P \; \text{[}_P \; t, \; t, \; ]}\] ...postPP  
e. \[\text{[}_P \; \text{P DP}, \; \text{[}_P \; P \; t, \; ]}\] ...circumPP

Analogous to (7c) the adposition in a postpositional PP moves to the head of the DIRP to get a directional interpretation. Moreover, the DP object moves to SpecDIRP. It will be argued in section 3.1.3 that the DP will receive 1-dimensionality in this position. The circumpositional structure in (7e) displays the bracketing as proposed in Van Riemsdijk’s work; the \( P \) and DP form a constituent and appear in a position to the left of \( P \). As long as the nature of the functional projection in circumpositional PPs has not been clarified, the bracketing structures will contain the neutral term FP (cf. section 3.2.2).

We will now turn to other proposals for Dutch PP structure which subscribe to the head-initial PP approach. Let us see what they can add to (7) and whether they make claims about issues left open here so far.

3.1.2.2. Koopman (1997)
Koopman (1997) presents an overview of the word order variation found in Dutch PPs, discussing not only pre- and postPPs but also circumpositional PPs and particles. Minimalist feature checking for movement is adopted, and the structures are in accordance with Kayne’s (1994) restrictions on phrase structure. It is proposed that the (lexical) PP is topped off by a range of head-initial functional projections.
most of which are motivated by lexical material like modifiers and R-words. Locative PPs have a PLACEP (with in its specifier the R-word) and a DegP (with in its specifier modifiers like *twee meter* 'two metres') as their FPs. On top of the DegP a CP(PLACE) is found, making the entire complex syntactically autonomous, i.e. allowing it to undergo extrapolation, topicalisation etc. The structure for the prePP in Koopman (1997) is thus:

\[(8) \quad \text{CP}(\text{PLACE}) \rightarrow \text{DegP} \rightarrow \text{PLACEP} \rightarrow \text{PP} \quad \text{prePP} \quad (> = \text{on top of})\]

Koopman (1997) locates directionality in a functional projection labelled PATHP, similar to DIRP introduced in this thesis (cf. chapter 1). Two PPs are claimed to display a PATHP in their syntactic representation. The first case is a prepositional PP as in (9); the prePP has an additional PATHP on top of CP(PLACE).

\[(9) \quad \text{Peter is in de sloot gesprongen.}\]
\[\quad \text{Peter is in the ditch jumped}\]
\[\quad \text{"Peter has jumped into the ditch."}\]

The entire CP(PLACE) moves to SpecPATHP:

\[(10) \quad [\text{PATHP} [\text{CP}(\text{PLACE}) \ldots \text{PP}], \text{PATHP}, t_i]^6]\]

The second case where a PATHP is found in the hierarchical representation is in postpositional PPs, see (11).

\[(11) \quad \text{a. de sloot in}\]
\[\quad \text{the ditch in}\]
\[\quad \text{'into the ditch'}\]
\[\text{b.} \quad [\text{PATHP DP}, [\text{PATHP P}_j [\text{PLACEP} f_i [\text{PP} t_j t_i]]]]]\n
According to Koopman (1997), postpositional phrases consist of a PP with a PLACEP and a PATHP: PATHP > PLACEP > PP. The head of the PP moves via PLACE\(^0\) to PATHP\(^0\), and the DP object moves to the specifier position of PATHP.

The postpositional structure in (11b) resembles the structure I have proposed in (7d), repeated here:

\[(7) \quad \text{d.} \quad [\text{DIRP DP}, P_j [\text{PP} t_j t_i]] \quad \ldots\text{postPP}\]

(7d) is a reduced version of (11b) in that (7d) lacks an intermediate PLACEP projection. There are indications that the representation in (7d) is to be preferred to (11b). Recall that Koopman motivates the PLACEP as being the site for R-words in

\[\text{Note that it was argued in chapter 1 that (9) does not display a directional but a resultative interpretation. The resultative reading has been related to a non-overt inchoative auxiliary in the small clause, outside the adpositional domain.}\]
the adpositional domain. A minimal assumption is that PLACEP will be absent in case the PP does not participate in R-word PP formation. Chapter 2 has, indeed, shown that postpositional PPs do not have an R-word PP counterpart. (12) illustrates this for the postPP de berg op:

(12) a. Jan is de berg op gewandeld.  
    Jan is the mountain on walked  
    'Jan has walked up the mountain.'  

b. *Jan is er op gewandeld.  
    Jan is there on walked  

This suggests that postpositional structures lack a PLACEP and that the representation is as in (7d).

3.1.2.3. Zwart (1993)
Zwart (1993: 359ff.) takes the Dutch adpositional domain to be head-initial as well, although his structures contain less functional structure than Koopman's. In Zwart's proposal, postpositions constitute a subclass of the circumpositions since — according to Zwart — both are always small clause predicates in the complement of a verb. This assumption is problematic given that postPPs and circumPPs can be found in other hierarchical positions like in (13), see also chapter 2.

(13) a. de weg [de berg op]  
    the road the mountain on  
    'the road up the mountain'  

b. Het regent [de hele dag door].  
    it rains the whole day through  
    'It is raining all day.'  

c. de weg [onder de brug door]  
    the road under the bridge through  
    'the road under the bridge through'

The assumed similarity between postPPs and circumPPs is mirrored in the structural representations Zwart proposes for these PPs; both constructions start out from the same structure, and in both PPs PP₁ moves to the specifier position of FP, a functional projection on top of the PP layer:

(14) a. \[ FP \left[ PP₁ P₁ DP \right] \]  
    \[ PP₂ P₂ t₁ \]  
    \[ \text{circumPP} \]

b. \[ FP \left[ PP₁ \circ TO DP \right] \]  
    \[ PP₂ P₂ t₁ \]  
    \[ \text{postPP} \]

The two constructions differ in the content of P₁; P₁ is either lexically filled (as in circumPPs) or the P₁ position is empty (as with postPPs). The empty P₁ in postPPs is assumed to be responsible for the directional meaning of the entire PP complex (indicated by TO in (14b)).

Just like Koopman (1997), Zwart takes prePPs like in (15b) to be directional. In these PPs, an empty directional head adjoins to the higher P₂ in (15a,b):
(15)  a. \[pp_2 \odot \text{TO,}_1 P_2 [ t_i \text{ DP}]\] \hspace{1cm} \text{directional prePP}
    b. dat Jan op de berg geklommen is
       that Jan on the mountain climbed is
       'that Jan has climbed onto the mountain'

PrePPs lacking directionality (in Zwart 1993: \textit{locative prePPs}) do not have a
directional head; \(P_2\) takes only a DP as its complement:

(16)  a. \(P_2 [\text{DP}]\) \hspace{1cm} \text{locative prePP}
    b. dat Jan op de berg geklommen heeft
       that Jan on the mountain climbed has
       'that Jan has climbed on the mountain'

Just like in Koopman (1997), Zwart (1993) structurally distinguishes between the
prepositions in (15b) and (16b) to account for the directional interpretation in (15b)
and the absence of directionality in (16b). Recall, that I have argued in chapter 1 that
the PP \textit{op de berg} is a simplex locative PP in both (15b) and (16b). The
interpreational difference between the two sentences has been related to the
hierarchical position of the PP in the syntactic representation. The resultative reading
in (15b), which is absent in (16b), is related to an inchoative auxiliary in (15b) and
not to a directional adposition as suggested in Zwart (1993).

Zwart (1993) and Koopman (1997) differ in the structural position of a
directional head. Zwart locates the directional adposition inside the lowest PP, i.e. in
\(P_2\). Koopman (1997), on the other hand, relates directionality to a high functional
projection, \text{PATHP}. She argues that \text{PATHP} dominates the (locative) PP, i.e.
\text{PATHP} > \text{PLACEP}, since this would entail that the syntactic structure mirrors the
conceptual structure as proposed in Jackendoff (1990). The structures proposed in
this thesis are more in line with Koopman's analysis of directionality.

3.1.2.4. Conclusion
The above discussion has shown that the Dutch adpositional domain consists of a PP
with functional projections. The initial structure is head-initial:

(17) \[\text{FP} F [pp P \text{ DP}]\]

I adopt Koopman's (1997) proposal for postpositional PPs; the postPP is derived
from the prepositional order in (17) by movement of \(P^0\) to \(F^0\) and by movement of
the DP to SpecFP:

(18) \[\text{DIRP} DP, P_j [pp t_i t_i] \hspace{1cm} (\text{FP} = \text{DIRP})\]

The directionality properties of postPPs are situated in the functional projection
above PP, i.e. \text{DIRP} (=\text{PATHP} in Koopman 1997) (contra Zwart 1993 who locates
the directional characteristics in the lower PP layer, see section 3.1.2.3). In the
structure in (18), \text{DIRP} > \text{PP} mirrors the conceptual structure found in many
adpositional phrases: a path is followed by an endpoint (location/place). DIRP is also present in the syntactic representation of inherently directional adpositions like \textit{naar} 'to', cf. chapter 1. The inherently directional adposition P checks off the directionality features in DIR\textsuperscript{0} by moving to this functional head.

Importantly, the postpositional word order is derived from the prepositional structure (and crucially not the other way around). It was shown in section 2.3.2, that there is a subset relation between the two groups of adpositions in that all the adpositions in simplex postpositional PPs can be prepositions as well, but crucially not the other way around. A minimalist approach would reduce overt movement to a minimum. The Procrastinate principle states that movement preferably takes place after Spell out; covert movement is less costly than overt movement. Economy would imply a prepositional, i.e. head-initial basis so that the largest group of PPs, viz. prepositional phrases, does not display costly overt movement. From this prepositional structure the postpositional order can be derived for a subset of the Dutch adpositions.

The structure in (18) will be the starting point for further discussions about postpositional structure. The next section focuses on the semantics of postPPs and will then relate the semantic characteristics to the structural representation in (18).

3.1.3. The semantic difference between pre- and postpositions

3.1.3.1. The aspectual difference
As indicated in the preceding chapters, Dutch pre- and postpositional PPs have different semantics in that the postPP but not the prePP always has a directional interpretation. This statement will be made more precise and will be formalised below.

That there is a difference between the two PP word orders is demonstrated in (19) and (20).

(19) Peter loopt de stad in.  
    Peter walks in the city  
    'Peter walks in the city.'  

(20) locative
    Peter loopt in de stad.  
    Peter walks the city in  
    'Peter walks into the city.'

directional

In early generative syntax on Dutch PPs, Kraak & Klooster (1968) formulate this difference in terms of aspect. This subsection will review their aspectual approach to the pre-/postposition alternation. Moreover, it will be investigated to what extent these insights can contribute to our understanding of the internal structure of pre- and postpositional phrases. I will show that their argumentation and examples are sometimes disputable but that their insights offer a starting point for further investigation.

\footnote{A conceptual representation in which a PATH function takes a PLACE as its argument can be found in e.g. Jackendoff (1990).}
Kraak & Klooster (1968: 223f.) state the semantic difference between pre- and postPPs in aspectual terms in that prepositional PPs display perfective aspect and postpositional PPs denote imperfective aspect. Their example is given in (21):

(21) a. De man klimt op de ladder.
    the man climbs on the ladder
    'The man climbs up the ladder.'

   b. De man klimt de ladder op.
    the man climbs the ladder on
    'The man climbs up the ladder.'

According to Kraak & Klooster (1968), (21a) merely says that at a certain point the man will be on the ladder whereas a climbing process up the ladder is denoted in (21b). In other words, (21a) – with the (perfective) prepositional phrase – has an endpoint, i.e. the moment at which the man is on the ladder; (21b) – with the (imperfective) postpositional phrase – lacks such an explicit endpoint.

Kraak & Klooster (1968) provide three tests to illustrate the aspectual difference between the two PP word order variants. First, postpositional PPs but not prepositional PPs can be combined with adverbials like een uur (lang) 'for an hour'. This test, which distinguishes between activity and stative predicates vs. accomplishments and achievements, is familiar from the aspect literature (Vendler 1967) in that only the former can be modified by for an hour (the latter take in an hour):

(22) a. * We zijn een uur in het bos gelopen.
    we are an hour in the forest walked
    'We have been walking into the forest for an hour.'

   b. We zijn een uur het bos in gelopen.
    we are an hour the forest in walked

Second, perfective verbs like arriveren 'to arrive' take prePPs only. Kraak & Klooster do not make explicit why arriveren does not go with (imperfective) postpositional PPs. They might adopt some kind of filter ruling out conflicting aspectual information: *arriveren [perfective] + postposition [imperfective]:

(23) a. Hij arriveerde op de berg.
    he arrived on the mountain
    'He arrived on the mountain.'

   b. * Hij arriveerde de berg op.
    he arrived the mountain on

The third test Kraak & Klooster (1968) propose is the progressive construction aan het V-en 'is V-ing' (in their terminology: non-perfective). The following examples

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8 Geerts et. al. (1984: 632) mention the aspectual difference as well but no tests are provided there. This remark on aspect has not been included in the (1997) edition of the ANS.
should illustrate the aspectual difference between pre- and postpositional PPs:

(24)  a. *Hij is aan het in de boom klimmen.
     he is on the in the tree climb
 b. Hij is de boom aan het in klimmen.
     he is the tree on the in climb
     'He is climbing into the tree.'

Unfortunately, (24a,b) differ not only in the PP order but also in the position of the PP itself. To make a fair comparison between the two PPs, the position of the PP must be the same. It turns out that both prePPs and postPPs cannot appear to the right of aan het (cf. (24a,c)) and that both are fine to the left of it (cf. (24b,d,e)):

(24)  c. *Hij is aan het de boom in klimmen.
     he is on the the tree in climb
d. Hij is in de boom aan het klimmen.
     he is in the tree on the climb
     'He is climbing in the tree.'
e. Hij is de boom in aan het klimmen.⁹
     he is the tree in on the climb
     'He is climbing into the tree.'

It thus can be concluded that the progressive construction cannot be used to distinguish between pre- and postpositional word orders.

There are problems with the other tests as well. Many speakers do not agree on the judgments given in (22). That is to say, both (22a) and (22b) are not acceptable for many speakers. Moreover, some speakers consider the example in (22a) ungrammatical, even without the temporal adverb een uur (lang). Besides this problem there are two other indications that using the aspectual notions perfective vs. imperfective to distinguish between pre- and postpositional phrases is not the way to go. The first concerns the implication about the choice of the time adverbial. If, as Kraak & Klooster claim, the prePP is perfective in nature, it is expected that it can be combined with the adverbial in een uur 'in an hour', whereas the imperfective postPP should not have this possibility. This prediction turns out to be wrong. The examples in (25) show that both the prePP and the postPP can be found with an in een uur adverbial:

(25)  a. We liepen in een uur door het bos.
     we walked in an hour through the forest
     'We have walked through the forest in an hour.'
b. We liepen in een uur het bos door.
   we walked in an hour the forest through
   'We have walked through the forest in an hour.'

The second problem is that contrary to what was claimed for (22a) a prePP can be
combined with een uur (lang). This is the case when the PP is interpreted as an
adverbial indicating the location where the walking takes place as in (26):

(26) We hebben een uur in het bos gelopen.
    we have an hour in the forest walked
    'We have been walking in the forest for an hour.'

It is clear that it does not make much sense to designate the prepositional PP in het
bos in (26) as perfective.

It can thus be concluded that we should not use aspecual notions to formulate
the semantic difference between pre- and postpositional PPs. The next subsection
presents arguments in favour of the notions location and direction to distinguish
between the two PP word orders.

3.1.3.2. A location/direction difference

It will be argued in this subsection that the semantic difference between pre- and
postpositional PPs is to be formulated in terms of location vs. direction. This
suggestion is not new; it is actually fairly standard to attribute to postPPs some kind
of directional interpretation (e.g. Koopman 1997 and Van Riemsdijk 1978). It is,
however, clearly not correct to state that prepositional PPs are locative and
postpositional PPs are directional. This might hold true for examples (27a,b) but the
prepositional PP in (27c) is clearly directional:

(27) a. Jan woont op de berg.
     Jan lives on the mountain
     'Jan lives on the mountain.'

b. Piet fietst de berg op.
   Piet cycles the mountain on
   'Piet cycles up the mountain.'

c. Joris fietst naar Leiden.
   Joris cycles to Leiden
   'Joris cycles to Leiden.'

The notions locational and directional were discussed in detail in chapter 1. The
results of that discussion will be briefly summarised here to make clear how these
notions can be used to make the distinction between the two PP word orders
semantically precise.

Chapter 1 has provided us with a subclassification for adpositions. Most
prepositional phrases denote a location, i.e. either a location in space (narrow
locative) or a location on a path (point locative and extended locative). Examples are
given in (28) and (29):
(28) a. Jan werkt in de tuin.
   Jan works in the garden
   'Jan works in the garden.'

b. Klaas speelt op de berg.
   Klaas plays on the mountain
   'Klaas plays on the mountain.'

(29) a. De trein vertrekt van perron 1.  ...point locative
   the train leaves from platform 1
   'The train leaves from platform 1.'

b. De bus rijdt langs het strand.  ...extended locative
   the bus goes along the beach
   'The bus goes along the beach.'

Locative was considered to be the default interpretation for prepositional phrases. That is to say, adpositions which belong to the class of so-called core or old adpositions denote a location in a prepositional PP. Depending on their syntactic distribution, the PPs can get different semantics. It has been shown that a subset of the so-called 'locative' adpositions gets a directional interpretation. These adpositions are labelled inherently directional, e.g. naar 'to' and van 'from'. The semantics of these adpositions is directly linked to syntax in that the adpositions move to DIR⁰, checking off the directionality features in DIRP.

Relating semantic and syntactic structure is not new. Analogous to the movement of directional adpositions to DIRP, wh-elements get wh-properties by moving to CP, viz. SpecCP. Also in this case, the FP (here: CP) hosts the relevant (interpretational) features. I claim that likewise, directionality as a semantic property is directly related to syntactic structure; DIRP hosts the directionality features and movement of the adposition to this functional projection result in a directional interpretation of the adposition(al phrase).

It has been claimed in the literature that postpositional phrases display a directional interpretation as well, see above. In the syntactic structure for postpositional PPs developed in this chapter, the PP is topped off by a directionality projection, DIRP. The adposition P moves to DIR⁰ to receive a directional interpretation:

(30) \[ [\text{DIRP}, DP_i, P_j [\text{PP}, f_j, t_i]] \]  ...postPP

Moreover, the DP object appears in a position to the left of P. I want to claim that this movement has a semantic effect as well. DIRP (with its interpretational features) provides a DP in its specifier position with a 1-dimensional interpretation. In other words, the DP in a postpositional PP has 1-dimensionality. Movement of the PP to SpecDIRP, thus, has the same effect as pluralisation (for pluralisation, see Jackendoff 1996 and Verkuyl & Zwarts 1992): the dimensionality of the object is fixed to 1.¹⁰

¹⁰ This dimension requirement and its formalism are discussed in more detail in chapter 1.
The DP-object in a postpositional phrase has 1-dimensionality.

Let me illustrate this with some examples.

(32) De man is op de ladder geklommen.
    the man is on the ladder climbed
    'The man has climbed onto the ladder.'

(33) De man is de ladder op geklommen.
    the man is the ladder on climbed
    'The man has climbed up the ladder.'

The prePP *op de ladder* 'on the ladder' in (32) denotes a location, namely the endpoint of the climbing. That is to say, at the end of the climbing the man is on the ladder, but not necessarily the top of the ladder. The man starts from a position being not on the ladder, which is followed by a transition to a position on the ladder as the result of climbing. (33), on the other hand, does not focus on the resultative state of being on the ladder but zooms in on the climbing (process). In other words, the final location of the man (i.e. on the ladder) is not explicated in (33). If one climbs up a ladder, one will end up somewhere on the ladder, but by using a postpositional PP we do not focus on this location.\(^{11}\) It is even possible that the man starts his climbing in a position on the ladder; this interpretation is excluded with the prepositional variant. The ladder in (33) is not a location but rather functions as a path along which the climbing takes place. This path interpretation for the DP-object in postpositional PPs corresponds to the 1-dimensionality requirement formulated in (31). This means that the object in a postpositional PP is mapped onto the spatial path provided by the adposition. This interpretational difference can best be observed with pre- and postpositional PPs with a so-called narrow locative adposition, like e.g. *op* 'on' or *in* 'in'.

The DP object in a postposition, i.e. in SpecDIRP, gets a path interpretation. The movement has a semantic effect in that the DP receives 1-dimensionality as the consequence of being in the specifier position of the directionality phrase, which hosts the relevant features. This can be formalised as follows:

(34) a. \(S_{<1-dim, \text{SpecDIRP}>} \)
    b. A DP in the specifier of DIRP receives 1-dimensionality.

The generalisation in (34) is confirmed by syntactic restrictions in that the semantic dimensionality property makes some predictions concerning the distribution of the PP. The distributional differences between pre- and postpositional PPs will be the topic of section 3.1.4.

Before we turn to the distribution of pre- and postpositional PPs I will discuss a potential problem for the generalisation in (34). It was claimed that the DP in a postPP has 1-dimensionality. Most postpositional phrases do indeed display this

\(^{11}\) Kraak & Klooster (1968) formulate this interpretational difference between the two PP word orders in terms of aspect: perfective vs. imperfective, see section 3.1.3.1.
semantic property on the DP. However, a small set of postpositional PPs does not have a path interpretation for the DP but the DP rather denotes a (border) point on a path. The examples in (35) illustrate this:

(35) a. Ingrid smeet de kerstboom het raam uit.  
    Ingrid threw the christmas tree the window out  
    'Ingrid has thrown the christmas tree out of the window.'

 b. Peter rent de klapdeuren door.  
    Peter runs the swing doors through  
    'Peter runs through the swing doors.'

The DP *het raam* is not a path but marks the point where the christmas tree leaves the flat of my former upstairs neighbour. It is not only the path reading for the DP which is absent in (35); we observe more differences when these examples are compared with the postpositional PPs discussed so far (cf. (36)).

(36)   Ik fiets de tunnel uit.  
       I cycle the tunnel out  
       'I cycle out of the tunnel.'

In (36), which has a 'regular' postpositional PP, the DP object *de tunnel* has 1-dimension (i.e. it is a path). If we compare (35a) and (36), both with adposition *uit*, we come across another difference. In (36), the 1-person was first inside the tunnel, and the resultative state after the cycling will be that the person is outside the tunnel. The moved object in (35a), the christmas tree, however, was not inside the window prior to the throwing. These two differences suggest that we are dealing with two kinds of postpositional phrases in (35) and (36).

The semantic differences between the two kinds of postpositional PPs seem to imply different syntactic representations. A minimal assumption is that the DP in the postpositional PP in (35) does not occupy the specifier position of DIRP. Recall that this syntactic position gives rise to a path interpretation for the DP object, cf. (34). Note that both kinds of postpositional PPs ((32/3) and (35)) have a path interpretation; postpositional structure brings about a path interpretation. But only in the first type the DP itself is interpreted as the path, whereas in the second type the DP is a (crucial) point on the path.

The remainder of this chapter will be concerned with the first class of postpositional PPs, i.e. postpositional PPs with a path interpretation for the DP.\(^\text{12}\) I will not make any claims as for the hierarchical position in which the DP object

---
\(^{12}\) In some postPPs the path interpretation of the DP is not as clear as in the examples discussed so far. This is illustrated in (i).

(i) Cohen zet de illegalen het land uit.  
    Cohen puts the illegals the country out  
    'Cohen deports the illegal immigrants.'

Cases like (i) fall under the first and not the second class of postPPs; a path interpretation is perhaps not that clear but it is not excluded. Moreover, the DP *het land* does not refer to a border point.
appears in postpositional PPs of the type in (35).

3.1.4. **The distributional differences between pre- and postpositions**

It has been shown in the previous section that the semantic difference between pre- and postpositional PPs can be stated as location (on a path) vs. direction. Moreover, the DP object of the postposition has 1-dimensionality and is interpreted as a path. This section concerns the distributional effects of these semantic differences and the dimensionality requirement. Several configurations will be discussed here to illustrate the distributional restrictions for the two PP word order variants.

3.1.4.1. **Length modification**

The examples in (37) show that postpositional phrases can but prepositional phrases cannot be modified by *twee meter*.

\[(37)\] a*?

\[
\begin{align*}
duwen & \text{ de zware doos twee meter in de garage.} \\
\text{we push} & \text{ the heavy box two metres in the garage} \\
\text{We push the heavy box two metres into the garage}.&
\end{align*}
\]

b. \[
\begin{align*}
duwen & \text{ de zware doos twee meter de garage in.} \\
\text{we push} & \text{ the heavy box two metres the garage in} \\
\text{We push the heavy box two metres into the garage.}&
\end{align*}
\]

The distribution of length modifiers interacts with the semantics of pre- and postPPs. Length modifiers like *twee meter 'two metres'* can be added to explicate the length of the path with respect to the object of P (in (37): *de garage*). As was argued in section 3.1.3, the path reading of the DP object is found in the postpositional phrases (here: *inPP*). Consequently, length modification is acceptable with postpositional *in* (see (37b)). The prepositional *inPP* (in (37a)) denotes a location, not a path. As a consequence, this prepositional PP cannot be modified by *twee meter 'two metres'*. Length modification is discussed in detail in chapter 4, where vector theory is outlined and applied to adpositional syntax and semantics.

3.1.4.2. **Mass objects**

It was argued in section 3.1.3 that postpositions take 1-dimensional DP objects. The spatial structure of the object is mapped onto the spatial path provided by the adposition. The object of the postposition is thus spatially ordered. The prediction is now that objects which cannot be (internally) ordered, cannot function as the object of a postposition. Bare mass nouns are a case in point. In the semantic literature on the mass/count distinction (Bunt 1985; Landman 1991), bare mass nouns

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13 For convenience, I leave inherently directional adpositions aside.

14 The difference between pre- and postpositional phrases with respect to length modification can only be observed in PPs with adpositions which are not classified as directional. More on this restriction can be found in chapter 4.

15 The *prePP in de garage* can be combined with *twee meter* in case (37a) is understood as there being a pushing event inside the garage; the box has been moved over a distance of two metres inside the garage. Similar examples are discussed in chapter 4.
(substances) are argued to have homogeneous reference; they do not make any commitments concerning the existence of minimal parts. In other words, no spatial orientation/dimension can be determined for these nouns. Since we cannot refer to the internal structure of these bare mass phrases, no ordering can be applied to its minimal parts. Postpositions, which require (spatial) ordering of their object, are thus expected not to be formed with bare mass nouns. For prepositions no (internal ordering) restrictions are formulated so that prepositional phrases with a bare mass noun are predicted to be possible. (38)-(39) confirm this prediction:

(38) a. De knikkers rollen door chloor.
the marbles roll through chlorine
'The marbles are rolling through chlorine.'
b. De knikkers rollen *(de) chloor door.
the marbles roll the chlorine through
'The marbles are rolling through chlorine.'

(39) a. Jan gooit de inhoud van het zakje in water.
Jan puts the contents of the bag in water
'Jan puts the contents of the bag into water.'
b. Jan gooit de inhoud van het zakje *(het) water in.
Jan puts the contents of the bag the water in
'Jan puts the contents of the bag into (the) water.'

It can thus be concluded that the distributional characteristics of pre- and postpositional phrases with mass objects, as illustrated in (38)-(39), confirm the syntactic-semantic approach advocated in section 3.1.3.

The mass noun in (38b) and (39b) can be found in a postpositional PP in case a determiner is added. The semantic effect of adding a definite determiner is that the object loses its homogeneous reference; *het water* is, in contrast to *water*, not cumulative and divisive. In case of *het water* we know the size of the object; it gets quantised reference. This allows us to apply a (spatial) ordering to the object making it thus possible for the object to appear in a postpositional phrase.

3.1.4.3. Object restrictions
It was claimed in (34) that the DP object in a postpositional PP has a path interpretation due to the 1-dimensionality property in SpecDIRP. A precondition for postpositional PPs to be possible is that the 1-dimensionality matches with the DP object's concept. We may come across cases in which a prepositional PP, which does not impose any dimensionality restrictions on the DP, is fine, whereas postpositional PPs cannot be formed.

Let me try to make this clear. In many cases both PP orders are possible. In (40a) the (end) location of the stepping is denoted by the prePP. The path interpretation of the *loopplank* 'gangplank' is imaginable, too; as a result, the postPP order in (40b) is

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16 Having homogeneous reference means that the phrase is both cumulative and divisive. The former implies that if one adds water to water the combination of the two is still water. Divisive informally means that part of water is also water.
grammatical as well:

(40)  a. Jan stapt op de loopplank.
      Jan steps on the gangplank
      'Jan steps on(to) the gangplank.'

   b. Jan stapt de loopplank op.
      Jan steps the gangplank on
      'Jan steps onto the gangplank.'

(41), however, shows that the postpositional word order is somewhat strange in case
the DP object is a pebble: # (41b).

(41)  a. Jan stapt op de kiezelsteen.
      Jan steps on the pebble
      'Jan steps on the pebble.'

   b. # Jan stapt de kiezelsteen op.
      Jan steps the pebble on

Note that (41b) is not ungrammatical; it is merely weird to use a postPP here. For Jan
being an adult of average size it is not likely that a pebble of average size is a path;
recall that this interpretation is enforced by the dimensionality requirement of
SpecDIRP. If we take Jan to be, say, a gnome or an ant, a path interpretation for the
pebble seems possible. In this situation, the use of a postPP is acceptable. The same
holds true in case Jan is an adult human being of average size and the pebble has the
size of a boulder. It can be concluded from this that the felicitousness of a
postpositional PP is dependent on the relative size of the object. That is to say, only
in case a path interpretation of the object enforced by SpecDIRP is imaginable, is the
postpositional order felicitous.

3.1.5. Extraction from PP and the trigger for movement
This chapter has presented several syntactic and semantic differences between pre-
and postpositional PPs. Also for extraction the two PP types display different
behaviour. Extraction out of a PP is possible in case the PP displays the
postpositional word order; a prepositional PP is not transparent for movement (cf.
Bennis 1986; Van Riemsdijk 1978):

(42)  a. dat Jan de bergi nu [DIRP ti [PP op ti ]] wandelt ...postPP
      that Jan the mountain now on walks
      'that Jan walks up the mountain now'

   b. dat Jan eri nu [PP ti [P in ti ]] woont
      that Jan there now in lives
      'that Jan lives in it now'

   b. * dat Jan de flatsi nu [PP tussen ti ] woont ...prePP
      that Jan the flats now between lives

The specifier position of PP (and its functional projections) are generally claimed to
function as an escape hatch; this position falls beyond the scope of the Head Constraint (Van Riemsdijk 1978: 160):

(43) The Head Constraint

No rule may involve $X_i/X_j$ and $Y_i/Y_j$ in the structure

$\ldots X_i \ldots [\overline{H}^n \ldots [i_i \ldots [\bar{e} \ldots Y_i \ldots H \ldots Y_j \ldots]_i \ldots]_i^n \ldots X_j \ldots$  

(where H is the phonologically specified (i.e. non-null) head and $H^n$ is the maximal projection of H)

From the Head Constraint it follows that extraction out of HP is not possible from within $H'$ but that an element in SpecHP can escape. The Head Constraint holds not only for the adpositional domain. The verbal domain is also transparent for extraction; overt movement (of $wh$-words) out of the verbal domain is possible via the specifier position of the functional projection CP dominating the VP. Apparently, the (functional) specifier position is transparent for movement. Extraction of $R$-words from the PP, as in (42b), is discussed in chapter 6. It will be claimed that a specifier position functions as an escape hatch.

Given that the DP de berg 'the mountain' in (42a) has escaped from the adpositional domain, the question arises where the DP moves to. A first indication for the landing site of the DP comes from scrambling data. Definite DPs tend to precede adverbials like waarschijnlijk 'probably', whereas indefinite DPs preferably stay to the right of such an adverb (see e.g. De Hoop 1992). This holds true for both direct objects (in (44)) and objects which have escaped from the postPP (see (45)):

(44) a. dat Jan de kat waarschijnlijk haat that Jan the cat probably hates

b. dat Jan waarschijnlijk een kat haat that Jan probably a cat hates

(45) a. dat Jan de berg waarschijnlijk op klimt that Jan the mountain probably on climbs

b. dat Jan waarschijnlijk een berg op klimt that Jan probably a mountain on climbs

Kratzer (1995) argues, basing herself on Diesing (1990), that scrambled definites leave the VP. The definite DPs are interpreted as old information and are integrated into the discourse in the restrictive clause. Indefinites, on the other hand, are interpreted in the nuclear scope. According to Diesing (1990), the nuclear scope (in the semantic representation) corresponds with the VP domain in syntax. Kratzer now concludes that scrambled definites leave the VP to escape existential closure in the

---

17 The movement of $R$-words and their landing-sites is investigated in chapter 6.
nuclear scope. If Kratzer is right that scrambling is to be understood as movement to
a position outside the VP this means that not only direct objects but also DPs from a
postPP land in a position outside the VP.

For direct objects it is assumed that they move to a 'scrambling' position. Here I
will remain agnostic about the status (A or A-bar) of this position. DPs from postPPs
do not move to this position since direct objects and DPs from postPPs are not in
complementary distribution. (46) shows that a direct object (here: the subject of the
small clause) and a DP from a postPP are possible together.

(46) Jan rijdt de auto de garage in.
Jan drives the car the garage in
'Jan drives the car into the garage.'

If de auto moves to SpecAgrOP, DPs from a postPP cannot also move to this
position. They end up in a position to the right of (or in a right-branching structure:
lower than) SpecAgrOP, outside VP.

The trigger for movement of the DP from the postPP has not been discussed so
far. It might be suggested that Case is the trigger. DP movement is often related to
Case in that the Case filter requires the DP to get Case. If a DP does not receive
Case in its base position, it moves to a Case position. Case can, however, not be held
responsible, neither for movement of the DP to SpecDIRP nor for movement of the
DP to a position outside the adpositional domain. Let me try to make this clear.
Postpositional phrases were argued to be derived from prepositional PPs. It is fairly
standard to assume that the P head assigns Case to its DP complement. Now what
about the DP in a postPP? There are two options. The first possibility is that the DP
gets Case in its base position (from P\(^0\)). This then means that Case does not play a
role in the movement of the DP. The second option is that P in a postPP is ergative
(for ergative particles, see Den Dikken 1995). The P\(^0\) does not assign Case to the DP,
which thus has to move to a Case position. The question arises what element is
responsible for Case marking in this scenario. It might be suggested that the DP in
SpecDIRP is in an ECM configuration where it gets Case marked by the verb which
selects the postPP. This is, however, not likely since postPPs are possible without
verbs being present, as illustrated in (47a,b), or in passive constructions in which the
verb does not give Case to objects, as in (47c).

(47) a. de weg [de berg op]
    the road the mountain on
    'the road up the mountain'
b. [de berg af] gaat sneller
de mountain down goes faster
    'down the mountain goes faster'
c. de auto werd [de berg op] geduwd.
the car became the mountain up pushed.
    'the car was pushed up the mountain'.

It can be concluded from (47) that postPPs are possible without there being Case
assigners available other than P°. It can be concluded that P° assigns Case to the DP object in its base position. In other words, movement of the DP to SpecDIRP is not triggered by Case requirements. If P° assigns Case to the DP, the trigger for movement of the DP to a position outside the adpositional domain cannot be related to Case either. Just like the PP internal movement, the movement from SpecDIRP to a position outside the adpositional domain seems to be semantically motivated. Recall that the movement of the DP to SpecDIRP imposes 1-dimensionality, i.e. semantic restrictions on this DP. Movement of the DP from SpecDIRP to a position outside the adpositional domain is analogous to movement of direct objects; both DPs in (44) and (45) undergo scrambling, which was argued to be semantically triggered. The (definite) DP leaves the adpositional domain (and the VP) to escape from existential closure. This scrambling movement is not related to the Case filter. This suggests that scrambling does not involve A-movement, but that it is a case of A-bar movement. More on scrambling and its movement type can be found in e.g. De Hoop (1992), Neeleman (1994) (for A-movement), Vanden Wyngaerd (1989) (for A-and A'-movement) and Bennis&Hoekstra (1989) (for A'-movement).

3.1.6. Conclusion
This section summarises the conclusion/results of the previous (sub)sections with respect to the internal syntax of simplex pre- and a postpositional phrases.

The syntactic representations for simplex pre- and postpositional PPs developed in this chapter are given in (48). Adpositional phrases start out from a head-initial structure. From this prepositional structure, the postpositional word order can be derived. The postPP is structurally more complex in that the DP object of the adposition moves to the specifier position of a higher functional projection. This FP hosts the directional properties of the postpositional PP and is labelled DIRP in this thesis (see also chapter 1). In PPs which project a DIRP, the adposition P moves to the head of DIRP, and as a result the adposition(al phrase) gets a directional interpretation, see (48a,c). Movement of P° to DIR° can be observed with so-called inherently directional adpositions, which are classified as such on the base of their (inherent) semantic properties (cf. chapter 1), and with adpositions in postpositional PPs. The DP in SpecDIRP gets a path interpretation; DPs receive 1-dimensionality in this hierarchical position. The movements are illustrated in (48a).

Prepositional PPs consist merely of a PP, unless there are indications for more functional structure. The latter is the case in prepositional phrases with adpositions identified as inherently directional. The directionality features are located in DIRP, the directionality phrase. This is demonstrated in (48c).

(48)  
  a.  \[\text{DIRP} \ P \ [\text{PP} \ t \ t_i] \]\n  b.  \[\text{PP} \ P \ \text{DP} \]\n  c.  \[\text{DIRP} \ P_i \ [\text{PP} \ t_i \ \text{DP}] \]

If an adposition like \textit{naar}, which has been classified as inherently directional in chapter 1, does not project a DIRP, movement of P° to DIR° cannot take place. As a consequence, the adposition will not display a directional interpretation. This can be observed with selected PPs, like \textit{luisteren naar} 'to listen to'.
It has been shown in section 3.1.4 that the semantics of pre- and postpositional PPs as developed in this chapter make correct predictions about the distribution of these PPs, viz. with respect to mass objects, modification, and object restrictions.

The specifier position of the PP (and the specifiers of its FPs) are transparent for movement. This position functions as an escape hatch (Van Riemsdijk 1978) in that elements can move out of the PP via the specifier position. It has been argued that the DP from a postPP moves to a position outside the adpositional domain. Both the movement of the DP to SpecDIRP and to a position outside the adpositional domain were argued not to be related to the Case filter.

Chapters 5 and 6 will focus on the relation between syntactic structure for pre- and postpositional PPs and their external syntax. It will be argued that the presence of a DIRP in the hierarchical representation restricts R-word-PP formation. Extraposition of the PP is claimed to be dependent on the availability of a specifier position in the syntactic structure of the PP.

3.2 The internal syntax of complex adpositional phrases

3.2.1. Introduction

This part of chapter 3 focuses on the syntax of complex PPs, i.e. PPs which consist of more than one adpositional element. Syntactic-hierarchical representations of these complex PPs will be worked out. Just like in 3.1, the starting point will be a head-initial structure (Kayne 1994).

The outline of this section is as follows. Section 3.2.2 discusses possible starting structures for adpositional phrases with two (or more) adpositional elements. The movement possibilities in the adpositional domain are dealt with in section 3.2.3. Sections 3.2.4 and further show to what extent the initial structures and movement operations can be found in Dutch adpositional syntax. Structures will be proposed for circumpositions, complex pre- and complex postpositional PPs.

3.2.2. Complex structures

In this thesis, I have adopted Kayne's (1994) theory of universal head-initial base structure and his restrictions on movement, being exclusively leftward. Structures for simplex adpositional phrases were worked out in section 3.1. The starting point was a prepositional structure as in (49a), from which the postpositional order could be derived by movement, as illustrated in (49b):

\[
\begin{align*}
(49) & & a. & [_{pp} P \ DP] & \text{...prePP} \\
 & & b. & [_{DIRP} DP, P_j [_{pp} f_j t_i ]] & \text{...postPP}
\end{align*}
\]

Having more adpositional elements in a head-initial structure implies that the structure in (49a) must be extended, namely in such a way that this structure fulfills Kayne's restrictions on structure as well. The representations in (50) illustrate this for PPs with two and three adpositional elements:

\[
\begin{align*}
(50) & & a. & [_{pp} P [_{pp} P \ DP]] \\
 & & b. & [_{pp} P [_{pp} P [_{pp} P \ DP]]]
\end{align*}
\]
The structures in (50) are head-initial and can be extended recursively. It will be shown below that in most of the cases the external layers are functional projections (FPs) with an adposition occupying the head position of FP as in (50c).

It is often difficult to determine the presence of an FP and the FP's nature. I take movement to be an indication for functional structure; strong morpho-syntactic features are checked overtly in a functional projection (Chomsky 1995). The movement possibilities in Minimalism will be discussed in section 3.2.3. In most of the cases, I will remain agnostic on the nature/label of the functional projection. Only for postpositional structures I identify the FP as DIRP, cf. (49b).

3.2.3. Possible movements

Now that we have determined the underlying structure for PPs, we will be concerned with the movements deriving the spelled out orders. Starting out from the representation in (50a), the first possibility is no movement. The result is a complex prepositional PP. It will be shown below that this structure represents PPs displaying the pattern van / voor / tot /inds + PP, e.g. tot in Groningen 'till in Groningen' (cf. section 2.3.4.1). In section 3.2.4, it will be suggested that the absence of movement in these PPs is related to their semantics.

Let us now take a look at structures which do display movement. Minimalism offers two possibilities for overt movement operations. Recall that elements are displaced in order to check a strong feature in a functional projection, cf. chapter 1. The two possibilities for overtly checking a feature in the FP in (51) are the following.

\[
\text{(51)} \quad [\text{FP}_f F^0 [\text{PP}_p P \; DP]]
\]

First, movement of a phrase (XP, here PP) to SpecFP can check the feature in F, as in (52a). In case the functional head is occupied, this gives us a circumpositional output structure. Second, head movement to F^0 can check the strong feature, as represented in (52b).

\[
\begin{align*}
(52) \quad \text{a.} & \quad [\text{FP}_f [\text{PP}_p P \; DP]_f, F^0 t]_f & \text{XP movement} \\
\text{b.} & \quad [\text{FP}_f P^*_F F^0 [\text{PP}_p t, DP]]_f & \text{X}^0 \text{ movement}
\end{align*}
\]

Minimalism considers the movement operations in (52) equally economical. Both options are available and used in Dutch adpositional syntax, although the first option seems to be preferred. It will be shown that almost all complex adpositional (base) structures have a circumpositional (output) structure (as a result of XP movement). The complex prepositional PP in (52b), on the other hand, seems to be the marked case. This will be discussed in section 3.2.5.
3.2.4. Complex prepositional PPs

3.2.4.1. van/voor/tot/sinds + P + object
Complex prepositional PPs of the type van/voor/tot/sinds + P + object start out from a head-initial structure and do not exhibit movement. There is a consensus on the structural representation of PPs like in (53), see e.g. Bennis (1986); Koopman (1997); Van Riemsdijk (1978). The adpositions van/voor/tot/sinds select a PP:

(53) a. \( [\text{rp}, \text{van} [\text{rp}, \text{na} \text{ de oorlog }]] \)
    from after the war
    'from after the war'
  b. \( [\text{rp}, \text{tot} [\text{rp}, \text{in} \text{ Parijs }]] \)
    until in Paris
    'until in Paris'

The adpositions van and sinds in these complex prepositional PPs denote a "starting point"; voor and tot denote an "end point (or destination)". They select a (temporal) location, which is generally represented as a prepositional PP.18

These complex prepositional PPs participate in R-word PP formation. The R-word (here: daar 'there') appears between van/voor/tot/sinds and the second P:

(54) a. van \( [\text{rp}, \text{daar}, [\text{p}, \text{na} t_i]] \)\textsuperscript{19}
    from there after
    'from after that'
  b. tot \( [\text{rp}, \text{daar}, [\text{p}, \text{in} t_i]] \)
    until there in
    'until in there'

3.2.4.2. Locative complex prepositions
It was argued in chapter 2 that so-called locative complex prepositions like in (55) do not consist of two adpositions at all.

(55) a. boven in de lade
    above in the drawer
    'in the upper part of the drawer'
  b. midden in het veld
    middle in the field
    'in the middle of the field'

It was shown that boven 'above' and midden 'middle' in (55) are not prepositions. Two indications for this claim were discussed. First, midden is not a possible

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18 The default interpretation of pre- (and post)positional PPs is discussed in section 3.1.
19 The R-word daar cannot occupy a position to the left of van:
(i) *daar, \( \text{van} \text{ na} t_i \)
Extraction restrictions and the movement of the R-word are investigated in chapter 6.
preposition in Dutch; it does not select a DP object: *middel het veld.* Second, the German counterpart of the examples in (55) displays adverbial morphology. The reader is referred to section 2.3.4.2 for the data and the argumentation.

The elements boven and midden in (55) are not adpositions (selecting an XP) but rather function as adverbs modifying the location denoted by the PP (in de lade and in het veld, respectively). I will adopt the general assumption that adverbs are structurally represented as adjuncts (but see Cinque 1997 for an alternative). I assume that the PP is the adjunction site for boven and midden in the adpositional domain. In (56) boven is adjoined to the PP:

(56) a. [pp boven [pp in de lade]]
_above_ in the drawer
b. daar [pp boven [pp t_1 [p in t_1]]]
_there_ above _in_
c. daar [pp vlak [pp t_1 [p achter t_1]]]
_there_ just _behind_

Both boven and vlak in (56b,c) modify the PP and function as adverbs. The data in (56b,c) confirm the adverbial status of boven. Analogous to the modified PP structure in (56c), to be discussed in chapter 4, the R-word daar 'there' can move via SpecPP to a position in the Dutch middle field, outside the adpositional domain. (56b,c) display the same distributional pattern in R-word PP constructions, which is different from the pattern found in van/voor/tot/sinds + PP configurations, cf. (54). The landing site of the R-word and the triggers for this movement will be discussed in chapter 6.

3.2.4.3. Opaque complex prepositions
The previous two subsections have discussed complex prepositional PPs with a semantically transparent structure. This subsection deals with complex prepositional phrases which lack semantic transparency. I will call them opaque. Some examples

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20 Jan de Vries (p.c.) has pointed out to me that midden can take a DP object in (i):

(i) midden jaren tachtig
middle years eighty
'in the middle of the eighties'

Similar cases are possible with eind 'end' and begin 'begin'. This use is restricted to temporal constructions for modern Dutch.

21 Movement of the R-word to a position to the left of the modifier seems to be optional, although it is strongly preferred. In (i) daar has escaped from the adpositional complex (midden tussen), whereas it is inside the adpositional domain in (ii). For me only the first option is available; Hans Bennis and Helen de Hoop (p.c.) consider (ii) grammatical as well.

(i) daar midden tussen
_there middle between_
'among them'

(ii) midden daar tussen
_middle there between_

The R-word displays the same distribution with the modifier vlak 'close'. Again, I prefer the R-word to be in the position to the left of the modifier (here: vlak), analogous to (i):

(iii) <daarr> vlak <daarr> tussen (Van Riemsdijk 1978)
are given in (57):

(57) a. tegen-over    de kerk
    against-across the church
    'across from the church'

b. voor-bij        de molen
    in front of-near the mill
    'past the mill'

There are no (longer) indications present in modern Standard Dutch to reveal the (diachronic) derivation of these PPs. Often there is not even a compositionally transparent analysis possible, e.g. voorbij 'past' + voor 'in front of' + bij 'near'. Only nabij 'close to' and rondom 'around' seem to be more or less transparent. Both na 'close' and rond 'around' seem to modify the following adposition, just like in vlak bij 'close'.

For the complexes doorheen 'through', langsheen 'along' and tegenover 'across from', however, we do find indications for their syntactic make-up. These complex prepositional PPs have circumpositional variants, see (58). Circumpositional tegen .. over is not found in Dutch but it is grammatical in the Groningen dialect, see (58c). Also in Goethe's German the possibility of splitting up gegen .. über is available, as illustrated in (58d). In modern German, gegen and über constitute a pre- or postpositional complex.

(58) a. door het bos heen
       through the wood to
       'through the wood'

b. langs de paal heen
   along the post to
   'along the post'

c. Hai staat tegen zien leger over. (Visscher 1985: 19)
   he stands against his army across
   'He stands opposite to his army.'

d. [...] stand er gegen mir über (Goethe 1774: 93)
   stood he against me.DAT across
   'stood he opposite to me'

The examples in (57) and (58) show related PP forms, some of which are regionally or historically restricted. Starting out from a head-initial structure, different movements yield the output orders in (57) and (58). I want to claim that these movement operations are not altogether different; they are instances of the same movement type.

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22 The adpositional complexes doorheen and langsheen are found only in Flemish. In other variants of Dutch the two adpositions constitute a circumposition.

23 The Woordenboek der Nederlandsche Taal (short: WNT) notes that tegenover has developed from tegen .. over since the 16th century.
It was shown in section 3.2.3 that Minimalism (Chomsky 1995) offers two equally economical ways of overt movement. A strong feature in FP is checked either by phrasal movement (to SpecFP) or by head movement (to F\(^0\)). The two options are illustrated for *tegen .. over* and *tegen-over* ... The starting structure is given in (59a).

(59) a. \([_{\text{Fp}} \text{ over } [_{\text{PP}} \text{ tegen de brug }]]\)
    b. \([_{\text{Fp}} [_{\text{PP}} \text{ tegen de brug }], \text{ over } t_i]\)
    c. \([_{\text{Fp tegen-over }} [_{\text{PP}} t_i \text{ de brug }]]\)

In minimalist terms, the derivations in (59) is as follows. The FP hosting *over* has a strong feature which attracts either an X\(^0\) element (=*tegen*) to F\(^0\), as in (59c), or an XP (=*tegen de brug*) to SpecFP, as in (59b).

When we compare the structures in (59b,c), it can be concluded that diachronically there is a tendency from circumpositional to complex prepositional PP. That is to say, from XP-movement to X\(^0\)-movement. I will not speculate on why this is the case. Another question is why this change (up to now) has taken place only in a subset of the (formerly) circumpositional PPs. Recall that the class of circumpositional PPs in Dutch largely outnumbers the class of complex prepositional PPs (see Appendix). Why did it take place in these complexes and not in others? I leave these issues for further research.

### 3.2.4.4. *vanaf/vanuit/tot aan*

It was argued in chapter 2 that *vanaf/vanuit/tot aan* form a separate subclass of complex prepositions; their syntactic-distributional properties differ from the PPs in the other subclasses (see section 2.3.4.4). One of the characteristics of *vanaf/vanuit/tot aan* is that they have a circumpositional order variant: *vanaf .. - van .. af; vanuit .. - van .. uit; tot aan .. - tot .. aan *(toe).*\(^{24}\) It was noted in chapter 2 that there is a semantic difference between the two word orders. Informally, *vanaf* denotes the starting point whereas *van .. af* involves downward movement (see also Zwart 1993: 364) or denotes a distance. The interpretational difference is illustrated with examples in which only one of the two orders is appropriate:

(60) a. De trein vertrekt *vanaf* spoor 2 / *van* spoor 2 af.
    The train leaves from-off platform 2 / from platform 2 off
    'The train leaves from platform 2.' (= starting point)

    b. Ik woon 10 km *vanaf* Groningen af / *van* Groningen.
    I live 10 km from Groningen off / from-off Groningen
    'I live 10 km away from Groningen.' (=distance)

\(^{24}\) The need for *tot .. aan* to be followed by *toe* will be discussed in section 3.2.5.
(61)  a.  [[P af [PP van de brug ]]]
    b.  [[P [PP van de brug ], af t,]]

25 That af is responsible for the downward interpretation in cases like (60c), as suggested in Zwart (1993: 364), is not so clear. Also without af, (60c) gets a downward interpretation. (i) shows af without downward movement:
   (i) De generaal ging/keek de rij soldaten af.
       the general went/watched the row soldiers off
       'The general inspected the row of soldiers.'
   Analogous to (i), postpositional op 'on' does not provide an upward movement interpretation; in (ii) there is no upward movement involved:
   (ii) De bal rollt het veld op.
        the ball rolls the field on
        'The ball rolls onto the field.'

26 In the development from circumposition to complex preposition, tegen .. over did not survive. We are here dealing with a general property of language (change). That is to say, if two (syntactic) forms compete only one will be preserved unless (semantic) differentiation takes place. No semantic differentiation has taken place in tegen .. over and tegenover .., and the new form took over. Semantic specialisation did take place in van .. af to vanaf .., see (61) so that both options could survive.
c. \[ \text{[FP van-t af \{pp t de brug \}] \]

In sum, the complex prepositions vanaf/vanuit/tot aan are derived from a \[ \text{[FP af \{pp van de brug \}] \] structure. This representation is the input for both complex prepositions (by adjunction of van to af) and circumpositions (by PP (van DP) movement to SpecFP). The identical base structures adopted for the two adpositional phrases in (61b) and (61c) hence account for the characteristic property of vanaf/vanuit/tot aan mentioned above, viz. the possibility to have a circumpositional order variant.

3.2.5. Circumpositional PPs

In the preceding sections, we have already come across circumpositional PPs. Starting out from a head-initial structure, phrasal movement to a higher functional projection, viz. SpecFP, yields the circumpositional order:

(62) \[ \text{[FP \{pp P DP \}, F^0 t_i \] \] XP movement

Some syntactic characteristics of circumpositional PPs were discussed in section 3.1, as we discussed Van Riemsdijk's (1990) proposal on PP structure. The bracketing in (62) does justice to the properties listed there. Recall that it was demonstrated that case assignment (in German), subcategorisation, and splitting show that the DP object is structurally closer to the preposition P than to the adpositional element F following it.

In (63) I present some examples of circumpositional PPs:

(63) a. \[ \text{[FP \{pp onder de brug \}, door t_i \] under the bridge through} \]

b. \[ \text{[FP \{pp bij het huis \}, langs t_i \] near the house along} \]

A special type of circumpositions is displayed in (64), in which \( P_1 = P_2 \) in the configuration \[ \text{[FP \{pp P_1 DP \} P_2 \].} \]

27 This doubling of the adposition is possible with \textit{tot} 'till' and \textit{van} 'from'.

28 In all cases, the stranded adposition exhibits allomorphy:

\[ \text{Doubling is blocked in adpositional constructions in which \( P_1 \) (here: \textit{tot}) selects a CP complement:} \]

(i) \text{Tot de avond (toe) knikkerden ze. till the evening till marble-played they}

'Till the evening they have played with marbles.'

(ii) \text{Tot het donker werd (*toe) till it dark became till}

Constructions with \textit{met .. mee} 'with' like in (i) and (ii) do not seem to involve doubling; they are part of particle verb constructions (\textit{meespelen, meedrijven}), cf. (iii) vs. (iv).

(i) Peter speelt met ons mee. Peter plays with us with

'Peter plays with us.'
toe and vandaan, respectively. P₂ is optional (in most cases), and doubling has, if at all, a minimal semantic effect (see below for discussion).

(64) a. Tot de stad (toe) regende het.
   till the city till rained it
   'It has been raining till the city.'

b. Tot in de stad (toe) regende het.
   till in the city till rained it
   'It has been raining till in the city.'

c. De trein rijdt van DP (vandaan) naar DP.
   the train drives from DP away to DP
   'The train goes from DP to DP.'

The doubled adposition (toe, vandaan) seems to function as an intensifier, sometimes with focus-like properties like in (65). Relating doubling to focus is not new; also Van Craenenbroeck & Van Koppen (2002) observe focus characteristics with doubled subjects in southern dialects of Dutch. The intensifier-doubling relation seems to be supported by the data in (65). The example shows that other intensifiers/modifiers (here: vlak 'close') influence the possibility to double the adposition; they stand in complementary distribution.

(65) a. Tot vlak in de stad (*toe) regende het.
   till close in the city till rained it
   'It has been raining till in the city.'

b. Tot in de stad (toe) regende het.
   till in the city till rained it
   'It has been raining till in the city.'

Doubling is possible without the modifier, as shown in (65b).

Another restriction found with doubling of tot...toe (and the intensifier semantics) is the incompatibility with vague endpoints.

(66) a. Jan werkt tot acht uur (toe).
   Jan works till eight o'clock till
   'Jan works till eight o'clock.'

(ii) De boot drijft met de stroom mee.
    the boat floats with the stream with
    'The boat floats with the stream.'

(iii) Peter speelde mee / meespelen
     Peter played with
     'Peter has joined us in playing.'

(iv) *Het regende toe / *toeregenen
     It rained till
     'It rained till'
b. Jan werkt tot achten (*toe).\textsuperscript{29} unprecise endpoint
Jan works till eight till
'Jan works till about eight o'clock.'

It is shown in (66) that \textit{tot.. toe} requires a precise endpoint.

It is unclear whether \textit{vandaan} makes a contribution semantically to the complex \textit{van..vandaan}. Etymologically, \textit{vandaan} consists of \textit{van} 'from' and the adverb \textit{dane(n)}, which denotes direction.\textsuperscript{30} Nowadays, speakers of Dutch no longer recognise this syntactic make-up of \textit{vandaan}; \textit{vandaan} is analysed as a semantically opaque complex related to \textit{van}. In fact, many speakers, including myself, consider \textit{vandaan} in the \textit{van..vandaan} construction (cf. (64c) redundant).\textsuperscript{31}

I conclude the following from the above. First, in \textit{tot..toe} and \textit{van..vandaan} circumpositional PPs, one and the same adposition is displayed twice. Second, the (optional) adposition $P_2$ provides a minimal semantic-compositional contribution (compared to \textit{door} in circumpositional PPs like \textit{onder..door}); it functions as an intensifier. This restricted semantic impact of doubling suggests that we are dealing with doubling of the type 'double spell out'. In other words, we find the adposition $P$ in two different positions. I want to propose that both the moved head (here: the adposition) and its trace are spelled out (see below).\textsuperscript{32}

In the syntactic framework adopted in this thesis, the general (adpositional) starting structure is a head-initial, i.e. prepositional PP: (67a). I want to suggest that in case of adpositional doubling, the starting structure contains one adposition: the head of the PP (in (67a): \textit{tot}). The adposition \textit{tot} moves to the head of the higher functional projection F\textsuperscript{0}, cf. (67b). This FP hosts the semantic properties observed for doubling constructions, viz. intensification. P\textsuperscript{0}-to-F\textsuperscript{0} implies that the adposition

\textsuperscript{29} The data in (66) are from Johan Rooryck (p.c.). In my dialect of Dutch, \textit{tot} cannot be combined with an imprecise endpoint: *\textit{tot achten}. Acceptable is (i), with \textit{na} 'after', which is not compatible with \textit{toe}, see (ii) and (iii).

(i) tot na achten
till after eight
'Till about past eight.'

(ii) *tot na achten toe
till after eight till

(iii) ?*tot na acht uur toe
till after eighth o'clock till

\textsuperscript{30} The \textit{WNF} and etymological dictionaries suggest that the directional semantics was no longer recognised and that \textit{van} has been added for the directional interpretation.

\textsuperscript{31} It should be noted that (directional) \textit{vandaan} can be substituted for other directional adpositional constructions:

(i) De trein rijdt van de brug (vandaan).
the train drives from the bridge away
'The train goes from the bridge.'

(ii) De trein rijdt van de brug \{af, ..
the train drives from the bridge off
..weg, naar de markt.
away to the market
'The train goes off/away from the bridge to the market.'

\textsuperscript{32} A similar approach, which analyses doubling (of tense morphology) as double spell out, can be found in Van Koppen (2001).
checks the strong features in FP. Typical for doubling constructions is that the adposition is found in two different positions. Recall that I have proposed that the adposition is spelled out both in its base position, as the head of PP, and on its landing site, i.e. in F. This is illustrated in (67b); the adposition is placed between \(<\) brackets, indicating double spell out. After head-movement, the PP moves to SpecFP, analogous to non-doubling circumpositional PPs discussed in (63). This is demonstrated in (67c).

(67) a. \([_{\text{PP tot DP}}]\) 
b. \([_{\text{PP}} <\text{tot}> [_{\text{PP tot DP}}] \text{ DP }]\) 
c. \([_{\text{PP}} [_{\text{PP tot DP}}] \text{, toe } t_i ]\)

\(P_{2}\), which is stranded in (67c), exhibits the allomorph \(\text{toe}\). The same mechanism is assumed for the doubling of \(\text{van } (..\text{vandaan})\).

3.2.6. Complex postpositional PPs

Dutch has a small set of complex postpositions, some of which are regionally restricted: \(\text{achterlangs} \) 'behind-past', \(\text{achterna} \) 'behind-after', \(\text{bijlangs} \) 'near-past', \(\text{onderdoor} \) 'under-through', \(\text{russendoor} \) 'between-through', and \(\text{voorbij} \) 'in front of-near'. Just like their simplex counterparts, complex postpositional PPs display path semantics for the DP object, see chapter 2. Analogous to simplex postpositional PPs, the DP in a complex postpositional PP moves to SpecDIRP. Simplex postpositional PPs start out from a (simplex) prepositional structure; complex postpositional PPs are the result of movements from a complex prepositional representation.

(68) a. \([_{\text{DIRP de tunnel}}, \text{in}, [_{\text{PP}}, t_i, t_i]]\)  
    \(\) \(\) \(\text{simplex postPP}\) 
b. \([_{\text{DIRP de brug}}, \text{onder}, \text{door}, [_{\text{PP}}, t_i, t_i]]\) \(\) \(\) \(\text{complex postPP}\)

Simplex and complex postpositional PPs differ only in the material present in \(\text{DIR}^0\) in the base structure. This position is empty in simplex postpositional PPs, whereas \(\text{DIR}^0\) is filled in complex postpositional PPs.\(^{33}\)\(^{34}\)

Some of the complex postpositional PPs have a circumpositional counterpart, e.g. \(\ldots\text{onderdoor}\) and \(\text{onder}\ldots\text{door}\). I want to argue that this is not a coincidence. First, both circumpositional and complex postpositional PPs start out from the same head-initial structure, given in (69a). Second, both structures undergo the same type of movement, namely phrasal movement to the specifier position of a higher (unidentified) functional projection. Circumpositional PPs opt for movement of the PP, whereas complex postpositional PP exhibit movement of the DP. As indicated

\(^{33}\) An alternative derivation for the postpositional order is given in (i). There is DP movement in (68b) to SpecDIRP; (i) displays PP movement to SpecDIRP (preceded by P-movement): (i) \([_{\text{DIRP}}, t_i, \text{de brug}, \text{onder}}, t_i]\)

\(^{34}\) The structural representation for the complex postpositions \(\text{achterna} \) 'behind-after' and \(\text{voorbij} \) 'in front of-near', which are exceptional in several respects, will be discussed below, cf. (72).
above, the postpositional PP requires an additional movement, viz. P to DIR\(^0\). The derivations for circumpositions and complex postpositional PPs are given in (69).

\[(69)\]
\[
a. \quad [[\text{FP, door } [\text{PP onder de brug }]]] \quad \text{starting structure}
\]
\[
b. \quad [[\text{FP, onder de brug }, \text{door } t_1]] \quad \text{circumPP}
\]
\[
c. \quad [[\text{FP de brug, onder } \text{door } [\text{PP } t_1, t_2]]] & \text{FP=DIRP} \quad \text{complex postPP}
\]

The functional projection in postpositional PPs has been identified as DIRP, cf. section 3.1. The nature of the FP in circumpositional PPs is less clear in that only some adpositional elements in circumpositional PPs seem to be compatible with DIR\(^0\) (and its directional interpretational features), e.g. *door* ‘through’ in (69b), but not *aan* ‘on’ in the narrow locative PP *tegen de muur aan* ‘against the wall on’. Because of the lack of clarity concerning the kind of functional projection in circumpositional PPs I will use the neutral label FP in these PP structures.

It can thus be concluded that complex postpositional PPs and circumpositional PPs are (closely) related in that complex postpositional PPs have a circumpositional word order variant, e.g. *..onderdoor* and *onder .. door*. This close structural relation between the two complex PPs is visualised in (69) in that the two have a common base structure, (69a).

The difference between (69b) and (69c) can be stated in terms of X(P) movement. The circumpositional order is derived by XP movement to SpecFP, whereas there is X\(^0\) movement to F\(^0\) (with DP-movement to SpecFP) involved in (69c). Both options are available as equally economical checking options in Minimalism. Dutch syntax uses both possibilities although there seems to be a tendency towards XP movement to SpecFP (at the expense of head movement to F\(^0\)). Indications for this tendency are twofold. First, complex PPs with XP movement (i.e. circumpositional PPs) outnumber PPs with head movement (i.e. complex prepositional PPs and complex postpositional PPs). Second, PP constructions with head movement, especially complex postpositional PPs, are a restricted phenomenon.

The complex postpositional PPs *achterlangs* ‘behind-along’, *bijlangs* ‘near-along’, *onderdoor* ‘under-through’ and *tussendoor* ‘between-through’ pattern alike; they have a circumpositional variant, and in the complex postPP construction the DP object displays path semantics. The complexes *achterna* ‘behind-after’ and *voorbij* ‘past’, on the other hand, are different. They do not have a circumpositional variant, see (70).

\[(70)\]
\[
a. \ast \quad \text{achter .. na}
\quad \text{behind after}
\]
\[
b. \ast \quad \text{voor .. bij}
\quad \text{in front of near}
\]

Also the semantics of *achterna* and *voorbij* is different from the other complex postpositions, in that their DP objects do not exhibit path semantics. (71) illustrates this:
(71) a. Jan rent de kat achterna.
    Jan runs the cat behind-after
    'Jan runs after the cat.'
    b. Fiets het stoplicht voorbij en ga dan rechts.
    cycle the traffic light past and go then right
    'Cycle past the traffic light and then turn right.'

Neither de kat nor het stoplicht is a path. The cat is a moving object on a path and the traffic light is a stationary object on a path. Crucially, they do not denote a path themselves.

It was stated in section 3.1 that DIRP evokes a path interpretation for DPs in its specifier position. If the DPs in (71) lack path semantics, this implies for the complex adpositions achterna and voorbij that they do not have a DIRP in their syntactic structure. I will not make suggestions concerning the nature of the functional projection in these complex postpositional PPs.

(72) \[ [_{\text{PP}} \text{ de kat, achterna} [_{\text{PP}} t_f t_i ]] \]

The DP de kat 'the cat' ends up in SpecFP and not in SpecDIRP (as was the case with the other complex postPPs in (68b)). Since the DP does not occupy SpecDIRP, for which 1-dimensionality semantics was seen to be the defining property in section 3.1, it does not exhibit path semantics.

3.2.7. More complex adpositional phrases
So far we have been concerned with phrases which consist of two adpositional elements. The structure can be extended; it is possible to have constructions with three (or even more) adpositions. The underlying structure for PPs with three Ps is as follows:

(73) \[ [_{\text{PP}} \text{ P-F}^0 [_{\text{PP}} \text{ P-F}^0 [_{\text{PP}} \text{ P DP}]]] \]

This section discusses representations which are derived from the head-initial structure in (73). Just like with less complex PP structures, the external layers of the complex are generally functional projections (FPs) with an adposition in F\(^0\).

3.2.7.1. Circumpositions with complex pre- and simplex postpositions
Circumpositions with complex pre- and simplex postpositions have the schematic order P\(_1\) - P\(_2\) - object - P\(_3\). Appendix I.7 shows that P\(_1\) is occupied by either tot 'until', van 'from' or voor 'for', denoting "endpoint", "source", and "for/destination", respectively. In the representation in (74d), van/voor/tot occupy the highest P-position. They select a complex PP, namely a circumpositional PP (in bold):

(74) a. tot onder het huis door
    until under the house through
    'until under the house through'
b. van onder het huis uit
   from under the house out
   'out from under the house'

c. voor tegen de wind in
   for against the wind in
   'for against the wind'

c. \([_{FP} \text{van/voor/tot} \quad [_{FP} \text{P DP}], \quad \text{P} \quad \iota_1]]\)

A second instance of the PP pattern \(P_1 - P_2 - \text{object} - P_3\) is found in cases of doubling (here: tot 'till'), as in (75).

\[(75)\]

a. tot aan de grens toe
   till on the border till
   'till the border'

b. tot in Leiden toe
   till in Leiden till
   'till Leiden'

c. van achter de kast vandaan
   from behind the cupboard away
   'from behind the cupboard'

Doubling has already been discussed in section 3.2.5. Analogous derivations will be adopted for the more complex cases in (75). First, the adposition tot (or van) moves to the head of the functional projection. It is spelled out in both its landing site and in its base position, so that it appears in the construction twice (indicated by \(<->\) bracketing). Second, the tot-PP moves to SpecFP, just like in simplex circumpositional PPs. The two steps are illustrated in (76).

\[(76)\]

a. \([_{FP} \quad <\text{tot}> \quad [_{FP} <\text{tot}> \quad [_{FP} \text{P DP}]]\quad ]\)

b. \([_{FP} \quad [_{FP} <\text{tot}> \quad [_{FP} \text{P DP}]], \quad <\text{tot}> \quad \iota_1\quad ]\)

In (76b), the stranded adposition tot exhibits its allomorph toe.

3.2.7.2. Circumpositions with simplex pre- and complex postpositions

(77) shows some examples of PPs with the pattern P-DP-P-P.

\[(77)\]

a. van jongs/kinds/begin/meet af aan
   from young,GEN/child,GEN/begin
   off on
   'from childhood / from the beginning'

b. onder DP uit vandaan
   under DP out away
   'out from under DP'

c. tot DP aan toe
   until DP on to
   'until DP'
d. van DP af vandaan
    from DP off away
    'away from DP

It is not easy to determine the derivation of these complex PPs, from the initial structure in (78a) to the output string in (77). I will make a tentative suggestion for the analysis of (77b) to show what kind of arguments we can use to find the derivation for complex PPs.

(78) a. \[ \text{P-F} \ P \text{P-F} \ [\text{P DP}] \]
    b. \[ \text{P-van} \ [\text{uit DP}] \]
    c. \[ \text{onder DP}, \text{uit t} \_ \]
    d. \[ \text{onder DP uit t} \_ \text{van(daan)} \]

The underlying structure for the P-DP-P-P phrase in (77b) is given in (78b). The first step in the derivation consists of the familiar 'circumpositional' movement, as illustrated in (78c). Step two is another case of circumpositional movement; now the highest functional projection hosts the adposition \text{van(daan)}. An analysis for \text{vandaan} has been presented in section 3.2.5: \text{vandaan} is the stranded allomorph of \text{van}. The movement (step two) is represented in (78d): the circumpositional subpart \text{onder DP uit} (in bold) has moved from the complement position of \text{van(daan)} to a position to the left of \text{van(daan)}. This movement strands the adposition \text{van}, giving \text{vandaan}.

(77a) and (77b) seem to be of the same syntactic type; both in (77a) and (77b), the final adposition (\text{aan} and \text{vandaan}, respectively) can be omitted without a change in meaning. The derivation of (77a) will follow along the lines of (77b), as shown in (78). That is to say, \text{aan} in (77a) is the highest adposition in the starting structure (just like \text{vandaan} in (78b)) and is stranded after movement of the circumpositional substructure \text{van jongs/kin of} to a higher specifier position, to the left of \text{aan}.

It is unclear whether the analysis for (77a,b), given in (78), can also be applied to (77c,d). In (77c), the final adposition (here \text{toe}) is optional, indeed, but different from the cases in (77a,b); the second adposition \text{aan} is dependent on the presence of the final \text{toe}:

(79) a. tot Leiden aan *(toe)
    till Leiden on till
    'till Leiden'
    b. \[ \text{FP DP}, \text{aan-toe t} \_ \]

In (79) we are dealing with doubling of the type discussed in section 3.2.5. The adposition \text{tot} shows up in two different positions (is spelled out twice), cf. (67b). Analogous to relatively simple doubling as discussed in 3.2.5, the PP moves to the specifier position of a higher functional projection. Different from (67b), \text{tot/toe} in F\(^0\) is joined by the adposition \text{aan}, as illustrated in (79b).
Circumpositions with complex pre- and complex postpositions

Circumpositions with complex pre- and complex postpositions, schematically $P-P-DP-P-P$, come in three types. They are summarised in (80)-(82).

(80) a. voor tot DP aan toe
   for until DP on to
   'for until DP'

   b. genoeg benzine voor tot Leiden aan toe
      enough fuel for until Leiden on to
      'enough fuel for until DP'

(81) a. van P DP uit vandaan
      from P DP out away
      'out from P DP'

   b. Hij kwam van onder de kast uit vandaan.
      he came from under the cupboard out away
      'He came out from under the cupboard.'

(82) a. tot P DP aan toe
      until P DP on to
      'until DP'

   b. Het regende tot in Zwolle aan toe.
      it rained till in Zwolle on till
      'It has rained until in Zwolle.'

   c. Het water kwam tot onder de dijk aan toe.
      the water came till under the dike on till
      'The water came until under the dike.'

The starting structure for these complex PPs is, again, head-initial; this time the representation contains four adpositional elements:

(83) $[[PP \text{ P-F } [PP \text{ P-F } [PP \text{ P-F } [PP \text{ P-DP}]]]]]

I will only make some brief remarks on the three types of complex PPs illustrated above.

(80) is a case of van/voor/tot selecting a PP. In section 3.2.3, we came across relatively simple instances of this type; van/voor/tot has selected a simplex prepositional PP. More complex cases were discussed in section 3.2.5.1, ex. (73). In (80), voor selects a P-DP-P-P complex, see (84a). More complex PPs are possible as well; this is illustrated in (84b).

(84) a. voor $[PP \text{ tot Leiden aan toe }]
      for till Leiden on till

   b. voor $[PP \text{ tot onder de dijk aan toe }]
      for till under the dike on till

(81) and (82) display doubling constructions with van and tot, respectively. The van doubling construction contains a circumpositional substructure, given in (85b). My
suggestion is that the derivation from (83) to (81) involves two checking operations with XP movement, as illustrated in (85c).

(85)  a. \[ [_{\text{FP}} \ [ \text{van XP}]_{\text{c}} \ \text{vandaan} \ t_i] \] \hspace{5em} \text{van doubling}
    b. \[ [_{\text{FP}} [_{\text{PP}} \ \text{onder DP}], \ \text{uit} \ t_i] \] \hspace{5em} \text{simplex circumPP (=XP)}
    c. \[ [_{\text{FP}} [ [_{\text{PP}} \ [_{\text{PP}} \ \text{onder DP}], \ \text{uit} \ t_i]], \ vandaan \ t_i] \] \hspace{5em} (37a) + (37b)

3.2.8. Conclusion
Section 3.2 has developed hierarchical representations for complex adpositional phrases. The starting point for all structures has been the assumption that Dutch adpositional phrases are head-initial underlyingly. Adpositional structure can be expanded.

From the head-initial underlying structure movement operations derive the spelled out word orders. Minimalism offers two types of overt checking: by XP movement to SpecFP and by head movement to F hosting a strong feature. Dutch uses both possibilities, although the latter is much more restricted. Unfortunately, the trigger for some of the movements inside the adpositional phrases have remained unsolved so that I could only tentatively suggest that in these cases there are strong features at work attracting elements to a structurally higher position in an unidentified functional projection.

The hierarchical representations proposed in this chapter will show up again in the following chapters. Especially in chapters 5 and 6, the interaction between the internal structure of a PP and the PP's external syntax will be investigated. For extraposition and R-word PP formation it will be argued that the internal syntactic make-up of the PP preconditions these (distributional) phenomena.
4 Length modification

4.1. Introduction

So far, chapter 3 has been concerned with the internal structure of Dutch adpositional phrases. It has been shown that adpositional phrases can become an extensive complex with at least up to five adpositional elements selecting either DPs or PPs. This chapter deals with another way to extend adpositional structure, not by selection but rather by modification.

Dutch offers two possibilities for PP modification. A PP can be modified either by particles like pal 'straight' and vlak 'close' or by length modifiers like twee meter 'two metres'. Examples are given in (1).

(1) a. De bal ligt vlak buiten het strafschoopgebied.  
the ball lies close outside the penalty area

'The ball is lying just outside the penalty area.'

b. twee meter achter de tunnel  
'two metres behind the tunnel'

'My main concern is length modification of the second type, with phrases such as twee meter 'two metres'. For this type of length modification, I will develop a semantic analysis and its behaviour in various syntactic configurations will be investigated. Modification of the first type, e.g. particle modifiers like vlak 'close', exhibit a different semantics. The characteristics of vlak will be discussed in sections 4.2.2 and 4.5.

This chapter deals with the question why some PPs can be combined with length modifiers whereas others cannot. To illustrate the problem some examples are
given in (2).

(2) a. *De lamp hangt twee meter in de tunnel.
the lamp hangs two metres in the tunnel
'the lamp hangs two metres in(to) the tunnel.'

b. De lamp hangt twee meter achter de tunnel.
the lamp hangs two metres behind the tunnel
'The lamp hangs two metres behind the tunnel'

c. Hij rijdt twee meter de tunnel in.
he drives two metres the tunnel in
'He drives two metres into the tunnel.'

Zwarts (1994; 1997b) has shown that the restrictions for length modification are semantic in nature. In his proposal, a correlation between length modification and closure properties of prepositional phrases with locative adpositions is revealed and formalised in terms of vector theory. His theory for prepositional PPs with a locative adposition is first summarised and slightly modified in section 4.2. In section 4.3, length modification with postpositional phrases is examined (cf. (2a) vs. (2c)). The scope of vector theory is extended to the modification (im)possibility of postpositional PPs. Section 4.4 discusses modification with prepositional PPs with an extended locative adposition. These PPs are compared with prepositional phrases with a narrow locative adposition as discussed in section 4.2. The semantic (vector) analyses proposed in this chapter are all based on the (mostly locative), geometrically ideal meaning of the adpositional phrase. The conclusion is given in section 4.5.

4.2. Modification of prepositional phrases with a narrow locative adposition

4.2.1. Zwarts (1994)

As indicated in the introduction, the analysis for length modification with PPs which will be proposed in this chapter is based on Zwarts's (1994) vector theory for prepositional phrases with a locative adposition.\(^3\) A semantic approach is developed for the question why (2a) and (2b) differ with respect to length modification. In other words, the semantics of in (de tunnel) and achter (de tunnel) (and the other locative adpositions) have to be determined to see what information in their semantic structure is decisive for the possibility to combine the PP with a length modifier. First, a short summary of Zwarts's PP semantics is given.

Zwarts (1994) presents a vector analysis for locative prepositions. The interpretation of a PP with a locative adposition is a subset of the space relative to the reference point (i.e. the object of P). This subset of space, the spatial region, is given by a set of place vectors. In other words, each (narrow) locative preposition

\(^3\) The locative prepositions Zwarts discusses are: voor 'in front of', achter 'behind', boven 'above', onder 'under', naast 'next to', tussen 'between', binnen 'inside', buiten 'outside', bij 'near', in 'in', op 'on'. The locative prepositions Zwarts leaves aside are aan 'on' and tegenover 'across'.

comes with a characteristic spatial region and this region is formulated in terms of vectors. The vectors take the NP object of the preposition (the reference object) as their starting point. The set of vectors starting in the reference object denote the spatial region of the preposition in question relative to the reference object.

In set theoretic terms, a preposition is a SPACE function mapping the reference point x onto a set of vectors starting from the reference point x:

\[
\text{SPACE} (x) = \{ \, v \in S \mid \text{LOC} (v,x) \, \}
\]

where S is the set of place vectors \( v \), and \( \text{LOC} (v,x) \) means that the starting point of \( v \) (the vector) is x, the reference point. Thus, the PP \textit{onder de tafel} 'under the table' denotes the set of vectors with downward orientation starting at the table x (the reference point; NP in (4)). The denotation for a PP with a locative adposition in a model M is:

\[
[ [\text{pp}, \text{P NP}] ]_M = \{ \, v \in \text{SPACE} (\, [\text{NP}]_M \, ) \mid \ldots \}
\]

The final part of the formula, i.e. the part after the vertical slash, is where the individual prepositions vary (cf. (5) and (7)).

A distinction is made between topological and projective prepositions, denoting distance and orientation, respectively. Some examples of the topological prepositions Zwarts gives are \textit{op} 'on', \textit{in} 'in', \textit{binnen} 'inside', \textit{buiten} 'outside', \textit{bij} 'near'. These topological prepositions differ in the value for \(|v|\), i.e. the vector length:

\[
5 \quad \text{a. } [ [\text{pp}, \text{op NP}] ] = [ [\text{pp}, \text{in NP}] ] = [ [\text{pp}, \text{binnen NP}] ]
\]
\[
\{ \, v \in \text{SPACE} (\, [\text{NP}] \, ) \mid \, |v| = 0 \}^4
\]
\[
\text{b. } [ [\text{pp}, \text{buiten NP}] ] = \{ \, v \in \text{SPACE} (\, [\text{NP}] \, ) \mid \, |v| > 0 \}
\]
\[
\text{c. } [ [\text{pp}, \text{bij NP}] ] = \{ \, v \in \text{SPACE} (\, [\text{NP}] \, ) \mid \, |v| < r \}
\]

\( r \) is a positive real number. \(|v|\) cannot exceed a pragmatically determined \( r \) for \textit{bij}, otherwise \textit{bij} is no longer felicitous, see section 4.2.2)

For projective prepositions, on the other hand, the spatial region is defined relative to an axis (vertical, lateral, frontal axis) starting at the reference object x (in (7): NP). Each vector \( v \) can be decomposed into a projection (a) on, say, the vertical axis and a projection (b) on the axis perpendicular to the vertical axis, see (6).
With projective prepositions the length of the projection of the vector on one axis is compared with the length of the projection on the perpendicular (⊥) axis/plane:

\[(7)\]

a. \[\text{[pp boven } NP]\]
   \[= \{ v \in \text{SPACE ( [ NP ] | } |v_{\text{vert}[NP]}| > |v_{\perp \text{vert}[NP]}| \} \}

b. \[\text{[pp onder } NP]\]
   \[= \{ v \in \text{SPACE ( [ NP ] | } |v_{\text{vert}[NP]}| > |v_{\perp \text{vert}[NP]}| \} \}

c. \[\text{[pp voor } NP]\]
   \[= \{ v \in \text{SPACE ( [ NP ] | } |v_{\text{front}[NP]}| > |v_{\perp \text{front}[NP]}| \} \}

The region inside the dotted triangles in the figures (7a') and (7b') illustrate boven 'above' and onder 'under', respectively.

(7) a'/b'.

For both prepositions the length of the vector's projection on the vertical axis (in (6): (a)) must exceed the length of the projection on the perpendicular axis (in (6): (b)).
Now that we have discussed Zwarts’ analysis of the (vector) semantics of (locative) topological and projective prepositional phrases, let us return to the modification possibilities of these PPs. Zwarts shows that there is a correlation between modification possibilities of prepositional phrases with a locative adposition and the vector properties of the PPs. He offers a subdivision within the class of locative prepositions, based on the ability of the vector to be closed under lengthening. Closed under lengthening informally means that a vector \( v \) of a P, say \( \text{voor (het huis)} \) ‘in front of (the house)’, can be lengthened and that this lengthened vector \( w \) is also in the denotation of ‘in front of (the house)’.\(^5\) PPs with this vector property, i.e. vectors which are closed under lengthening, can be modified by length modifiers like \( \text{twee meter} \) ‘two metres’; the other PPs cannot. (8) lists the prepositions which are closed under lengthening and the ones which are not. Examples to illustrate the correlation are given in (9) and (10).

\[(8)\]
\begin{align*}
\text{a.} & \quad \text{closed under lengthening: voor ‘in front of’, achter ‘behind’, boven ‘above’, onder ‘under’, naast ‘next to’, buiten ‘outside’} \\
\text{b.} & \quad \text{not closed under lengthening: in ‘in’, op ‘on’, binnen ‘inside’, bij ‘near’, tussen ‘between’}
\end{align*}

\[(9)\]
\begin{align*}
\text{a.} & \quad \text{twee meter voor / achter de auto} \\
& \quad \text{two metres in front of / behind the car} \\
& \quad \text{‘two metres in front of / behind the car’} \\
\text{b.} & \quad \text{twee meter boven / onder ons} \\
& \quad \text{two metres above / under us} \\
& \quad \text{‘two metres above / under us’} \\
\text{c.} & \quad \text{twee meter naast het raam} \\
& \quad \text{two metres next to the window} \\
& \quad \text{‘two metres next to the window’} \\
\text{d.} & \quad \text{twee kilometer buiten de stad} \\
& \quad \text{two kilometres outside the city} \\
& \quad \text{‘two kilometres outside the city’}
\end{align*}

\[(10)\]
\begin{align*}
\text{a.} & \quad \text{* twee meter in / op de berg}\(^6\) \\
& \quad \text{two metres in / on the mountain} \\
& \quad \text{‘two metres in / on the mountain’}
\end{align*}

\(^5\) A PP is closed under lengthening iff in every model M: for every \( v \in \text{PP } L_M \) if \( w \) is a lengthening of \( v \) then \( w \in \text{PP } L_M \) (Zwarts 1994: 135f.)

\(^6\) Modification of an \( \text{in} \) prepositional PP is possible in (i):

(i) \( \text{de trein was nog maar twee meter in de tunnel toen de brand uitbrak} \)

‘the train was just two metres in the tunnel as the fire started.’

(i) implies a movement of the train into the tunnel. In this case the object of \( \text{in} \) does not necessarily get an (idealised) point interpretation. Hence, the vector analysis in (5a) cannot be applied to (i).
b.* twee meter binnen de stad\textsuperscript{7}
two metres inside the city
‘two metres inside the city’
c.* twee meter bij de auto
two metres near the car
‘two metres near the car’
d.* twee meter tussen het raam en de deur
two metres between the window and the door
‘two metres between the window and the door’

On the basis of the above data, Zwarts (1994: 136) shows that there is a correlation between vector lengthening and modification possibilities with \textit{twee meter}. However, he explicitly states that he does not have an explanation for why this is so. In the next section, I will take a closer look at the relation between vector properties and modification, in search of an explanation for the above correlation.

4.2.2. A modification of Zwarts (1994)

As indicated in the previous section, Zwarts (1994) reveals a correlation between a vector property (viz. closure under lengthening) and modification possibilities. Although Zwarts presents his findings as an observation for which he has no explanation, I will show that by saying a little bit more about the vector property and the impact of adding a modifier, Zwarts’ correlation can be explained.

According to Zwarts (1994) only PPs which are closed under lengthening allow for modification by \textit{twee meter}. In case the PP is not closed under lengthening, modification is infelicitous. I will show that the notion \textit{restriction} plays an important role in the modification possibilities. In case the PP is closed under lengthening, we say that the PP space is restricted. When we take a look at what the prepositions with restricted space have in common, we see that they have in their definition a restriction for the length of vector $v, |v|$, in that its value is fixed (see (5) vs. (7)).

The vector length can be restricted in three possible ways:

\textsuperscript{7} Judgements differ for \textit{binnen}. The \textit{binnen} vector cannot be extended indefinitely (is not closed under lengthening); after a certain amount of time one is no longer "inside the enclosure" but outside it again. However, some native speakers I have consulted tend to judge \textit{x meter binnen NP} as grammatical in case the border of the NP is considered (either explicitly as in (i) or implicitly as in (ii)-(iii)):

(i) Jan woont twintig meter binnen de grenzen van de stad.
Jan lives twenty metres inside the borders of the city
‘Jan lives twenty metres inside the borders of the city.’

(ii) De basketbalspeler staat 30 cm binnen de cirkel.
The basketball player stands 30 cm inside the ring
‘The basketball player stands 30 cm inside the ring.’

(iii) Piet woont 100 meter binnen het bereik van de zender.
Piet lives 100 metres within the range of the broadcasting station
‘Piet lives 100 metres within the range of the broadcasting station.’

In (i)-(iii) the length modifier denotes the distance between the subject and the border of the reference object.
The first two restrictions are as given by Zwarts (1994: 131), although he does not talk about restriction of space as a theoretically relevant notion. In case $|v| = 0$ (as in (11a)), there is a fixed length of the vector, namely 0. As Zwarts (1994) states for *bij* in (11b), $r$ is pragmatically given. That is, for a PP like *(het huis) bij de toren* *(the house) near the tower* to be felicitous the distance between the house and the tower should not exceed a certain pragmatically determined distance value $r$. 10 metres would still be felicitous, but 100 metres might be too much, depending on the position of the speaker. The third possibility, $|v| \leq r$, has a fixed value $r$ for the length of $v$. The maximum value for $|v|$ is either determined by the distance between the two semantic/reference objects related by *tussen* *between* or by the radius $r$ of the object in the case of *binnen* and *in*:

In (11), I have presented three possible ways of vector length restriction. In all cases, the PP has a (fixed) value for $v$ in its denotation.

(13) states that it is not so much the closure property of the vector but the restriction on vector length which is relevant for length modification:

---

8 The preposition *aan* does not require direct contact with the reference object as can be seen in (i) and (ii); $|v| < r$ ($r \in \mathbb{R}$):

(i) Scheemda ligt aan de A7.
   Scheemda lies on the A7
   'Scheemda is near the A7.' *(some distance between the village of Scheemda and the highway)*

(ii) Het huis staat aan het water.
    The house stands on the water
    'The house is on the water.'

9 Zwarts (1994: 133) gives a denotation for *tussen* *between* without a fixed value for $|v|$ but in terms of relative length of vectors projected onto two inter-axes. An indication that the analysis for *tussen* as proposed in this chapter is correct is that it fits the generalisation which accounts for the correlation between vector property and modification. That is to say, the denotation of *tussen* crucially includes a restriction for $|v|$ *(for tussen: $0<|v|<r$)* so that it is predicted that *twee meter* cannot be added. In Zwarts's analysis of *tussen* only relative, not absolute, restrictions are formulated for $|v|$ (analogous to (7) above, see discussion below).
(13) Length modification with prePPs with a locative adposition:
PPs with a vector length restriction cannot be modified by a length modifier.

So far we are no further than Zwarts. His correlation has merely been restated; no
explanation has been offered. To explain why some PPs (namely, PPs with non-
restricted space) can be combined with e.g. twee meter while others cannot, it should
be made clear what happens if such a modifier is added to a PP. A modifier like twee
meter "gives" a distance, i.e. a value for $|v|$. In the definition of some PPs the value
for $|v|$ is already given (see (11)). Adding a distance value like twee meter to an
already fixed value for $|v|$ is in a sense superfluous / non-informative or sometimes
even contradictory; the definition should contain only one value for $|v|$ (cf. *(14)).
The following examples show that PPs with a fixed value for $|v|$ (as identified in
(11)) cannot be modified by a length specification.\(^\text{(10)}\)

\[
\begin{align*}
(14) & \quad * & \left[ [_{\text{nr}} \text{ PLOC} \text{ NP}] \right] = \{v \in \text{SPACE ( [ NP ])} \mid |v| \text{ is fixed} \& |v| = 2 \\
(15) & \quad \text{a.} & \quad \text{Het boek hangt (*30 cm) aan de muur.} \\
& & \quad \text{The book hangs 30 cm on the wall} \\
& & \quad \text{The book hangs 30 cm on the wall.}' \\
& \quad \text{b.} & \quad \text{Jan woont (*30 meter) bij de molen.} \\
& & \quad \text{Jan lives 30 metres near the mill} \\
& & \quad \text{Jan lives 30 metres near the mill.}' \\
& \quad \text{c.} & \quad \text{Piet woont (*30 km) tussen Leiden en Pieterburen.} \\
& & \quad \text{Piet lives (30 km) between Leiden en Pieterburen} \\
& & \quad \text{Piet lives 30 km between Leiden and Pieterburen.}' \\
& \quad \text{d.} & \quad \text{Joris staat (*2 meter) in het strafschopgebied.} \\
& & \quad \text{Joris stands 2 metres in the penalty area} \\
& & \quad \text{Joris stands 2 metres in the penalty area.}' \\
& \quad \text{e.} & \quad \text{Korneel woont (*?1 km) binnen de bebouwde kom.}\(^\text{(1)}\) \\
& & \quad \text{Korneel lives 1 km inside the built-up area} \\
& & \quad \text{Korneel lives 1 km inside the built-up area.'}
\end{align*}
\]

For the PPs in (11a) and (15a) modification is not only non-informative, there is
even a conflict in the value for $|v|$: 0 $\neq$ 30 cm.

On the other hand, PPs which are closed under lengthening have no spacial
restrictions in their definition. Although every vector has a certain length (a property
of all vectors), the value for these PPs is neither fixed a priori nor given by
pragmatics nor by the radius of the object. This is illustrated for the projective
preposition boven 'above'. For this adposition it is merely the relative length (i.e. $>$)
of the two vector projections on the axes representing its space which is relevant, as
can be seen in (7a), repeated here:

\(^{10}\) For part of the ungrammatically modified PPs an interpretation can be construed. For
instance (15b); Jan lives near the mill, at a distance of 30 metres.  
\(^{11}\) see footnote 7.
(7) a. \[ [\text{pp} \text{ boven NP}] \]
    \[ = \{ v \in \text{SPACE} ( [\text{NP}] ) \mid |v_{\text{vent}[\text{NP}]}| > |v_{\text{vent}[\text{NP}]}| \} \]

Since the definition in (7a) does not "give" a fixed value for \(|v|\), no problems arise when a modifier like \textit{twee meter} is added. In this case \textit{twee meter} provides the value for \(|v_{\text{vent}}|\):

(16) \[ [\text{twee meter} \text{pp boven NP}] = \{ v \in \text{SPACE} ( [\text{NP}] ) \mid |v_{\text{vent}[\text{NP}]}| > |v_{\text{vent}[\text{NP}]}| \& |v_{\text{vent}}| = 2 \} \]

The resulting subdivisions are given in (17). Only prepositional phrases which have no fixed \(|v|\) in their definition can be modified by a length specification. The relevant generalisation is given in (18).

(17) a. Ps with fixed \(|v|\): \textit{in} 'in', \textit{op} 'on', \textit{tussen} 'between', \textit{bij} 'near', \textit{aan} 'on', \textit{binnen} 'inside'
    b. Ps without fixed \(|v|\): \textit{voor} 'in front of', \textit{achter} 'behind', \textit{naast} 'next to', \textit{boven} 'above', \textit{buiten} 'outside', \textit{beneden} 'below', \textit{onder} 'under'

(18) In the definition of a (modified) PP, the value of \(|v|\) is given once
    ~ *\textit{twee meter} + PP with fixed \(|v|\)

It might be objected that what I call "the prepositions without fixed \(|v|" are actually not different from Zwarts's (1994) prepositions which are closed under lengthening in that the resulting subdivision within the class of locative prepositions is the same in both approaches. There is, however, an advantage in using "± fixed \(|v|" as the relevant notion. Whether a PP can be modified by a length modifier follows directly from the semantics of the PP; in the definition of PP it is stated whether \(|v|\) is fixed or not. Closed under lengthening, on the other hand, cannot be read off the definition of the PP. It can thus be concluded that with "± fixed \(|v|" the definition of the PP shows directly whether length modification is possible.

This section has shown that inherent semantic properties regulate length modification with prepositional phases. It was argued that the vector property "fixed value for \(|v|" is the relevant characteristic restricting \textit{twee meter} modification. For modification by \textit{vlak} 'close' vector properties seem relevant as well, although it is not "fixed value of \(|v|" which is relevant with \textit{vlak}. In the remainder of this section, \textit{vlak} modification is discussed.

The prepositions \textit{voor, achter, boven, onder, naast, buiten, binnen, bij} and \textit{aan} can be modified by \textit{vlak} (see (19)); \textit{in, op} and \textit{tussen} cannot (see (20)).

    Jan lives close behind / above / under / near the station
    'Jan lives just behind / above / under / near the station.'
    b. De bal ligt vlak buiten het strafschopgebied.
    the ball lies close outside the penalty area
    'The ball is lying just outside the penalty area.'
c. Het kasteel ligt vlak aan het water.
   the castle lies close on the water
   'The castle is close to the water.'

(20) a. * Peter staat vlak op de grond.
    Peter stands close on the ground
    'Peter is standing close on the ground.'

b. * Peter staat vlak tussen de wolkenkrabbers.
    Peter stands close between the sky scrapers
    'Peter is standing close between the sky scrapers.'

c. * De bal ligt vlak in het strafschorpgebied.
    the ball lies close in the penalty area
    'The ball is lying just in the penalty area.'

The modifier *vlak indicates that there is a short distance between two objects (i.e. the located object and the reference object). Hence, prepositions which have \(|v| = 0\) in their denotation are predicted not to be compatible with *vlak. Crucially, with *vlak the distance between located and reference object does not equal 0. In (11a) it was shown that *op has \(|v| = 0\), and indeed it cannot be combined with *vlak: (20a).\(^\text{12}\) As stated above, *vlak indicates a short distance between the located object and the reference object. The ungrammaticality of *vlak combined with a tussen-PP (cf. (20b)) might be due to the fact that tussen takes not one but at least two (semantic) reference objects, say A and B.\(^\text{13}\) The (short) distance which *vlak denotes is hence not unequivocal with tussen-PPs.\(^\text{14}\) Also *in 'in' cannot be combined with *vlak: (20c). My suggestion is that it is the inclusion relation between the located object and the reference object which matters for *in and not so much the distance between the two objects (here *in and binnen differ). Since there is no reference to the distance between located object and reference object with *in, using a modifier like *vlak, which implies a short distance, is not felicitous.

Just like length modifiers of the type *twee meter, the particle modifier *vlak can be combined with PPs containing a preposition which does not have a restriction for vector length in its denotation. This is demonstrated in (19a), e.g. *voor 'in front of' and *boven 'above'. Unlike *twee meter modifiers, *vlak can also be found with a bij-

\(^{12}\) In (i) *op does not display its so-called geometric ideal, i.e. with a point-like reference object and \(|v| = 0\), and as soon as \(|v|\) can be interpreted as \(>0\), *vlak modification is possible:

\[
\begin{align*}
   \text{(i) de bomen staan vlak op elkaar.} \\
   \text{the trees stand close on each other}
\end{align*}
\]

'‘the trees stand close to one another.’ (from Hans Bennis, p.c.)

\(^{13}\) "Object" should here be understood as semantic or reference object, not as syntactic object; syntactically tussen only takes one, complex object.

\(^{14}\) Helen de Hoop (p.c.) notes that modification with *vlak is acceptable for her in (19b) in case the sky scrapers are close to one another and Peter stands between them. In this case, *vlak seems to modify the distance between the two reference objects (the sky scrapers) and not so much between the located object (Peter) and the reference object.
PP, see (19a).

It can thus be concluded that just like with length modification discussed above, modification with *vlak* is restricted by vector properties of the PP to be modified. For length modifiers like *twee meter* the relevant criterion is whether $|v|$ is fixed or not. Modification with *vlak* seems less restricted. The generalisation for restrictions on *vlak* modification can be formulated as follows: modification is possible, unless $|v| = 0$. Hence, modification of a *bij*-PP, which interpretation has been argued to be influenced by pragmatic factors and which, crucially, does not have a $|v| = 0$ restriction in its denotation, is possible with *vlak*.

4.3. Modification of postpositional phrases

Section 4.2 has shown how vector theory can be used to account for restrictions on length modification with prepositional phrases with a (narrow) locative adposition. This section discusses length modification with postpositional phrases. The strategy followed is the same as in the previous section. First, the (vector) semantics of postpositional PPs is determined. After that the relevant criterion for length modification is determined. It will be argued that just like with prepositional PPs, vector length restrictions are relevant for modification with postpositional PPs.

In the previous section, vector theory was used to formulate the "locative" space denoted by the prePP. However, vectors can also be used to formalise the change in (locative) space / position (i.e. direction). In prepositional phrases with a locative adposition, there is no change in location, that is no path. Prepositional phrases with an inherently directional adposition and postpositional PPs do have such a path (cf. chapter 1 and chapter 3, respectively). This path traversed by the located object can be formulated in terms of vectors relative to a time interval $I$. For each instance $i \in I$ there is a (shortest) vector starting at the reference object pointing to the position of the located object. The endpoints of the vectors constitute the path (see Zwarts & Winter 1997 for more formal definitions). For prepositional phrases with a locative adposition, which do not designate a change in locative space, the path, $|v_{al}|$, equals 0 ($\Delta = \text{change}$; $l = \text{location}$). For prepositional PPs with a directional adposition and postpositional PPs $|v_{al}|$ does not equal 0: $|v_{al}| \neq 0$. In other words, there are at least two $i \in I$ such that the endpoint of the vectors at $i_x$ and $i_y$ ($x \neq y$) are different; there is a path.\(^{15}\)

The above formalism of the notion *path* will not be worked out here; the interested reader is referred to Zwarts & Winter (1997). Important in our discussion is that paths can be reformulated in terms of vectors. This will turn out to be relevant for modification of postpositional PPs. So far the following has been found:

---

\(^{15}\) I use $|v_{al}|$ to denote the path traversed by the located object. The path is strictly speaking only indirectly formulated in terms of vectors (see above). This idealisation of the path as a vector is legitimate for most of the directional prepositions, as will be shown below, and it will do for the general claim in this chapter that also postpositional PPs and prepositional PPs with a directional adposition can be formulated in terms of vectors.
(21)  

a. prepositional PPs have  
   (i) $|v_{\Delta t}| = 0$ (P = locative) or ...no path  
   (ii) $|v_{\Delta t}| \neq 0$ (P = directional) ...path  

b. postpositional PPs have $|v_{\Delta t}| \neq 0$ ...path  

In (21) the observation of location / path semantics for pre- and postpositional phrases discussed in chapter 3 is reformulated in terms of vectors. The semantic difference between pre- and postpositions has been formalised now and will help us to understand the modification (im)possibilities of the PPs. As has been argued in the previous section, vector properties determine length modification of the PP. In other words, vector properties make predictions about modification. This section shows that just like with prepositional PPs with a locative adposition the properties of vector length for postpositional PPs make predictions about their modification possibilities. These modification data thus support the reformulation of point / path in terms of vectors as in (21). The modification properties of prepositional phrases with a directional adposition are postponed till section 4.4.  

In section 4.2.2, I argued that vectors with a fixed $|v|$ value for locative space are incompatible with modifiers like *twee meter* 'two metres' since the modifier would provide another, possibly contradictory value for the vector length fixed already. With postpositional PPs the path, $v_{\Delta t}$, is subject to this property of vector length restriction as well. It will be shown that this restriction has consequences for modification.  

In general, postpositional PPs denote a process along a path, and the syntactic object $x$ of the postposition denotes the path. The figures in (22) schematically represent different postpositional PPs with a perspective from above.  

(22)  

```
\[
\begin{array}{c}
\text{binnen (x)}
\end{array}
\]
```

```
\[
\begin{array}{c}
\text{over (x)}
\end{array}
\]
```

The class of postpositional PPs displays a dichotomy; (22) shows that $v_{\Delta t}$ (the arrow) can "occupy" part of the object $x$ (cf. (22a)) or the entire object, as in (22b). In other words, the length of $v_{\Delta t}$ relative to $x$ is fixed in the latter case, whereas it is not fixed in (22a). In sum, for some postpositions part of $v_{\Delta t}$ relative to $x$ is fixed, for others it is not.  

(23) lists the two types of adpositions in postpositional PPs:  

(23)  

a. *in* 'in', *op* 'on', *onder* 'under', *binnen* 'inside'  

b. *over* 'across', *door* 'through', *rond* 'around', *om* 'around', *voorbij* 'past',  
   *langs* 'along'  

For the type b adpositions, the $v_{\Delta t}$ relative to $x$ is fixed, whereas this is not fixed for
the type a adpositions.

The two types in (23) differ not only with respect to the position of the arrow relative to the object x (see (22)). For postpositional PPs with adpositions from (23a) it holds that at the end of the movement denoted by the verb, the subject is at location P(x), where P is given by the adposition. For the postpositional PPs in (23b) this is not the case. This is illustrated in (24).

(24) a. Piet fietst de tunnel in -- Piet bevindt zich in de tunnel. Piet cycles the tunnel into Piet finds \textsc{refl} in the tunnel 'Piet cycles into the tunnel (and after that: Piet is in the tunnel).'  
   b. Piet fietst de tunnel \textsc{door} *-- Piet bevindt zich \textsc{door} de tunnel. Piet cycles the tunnel through Piet finds \textsc{refl} through the tunnel 'Piet cycles through the tunnel (and after that: Piet finds himself through the tunnel).'</p>

The subclassification in (23) need not come as a surprise. Actually, the subclassification in (23) has already been given in chapter 1; the adpositions in (23a) are the narrow locative adpositions, whereas the ones in (23b) have been labelled as extended locative adpositions.

In sum, the relevant descriptive generalisation is that for the postpositions with an extended locative adposition, the distance of v_{\text{al}} with respect to the object x is fixed in that it equals the length of the object. In other words, the entire object x is included in the path. This is illustrated in (25).

(25) de Erasmusbrug over  
the Erasmus Bridge across  
'across the Erasmus Bridge'

In (25) I present a postpositional PP with the extended locative adposition \textit{over}. In (25) there is movement on the bridge towards a position on the other side of the bridge. Here the entire length of the bridge is involved. Hence, the length of the path |v_{\text{al}}| relative to the object equals the length of the object (here: the bridge).

Importantly, for postpositions with a narrow locative adposition this distance is not fixed. The above generalisations can now be summarised as follows.

(26) a. postpositional PP with an extended locative adposition:  
|v_{\text{al}}| relative to object x is fixed: |v_{\text{al}}| relative to object x = length of x  
   b. postpositional PP with a narrow locative adposition:  
|v_{\text{al}}| relative to object x is not fixed

Now that the semantics of the postpositional PP has been determined and reformulated in terms of vectors in (26), let us take a look at modification. It turns out that the dichotomy in the class of adpositions in postpositional PPs, as given in (23), corresponds to the split found in the adpositional class with respect to modification. In other words, type a adpositions, i.e. narrow locative adpositions, do allow for length modification, whereas modification is blocked with extended
locative adpositions (type b adpositions). This is illustrated in (27) and (28).

(27) a. Piet fietst twee meter de tunnel in.
   Piet cycles two metres the tunnel in
   'Piet cycles two metres into the tunnel.'

   b. Piet fietst twee meter de berg op.
   Piet cycles two metres the mountain on
   'Piet cycles two metres onto the mountain.'

   c. De bal rollt drie meter het strafschoopgebied binnen.
   the ball rolls three metres the penalty area inside
   'The ball rolls three metres into the penalty area.'

(28) a. * Hein rijdt twee meter de Erasmusbrug over.
   Hein drives two metres the Erasmus Bridge across
   'Hein drives two metres across the Erasmus Bridge.'

   b. * Piet rijdt drie meter de Schiphol Tunnel door.
   Piet drives three metres the Schiphol Tunnel through
   'Piet drives three metres through the Schiphol Tunnel.'

   c. * Hein fietst 100 km het IJsselmeer rond.
   Hein cycles 100 km the IJsselmeer around
   'Hein cycles 100 km around the IJsselmeer.'

   d. * Piet rent twee meter het huis om/langs/voorbij.
   Piet runs two meters the house around/along/past
   'Piet runs two metres around/past the house.'

   e. ?? Hein rent drie meter de tunnel uit.
   Hein runs three meters the tunnel out
   'Hein runs three metres out of the tunnel.'

Section 4.2.2 has shown that whether vector length is fixed determines length modification with prepositional PPs. The same argumentation can be applied to the postpositional PPs in (27) and (28). It was shown above that with postpositional PPs with a narrow locative adposition $|v_{ai}|$ relative to object $x$ is not fixed. It is thus expected that these postpositional phrases can be combined with length modifiers like *twee meter*, see (27). For postpositional PPs with an extended locative adposition, on the other hand, this value was fixed; $|v_{ai}|$ relative to object $x$ equals the length of the object $x$. As expected, postpositional PPs with an extended locative adposition cannot be modified by *twee meter*, cf. (28).

Just like with the prepositional PPs discussed in section 4.2, vector length

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16 Using *onder* as a postposition productively seems to be restricted to Flanders and southern parts of the Netherlands. Johan Rooryck (p.c.) and Marcel den Dikken (p.c) consider this construction grammatical but both note that they accept *onder* as a postposition only without modification in (i).

(i) De bal rollt (*30 cm) de kast onder.
   the ball rolls 30 cm the cupboard under
   'The ball rolls 30 cm under the cupboard.'

The adposition *onder* in postpositional structure differ from the other narrow locative adpositions in this position.
restrictions turn out to be decisive for length modification with postpositional PPs. The generalisation for *twee meter* length modification with prepositional PPs with a (narrow) locative adposition and postpositional PPs can be stated as follows:

(29) Length modification is possible if there are no inherent restrictions on the length of the (relevant) vector in the definition of the PP.

For postpositional PPs the relevant vector is the vector denoting change of location, $|v_{Δl}|$, relative to the length of the reference object $x$. The relevant vectors for prepositional PPs consist of the set of place vectors starting in the object $x$.

4.4. Modification of prepositional phrases with an extended locative adposition

So far the previous sections have discussed the length modification (im)possibilities with postpositional PPs and with prepositional PPs with narrow locative adpositions. The focus of this section is on length modification with prepositional PPs with an extended locative adposition. Again vector properties will play a role in length modification. First, the vector properties of these prepositional PPs are examined. After that we turn to modification and the implications from vector theory.

Just like with postpositional PPs, prepositional PPs with an extended locative adposition have a path specification (cf. chapter 1). Analogous to postpositional PPs, prepositional PPs with an extended locative adposition have $|v_{Δl}| \neq 0$ in their (vector) specification.

(30) De palen bevinden zich langs de A7.
the posts find REFL along the A7
'The posts are situated along the A7.'

(31) Jan loopt langs het paaltje.
Jan walks along the post
'Jan walks along the post.'

Now let us turn to the vector properties of these adpositions and see what they predict for length modification.

First, consider extended locative adpositions in prepositional phrases as in (30). In this case, the path provided by the PP *langs de A7 'along the A7'* is understood as an extended location. The examples in (32) show that length modification like *twee meter* 'two metres' is excluded with extended locations:

(32) a. * De palen bevinden zich twee km langs de A7.
the posts find REFL two km along the A7

b. * De palen bevinden zich twee km door het hele land.
the posts find REFL two km through the whole country

I assume that the ungrammaticality of the extended location examples in (32) is of the same sort as with the location examples discussed in section 4.2. It was argued
there that prepositional phrases which have a restriction for the (place) vectors in 
their definition cannot be modified by a length modifier; adding a length modifier 
would provide another, possibly conflicting value restriction for the vector length, 
$|v|$. For convenience, the relevant opposition is repeated here:

(33)

a.  Jan bevindt zich 2 meter boven het huis.  
    Jan finds REFL 2 metres above the house
    'Jan is 2 metres behind the house.'

b.  $[[\text{op} \ boven \ NP]]$
    $= \{ v \in \text{SPACE} \ (\ [\ NP \ ]) \ | \ |v_{\text{vert}(NP)}| > |v_{\text{hor}(NP)}| \}$

c.  *  Jan bevindt zich 2 meter op het huis.  
    Jan finds REFL 2 metres on the house

d.  $[[\text{op} \ NP]]$
    $= \{ v \in \text{SPACE} \ (\ [\ NP \ ]) \ | \ |v| = 0 \}$

In (33), boven 'above' has no length restriction for $v$ in its definition; the vectors 
which start in the reference object (here: the house) and have an upward orientation 
do not have an absolute restriction on $|v|$ (cf. (33b)). For op 'on' the definition (cf. 
(33d)) does contain such a restriction: $|v| = 0$. Consequently, addition of 2 meter in 
(33c) is ungrammatical.

Now consider the examples in (32). In these cases, the vectors with a starting 
point in de A7 'the A7' and het hele land 'the whole country', i.e. the reference object 
of P, have at least a pragmatic restriction on their length. Let me illustrate this for 
the region denoted by langs de A7. In (32a) the posts are situated on a line/path parallel 
to the highway A7. The vectors denoting this region start on the A7, which is a 
linearly ordered set of points. For each point it holds that a set of vectors has the A7 
as its starting point. The relevant vectors for the region langs de A7 are those vectors 
which are at right angles, horizontally, to the linearly ordered set of points 
constituting the (direction of the) A7 (in Zwarts & Winter 1997 these vectors are 
labelled shortest vectors).

I assume that these vectors are pragmatically restricted analogously to bij 'near'. 
For bij DP to be felicitous the distance between the reference object and the located 
object (i.e. the length of the vector) should not exceed a certain pragmatically 
determined value. For bij de molen 'near the mill', 10 metres might still be 
acceptable, but 100 metres is probably too much. The same now can be assumed for 
langs de A7 (and door het hele land). The vectors perpendicular to the path given by 
the A7 highway denote the region 'langs de A7'. These shortest vectors start on the 
highway, and their length determines the distance between the highway and the 
posts. Just like with bij, this distance is pragmatically restricted. That is to say, the 
vector length should not be too long for langs de A7 to be felicitous. Moreover, for 
langs de A7 to be interpreted as "parallel to the A7" the vectors are even more 
restricted in that the length of the perpendicular vectors should all have the same 
value for $|v|$.$^{17}$ It can thus be concluded that this (pragmatic) restriction on $|v|$
makes length modification as in (32) impossible. A length modifier like \textit{twee kilometer} cannot be added to \textit{langs de A7} since the definition of \textit{langs de A7} contains a vector restriction; the vector length is pragmatically restricted. The distance between the A7 and the (line of) pools parallel to the A7 is fixed only once. The examples in (32) present again a case in which vector length restrictions block PP length modification.

It might be objected that the interpretation sketched above is not the intended reading. That is to say, \textit{twee kilometer} should not refer to the distance between the A7 and the posts (i.e. the length of the shortest vector starting in the A7); the modifier should be understood as the length over which posts are found parallel to the A7. Importantly, the locative interpretation of prepositional PPs as developed in section 4.2.2 forces us to interpret the length modifier as the length of the (shortest) vector starting in the reference object. Consequently, the modifier cannot be understood as the distance over which posts are found.

It has been shown in section 4.2.2 that \textit{vlak} modification is less restricted than modification of the type \textit{twee meter}. The latter modifier type cannot be combined with PPs which have a vector restriction in their definition. The particle modifier \textit{vlak}, on the other hand, can be found with PPs with a vector restriction. The PP can have pragmatic restrictions for $|v|$ but, importantly, $|v|$ should not equal 0. This holds not only for prepositional PPs with a narrow locative adposition (cf. 4.2.2) but also for prepositional PPs with an extended locative adposition, like in (34).

\begin{equation}
\begin{align*}
\text{v}lak & \text{ langs de A7} \\
\text{close} & \text{ along the A7} \\
\text{`close along the A7'}
\end{align*}
\end{equation}

Recall that it has been assumed above that, analogous to \textit{bij 'near'}, the vectors for \textit{langs de A7} are pragmatically restricted. Modification with \textit{vlak} is hence expected to be possible with a \textit{langs-PP}.

After this extensive discussion of (30), now let us turn to modification with cases like (31). The NP \textit{het paaltje} in the PP \textit{langs het paaltje} `along the post' in (31) is interpreted as a point; the relevant part of the (langs) path is a point. The PP cannot be modified with \textit{twee meter}:  

\begin{equation}
\begin{align*}
\ast \text{ twee meter} & \text{ langs het paaltje} \\
\text{two metres} & \text{ along the post}
\end{align*}
\end{equation}

Modifying a point by a length modifier does not make sense.

This can also be observed with predicative prepositional PPs. Recall that PPs in resultative constructions denote some kind of transition point, cf. chapter 1. It is thus expected that these PPs cannot be combined with a length modifier. This prediction holds true. (36) shows this for prepositional PPs with a narrow locative adposition and (37) for prepositional PPs with an extended locative adposition.
(36)  a. * De bal is 2 meter in de tunnel gerold.
the ball is 2 metres in the tunnel rolled
'The ball has rolled 2 metres into the tunnel.'
b. * Jan is 200 meter op de berg geklommen.
Jan is 200 metres on the mountain climbed
'Jan has climbed 200 metres onto the mountain.'

(37)  a. * Jan is 30 meter over de brug gefietst.
Jan is 30 metres across the bridge cycled
b. * De bal is 30 meter over de brug (heen) gerold.
the ball is 30 metres across the bridge to rolled
c. * De bal is 300 meter door de tunnel (heen) gerold.
the ball is 300 metres through the tunnel to rolled

If the auxiliary in (36)-(37) is changed from zijn to hebben, a length modifier can be added. This is no surprise. In the examples in (38), the length modifier does not modify the PP but the verbal phrase. In other words, 30 meter does not say anything about the (length of the) bridge (*30 metres on the bridge), but denotes the distance traversed by bike (cycle 30 metres).

(38)  a. Jan heeft 30 meter op de brug gefietst.
Jan has 30 metres on the bridge cycled
'On the bridge, Jan has cycled 30 metres.'
b. Jan heeft 30 meter over de brug gefietst.
Jan has 30 metres across the bridge cycled
'On the bridge, Jan has cycled 30 metres.'
c. De bal heeft 300 meter door de tunnel gerold.
the ball has 300 metres through the tunnel rolled
'Through the tunnel, the ball has rolled 300 metres.'

4.5. Conclusion

It has been demonstrated in this chapter has shown that vector theory can be successfully applied to adpositional grammar showing how (syntactic) structure can be extended by modification. With this semantic approach the modification restrictions for length modifiers like twee meter 'two metres' and to some extent vlak 'close' can be accounted for. This chapter has shown that inherent semantic properties of the PP determine the PP's possibility to be extended by a length modifier.

In Zwarts (1994; 1997b), the correlation between vector properties and modification possibilities of the type twee meter was first observed and worked out for prepositional PPs with a narrow locative adposition. In this chapter, this correlation is formalised in terms of vector length restrictions in the definition of the PP. Moreover, Zwarts's proposal has been extended to postpositional phrases and prepositional PPs with an extended locative adposition.

This semantic approach makes it possible to formulate a generalisation for length modification with PPs. The relevant criterion has been argued to be the restriction on
vector length. If the definition of the PP includes a length restriction for the (relevant) vector, length modification of the type *twee meter* is not possible. The underlying idea is that the length of the vector can be given only once; either it is found in the definition of the PP (i.e. in the semantic structure of the PP) or it is given by a length modifier (that is, by adding an adverbial modifier in syntax) but crucially not by both. Modification with the particle *vlak* displays a different distributional pattern. This modifier combines with PPs with a restriction for vector length in their definition. The particle *vlak* can be found with PPs which have pragmatic restrictions for $|v|$ but, importantly, $|v|$ does not equal 0. For both types of length modifiers it holds that if there are no restrictions for $|v|$ in the PP's definition, modification is possible.
5 PP-Extrapolation

5.1. Introduction

So far we have been concerned with the internal structure of the Dutch PP. Our focus will now be on the interaction between the internal and the external syntax of the PP. In chapter 1 the following hypothesis was put forward:

(1) The internal structure of PP restricts PP's external syntax.

This chapter will illustrate the interaction between PP's internal and external syntax for extrapolation. Chapter 6 demonstrates this for R-word PP formation.

Dutch can have PPs both to the left and to the right of a verb in subordinate clauses. This phenomenon is illustrated in (2):

(2) a. dat Jan [pp in de tuin] speelde ..PP-V
     that Jan in the garden played
     'that Jan played in the garden'

     b. dat Jan speelde [pp in de tuin] ..V-PP
     that Jan played in the garden

The PP to the right of *speelde* in (2b) is said to be extraposed. It is often assumed that elements to the right of the verb appear there as a result of rightward movement (starting from a position to the left of V as in (2a)). Although the analysis of PP-extrapolation adopted in this thesis involves leftward movement, I will, for convenience, use the 'old' term. Extrapolation is thus merely a description for elements (here PPs) to the right of the finite verb in embedded clauses.

The PP *in de tuin* 'in the garden' in (2b) is found in extraposed position, that is to the right of the finite verb (*speelde* 'played'). Extrapolation is, however, not limited to one single PP; a sequence of PPs can show up to the right of V as long as – with neutral intonation – the order of PPs to the left of the finite verb is the mirror image of the PP-order to the right of the verb (the mirror effect, Koster 1974).

(3) a. dat Jan [pp tijdens de pauze] [pp in de tuin] speelde
     that Jan during the break in the garden played
     'that Jan played in the garden during the break'

     b. dat Jan speelde [pp in de tuin] [pp tijdens de pauze]
     that Jan played in the garden during the break
     'that Jan played in the garden during the break'

     c. * dat Jan [pp in de tuin] [pp tijdens de pauze] speelde
     that Jan in the garden during the break played

     d. * dat Jan speelde [pp tijdens de pauze] [pp in de tuin]
     that Jan played during the break in the garden
In addition to the mirror effect, PP-extrapolation is subject to other restrictions. It was checked in chapter 2, for each PP form/configuration found in Dutch, whether it can appear in extraposed position. It was shown that the function of the PP is decisive in that adverbial and subcategorised PPs can be found in extraposed position whereas predicative PPs cannot appear to the right of the finite verb in embedded clauses.¹ This is illustrated in (4):²

(4) a. dat Jan gesprongen heeft [PP in de sloot] adverb
that Jan jumped has in the ditch
‘that Jan has jumped in the ditch’
b. * dat Jan gesprongen is [PP in de sloot] predicate
that Jan jumped is in the ditch
‘that Jan has jumped into the ditch’
c. dat Jan geSPRONGen is in de sloot, niet gevallen
that Jan jumped is in the ditch not fallen
‘that Jan has jumped into the ditch, he did not fall’

It should be noted that the grammaticality judgements in this chapter concern sentences with a neutral stress pattern and that stress does not play a decisive role in the account of extrapolation as adopted in this thesis (Barbiers 1995). However, stress does influence the extrapolation possibilities; stress shift or contrastive stress, as in (4c), can 'save' extrapolation configurations. This chapter will not offer a detailed analysis of the impact of stress on extrapolation but it will be mentioned where applicable.

The structural account of PP-extrapolation in this chapter is based on Barbiers' (1995) theory of PP-extrapolation. It will be argued that the (im)possibility of PP-extrapolation is partly dependent on the function of the PP (as illustrated in (4)) and partly on the internal syntax of the PP. The relation between PP-extrapolation and the function of the PP will be worked out in section 5.2. Sections 5.4 to 5.6 will demonstrate that the internal syntax of the PP restricts the extrapolation possibilities. This is illustrated for R-word PPs, post- and circumpositional PPs and modified PPs.

The outline of this chapter is as follows. Section 5.2 discusses extrapolation as leftward movement. Barbiers' (1995) proposal of PP-extrapolation is summarised and discussed. His proposal is extended from simplex prepositional PPs to more complex PPs. Idiomatic PPs and R-word PPs are discussed in sections 5.3 and 5.4, respectively. Section 5.5 deals with more complicated data: extrapolation of complex PPs. Extrapolation of modified PPs will be the topic of discussion in section 5.6. Extrapolation of PPs in German is often considered to be ungrammatical, at least according to normative grammars. The (im)possibility of PP-extrapolation in German is discussed in section 5.7. Section 5.8 presents a summary of the results of this chapter.

¹ This generalisation must be slightly revised for PP constructions with a particle, see section 5.5.
² The relation between auxiliary selection (hebben/zijn) and the function/structural position of the PP was discussed in chapter 1.
5.2. Extraposition as leftward movement

5.2.1. Extraposition as VP-intraposition
Koster (1974) analyses PP-extraposition as a case of rightward movement of the PP. The PP starts out to the left of the verb and moves to a position to the right. No specific claims are made about the precise position of the landing site of the PP. This movement is coined \( PP\text{-over-V} \). As for cases of multiple extraposition, Koster (1974) assumes that \( PP\text{-over-V} \) takes place in a successive cyclic fashion, resulting in the mirror image of the PP sequence (cf. (3)). Note that Koster's ideas conflict with Kayne's (1994) universal leftward movement hypothesis.


Barbiers (1995) develops an alternative to -theory; it is not -assignment but qualification which is responsible for interpretation. An element can only be interpreted if it is part of a qualification relation, i.e., is in a specific structural configuration, which he makes precise. Furthermore, all movement is triggered by the need to establish a qualification relation.

According to Barbiers (1995) a qualification relation has to be established for extraposition as well. The structure is given in (5) below. The adverbial PP is represented as an adjunct to the left of VP. The extrapoosed word order is the result of movement of the lower VP-segment to SpecPP. This movement creates a qualification relation between VP (speelt) and its trace, and \( P' \) (in de tuin) functions as a qualifier:

\[
\begin{align*}
&\text{VP} \\
&\quad \text{PP} \\
&\quad \quad \text{VP} \\
&\quad \quad \quad \text{P} \\
&\quad \quad \quad \quad \text{NP} \\
&\quad \quad \quad \quad \quad \text{P in} \quad \text{de tuin} \\
&\quad \quad \quad \quad \quad \quad \text{speelt} \\
\end{align*}
\]

\[3\] The definitions for such a semantic (qualification) relation are as follows (Barbiers 1995: 7):
(i) a. A node \( Z \) establishes a S(ematic)-relation between a node \( X \) and a node \( Y \) iff \( X \) immediately c-commands \( Z \) and \( Z \) immediately c-commands \( Y \).
   b. A node \( Z \) is a qualifier of a node \( X \) iff \( Z \) establishes a S(ematic)-relation between \( X \) and \( Y \), and \( X \) and \( Y \) are coindexed. Informally speaking, two nodes \( X \) and \( Y \) can only be interpreted if a relation between them is established. \( Z \) functions as the qualifier in a reflexive S-relation in (i).
The overt movement in (5) is optional, which does not mean, however, that qualification is optional. Barbiers assumes that qualification must take place but that the level at which it occurs is not fixed. When the movement of VP to SpecPP takes place overtly, it results in the extraposition order. If movement is postponed to covert syntax, the non-extraposed order appears.

In cases of two (or more) PPs in extraposed position like in (3), the movement of VP to SpecPP applies several times. First, VP₁ is moved to SpecPP₁ (*dat Jan in de tuin speelt tijdens de pauze* that John in the garden plays during the break*). Second, VP₃ moves to SpecPP₂ (*dat Jan speelt in de tuin tijdens de pauze* that John plays in the garden during the break*):

(6)

```
  VP₁
   PPᵢ
      VP₂ᵢ
         P'                                 tijdens de pauze
                                    tᵢ
                                      PP₂
                                           VP₃
                                              P'  
                                                speelt
                                                      in de tuin
```

In (6), PP₂ functions as the qualifier for VP₃, and PP₁ is the qualifier for VP₂.

It can thus be concluded that Barbiers (1995) can account for the occurrence of both the extraposed and the non-extraposed order and the mirror effect as displayed in (3). Barbiers shows that PP-adverbials, which are represented as adjuncts to VP, can be found in extraposed position. In this case, the extraposed word order involves VP-intraposition; a segment of VP moves to SpecPP to establish a qualification relation. In sum, the adverbiaal PP (here: *in de tuin*) functions as a qualifier for the VP (here: *speelt*).

Unlike adverbiaal PPs predicative PPs, cannot be found in extraposed position. Predicative PPs are PPs which generally appear in resultative constructions in which they denote the (end) location/resultant state of the movement given by the verb. Moreover, they select the auxiliary *zijn* 'to be' (inergative configurations), cf. section 1.5. It has been argued in chapter 1 that these predicative PPs are represented as small clause predicates in the complement of a verb. These predicative PPs are generated in a position to the left of the verb in Barbiers (1995). VP-intraposition,
i.e. movement of VP to SpecPP is blocked in this case since this movement would result in an unwanted interpretation configuration for the PP. Barbiers's (1995: 117f.) argument for the ungrammaticality of extraposed small clause predicates runs as follows. Predicative PPs are qualifiers of the SC subject (in (7): Jan). This means that at some point in the derivation Jan – and crucially not VP – must be in SpecPP. In other words, the VP is not possible in SpecPP for interpretational reasons. If the VP cannot occupy this SpecPP it means that the extraposed word order, i.e. VP-intraposition, is not possible with predicative PPs.

(7) \[ \text{[vp[pp Jan, [p in de sloop ][vp t, [v sprong ]]]]}^4 \]

The SpecPP in (7) is filled so that movement of VP to this position, i.e. the extraposed word order is not possible.

In this thesis, some assumptions made about Dutch syntactic structure crucially differ from the ones adopted in Barbiers (1995). First, I have adopted an SVO-analysis of Dutch. Second, I take a SC to consist of a subject and a predicate: [sc subject [xp predicate ]]. This means that Jan (in (7)) is not in SpecPP but occupies the subject position. It was shown in Helmantel (1997) that the above assumptions are still compatible with Barbiers' extraposition theory. An SVO base structure takes the predicative PPs, which are found in the complement position of the verb, to start out in a position to the right of the verb. Recall that in Barbiers' account, the predicative PPs were generated to the left of V. I have shown that predicative PPs in extraposed position are ungrammatical, because movement of VP to SpecPP is blocked since this would involve lowering, which is excluded in generative syntax. Moreover, this movement would lead to an (illicit) i-within-i-configuration. The representation in (8) illustrates this.

---

4 Barbiers (1995) assumes that Jan appears in SpecPP via movement. His recent proposal (Barbiers 2000) takes Jan to be generated in the subject position of the SC (+ SpecPP), and the PP functions as a qualifier of the subject.
The predicative PP eventually ends up in a position to the left of the verb. I follow the SVO proposal of Zwart (1993): The predicative PP moves obligatorily from the complement position of V to some FP on top of VP, giving the grammatical order: predicative PP - V.

The account of PP-extrapolation developed above shows that the possibility of a PP in extraposed position is dependent on the hierarchical position of the PP; adjunct PPs can but predicative PPs cannot appear to the right of the verb in embedded clauses. Sections 5.4 to 5.6 show that the internal syntax of the PP interacts with extraposition in more complex PPs.

It must be noted that Barbiers' (1995) ideas on phrase structure cannot be integrated into this thesis without qualification. An important claim in Barbiers' work

---

5 Sjef Barbiers (p.c.) has pointed out to me that the extraction data in (i) and (ii) are problematic for an SVO-analyst. Extraction out of the PP is possible if it appears to the left of V but not if it is extraposed. If there is some kind of freezing effect making moved elements islands for extraction, this would suggest that the predicative PP is generated to the left of the verb and that the clause structure is SOV underlyingly:

(i) de garage waar Jan de auto in terug reed
do the garage where Jan the car in back drove

(ii) *de garage waar Jan de auto terug reed in
the garage where Jan the car back drove in

The grammaticality of (i) seems to be problematic for an SVO-analysis. I do not have a solution for this problem. The ungrammaticality of (ii), i.e. with extraction of the R-word, should not come as a surprise, since R-word PPs are not found in postverbal position in the first place, cf. section 5.4.

(iii) *dat Jan de auto terug reed erin
that Jan the car back drove therein
is that all movements are triggered by the need to establish a qualification relation. This position does not match with the movements discussed in earlier chapters. It was shown in chapter 3 that semantics plays a role in PP-internal movement (e.g. from pre- to postpositional PP) but no qualification relation has been identified. Triggers other than qualification must be considered. The same holds for the movement of R-words (chapter 6). Hence, for extraposition Barbiers' (1995) proposal is adopted but not the stronger claim that all movement is triggered by the need to establish qualification configurations (see also Costa 1998, who also considers qualification to be a trigger for only a subset of the movements found in syntax).

5.3. PP-idioms

Before we turn to structurally more complex PPs, let us first consider a special case of PPs, viz. idiomatic PPs. It has been shown in Veld (1993: 147ff.) that some idiomatic PPs can be found in extraposed position while others cannot. Veld claims that PPs which are "predicative somehow" cannot be found to the right of the verb, whereas adverbial PPs can. Some of his examples are given here in (9)-(10). Veld considers the examples in (9) and (10) to be adverbial PPs and predicative PPs, respectively.  

(9) a. dat zij eieren <voor hun geld> kozen <voor hun geld>
that they eggs for their money choose
'that they made the best of a bad bargain'

b. dat hij <met de noorderzon> vertrok <met de noorderzon>
that he with the northern-sun left
'that he did a moonlight flit'

(10) a. dat hij mij <op mijn nummer> zet <*op mijn nummer>
that he me on my number puts
'that he puts me in my place'

b. dat zij gedurende het debat <op eieren> moest lopen <*op eieren>
that she during the debate on eggs had-to walk
'that she had to be very careful during the debate'

c. dat hij <aan de weg> timmerde <*aan de weg>
that he on the road carpentered
'that he was fond of the limelight'

---

6 It should be noted that I discuss examples from Veld (1993) and that I have adopted his classification, i.e. the examples in (9) are adverbial PPs and in (10) predicative PPs. The predicative status of the PPs in (10b,c) is not so clear, however; the PPs do not denote a resultative state and do not select the auxiliary zijn. The discussion, especially around (11), seems to suggest that PPs which are unambiguously adjuncts (adverbial PPs (modifying the verb) or objects PPs (selected PPs) as in (9b), (11) and (9a), respectively) can be found in extraposed position, whether with or without idiomatic reading.

7 As has been argued in chapter 1, PPs are to be divided into predicates vs. adjuncts (including not only adverbial but also selected PPs/object PPs, cf. (9b) and (9a)).
Veld's (1993) proposal for extraposition is as follows. Adverbial PPs can undergo rightward movement. This movement is not possible for predicative, i.e. SC PPs; extraposition is blocked since the SC subject needs case. It receives case inside the SC under government by the verb. Since it is assumed in Veld (1993) that V assigns case to the left in Dutch and that only the whole SC and not but a part of it can undergo rightward movement, it follows that the predicative PP has to stay to the left of V. In other words, predicative PPs do not display the extraposed word order (see also Hoekstra e.a. 1987).

There are some problems with Veld's account. Veld assumes that predicative PPs cannot move; this would deprive the SC subject of case. It is, however, not clear why this movement would destroy the case assigned to the subject. It is generally assumed that once a DP receives case it does not lose it again. The SC subject DP could hence receive case in its base position and then move. Veld's assumption that predicative PPs cannot move for case reasons is therefore problematic. Note, moreover, that SC predicates do move; they can be topicalised. It is unclear why this topicalisation is not blocked; under Veld's account the same case problems as with rightward movement of the predicate are expected.

It can thus be concluded that Veld's theory contains some problematic assumptions. The above data can, on the other hand, easily be accounted for in the proposal for extraposition worked out in the previous section. Idiomatic adjunct PPs can, just like their non-idiomatic counterparts, be found in extraposed position; no (syntactic) restrictions block movement of VP to SpecPP in this case, cf. (9). Idiomatic predicative PPs, for their part, are not found in extraposed position since this would involve lowering (analogous to non-idiomatic predicative PPs in (8)).

Before we turn to the next section let us briefly return to (10c). According to Veld the PP aan de weg is predicative; it cannot be found in extraposed position. However, if the PP is interpreted as an adverbial, denoting the place of the carpentering as in (11a), extraposition is possible. The PP is an adjunct in this case and it can, as predicted in the account developed above, display the extraposed word order. The same holds for (11b); the idiomatic reading, Piet has difficulty keeping body and soul together, is lost in the extraposed order.

(11) a. dat hij timmerde aan de weg non-idiomatic
    that he carpentered on the road

b. dat Piet bijt op een houtje non-idiomatic
    that Piet bites on a piece of wood

It can thus be concluded that idiomatic PPs are not different from the non-idiomatic ones in that only adjunct PPs can be found in extraposed position.

5.4. R-word PPs

This section discusses the extraposition possibilities for R-word PPs. These PPs consist of an R-word (er 'there', daar 'there', hier 'here', waar 'where', ergens

8 The syntax of R-word PPs will be discussed in detail in chapter 6.
'somewhere', *nergens* 'nowhere', *overal* 'everywhere') and an adposition. The following (a) examples show that the R-word-PPs, in contrast with their full counterparts in (b), cannot be extraposed. \(^9\)

(12)  

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<tr>
<td>a.</td>
<td>*</td>
<td>dat</td>
<td>Jan</td>
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<tr>
<td></td>
<td>that</td>
<td>Jan</td>
<td>played</td>
<td>therein</td>
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<tr>
<td>b.</td>
<td>dat</td>
<td>Jan</td>
<td>speelde</td>
<td>in de tuin</td>
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<tr>
<td></td>
<td>that</td>
<td>Jan</td>
<td>played</td>
<td>in the garden</td>
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(13)  

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<td></td>
<td>that</td>
<td>Jan</td>
<td>played</td>
<td>therewith</td>
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<tr>
<td>b.</td>
<td>dat</td>
<td>Jan</td>
<td>speelde</td>
<td>met de pop</td>
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<tr>
<td></td>
<td>that</td>
<td>Jan</td>
<td>played</td>
<td>with the doll</td>
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The ungrammaticality of extraposition of R-word PPs follows from the account proposed in section 5.2. At this point we see how PP internal syntax, in this case syntax of the R-word PP, interacts with the distribution of the PP; it blocks the extraposed word order. As will be argued in chapter 6, R-word PPs involve movement of the R-word from the complement position to the right of the adposition P to a higher specifier position to the left of P, viz. SpecPP:

(14)  

\[
[\text{pp R-word}, [\text{P } \text{P} \text{ t} \text{ i}]]
\]

SpecPP is now occupied by the R-word (or its trace) and hence this position is not available for other elements. \(^{10}\) Consequently, the extraposed order, which would involve movement of VP to SpecPP, is blocked. It can thus be concluded that the

---

\(^9\) Sjef Barbiers (p.c.) notes that he does accept the extraposed word order for R-word PPs in case *er* is replaced by *daar* (both 'there'):

(i)  

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<td></td>
<td>dat</td>
<td>Jan</td>
<td>speelde</td>
<td>daar in</td>
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<td></td>
<td>that</td>
<td>Jan</td>
<td>played</td>
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(ii)  

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<td></td>
<td>dat</td>
<td>Jan</td>
<td>speelde</td>
<td>daar mee</td>
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<tr>
<td></td>
<td>that</td>
<td>Jan</td>
<td>played</td>
<td>there with</td>
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Since there are no reasons to assume a different structure for *er in* and *daar in* (cf. chapter 6), not syntax but another property must be held responsible for Barbiers' judgements in (i) and (ii). I want to suggest that the difference is related to the prosodic characteristics of *daar* and *er*. The R-word *er* is prosodically weak; it cannot bear (secondary) stress. The R-word *daar*, on the other hand, can bear stress. This seems to match with my judgements for (i) and (ii): For me the examples are highly marked and are acceptable only if contrastive stress is involved, on the verb and on the R-word PP. Heaviness also plays a role in (iii) and (iv):

(iii)  

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<td>*</td>
<td>dat</td>
<td>ik</td>
<td>het boek</td>
<td>zet op de kast</td>
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<tr>
<td></td>
<td>that</td>
<td>I</td>
<td>the book</td>
<td>put on the cupboard</td>
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(iv)  

<p>| | | | | |</p>
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</table>
|   | dat | ik | het boek | zet op de kast | die ik erfde [...]
|    | that | I | the book | put on the cupboard | that I inherited 

See also Costa (1998), referring to Frota (1992), about the influence of prosody on syntax in that heaviness and (contrastive) stress can overrule syntactic restrictions and in this way 'rescue' the extraposed word order. Jan-Wouter Zwart (p.c.) has suggested to me that a deviant intonation pattern might indicate that we are not dealing with extraposition here. He claims that a low intonation for elements to the right of the verbal complex is an indication for elements being backgrounded (Zwart 2002).

\(^{10}\) For the interpretation of R-word PPs, see Helmantel (1997).
internal syntax of R-word PPs interacts with its external (distributional) syntax, in that it bars extrapolation. More cases which display this kind of interaction are discussed in the next sections.

5.5. Postpositional and complex PPs

So far the discussion has been restricted to extrapolation of simplex prepositional phrases. It was shown that/why adjoined prePPs can and predicative prePPs cannot display the extrapolated word order, and that the internal syntax of the PP may restrict extrapolation. The following sections deal with more complex adpositional phrases, e.g. postpositional phrases, circumpositional PPs, and complex PPs with a particle.

5.5.1. Post- and circumpositional PPs

This section will show that the internal syntax of post- and circumpositional PPs restricts the extrapolation possibilities. We will first consider extrapolation of postpositional PPs and then turn to circumpositional phrases.

(15a) shows an adverbial (temporal) postpositional PPs. The PP is an adjunct (probably to TP). Several (though not all) native speakers I consulted have indicated that the postpositional PP can appear in a position to the right of the verbal complex, but requires a comma intonation. The PPs in (15b,c) are SC predicates, as the auxiliary (zijn 'to be') shows, cf. chapter 1.11 These PPs are not found in extrapolated position:

(15) a. dat Jan hard heeft gewerkt [pp het hele jaar door]  
that Jan hard has worked the whole year through  
'that Jan has been working hard, throughout the year'

b. dat Jan [pp de sloot in] gesprongen is  
that Jan the ditch in jumped is  
'that Jan has jumped into the ditch'

c. * dat Jan gesprongen is [pp de sloot in]  
that Jan jumped is the ditch in

The ungrammaticality of (15c) should not surprise us here. As was argued in section 5.2, predicative PPs are not found in extrapolated position since this would involve lowering.

Now what about the adjunct postpositional PP in (15a)? It was shown above that adjunct PPs can occupy the postverbal position but that the internal syntax can influence this possibility (viz. with R-word PPs). I claim that this is also the case with postpositional PPs. Let us take a look at the syntactic structure of these PPs, as developed in chapter 3:

(16) \[ [\text{DIRP } \text{DP}_i \text{P}_j \text{FP } t_j \text{ t}_i ] \]

postPP

11 I adopt a small clause analysis with a structural representation as in (i):
(i) [sc subject [sp predicate]]
with the category-neutral label SC (cf. Den Dikken 1995, chapter 1 for discussion).
Importantly, the highest specifier position of these PPs is occupied, viz. by DP. VP movement to this position is thus not possible. As a consequence, the prediction is that the extraposed word order is blocked. However, it was noted above that (15a) is grammatical. I relate this to the prosodic characteristics of these sentences in that many speakers need a comma intonation. As a kind of backgrounded information (cf. Zwart 2002), the PP ends up in a position behind the verbal complex, probably without Barbiers's VP-intraposition operation. Just like with R-word PPs in extraposed position, postpositional PPs seems to interact with prosody in that (extra) prosodic structure makes the extraposed word order possible or at least improves it.

Let us now consider the extraposition possibilities with circumpositional PPs. We want to find out to what extent circumpositional syntax influences extraposition. Our focus will be on circumpositional PPs with a prepositional counterpart, so that it can be determined whether the extra adpositional element in the circumpositional PP restricts the extraposition possibilities compared with the prepositional variant.

The examples in (17) show that the circumpositional PPs do not appear to the right of the finite verb, whereas their prepositional counterparts do:¹²

(17) a. dat Johan een t-shirt draagt [\text{\textsubscript{PP}} onder zijn toga (*aan)]
that Johan a t-shirt wears under his robe on
'that Johan wears a t-shirt underneath his robe'

b. dat Jan uitrustte [\text{\textsubscript{PP}} tegen de muur (*aan)]
that Jan rested against the wall on
'that Jan rested against the wall'

c. dat hij knikkerde [\text{\textsubscript{PP}} tussen de bomen (?in)]¹³
that he marble-played between the trees in
'that he played with marbles between the trees'

Barbiers' (1995) analysis of extraposition and the syntactic structure of circumpositional phrases developed in chapter 3 (cf. (18)) together can account for the data in (17).

(18) \text{\textsubscript{FP}} [\text{\textsubscript{PP}} P DP] \text{\textsubscript{F}} t_{i} \text{cumPP}

The circumpositional PPs in (17) function as adverbs and are to be structurally analysed as adjuncts. Following Kayne (1994), I consider them as adjuncts to the left of the VP (see (19)).

---

¹² The choice of the verb, as in (i), and/or the (accompanying) extra prosodic structure can improve sentences with otherwise unacceptable postverbal constituents, cf. also (15a).

(i) dat Jan tenniste [\text{\textsubscript{PP}} tegen de muur (?aan)]
that Jan played-tennis against the wall on
'that Jan played tennis against the wall'

¹³ Besides the heaviness of the PP in extraposed position (see footnote 9) also the weight of the verb(al phrase) can positively influence the extraposition possibilities; (17c) is clearly better than (i):

(i) dat hij speele tussen de bomen (*in)
that he played between the trees in
According to Barbiers (1995) the extrapoled word order is the result of VP-intraposition. That is to say, the VP (including the verb) moves to SpecPP to establish a qualification relation in which the PP (or P') functions as a qualifier of the VP. Can a circumpositional PP function as a qualifier of VP? In other words, can VP in (19) move to SpecFP? Recall that this would give us the extrapoled word order. The representation in (19) shows that the highest specifier position in the adpositional domain (here: SpecFP) is occupied. Hence, this position is not available for VP. As a result, the circumpositional PP cannot function as a qualifier of VP and is banned from the extrapoled position.\footnote{The qualification relation between the circumpositional PP and VP, which is not possible in overt syntax, must be assumed to be established in covert syntax. It has been argued in Helmantel (1995) for R-word PPs, whose occupied SpecPP blocks a qualification relation as well, that the relevant specifier position is available in covert syntax after extraction from the PP and trace deletion, thus making a qualification relation possible.}

The structure in (19) shows that there might be an alternative, since the specifier position of the PP is available for VP. Let us take a closer look at the (im)possible qualification relation, when VP moves to SpecPP. The representation in (20) illustrates this movement.
The PP' \textit{(tussen de bomen)} in (20) seems to be a possible qualifier of the VP. In order to establish a qualification relation, the VP in SpecPP must immediately c-command P', and P' must immediately c-command the trace of VP.\footnote{The definitions for (immediate) c-command adopted in Barbiers (1995: 24) are as follows:}

\begin{itemize}
  \item X c-commands Y iff
  \begin{itemize}
    \item (i) X does not dominate Y and Y does not dominate X, and
    \item (ii) There is no (connected) path of left branches from Z, the minimal node that dominates X and Y, to X
  \end{itemize}
  \item X immediately c-commands Y iff
  \begin{itemize}
    \item (i) X c-commands Y, and
    \item (ii) There is no closer c-commander W such that X c-commands W and W c-commands Y
  \end{itemize}
\end{itemize}

The first condition is fulfilled in (20), but P' does not immediately c-command the trace of VP. F' (with overt material \textit{in}) acts as a closer governor for VP'. The requirements for a qualification configuration (i.e. immediate c-command) are not fulfilled. Hence, no qualification relation will be established in (20), so that movement of VP to SpecPP will not take place. In other words, it follows from Barbiers's definitions of qualification (see footnote 15) that VP-intrapiosion as in (20) is blocked: the circumpositional PP cannot occupy the postverbal position. As a consequence, the circumpositional PP appears only in a position to the left of the verb. The extraposed word order is ungrammatical because of the presence of a closer governor (\textit{in}), which obstructs a qualification relation. This conclusion is confirmed by the data in (17) in which it was shown that the extra adpositional element in a circumpositional PP (compared with its prepositional counterpart) blocks PP-extraposition.

It must be noted that, analogous to (15a), temporal adverbial PPs are not that bad in extraposed position:
(21) dat Nederlanders langer geworden zijn [pp door de eeuwen heen] that Dutchmen taller become are through the centuries HEEN 'that the Dutch have become taller over the centuries'

Just like with temporal postpositional PPs, (extra) prosodic structure is needed for the circumpositional PP to appear to the right of the finite verb; some speakers indicate that they need comma intonation or low intonation on the PP in (21).

5.5.2. Particles and extraposition
It has been known at least since Van Riemsdijk (1978) that particles have an influence on extraposition in that PPs which cannot be found in extrapoaced position can appear there if a particle is added. This is illustrated in (22):

(22) a. dat Piet de kei *(terug) rolt [pp de berg op] that Piet the cobble back rolls the mountain on 'that Piet rolls the cobble back up the mountain'

b. dat hij de jas *(op) hangt [pp aan de kapstok] that he the coat on hangs on the coathooks 'that he hangs the coat on the coathooks'

c. dat hij het boek *(neer) zet op de plank that he the book down puts on the shelf 'that he puts the book down on the shelf'

d. ... [predp Prt, .. V .. [i, t, PP ]]

The predicative PP in (22) cannot extrapose since this would involve lowering (see section 5.2). Now let us see why the particle makes extraposition possible.

Predicative PPs are assumed to move from the SC predicate position on the right side of the verb to a position to the left of V. Zwart (1997) takes there to be a strong (predicative) feature in PredP, an FP above VP, attracting the SC predicate. I want to suggest that in a complex predicate as in (22) it is the particle, being the head of the small clause (Den Dikken 1995), which checks the strong feature in PredP; the particle moves to Pred/>. In (22) the PP to the right of the finite verb is the result of stranding of a part of the predicate. This is illustrated in (22d).

Now let us take a closer look at the internal structure of the small clause and in particular the position of the PP in the SC. If the particle is considered to be the head of the small clause, there are roughly two options for the PP. The PP is either predicative and is hence part of a complex predicate (cf. Den Dikken 1995) or the PP is an adverbial and occupies, consequently, an adjoined position, say, to the small clause:


b. V [sc PP [sc Prt]] PP-adverb

Den Dikken (1995) argues for a representation as in (23a). He presents two arguments for the predicative status of the PP. First, the PP in (22) and (23a) can
undergo locative inversion, which is a test for predicativity in English: 16

(24) On the table were put down some books. locative inversion

Second, he presents analogous structures for similar but particle-less cases, for which a predicative status of the PP is generally accepted (Hoekstra 1988), cf. (25a,b).

(25) a. They put the books, \textsubscript{sc} down \textsubscript{sc} t, on the shelf \]

b. They put the books, \textsubscript{sc} t, on the shelf \]

I will show below that there are syntactic and semantic differences between (25a) and (25b), suggesting different analyses for the PP. Den Dikken (1995) discusses other complex SC-constructions, like triadic constructions and dative shift, for which he argues that they contain a predicative PP. It is conceptually attractive to adopt a general syntactic representation for all complex SC constructions but it cannot be put forward as an argument that the PP in (25a) is a predicate.

There are also indications for an adverbial status of the PP in (22) and (25a). I will discuss three arguments. First, comparing the constructions with and without a particle shows that the PPs in these constructions display different case morphology in German. The PP in (25b), which is undoubtedly predicative, exhibits accusative case, whereas the PP in the construction with a particle displays dative case (data from Ten Cate e.a. 1998: 347f.).


(27) a. Eva band ihr Pferd an einem Baum fest. Eva tied her horse on a tree.

b. Eva band ihr Pferd an einem Baum. Eva tied her horse on a tree.

From the case differences in (26) and (27) I conclude that the PPs occupy different hierarchical positions. The PPs in the (b)-examples are considered predicative PPs, whereas the PPs in the (a)-examples seem adverbial in nature, displaying dative (locative) case.

Second, the PP in a particle-less construction is obligatorily present, whereas the PP in constructions with a particle is optional:

16 For the notion predicative PP, the reader is referred to section 5.2.1.
   Jan puts the book on the shelf
   'Jan puts the book on the shelf.'

b. Jan zet het boek (op de plank) neer
   Jan puts the book on the shelf down
   'Jan puts the book down on the shelf.'

It is too strong a claim that optional elements have adverbial status, but it can be concluded from (28) that the PPs op de plank have a different syntactic status.

Third, the semantic contribution of the PPs in (28a) and (28b) differs, in line with the syntactic difference observed above. The PP in (28a) appears in a resultative construction, denoting the end location of the putting. The construction in (28b) is resultative as well but in this example the PP denotes the location where the putting down takes place. This reading corresponds with an adverbial status of the PP.

From the above I conclude that the PP in a complex particle construction as in (22) is an adverbial, which is represented as an adjunct:

(23) b. \[ V \, [sc \, PP \, [sc \, Prt]] \] PP-adverb

As indicated above, the word order in (22) is the result of movement of the particle (feature checking) to a PredP to the left of the verb. Minimalism (Chomsky 1995) offers two equally economical options for checking a strong feature. A feature can be checked either by a phrase (XP) or by a head of a phrase. The resulting orders are given in (29):\(^{17}\)

(29) a. Prt - V - PP  head movement
    b. PP - Prt - V  phrase movement

In (29a) the strong feature is checked by head movement of the particle to Pred\(^5\). The particle ends up in a position to the left of the verb and strands the PP: schematically Prt-V-PP. This gives us the extrapoled word order in (22), repeated here as (30).

(30) a. dat hij de jas op hangt [pp aan de kapstok]
    that he the coat on hangs on the coathooks
    'that he hangs the coat on the coathooks'

b. dat hij het boek neer zet [sc op de plank]
    that he the book down puts on the shelf
    'that he puts the book down on the shelf'

Movement of the entire SC, as in (29b), gives the non-extrapoled word order, see

\(^{17}\) I must assume that there are no SC-internal movements, which may change the relative order of the particle and the PP.
(31) and (32).\textsuperscript{18}

(31) dat ik mijn jas aan de haak op hang
that I my coat on the hook up hang
‘that I hang my coat on the hook’

(32) dat hij het boek op de plank neer zet
that he the book on the shelf down puts
‘that he puts the book down on the shelf’

The above approach has shown that an analysis in which the particle heads the complex small clause combined with Minimalist feature checking brings about the word order variation in (30) vs. (31)-(32).\textsuperscript{19} Moreover, it has been shown why the presence of the particle makes the extraposed word order for a PP as in (30) possible.

5.6. Modified PPs

This section deals with the extraposition possibilities of modified PPs. In chapter 4 it has been shown that PPs can be modified by a length modifier or by a particle like e.g. vlak ‘close’:

(33) a. twee meter boven het huis
two metres above the house
‘two metres above the house’

b. vlak achter het huis
close behind the house
‘just behind the house’

Just like their non-modified counterparts, modified predicative PPs are not found in extraposed position:

(34) a. * dat hij de bal schiet [\textsuperscript{pp} twee meter over het doel]
that he the ball shoots two metres over the goal

b. * dat hij de bal gooit [\textsuperscript{pp} twee meter het veld in]
that he the ball throws two metres the field in

\textsuperscript{18} Another variant is given in (i):
(i) dat hij de jas [\textsuperscript{pp} aan de kapstok] wil op hangen
that he the coat on the coat hooks wants on hang
‘that he hangs the coat on the coat hooks’

\textsuperscript{19} It has been shown in Helmantel (1998c) that a PredP inside the verbal complex, here between \textit{w}il and \textit{h}angen, is a possible landing site for particles.

The stranding approach for examples like (30) can be straightforwardly adapted to SC structure in which the PP is assumed to be a predicate. In (30) the particle moves to the head of PredP and strands the (predicative) PP. In (31) the entire small clause moves to SpecPredP. SC-internal movement has to be assumed for the PP-Prt order.
In section 5.2 I assumed that predicative PPs cannot appear to the right of the verb, since they must check a strong (predicative) feature to the left of V, in SpecPredP. VP-intraposition in the sense of Barbiers (1995) is not an option for predicative PPs, because this would involve illegitimate lowering.

Adverbiaal PPs can be found in extraposed position (see section 5.2). The examples in (35a,b) show that modified PPs cannot appear in this position: the modifier blocks the order V-PP. The non-extraposed word order is grammatical, see (35c,d).

(35)  
   a. De Concorde mag vliegen [rpp (*3km) boven de bebouwing].
       the Concorde can fly 3km above the buildings
       'The Concorde is allowed to fly 3 km above the buildings.'
   b. Hij wil knikkeren [rpp (*twee meter) achter het huis].
       he wants play-marbles two metres behind the house
       'He wants to play marbles two metres behind the house.'
   c. De Concorde mag [rpp 3km boven de bebouwing] vliegen.
       the Concorde can 3km above the buildings fly
       'The Concorde is allowed to fly 3 km above the buildings.'
       he wants two metres behind the house play-marbles
       'He wants to play marbles two metres behind the house.'

Let us see why a length modifier like *twee meter makes the extraposed word order in (35a,b) impossible.

In chapter 4 it has been argued that length modifiers add a value for the vector length in the definition of the PP. Put differently, *twee meter modifies the PP. In terms of Barbiers' (1995) Principle of Semantic Interpretation (PSI), which has been adopted here for extraposition, this amounts to saying that the length modifier is a qualifier of PP. Besides an analysis for extraposition, Barbiers' PSI offers an account for focus particles like pas 'just' as well. The particle pas, which modifies the PP in *1 stad 'in 1 city' in pas in *1 stad 'in just 1 city', occupies Foc⁰, the head of a focus phrase. For interpretation (i.e. establishing a qualification relation in Barbiers' terminology) the PP moves non-overtly to SpecFocP (Barbiers 1995:97). I adopt the same mechanism for the interpretation of (length) modifiers in that I take the PP to move to SpecModP in covert syntax.²⁰ This is illustrated in (36):

²⁰ I assume that a modifier projects an XP-structure. For convenience, I dub this projection ModP, without making any claims about the categorial status of the phrase.
The modifier is an adverb and is structurally analysed as an adjunct to the left of PP. The modifier *twee meter* is a qualifier of PP since PPᵢ immediately c-commands *twee meter* and *twee meter* immediately c-commands the trace of PP.

We will now consider extraposition and take the representation in (36b) as our starting-point. In Barbiers' (1995) analysis adopted here, the extraposed word order is the result of movement of the VP to SpecPP. In the resulting structure of PPs without a modifier like the ones discussed in section 5.2 (see (5)), VP immediately c-commands P' and P' immediately c-commands the trace of VP. The PP (or P') functions as the qualifier of VP (for more details, cf. section 5.2).

The specifier of PP is available in (36), so that the VP seems to be able to move to this position. However, the movement illustrated in (37) is blocked.
Note that the structure in (37) does not fulfill the conditions for a qualification relation. \( \text{VP}_k \) immediately c-commands \( \text{P}' \), but \( \text{P}' \) does not immediately c-command \( t_k \). In (37), \( \text{ModP}' \) (with: \textit{twee meter}) is a closer governor for the trace of \( \text{VP} \). In other words, the presence of a modifier hampers a qualification relation between \( \text{VP} \) and \( \text{PP} \). As a consequence, \( \text{VP} \) will not move to SpecPP. Hence, the PP will be found only in a position to the left of the verb; the extrapoosed word order is not grammatical with modified PPs. In the absence of a modifier, there is no closer governor for the trace of the \( \text{VP} \), and a qualification relation can be established, resulting in the extrapoosed word order V-PP. This confirms the grammaticality judgements in (35).

It might be objected that there is an alternative to (37), namely a derivation with (36a) as its starting-point. First, \( \text{VP} \) moves to SpecPP, followed by movement of \( \text{PP} \) to SpecModP. The first step is demonstrated in (38).
In the structure in (38), it can be observed that also in this alternative derivation, there cannot be a qualification relation between VP and PP. VP₁ immediately ccommands P₂ but, once again, P₂ does not immediately c-command the trace of VP, since ModP is a closer governor for t. Both in (37) and (38) the modifier stands in the way in that a qualification relation between VP and PP cannot be established. As a result, modified PPs remain in a position to the left of the verb and do not display the extraposed word order, see (35).

5.7. PP-Extraposition in German

So far we have only discussed the situation of PP extraposition in Dutch. For Standard German it has been claimed in the literature (e.g. Zwart 1993: 329) that extraposition is much more limited than in Dutch. This section investigates to what extent German extraposition is indeed more limited than extraposition of PP in Dutch.

For Dutch it has been shown above that adverbial PPs can be found in extraposed position whereas predicative PPs (without a particle) cannot. The situation in German does not seem to be different; I have found several examples in which PP adjuncts (i.e. adverbial PPs and selected PPs, cf. chapter 1) occupy the position to the right of the verbal complex:

(39) a. Sie ist heute sehr lange oben geblieben auf dem Eifelturm. 
    she is today very long upstairs stayed on the Eiffel Tower 
    'Today she stayed very long on top of the Eiffel Tower.' 
    (Eisenberg 1989: 415)

b. Ihr einziger Sohn ist gefallen in diesem furchtbaren Krieg. 
    her only son is fallen in this terrible war 
    'Her only son has died in this terrible war.' 
    (Helbig & Buscha 1986: 569)
c. Sie wollte nicht mehr angewiesen sein auf ihn.
   she wanted not more dependent be on him
   'She did not want to be dependent on him anymore.'
   (Engel 1988: 344)

d. Sie hatten lange gewartet auf ein Lebenszeichen von ihm.
   they had long waited for a sign of live from him
   'They have been waiting for a sign of live from him for a long time.'
   (Sommerfeld & Starke 1992: 250)

Just like in Dutch, predicative PPs do not extrapose. (40) is a construed example but I also did not come across extraposed predicative PPs in the literature discussing extraposition of PP in German.

(40) * dass Jan sprang in den Graben ...predicative PP
   that Jan jumped in the ACC ditch

The following conclusion seems to be justified:

(41) Dutch and German display the same possibilities for PP extraposition.

According to German grammars, extraposition (Germ. Ausklammerung) is hardly ever found in written language and is restricted to spoken German (e.g. Beneš 1968: 294; Engel 1994: 196). In Behaghel's (1932: 86ff.) diachronic exposition of German, it is shown that in Old High German and Middle High German all kinds of adverbs could follow the finite verb. Both Behaghel (1932: 144) and Maurer (1926: 12) qualify the ban on extraposition as a "schriftsprachliche Schulregel" (a school rule for written language, translation MH). They attribute it to the influence of Latin on German syntax. Beneš (1968) points out that normative (school) grammars, mainly in the 19th century, detested or even banned extraposition. For instance Adelung (1782: 561) qualifies extraposition as "verwerflich und fehlerhaft" (reprehensible and wrong, translation MH). The following quote gives Adelung's view on word order in subordinate clauses: "In dieser Art der Wortfolge wird das Verbum, d.i. das Verbum finitum, [...] bis an das Ende der Rede geworfen, und nimmt daher seine Bestimmungen alsdann nicht nach sich, sondern allmählich vor sich (Adelung 1782: 545)." (In this kind of word order, the verb, i.e. the finite verb, is placed at the end of the clause and then takes its adjuncts not to the right of it but every time to the left, translation MH).

It can thus be concluded that at least in written German, extraposition is rather limited. I follow Beneš (1968) in assuming that the loss of extraposition is to a large extent to be attributed to normative grammarians rejecting this construction.

No such restrictions on extraposition are found in Dutch grammars. PP-extraposition is expected to be found more often in Dutch than in German subordinate clauses, at least in written language, because of the normative restrictions in German grammar. This is confirmed in a comparative study on extraposition in Dutch and German based on a large corpus of scholarly prose. Shannon (1995: 106) has found the following frequencies for extraposition of
prepositional objects in his corpus: 57% for Dutch; 8% for German. Extraposition of PP is clearly not as frequent in German as it is in Dutch. In the above (cf. (40)), it has been shown that there is no syntactic restriction obstructing extraposition in German. In other words, the difference between Dutch and German concerning extraposition does not have a properly syntactic origin, but a prescriptive one.

5.8. Conclusion

This chapter has discussed the syntax of PP-extraposition, following Barbiers' (1995) theory for the distribution of simplex prePPs. It was shown that extraposition is a phenomenon which displays interaction between PP internal and external syntax. The (im)possibility to find a PP in extrapoosed position is determined both by the internal and external syntax of the PP. The influence of the external syntax of the PP on extraposition is formulated in terms of the hierarchical position of the PP in the clause structure: adjunct PPs can be found in extrapoosed position whereas predicative PPs cannot. The internal structure of the PP comes into play in some complex adpositional constructions. It was argued that in R-word PPs, post- and circumpositional PPs the internal structure blocks extraposition in that Spec-PP is not available for VP-intraposition with these PPs. In other words, these PPs solely appear to the left of the verb, i.e. display the non-extraposed word order.

In sum, it has been argued that extraposition involves movement of VP to SpecPP (Barbiers 1995). However, the internal structure can block the extrapoosed word order in various ways. First, predicative PPs cannot be found to the right of the verbal complex since VP-to-SpecPP would involve illicit lowering. Second, R-word PPs and postpositional PPs are banned from the extrapoosed position since the specifier position of the PP is occupied and hence not available for VP. In other words, Barbiers's VP-to-SpecPP is impossible. Finally, circumpositional PPs and modified PPs are not found in extrapoosed position. SpecPP is available in these PPs but the resultant structure (after VP-to-SpecPP) violates general government restrictions (closer governor).

So far the focus has been on extraposition of PPs in the verbal domain. Also PPs which are part of a DP can be found to the right of the verb:

(42)    dat ik een man ontmoette [pp met een witte baard]  
that I a man met with a white beard

'that I have met a man with a white beard'

Some proposals have been developed in the literature for PP-extraposition from the nominal domain. Several factors have been claimed to influence the possibility to extrapose such a PP. To mention a few: focus on the DP head (Shannon 1995), the (structural) relation between the DP and the PP (De Hoop et al. 1990; Verhaar 1998; De Vries 2002), the (structural) relation between the main verb and the DP (Verhaar 1998; Coopmans & Roovers 1986). The situation thus seems to be more complicated or at least different with PP-extraposition from the nominal domain in that more factors have an impact on the possibility to extrapose. I leave it as an issue for further investigation whether extraposition from the nominal domain can be
formulated in terms of XP-intraposition (see Barbiers 1995 for a suggestion).
6 R-word PPs

6.1. Introduction

This chapter presents a second case study on the interaction between internal and external syntax of the PP. The focus is on the syntax of Dutch R-word PPs, which have already been introduced briefly in chapter 2. R-word PPs are made up of an R-word (er 'there', daar 'there', waar 'where', hier 'here', (n)ergens 'nowhere/somewhere', overal 'everywhere') and a P, like er aan 'thereon', daar voor 'therefore', and hier door 'here through'. In these cases a full DP is 'replaced' by a pronominal R-word:

(1) a. De spiegel zit aan de auto er aan
    the mirror sits on the car there on
    'The mirror is on the car'

b. Hij speelt voor het huis daar voor
    he plays in front of the house there in front of
    'He plays in front of the house'

There is no consensus on the underlying structural representation of R-word PPs. Van Riemsdijk (1978) proposes a prepositional structure for these PPs. The R-word starts out in the complement position to the right of P and moves from there to a position to the left of P, the so-called R-position. Bennis (1986) argues for a postpositional structure. The R-word is base generated in a complement position to the left of P. No movement of the R-word takes place since the R-word is in a position to the left of P. Section 2 reviews the arguments for the two structures. A prepositional representation for R-word PPs will be adopted in this thesis. Moreover, structural requirements for R-word PP formation are formulated.

After discussing the hierarchical structure of the R-word PP, I focus on the interaction between internal and external syntax. It is investigated how the internal syntax of PPs is related to R-word PP formation. For various (complex) PP forms, for which structural representations have been developed in chapter 3, it is shown why R-word PP formation is possible or impossible. Circumpositional PPs and complex prepositional PPs are demonstrated to fulfil the structural requirements for R-word PP formation adopted in section 6.2. The interaction between internal PP syntax and R-word PP formation is illustrated most clearly, however, in cases where PP internal syntax blocks R-word PP formation. This is demonstrated for PPs with a DIRP; this projection is shown to severely restrict the possibility of having an R-word PP.

Section 6.4 concerns the extraction of R-words from the PP. The preconditions

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1 The notion R-word PP comes from Van Riemsdijk (1978). R-word PPs consist of an R-word and an adposition. The first part is called R-word since they contain an r.
for an escape from the PP are investigated. Earlier accounts for extraction from the PP are discussed in detail. Moreover, the distributional pattern of extracted R–words is studied. (2) shows that the various R–words occupy different positions in the middle field. The R–word *er* in (2a,b) appears to the left of a VP-boundary adverb *waarschijnlijk* 'probably'. The R–word *ergens* 'somewhere' in (2c,d), on the other hand, preferably stays to the right of *waarschijnlijk*.

(2) a. dat Jan er₁ waarschijnlijk t₁ mee speelt
   that Jan probably with plays
   ‘that Jan probably plays with it’
   b. ? dat Jan waarschijnlijk er₁ t₁ mee speelt
   that Jan probably there with plays
   c. ? dat Piet ergens₁ waarschijnlijk t₁ mee speelt
   that Piet somewhere probably with plays
   d. dat Piet waarschijnlijk ergens mee speelt
   that Piet probably somewhere with plays
   ‘that Jan probably plays with something’

The distribution of R–words is related to the scrambling behaviour of (in)definite DPs in the middle field (references can be found in 6.4).

6.2. The internal structure of the R–word PP

This section discusses the structural representation of R–word PPs. Section 6.2.1 presents an overview of the main views in Dutch syntax about the structure of the R–word PP. 6.2.2 concerns PPs in which the R–word appears not to the left but to the right of P.

6.2.1. Pre- or postpositional?²

Roughly two representations for R–word PPs have been advocated in the literature. Van Riemsdijk (1978) proposes a structure which is prepositional underlyingly. The R–word starts out in the complement position to the right of P. Then R–suppletion ((3a)) and a filter ((3b)) motivate movement of the R–word from complement position to a so-called R–position, to the left of P: (3c).

(3) a. [+PRO, - H] - [+R] / [P _ ]ₚ  (PRO = pronominal; H = human)
   b. * P - [+PRO, +R]
   c. [pp er₁, [ₚ P t₁ ]]

Movement from complement to specifier position (Van Riemsdijk's R–position) accounts for the complementary distribution of R–words and full DPs: the R–word starts out in complement position, hence the full DP cannot be in that position as well. The analysis makes use of a non-explanatory filter ((3b)). As pointed out by

² Part of this section has appeared in Helmantel (1999).
Bennis (1986), there are problems with the features in (3) as well (some of them had already been noted in Van Riemsdijk 1978). In a nutshell, the following (a) assumptions, which are not all explicitly stated in Van Riemsdijk (1978), have counterexamples in (b) and (c):

(4) a. [+R] cannot follow P  
b. De straat loopt van hier naar/tot daar.  
'the street goes from here to there.'

(5) a. [−H] cannot follow P  
b. Zonder dat kan ik niet leven. (also: daar ... zonder)  
'without that can I not live'  
c. Het ontbreekt mij aan niets. (also: nergens aan)  
it fails me on nothing  
'lack nothing.'

(6) a. [+R] words are [−H]  
b. Koeman, daar heb ik vroeger mee geknikkerd.  
'Koeman, there have I formerly with played marbles'

Van Riemsdijk's (1978) theory clearly has the problem that it makes use of construction-specific (and thus non-explanatory) rules and filters. Moreover, as Bennis has shown, these rules do not properly describe the data (cf. (4)-(6)). These problems can be overcome if a suitable trigger can be found to motivate the PP-internal movement of the R-word to SpecPP. Koopman (1997) formulates a trigger in terms of feature checking. She proposes a morphological feature in a functional projection above PP. The R-word checks this strong feature by moving overtly to this position. 3 If the movement of the R-word is motivated, it can be concluded that also Van Riemsdijk's (1978) structure can account for the position of the R-word in the PP.

Bennis (1986) considers the R-word to be a PP argument with its base position to the left of P. A clear advantage of Bennis's approach is that he does not need features and a filter like (3b) to motivate PP internal movement; the R-word is in a position to the left of P from the start. No explicit statement is made about the complementary distribution of R-word and full DP in Bennis (1986), but theta theory could account for that. Suppose P assigns only one theta role: either to a full DP or to an R-word. If both elements were present one of the two would be left without a theta role.

It can thus be concluded that both Van Riemsdijk (1978) and Bennis (1986) can account for the complementary distribution of the R-word and the full DP, and for the site of the R-word (to the left of P), although with different (theoretical) assumptions. I will adopt a prepositional structure for R-word PPs here, mainly for

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3 Koopman's (1997) trigger is discussed in some detail below.
conceptual reasons. It was assumed in chapter 3 that Dutch PPs are prepositional underlyingly. The minimal assumption is then that R–word PPs follow this head-initial pattern as well:

\[(7) \quad [pp \ R\text{-}word, [p \ P \ t_1]]\]

The structure in (7) is in accordance with Kayne's (1994) restrictions on phrase structure. Dutch PPs take their argument to the right and on conditions to be specified below, the (R–word) argument moves to SpecPP. In other words, the underlying structures of the R–word PP and of its PP counterpart with a full DP are the same.

Koopman (1997) proposes a strong place feature to trigger the movement of the R-word in (7). This feature attracts R-words but not full DPs or PPs. It looks, so to speak, at the morphological shape of the complement of P. Only if the element in complement position is, say, +R, the complement does undergo movement. I will follow Koopman in assuming a strong feature in P$^6$ or F$^6$. Whether the relevant feature is indeed place of +R is, however, not so clear. If +R is the feature to be checked, the question arises what to do with PPs in which the R-word does not move to a position to the left of PP. Do these R-words lack +R or place characteristics? It will be shown in the next section that the R-words in examples like (8), where the R-word remains to the right of P, have locative properties. If place were the relevant feature, overt movement of especially these R-words would be expected.

Considering the above problems I will not propose a strong (place) feature to account for the movement in (7). However, I will first show under which circumstances R-word movement takes place and when it does not. It will be argued that movement of the R-word is semantically motivated to ensure an identity relation between the R-word and a discourse referent/ antecedent.

6.2.2. No R–word movement

This subsection is concerned with PPs in which R–words appear to the right of P instead of to its left. On which conditions can R–words stay in this position? In (8) I give some examples.

\[(8) \quad \begin{align*}
a. \quad & \text{De bus vertrekt van hier. } \\
& \text{the bus leaves from here} \\
& \text{‘The bus leaves from here.’} \\
b. \quad & \text{De bus rijdt van hier naar daar.} \\
& \text{the bus drives from here to there} \\
& \text{‘The bus drives from here to there.’} \\
c. \quad & \text{De bus rijdt tot daar.} \\
& \text{the bus drives till there} \\
& \text{‘The bus drives till there.’} \\
\end{align*}\]

The R-word remains in the complement position of P. Movement of the R-word to a position to the left of P gives ungrammatical results:
(9) a. * De bus vertrekt hier van.
    the bus leaves here from
b. * De bus rijdt hier van daar naar.
    the bus drives here from there to
c. * De bus rijdt daar tot/toe
    the bus drives there til

The R-words in (8) differ (semantically) from the R-words in other R-word PPs. R-words like hier and daar in regular R-word PPs have a (non-local) pronominal character and are thus linked to a (known) linguistic element in the discourse (see (1)), whereas this is not necessarily the case in (8). The R-word in (8) is adverbial in nature and denotes a location. In (8) the R-word can be replaced by a PP, as is demonstrated in (10).

(10) a. De bus vertrekt van hier.
    the bus leaves from here
    'The bus leaves from here.'
b. De bus vertrekt van achter het station.
    the bus leaves from behind the station
    'The bus leaves from behind the station.'

In (11)-(13), more examples with R-words to the right of P are shown.

(11) a. De bus vertrekt van hier/daar
    the bus leaves from here/there
    'The bus leaves from here/there.'
b. Van waar vertrekt de bus naar Spanje?
    from where leaves the bus to Spain
    'From where will the bus to Spain leave?'
c. Van overal vertrekken bussen naar Spanje.
    from everywhere leave busses to Spain
    'From everywhere busses leave for Spain.'
d. * De bus vertrekt van (n)ergens.\(^4\)
    the bus leaves from nowhere/somewhere

(12) a. De bus rijdt tot hier/daar
    the bus drives till here/there
    'The bus goes till here/there.'
b. Tot waar rijdt de bus?
    till where drives the bus
    'Till where will the bus go?'

\(^4\) The example in (i) shows us that the R-word ergens can appear to the right of P:
(i) Van ergens in de stad vertrekken bussen naar Spanje.
    from somewhere in the city leave busses to Spain
    'From somewhere in the city, there are buses leaving to Spain.'
It will be argued below that only specific ergens can occupy this position.
c. ? Bussen rijden tot overal.
   buses drive till everywhere
   'Buses go till everywhere.'
d. * De bus rijdt tot (n)ergens.
   the bus drives till nowhere/somewhere

(13) a. een badpak voor daar/hier
   a bathing suit for there/here
   'a bathing suit for there/here'
b. Voor waar is dat badpak?
   for where is that bathing suit
   'For where is that bathing suit?'
c. Voor overal kun je dit badpak gebruiken.
   for everywhere can you this bathing suit use
   'You can use this bathing suit for everywhere.'
d. * een badpak voor er/(n)ergens
   a bathing suit for there/nowhere/somewhere

(11)-(13) show that the prepositions van, voor and tot take only a subset of the R-words as complements to the right.\(^5\) Note that the distribution of naar with an R-word to the right is somewhat more restricted in that the order naar + R-word seems to be acceptable only if combined with a vanPP, cf. (14a,c) and (14b,d).

(14) a. ? De bus rijdt naar daar/hier.
   the bus drives to there/here/nowhere/there/everewhere
b. ?? Naar waar rijdt de bus?\(^6\)
   to where drives the bus
c. De bus rijdt van daar naar daar/hier.
   the bus drives from there to there/here
   'The bus goes from there to there/here.'
d. Van waar naar waar rijdt de bus?
   from where to where drives the bus
   'From where to where does the bus go?'

The above examples thus show that van, tot, voor and naar take the R-words daar, hier, waar and overal to the right. The R-words (n)ergens and er do not appear in that position (except under specific conditions, see fn. 4 and below).

What do the R-words daar, hier, waar and overal have in common such that

\(^5\) The complex prepositions van af 'from off' and tot aan 'till on' display the same pattern.
\(^6\) The grammatical counter parts are:
(i) Waar heen rijdt de bus?
where HEEN drives the bus
   'where does the bus go to?'
(ii) Waar rijdt de bus naar toe?
where drives the bus to to
   'where does the bus go to?'

(see section 6.3.3.2.)
they can appear to the right of P? I will argue that this dichotomy in the class of R–words can be formulated in terms of specificity. Here I follow Enç (1991:9) for an analysis of specificity. Specific DPs are related to the discourse via an inclusion relation. This inclusion relation can be observed with implicit partitives, see (15).

(15) Several childrenen had gone to the cinema. Later I saw two boys in the museum.

In the partitive reading (inclusion), the two boys are members of the group of children which went to the cinema. Another way to integrate specific elements into the discourse is via an assignment function. This assignment function relates the specific object to a known, not necessarily linguistic element in the discourse. In other words, new (specific) elements are assigned to a familiar discourse element. A third possibility to integrate a specific element into the discourse, which I want to propose, is deixis. This option will play a role in the interpretation of R–words to the right of P. In sum, specific elements are items which are linked to the discourse, either by inclusion, or assignment or deixis.

As indicated above, the R–words daar, hier, waar and overal can occupy a position to the right of P, see (11)-(13). I want to claim that they are specific elements. Let me try to make clear in an informal way in what sense daar, hier, waar and overal are specific and how they are interpreted (i.e. integrated into the discourse). The R–words daar and hier denote specific locations and are linked to the discourse by deixis. (16) illustrates this for the interpretation of hier, viz. the position of the speaker.

(16) De bus komt van Leiden naar hier.
   the bus comes from Leiden to here
   'The bus comes from Leiden to here.'

If it is deixis which makes daar and hier possible to the right of P, this could explain the ungrammaticality of the R–word er to the right of P: *naar er. The R–word er is generally considered to be the prosodically weak form of daar. They differ in that daar can but er cannot be stressed. Importantly, er cannot be used deictically. Deixis, one of the three possibilities for specific elements to be linked to the discourse, is not an option for er, and neither are inclusion and assignment. For it to be integrated into the discourse, (pronominal) er behaves like a definite in that it requires an identity relation with an element in the discourse, cf. (17).

(17) In het park staat een bankje, Ik zit er, op.
    in the park stands a bench. I sit there on
    'There is a bench in the park. I sit on it.'

The example in (17) shows that there is an identity relation between a linguistic

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7 DPs which are necessarily introduced with an identity relation (between the DP and a linguistic antecedent / discourse referent), e.g. pronouns, are considered definite in Enç (1991).
element in the discourse (*het bankje* 'the bench') and the R-word. Given the way in which *er* is linked to the discourse it can be concluded that the R-word *er* is not specific, but functions as a definite element, see fn. 7.

Now consider the other two specific R-words: *waar* and *overal*. The R-word *waar* asks for a specific location, and *overal*, denoting "all locations relevant for the context", presupposes existence and must hence be classified as specific as well (cf. Enç 1991). The following generalisation can thus be formulated:

(18) Specific R-words appear to the right of *van, tot, voor* and *naar*.

As expected, non-specific (*n*)ergens does not appear to the right of these prepositions in (11)-(13). These R-words can, however, be made specific, e.g. by an attribute, as in (19a,b) or by focus (stress), like in (19c):

(19) a. De bus vertrekt *van ergens* *(in Spanje).*
the bus leaves from somewhere in Spain
'The bus leaves from somewhere in Spain.'

b. tot ergens waar het mooi weer is
till somewhere where it beautiful weather is
'till somewhere where the weather is good'

c. Die bus moet toch *van ERGENS vertrekken.*
that bus must PRT from somewhere leave
'The bus must leave from somewhere.'

The examples in (19) supports the above specificity approach.

In sum, there is a dichotomy within the class of R-words, in that only a subset of the R-words can be integrated into the discourse via deixis (they have a specific interpretation). These specific R-words remain in their base position, i.e. to the right of the adposition. R-words which are integrated into the discourse with an identity relation move - I propose therefore - to a position to the left of the adposition (i.e. SpecPP or SpecFP). In other words, the R-word moves to the (highest) specifier position in the adpositional domain to make an identity relation with a discourse referent/antecedent possible. The special status attributed to SpecPP matches up with Van Riemsdijk's Head Constraint (cf. section 3.1.5) as being a transparent position, both for extraction (Van Riemsdijk 1978) and for interpretation (see also Barbiers 1995). It can thus be concluded that the movement of the R-word inside the

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8 This example was brought to my attention by Marcel den Dikken (p.c.).
9 Barbiers (1995:15ff) takes SpecPP to be an operator position to which the DP in (i) and (ii) moves at LF in order to account for the fact that the DP embedded in PP can license a polarity item, as in (i), and bind a pronoun, as in (ii).

(i) [.p*in niemands* boek] heeft Jan ook maar EEN aardig verhaal gelezen.
in nobody's book has Jan even only one amusing story read
'In nobody's book did John read a single amusing story'

(ii) [.p Van elke man] wist ik wat ie dacht.
of each man knew I what he thought
'Of each man I knew what he thought'
adpositional phrase as in (7) is semantically motivated.

6.3. PP structure and R-word PP formation

The previous section has yielded the following representation for R-word PPs:

\[ \text{[pp R-word}, \text{[P P t, ]]} \]

The underlying structure of R-word PPs is head-initial. R-word PP formation involves movement of an R-word from the complement position to the right of P to its specifier. This section investigates the interaction between the syntactic structure of PPs and the process of R-word PP formation. It will be demonstrated how/why the internal syntax of circumpositional PPs, complex prepositional PPs and postpositional PPs makes R-word PP formation possible or blocks it.

6.3.1. Circumpositional PPs and R-word PPs

It was argued in chapter 3 that circumpositional PPs have the structure in (21).

\[ \text{[ [ } P_2 \text{ DP}, \text{ P, t, ]]} \]

In (22) I present examples of circumpositions, and (23) shows that they have R-word PP counterparts.

(22) a. [[ onder de brug] door]
    under the bridge through
    'under the bridge through'
b. [[ om de stad] heen]
    around the city HEEN
    'around the city'
c. [[ van de stoel] af]
    from the chair off
    'off the chair'

(23) a. dat Jan er onder door fietst
    that Jan there under through cycles
    'that Jan cycles under it though'
b. dat Piet er om heen rent
    that Piet there around HEEN runs
    'that Piet runs around it'
c. dat Joris er van af springt
    that Joris there from off jumps
    'that Joris jumps off it'

The possibility of having R-word PPs in (23) is expected. Recall that R-word PPs
have a prepositional base structure (see (24a)). Circumpositional PPs fulfil this structural requirement for R-word PP formation. The representation of the circumpositional PP contains a prepositional (sub)structure, since the PP in the specifier position of the higher P₁ in (21) is prepositional. (24b) represents the structure of a circumpositional PP with R-word PP formation.

(24) a. \([_{_P} R\text{-word}, \ [_{_P} P t_j ]]\)
   b. \([ \ [_{_P} R\text{-word}, \ [_{_P} P_2 t_k ]]]_{_k} P_1 t_k \ ]\)

The R-word is located in the specifier position of P₂. From this specifier position the R-word can leave the PP, as illustrated in (25).

(25) dat Jan erj vaak \([_{_P} t_j ] [_{_P} onder t_j ]\) door ] fiets
      that Jan there often under through cycles
      'that Jan often cycles under it through'

The preconditions for this kind of movement and its characteristics will be investigated in section 6.4.

6.3.2. Complex prepositional PPs and R-word PPs

Complex prepositions consist of voor 'for', van 'from', tot 'until' and sinds 'since' followed by a prepositional PP; they denote starting point, temporal starting point, end point and destination/for, respectively. These prepositions are generally considered to take the prepositional PP as their complement, as indicated by the bracketing (see chapter 3):

(26) a. \([voor [ \ [bij de koffie]]\]
      for at the coffee
      'for at coffee time'
   b. \([van [voor de oorlog]]\]
      from before the war
      'from before the war'
   c. \([tot [na Pasen]]\]
      till after Easter
      'till after Easter'
   d. \([sinds [na de oorlog]]\]
      since after the war
      'since after the war'

The R-word PPs for (26) are given in (27):

(27) a. Ik kocht koekjes voor daar bij.
      I bought cookies for there at
      'I have bought cookies for then.'
b. Mijn ouders zijn van daar voor.
   my parents are from there before
   'My parents are from before then.'

c. Hij wachtte tot daar na.\(^{10}\)
   he waited till there after
   'He waited till after that.'

d. sinds daar na
   since there after
   'since after then'

Just as with circumpositional PPs, the syntactic structure of complex prepositions contains a prepositional substructure and hence fulfills the structural precondition for R-word PP formation: \([voor\ [pp bij de koffie]]\). The R-word appears in the specifier position of the embedded prepositional phrase; the R-word is found between \(\{van, voor, tot\}\) and the second P in (27): \([voor \ [pp R-word, bij t,]]\).

The R-word cannot appear to the left of the complex prePP and it cannot be extracted out of the PP, as the examples in (28) show:

\[
(28) \quad \begin{align*}
  a. & \quad * \text{ daar ... voor bij}\text{\(^{11}\)} \\
      & \text{ there ... for at} \\
  b. & \quad * \text{ daar ... van voor} \\
      & \text{ there ... from before} \\
  c. & \quad * \text{ daar ... tot na} \\
      & \text{ there ... till after}
\end{align*}
\]

Apparently, the R-word cannot move from the deepest SpecPP to the higher specifier position, to the left of van/voor/tot.

Bennis & Hoekstra (1984:44ff.) argue that extraction of an R-word from an embedded PP is blocked since the structure does not fulfill the general requirements for extraction they develop. Informally, both the trace of the extracted element and the PP from which the R-word is extracted must be canonically governed. For Dutch, canonical government is considered to be to the left. In other words, extraction from a postpositional structure is possible. Their structure for cases like (28) is given in (29).

\[
(29) \quad [v\ [pp P \ [pp e \ P ]] V] \quad (e = \text{extraction site of R-word})
\]

The position of the extracted R-word is indicated by \(e\). R-words are assumed to be

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\(^{10}\) If \(tot\) selects an \(aan\)PP, the R-word PP must include an extra \(toe\). The complex \(tot\ aan\) deviates in more aspects from other \(tot\ P\) combination, cf. chapter 2. The need to insert \(toe\) is discussed in section 6.3.3.

(i) Hij rende tot daar aan *\(toe\).
   he ran till there on to
   'He has run til there.'

\(^{11}\) Dutch also has the complex adposition voorbij 'past', which can form an R-word PP: \(er voorbij\). This form is not intended in (28a).
postpositional underlyingly in their approach; the R–word starts out in the complement position to the left of P. The extraction site e in (29) is canonically governed (by the deepest P) but the PP from which extraction takes place is not; the highest P governs the deepest PP to the right. As a consequence, an R–word cannot be extracted in a structural configuration like in (29).

Note that the argumentation from Bennis & Hoekstra (1984) cannot be applied to the head-initial structures adopted in this thesis. In the structure in (30), the movement of the R–word from the complement position of P₂ to SpecPP₂ would already have been barred since the trace of the R–word would not be canonically governed.

(30) * \([_{PP₁} R–word, P₁ \[_{PP₂ ti P₂ ti ]}\])

If we compare the possible and impossible extraction configurations for R–words, we observe that the R–word can move from the complement position to the specifier position within the same PP projection, see (24a). Movement out of the (simplex) PP is possible from this specifier position. Extraction out of a complex PP is possible as well, but only if the embedded PP occupies a specifier position. In other words, extraction is available from a specifier position, out of the phrase that it is a specifier of, cf. (25). However, if the embedded PP is in a complement position, extraction out of the specifier position of the embedded PP is blocked, probably for locality reasons. This was demonstrated in (30). Hence, the specifier position within a specifier position is a special position for extraction. The special status of this hierarchical position has been confirmed in other domains of syntax; Kayne (1994) has noted that binding and NPI licensing are possible from such a configuration, that is a specifier position within a specifier position, as well.\(^{12}\)

6.3.3. DIRP and R–word PPs
This section discusses R–word PP formation of PPs with a DIRP in their structural representation. Section 6.3.3.1 takes a closer look at postpositional PPs, whereas 6.3.3.2 focusses on directional prepositional phrases. It is shown that the DIRP plays a crucial role in restricting the possibility to form R–word PPs.

6.3.3.1. Postpositional PPs and R–word PPs
In contrast with prepositional PPs, postpositional PPs do not form R–word PPs. To demonstrate that postpositional PPs do not participate in R–word PP formation, we must consider postpositional PPs which do not have a prepositional counterpart (to which an R–word PP could be related). The PPs in (31)-(32) are exclusively postpositional and an R–word PP is not possible:

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\(^{12}\) The binding and NPI licensing data from Kayne (1994) are given in (i) and (ii). In both cases, the specifier c-commands out of the phrase that it is a specifier of.

(i) Every girl’s father thinks she is genius.

(ii) Nobody’s articles ever get published fast enough.
R-WORD PPs

(31) a. Jan is <op> de berg <op> gewandeld.
   Jan is on the mountain on walked
   'Jan walked up the mountain.'

   b. Jan is er op gewandeld.
   Jan is there on walked

(32) a. Piet gaat de rij bij langs.¹³
   Piet goes the row near along
   'Piet inspects the row.'

   b. Piet gaat er bij langs.¹⁴
   Piet goes there near along

It will be argued that the impossibility to have R−words with postpositional PPs is due to the syntactic structure of these PPs. More precise, the representation of postpositional PPs does not fulfill the structural requirements for R−word PP formation as put forward in section 6.2.1. Moreover, the DIRP in its syntactic structure will be argued to block R-word PP formation.

To show this, let us consider the characteristics of R−words. R−words are homophonous with locative adverbs (e.g. daar 'there', hier 'here'). Their close relation with locative adverbs can be observed in the semantic domain as well. I claim that just like narrow locative adpositions in PPs R−words do not have a path specification in their denotation (for narrow locatives, see chapter 1).

(33) An R−word cannot be interpreted as a path.

Recall that it was argued in chapter 3 that postpositional PPs are directional (and have a DIRP in their syntactic representation) and that the DP object in SpecDIRP is interpreted as a path. To be more precise, SpecDIRP evokes 1-dimensionality for the DP:

(34) \[ \text{[DIRP DP} [pp P t_i ]] & \text{DP = path} \]

In other words, the DPs in (31)-(32) are interpreted as paths due to their hierarchical position, SpecDIRP. The DP de berg, which does not have inherent semantic properties that block a path interpretation, is a path along which the walking movement takes place. If a DP is replaced by an R−word, as in a postpositional PP, the R−word ends up in SpecDIRP. Consequently, the R−word would get a path interpretation, see (34). As stated in (33), such an interpretation is not possible for R−words. The above discussion thus shows that the internal syntax of postpositional PPs interacts with the external syntax: DIRP restricts R−word PP formation. To be more precise: An R−word replacing a DP is barred from SpecDIRP.

¹³ As indicated in chapter 3, the acceptability of complex postpositional PPs is subject to variation in that the various complex postpositions seems to be regionally restricted. The complex postposition bijlangs is found in the northern dialects spoken in the Netherlands.

¹⁴ (32b) is ungrammatical only in the inspection reading (cf. (32a)), not in the reading of passing by the row. The semantics of this complex postposition is discussed in detail in chapter 3.
This analysis now predicts that in case the R-word does not replace a path (that is, a DP) like in (31)-(32), no semantic conflict arises. Recall that the 1-dimensionality requirement in SpecDIRP has been formulated for DPs only; only DPs can be interpreted as paths. No 1-dimensionality requirements hold in case SpecDIRP is occupied by an element denoting a location (that is, a prepositional PP). In this case, both replacer (R-word) and replacee (PP) have the same dimensionality properties. It is then expected that R-words can be found in SpecDIRP. This prediction seems to be borne out. (35)-(36) demonstrate that the PP in SpecDIRP can be replaced by an R-word:

   Jan went at the fire away  
   'Jan went away from the fire.'

   b. Jan ging er vandaan.  
      Jan went there away  
      'Jan went away from it.'

(36) a. Het boek valt [DIRP [PP van de tafel] af]  
       The book falls from the table off  
       'The book falls off the table.'

   b. Het boek valt er af.  
      the book falls there off  
      The book falls off from it.'

The above discussion has shown that the presence of DIRP in the syntactic structure of the PP can obstruct R-word PP formation, viz. when an R-word replaces a DP.

6.3.3.2. Directional prepositions and R-word PPs
The negative correlation between R-word PP formation and DIRP is observed not only in postpositional PPs. A second instance of DIRP blocking R-word PP formation is found with prepositional PPs with a directional adposition, as demonstrated in (37a,b).

(37) a. Jan rent naar de boom.  
     Jan runs to the tree  
     'Jan runs to the tree.'

   b. * Jan rent er naar.  
      Jan runs there to

   c. * [DIRP er, naar-DIR [PP t] t]  

In (37c), the adposition $P^0$ moves to $DIR^0$. The R-word ends up in SpecDIRP, from which it is banned, see (33) and (34).

Importantly, if the adposition does not have a directional interpretation DIRP is not projected. In that case the R-word can be moved to SpecPP, as in (38b). This is illustrated in (38) which demonstrates the adposition naar in a selected PP.
(38) a. Jan luistert naar de muziek.
   Jan listens to the music
   'Jan listens to the music.'

   b. Jan luistert er naar.
   Jan listens there to
   'Jan listens to it.'

The correlation between DIRP and R-word PP formation is clear; if no DIRP is present in the syntactic structure R-word PP formation is possible.15

Another demonstration of the relation between DIRP and R-word PP formation can be observed in (39), which is closely related to (37).

(39) Jan gaat er naar *(toe).
    Jan goes there to to
    'Jan goes there.'

For (37) it was argued that naar occupies DIR0 and that the R-word er to the left of naar would appear in SpecDIRP, from which it is excluded (see (33) above). R-word PP formation is possible in (39) precisely because er is not located in SpecDIRP. It has been argued in chapter 3 that the structure of the circumpositional PP naar .. toe is as given in (40).

(40) \[ \text{[DIRP } \text{PP naar DP, toe-DIR}^0 t, \text{]} \]

In (40), it is not naar but toe which appears in DIR0. Crucially, not the R-word but the prepositional naarPP is found in SpecDIRP. As a consequence, no dimensionality problems arise blocking R-word PP formation. The R-word can occupy the specifier position of the naarPP, for which no dimensionality restrictions are formulated. More circumpositions displaying the same pattern as in (39) are given in (41)-(43).16 17

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15 The example in (i) is not a counterexample.
   (i) Jan slaat naar de bal. (from Kooij 1999)
      Jan hits to the ball
      'Jan makes a hitting movement towards the ball.'

   (ii) Jan slaat er naar.
      Jan hits there to

In the combination slaan naar, the naar-PP seems to be a subcategorised PP. Although slaan onder de bal 'hit under the ball' and slaan naast de bal 'hit next to the ball' are possible too, slaan naar is not a (locative) alternative to the other two V+PPs. The PP naar de bal in (i) is a selected PP and it is hence predicted that, analogous to (38), R-word PP formation is possible, see (ii). In other words, there is no DIRP present, which would block R-word PP formation.

16 The example in (i) shows that the locative adposition aan can occupy DIR0.
   (i) Corneel zet de fiets tegen de muur (aan).
      Corneel puts the bike against the wall on
      'Corneel puts the bike against the wall.'

   (ii) Corneel zet de fiets er tegen *(aan).
      Corneel puts the bike there against on
      'Corneel puts the bike against it.'
(41) a. Jan springt van de tafel (af).
    Jan jumps from the table off
    'Jan jumps off the table.'

b. Jan springt er van *(af).
    Jan jumps there from off
    'Jan jumps from it.'

(42) a. Piet komt van Mars (vandaan).
    Piet comes from Mars away
    'Piet comes from Mars.'

b. Piet komt er van *(vandaan).
    Piet comes there from away
    'Piet comes from there.'

(43) a. Joris is om de stad (heen) gefietst.
    Joris is around the city heen cycled
    'Joris has cycled around the city.'

b. Joris is er om *(heen) gefietst.
    Joris is there around heen cycled
    'Joris has cycled around it.'

From the above it can be concluded that directionality (DIRP) blocks R-word PP formation only if the R-word replaces a DP and if the R-word is situated in SpecDIRP. If there is no DIRP projected or if it can be shown that the R-word occupies a different position than SpecDIRP, no problems arise for R-word PP formation. This shows that claiming that the semantic property directionality blocks R-word PP formation is not entirely correct. It is rather its syntactic counterpart, DIRP, especially SpecDIRP, which plays a crucial role in restricting R-word PPs.

This section has been concerned with the internal syntax of PPs and the ability of the PP to form an R-word PP. It has been demonstrated that there is a close relation between the structural representation of the PP and the possibility to have an R-word PP. Besides structural requirements/restrictions, other requirements play a role in R-word PP formation as well. That is to say, there are prepositional PPs which fulfil the structural requirement for R-word PP formation to be possible, but

---

17 (i)-(ii) display a similar phenomenon but than the other way around (compared to (39)) in that not the full circumpositional PP but its R-word PP counterpart has an optional adposition (from Marcel den Dikken p.c.):

(i) Jan valt *(van) de tafel af.
    Jan falls from the table off
    'Jan falls from the table.'

(ii) Jan valt er *(van) af.
    Jan falls there from off
    'Jan falls from it.'

I will suggest that the ungrammaticality of de tafel af vallen is due to the semantics of postpositional PPs. The DP de tafel functions as the starting point of Jan's movement and not as a path. Hence, postposition formation in (i), which would give a path interpretation / 1-dimensionality to the DP, is not possible. The two possible R-word PPs related to (i) were already discussed in (35)-(36) above. The R-word PP er van af involves replacement of the DP de tafel by the R-word, whereas the R-word replaces the PP van de tafel in er af.
which do not have an R-word PP counterpart. This is for instance the case with prepositions like *wegen 'because of' and *gedurende 'during'. If we take a look at the class of Dutch adpositions which participate in R-word PP formation (cf. Appendix I.4), we observe the following tendencies: the adpositions are generally morphologically simplex, they are often used, not exclusively in written language, and they have a locative use (see Helmantel 1993 and Zwarts 1995, 1997a). The adpositions *wegen and *gedurende, which do fulfill the structural requirements, do not display the typical characteristics of adpositions in R-word PPs as listed above. They are morphologically complex, do not have a locative interpretation and are found mainly in written language; they cannot form R-word PPs.

The above tendencies are not to be understood as requirements for adpositions to be possible in R-word PPs. Note that it is not difficult at all to find adpositions which do not follow (all of) these tendencies but which do participate in R-word PP formation. A case in point is the morphologically complex adposition tegenover 'across' (see chapter 3). It has an R-word PP:

(44) \[ \text{er tegenover there across} \]

Other non-structural aspects influence R-word PP formation as well. It can be observed that the DP replaced by the R-word must be referential in that it refers to an element in the (linguistic) discourse. This is why the PPs in (45) and (46) do not have a corresponding R-word PP.

(45) a. achter het net vissen behind the net fish 'miss the boat'

\[ \text{idiom} \]

b. * \[ \text{er achter vissen there behind fish} \]

the captain went on shore 'The captain went ashore.'

\[ \text{the captain went ashore.} \]

b. * \[ \text{er aan gaan there on go} \]

An extensive discussion about the discourse-semantic requirements for R-word PP formation would lead too far here. The interested reader is referred to the papers mentioned above and De Vriendt (1985) and the references cited therein.

\[ \text{18 There is in fact an idiom er aan gaan 'be destroyed', not corresponding to (46a). Just like the DP in (45a), the R-word er in the idiom er aan gaan is not referential and it cannot be replaced by other R-words.} \]
6.4. **R-word extraction**

6.4.1. **The distribution of R-words**

This section considers movement of the R-word from SpecPP to a position outside the adpositional domain. As illustrated in (47), an R-word can leave the PP.

\[(47)\]
\[
\text{dat Jan er, waarschijnlijk [\text{PP } \text{in } \text{v}] speelde}
\]
\[
\text{that Jan there probably in played}
\]
\[
\text{‘that Jan probably played in it’}
\]

Our main concern in this section is the distribution of R-words outside the PP. It is shown that the R-words found in Dutch display different distributional patterns. The distribution of R-words is compared with the distribution of DPs in the middle field. The preconditions for extraction of the R-word from the adpositional domain will be discussed only briefly.

Dutch R-words do not all occupy the same position in the middle field. This section will focus on the distribution of the R-words *er* ‘there’, *daar* ‘there’ and *ergens* ‘somewhere’. The examples in (48)-(50) show the positions of the R-words in case the R-word PP is functionally an adverb. Boldface is used here to indicate the locus of the neutral main stress (Cinque 1993):

\[(48) a.\]
\[
\text{dat Jan er waarschijnlijk mee speelde}
\]
\[
\text{that Jan there probably with played}
\]
\[
\text{‘that Jan probably played with it’}
\]

\[(49) b.??\]
\[
\text{dat Jan waarschijnlijk er mee speelde}
\]
\[
\text{that Jan probably there with played}
\]

\[(49) a.\]
\[
\text{dat Jan daar waarschijnlijk mee speelde}
\]
\[
\text{that Jan there probably with played}
\]
\[
\text{‘that Jan probably played with it’}
\]

\[(49) b.\]
\[
\text{dat Jan waarschijnlijk daar mee speelde}
\]
\[
\text{that Jan probably there with played}
\]

\[(50) a.??\]
\[
\text{dat Jan ergens waarschijnlijk mee speelde}
\]
\[
\text{that Jan somewhere probably with played}
\]

\[(50) b.\]
\[
\text{dat Jan waarschijnlijk ergens mee speelde}
\]
\[
\text{that Jan probably somewhere with played}
\]
\[
\text{‘that Jan probably played with something’}
\]

The above examples show that the R-word *er* moves out of the PP, to a position to the left of an adverbial like *waarschijnlijk*, whereas *ergens* stays to the right of such an adverb. The distribution of *daar* is more flexible in that it can appear on either side of *waarschijnlijk*. Speakers tend to prefer the position to the left but since judgements are not very clear here I will not draw any conclusions from this (weak) preference.

The same distributional pattern is found with R-words which are part of a predicative PP, see (51)-(53).
(51) a. dat Jan er waarschijnlijk in is gesprongen  
that Jan there probably in is jumped  
'that Jan probably jumped into it'

b. dat Jan waarschijnlijk er in is gesprongen  
that Jan probably there in is jumped

(52) a. dat Jan daar waarschijnlijk in is gesprongen  
that Jan there probably in is jumped  
'that Jan probably jumped into it'

b. dat Jan waarschijnlijk daar in is gesprongen  
that Jan probably there in is jumped

(53) a. dat Jan ergens waarschijnlijk in is gesprongen  
that Jan somewhere probably in is jumped

b. dat Jan waarschijnlijk ergens in is gesprongen  
that Jan probably somewhere in is jumped  
'that Jan probably jumped into something'

The above examples exhibit a tripartite division in the class of R-words concerning their distribution in the middle field. The prosodically weak R-word er must appear to the left of an adverb like waarschijnlijk 'probably'; ergens (and nergens) are found to the right of such an adverb. Finally, daar (and hier, which is not discussed here) shows up on either side of waarschijnlijk.

The distribution of the R-words in the middle field as in (51) to (53) resembles the distributional pattern found for direct object DPs, cf. (54) to (56).

(54) dat Jan <het> waarschijnlijk <*het> zag  
that Jan it probably it saw  
'that Jan probably saw it'

(55) a. dat ik de krakers gisteren heb gesproken  
that I the squatters yesterday have spoken  
'that I have spoken with the squatters yesterday'

b. dat ik gisteren de krakers heb gesproken  
that I yesterday the squatters have spoken

(56) dat Jan <*iets> waarschijnlijk <iets> zag  
that Jan something probably something saw  
'that Jan probably saw something'

The syntactic literature on the Dutch (and German) middle field has paid quite some attention to the distribution of DPs. DPs to the left of an adverb like waarschijnlijk are said to have been scrambled. The notion scrambling is used here descriptively indicating a position to the left of adverbs like waarschijnlijk.¹⁹ The remainder of this section will discuss scrambling as it is known from the literature. Reinhart's (1995) account of scrambling turns out to be not only appropriate for DPs but also

¹⁹ No claims are made here as whether scrambling involves base generation or movement, but see chapter 3 for an argument against scrambling as A-movement.
for R-words, though some adjustments will be made.

It has been noted in the literature that scrambling has (at least) a prosodic and a semantic effect (in some approaches these effects are interpreted as triggers for scrambling). The prosodic effect has been discussed in detail in Reinhart (1995). She presents a theory in which scrambling is related to focus and stress. According to her proposal, neutral main stress is assigned to the most deeply embedded constituent in a sentence (following Cinque 1993). The focus set, which is defined as the set of constituents that can serve as the focus of a derivation in a given context, is formulated as follows:

(57) The focus set of a derivation D are all and only subtrees (constituents) which contain the main stress of D (Reinhart 1995:14).

Since main stress is assigned to the direct object (when available, but see (54)-(56)), the focus set consists of the object (O), VP and IP. It is nevertheless possible to relocate the main stress when one wants to focus a different constituent, such as the verb alone. This stress shift option is used in English. An example is given in (58):

(58) -Has your neighbour bought a desk already? (Reinhart 1995:14)
    -#My neighbour is building a desk.
    -My neighbour is building a desk.

Dutch, on the other hand, disposes, besides stress shift, of another solution to get an element out of focus (i.e. the focus set) in that it allows for scrambling of the object. The result of scrambling is that the object moves out of the focus set, so that it no longer carries main stress. In this case, the verb bears the neutral main stress as demonstrated in (59).

(59) a. Ik zal morgen een boek reviewen. focus set: {O, VP, IP} 
    I will tomorrow a book review
    'Tomorrow I will review a book.'

b. Ik zal het boek morgen reviewen. focus set: {V, VP, IP} 
    I will the book tomorrow review
    'Tomorrow I will review the book.'

Reinhart (1995) says the following about the examples in (59). Definites generally refer to an entity mentioned before in the discourse; they do not present new information and, for that reason, are not likely to be in focus. Consequently, they scramble and thus 'escape' from the focus set as in (59b). Definites contrast with indefinites, which do present new information. The latter do not scramble and are included in the focus set, like in (59a).

Reinhart (1995) thus treats scrambling of the DP as a movement operation for elements to get out of focus. Scrambling is restricted, however, in that "scrambling is

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20 The focus of neutral main stress is indicated with bold face.
appropriate only in a context which enables full destressing of the object" (Reinhart 1995:22). This is the case with pronouns, as in (60a). On the other hand, elements that resist focus but which are not fully destressed do not scramble; they shift stress to the verb to get out of focus as shown for iets 'something' in (60b).

(60)  a. dat Jan <het> waarschijnlijk <*het> zag
        that Jan it probably it saw
        'that Jan probably saw it'

     b. dat Jan <*iets> waarschijnlijk <iets> zag
        that Jan something probably something saw
        'that Jan probably saw something'

As shown above, Reinhart (1995) takes destressing to be a precondition for scrambling. Although this seems to give the right distribution for the examples in (60), it raises the question why definite DPs and indefinite DPs, which cannot be fully destressed, can appear on the left side of adverbs like waarschijnlijk, i.e. undergo scrambling (see also below). To avoid these problems, I would like to suggest destressing not as a precondition of scrambling but as consequence of scrambling. Neutral main stress is found on the most deeply embedded constituent in the clause (Cinque 1993), that is on the DP object inside the VP if present (see also Baart 1987). I want to claim that elements which resist stress, e.g. weak elements like pronouns, must scramble to get out of this 'stress position'. This is illustrated in (60a). Scrambling is thus interpreted as a means to escape stress assignment.

Now that Reinhart's proposal for DP scrambling has been introduced and slightly adjusted, we return to the distribution of the R-words in the middle field. Just like the pronouns in (60a), er must scramble. Being prosodically weak, er must escape potential stress assignment. In other words, er must appear in scrambled position, that is to the left of an adverb like waarschijnlijk:

(61)  a. dat Jan er waarschijnlijk mee speelde
        that Jan there probably with played
        'that Jan probably played with it'

     b.?? dat Jan waarschijnlijk er mee speelde
        that Jan probably there with played

\[ iets "is devoid of any specific content, so it is an unlikely focus, alone" (Reinhart 1995, 20). \]

22 If pronouns appear in non-scrambled position they bear contrastive stress:

(i) dat Jan waarschijnlijk HEM zag
        that Jan probably him saw
        'that Jan probably saw HIM'

Costa (1998:102ff.) discusses related case in which contrastive stress saves an otherwise ungrammatical construction:

(ii) John talked <fast> to this mother <*fast>.

(iii) John talked to his mother FAST.

Costa (1998) suggests, following Frota (1993), that weight effects like contrastive stress trigger the destruction of the syntactically determined ordering.
To account for the distribution of the other R-words, we have to take a look at the semantic effect of scrambling (e.g. De Hoop 1992 and Kratzer 1995). Informally speaking, definite DPs (which have a strong reading according to De Hoop) scramble freely; they can appear both to the left and to the right of and adverb like *gisteren* 'yesterday', and no semantic effect for the scrambled DP is observed:

(62) a. dat ik de krakers gisteren heb gesproken
    that I the squatters yesterday have spoken
    ‘that I have spoken with the squatters yesterday’

b. dat ik gisteren de krakers heb gesproken
    that I yesterday the squatters have spoken

The distributional pattern found with strong DPs in (62) resembles the pattern found for *daar* in (63):

(63) a. dat Jan daar waarschijnlijk mee speelde
    that Jan there probably with played
    ‘that Jan probably played with it’

b. dat Jan waarschijnlijk daar mee speelde
    that Jan probably there with played

The R-word *daar* can be found both in the scrambled and in the non-scrambled position.

Scrambling does have a semantic effect on so-called weak DPs like indefinite DPs and bare plurals. These DPs necessarily get a strong interpretation in the scrambled position, see (64). That is to say, they are generic, partitive or referential. In all these readings, the DP is discourse linked.\(^{23}\)

(64) a. dat wij een goed project natuurlijk steunen\(^{24}\)
    that we a good project of course support
    ‘that we support a good project of course (generic)’

b. dat wij natuurlijk een goed project steunen.
    that we of course a good project support
    ‘that we support a good project of course (existential or generic)’

A prediction which follows from the above semantic effect of scrambling is that elements which are inherently weak (in the sense of De Hoop 1992) cannot scramble; they cannot be linked to a linguistic antecedent in the discourse. Scrambling is indeed blocked for the indefinite pronoun *iets* 'something', see (60b).

\(^{23}\) De Hoop (1992) argues that in the non-scrambled position both the weak (i.e. existential, predicative) and the strong (i.e. partitive or referential) reading are available.

\(^{24}\) Kratzer (1995:153) presents similar examples for German but uses a scope/focus sensitive adverb like *immer* 'always', which might trigger the generic reading. To prevent the adverb from influencing/determining the interpretation of the DP, a (quantificationally) neutral adverb like *natuurlijk* is chosen here.
The same is observed for the R-word *ergens*; it is inherently weak, and consequently, it cannot be found in a scrambled position since this would bring about a strong reading. The relevant examples for *ergens* are repeated here:

(65) a. ?? dat Jan *ergens* waarschijnlijk mee speelde
    that Jan somewhere probably with played
b. dat Jan waarschijnlijk *ergens* mee speelde
    that Jan probably somewhere with played
    'that Jan probably played with something'

The results of the above discussion can thus be summarised as follows. The Dutch R-words display different distributional patterns in the middle field. Analogously to DP direct objects they do or do not undergo scrambling. Prosodic and interpretational properties of the R-words regulate this scrambling movement. The R-word *er* (like DP pronouns) scrambles due to its prosodic characteristics.25 Scrambling of *ergens* is barred since this would bring about a strong interpretation for *ergens*, which is incompatible with its inherent specification. The same is found with the indefinite DP pronoun *iets*. Analogously to definite DPs, scrambling of the R-word *daar* is free.

6.4.2. Extraction conditions
So far we have seen that R-words can escape the PP. What does the literature say about extraction from the PP? Or more precisely, what preconditions have been formulated for R-word extraction? I will present a brief summary of the approaches found in the literature.

The literature on extraction from the PP distinguishes the following three strategies. The first approach assumes reanalysis (or incorporation) of P and V (e.g. Hornstein & Weinberg 1981; Kayne 1981; Müller 1995). Only if P and V can be reanalysed is extraction of the object of P possible. Different preconditions for reanalysis have been proposed. The second strategy formulates extraction restrictions in terms of directionality of government (e.g. Bayer 1997; Bennis & Hoekstra 1984; Kayne 1984; Koster 1987). Only in case V and P govern in the same direction, extraction from the PP is possible. This approach accounts for the fact that in Dutch (and German), in which the verb is assumed to assign case to the left, extraction from postpositional but not prepositional DPs is available. A third strategy, developed in Salles (1997), is that extraction from PP is free unless a close relation between P and its DP complement bars splitting of the two. Such a close relation is found in constructions with preposition-determiner contraction, as in French and German:

25 The generalisation about the distribution of R-words in the middle field does not hold for R-word DPs which are attributes to a DP:

(i) dat hij <er> gisteren mijn boek <er> over heeft gelezen
    that he there yesterday my book there about has read
    'that he read my book about it yesterday'
Salles (1997) claims that extraction from (pre)positional PPs in these languages is obstructed. We are concerned here with the possibility to extract an R-word from PP in Dutch. Let us see how the earlier proposals account for this possibility. Several syntacticians have claimed that R-word extraction is possible since the R-word occupies a position which is transparent for movement. That is to say, SpecPP functions as an escape hatch (e.g. Bayer 1997; Koster 1978; Van Riemsdijk 1978). Van Riemsdijk (1978) formulates his Head Constraint, according to which elements in the specifier position of an XP can be related (e.g. through movement) to an element outside the XP. Bayer (1997: ch. 3) does more or less the same when he formulates the notion barrier in such a way that the specifier position is an escape hatch to leave the PP.

It was noted already at an early stage that R-word extraction is not unrestricted. As Koster (1978:97) observes, the R-word cannot leave the PP "if the PP itself is in a marked position". He exemplifies this with PPs in extraposed position:

(67)  
* Who, did he see a picture, yesterday, of t₁?

Koster (1987), following earlier work by Ross (1967) and Wexler & Culicover (1980), relates the restrictions on extraction from PP to a general Freezing effect. That is to say, if the PP has undergone movement, it becomes an island for extraction. This is illustrated in (68):

(68)  
a. Waar had hij niet t₁ op gehoeppt?
   whereᵢ had he not on hoped
   'Where didn't he hope for?'

b. * Waar had hij [ t₁ op ]ᵢ niet t₁ gehoeppt?
   whereᵢ had he on not hoped

Müller (1995) integrates the Freezing effect into his general theory of extraction and barrierhood. Some of his examples are given in (69) and (70):

(69)  
   there have I yet at-all not from heard
   'I have not heard of it yet.'

   there have I from yet at-all not heard

(70)  
a. Woᵢ meinst du hat keiner [ t₁ für ] gestimmt?
   where think you has no-one for voted
   'Where do you think nobody voted for?'
Müller claims that extraction is not possible from scrambled elements, since they occupy adjoined positions. However, the claim that adjuncts do not allow for extraction, as in Müller (1995), seems to be too strong. Adverbal PPs, which were argued to be adjuncts in chapter 1, are not islands for extraction. (71) shows that the R-word can escape from the locative adverbial.

(71) a. Waar heb je in gespeeld?
   where have you in played
   'Where did you play in?'

   b. het park waar ik in heb gespeeld
      the park where I in have played
      'the park I have played in'

It can thus be concluded that if the PP occupies its base position in the verbal domain, both in complement and in adjunct position is extraction possible from the specifier position of the PP. However, if a PP has been moved (i.e. is not in its base position), it becomes an island for extraction.

6.5. Conclusion

This chapter has yielded preconditions for R-word PP formation in Dutch. It has been demonstrated for circumpositional PPs, complex prepositional PPs and for postpositional PPs how the internal syntactic structure of these PPs interacts with the process of R-word PP formation. Roughly, for R-word PP formation to be possible, the PP in question must contain a prepositional substructure. Moreover, it has been shown that the presence of a DIRP in the PP's syntactic structure severely restricts R-word PP formation. The second part of this chapter has dealt with the R-word escaping from the adpositional domain. The movement of the R-word to a position outside the adpositional domain has been linked successfully to another well known property of Dutch syntax, scrambling. R-word extraction from the PP is shown to be restricted to PPs which occupy their base position.
7 Conclusion

This thesis has provided an overview of the Dutch PP. Special attention has been paid to interactions in the adpositional domain. First, the interaction between the internal structure and the external syntax of the PP. Second, the interaction between syntactic and semantic structure of adpositional phrases. The focus in this thesis is on Dutch adpositional syntax, although roughly the same analysis can be adopted for German. This has been shown e.g. in chapter 5 for extraposition.

The internal structure of the adpositional phrases and their characteristics have to be determined in order to be able to draw conclusions about the above interactions. One crucial assumption for the PP's structure is the subclassification of (core) adpositions, classifying a subset of the adpositions as inherently directional. Chapter 1 has presented five distributional tests to distinguish between the adpositional (sub)classes, thus going beyond a merely intuitive base for this classification. It has been argued before (e.g. Jackendoff 1990; Verkuyl & Zwarts 1992; Zwarts & Winter 1997) that directional adpositions have a path interpretation. I have proposed a syntactic counterpart to (semantic) directionality: the functional directionality projection, DIRP. Directionality has been argued to be an instance of interaction between semantic and syntactic structure. DIRP was shown to play an important role in the syntax of postpositional PPs and R-word PP formation.

A second crucial factor for my analysis of the structure of the PP is the theoretical framework adopted: Minimalism (Chomsky 1995), in combination with Kayne's (1994) restrictions on phrase structure and movement. Adpositional structures are taken to be head-initial underlyingly and movement is restricted to leftward movement.

Besides these assumptions about the internal representation of the PP, I take a stand on the hierarchical position of the PP itself. Based on earlier work ( Helmantel 1998a), I claim in chapter 1 that PPs are either adjuncts or small clause predicates. This dichotomy is functionally based; adverbal and selected PPs (i.e. 'object' PPs) occupy adjoined positions, whereas predicative PPs appear as SC predicates. Moreover, the relative position of PP adverbs and selected PPs has been determined. On the basis of several tests (e.g. extraposition, extraction), it was concluded that selected PPs are structurally closer to the verb than PP adverbs.

Chapter 2 has presented a systematic overview of the PP possibilities in Dutch. The starting-point for the following classification is the syntactic complexity of the PP, based on the number of adpositional element and the expansion possibilities.

(1) simplex PPs:
   a. simplex prepositional PPs
   b. simplex postpositional PPs
   complex PPs (with >1 adpositions)
   c. circumpositional PPs with a simplex preposition and a simplex postposition
   d. complex prepositional PPs
   e. complex postpositional PPs
   f. circumpositional PPs with a complex preposition and a simplex
postposition
g. circumpositional PPs with a simplex preposition and a complex postposition
h. circumpositional PPs with a complex preposition and a complex postposition

Five distributional tests have been discussed, determining the syntactic and semantic properties of the above PP configurations. Some of the PP configurations in (1) were further subclassified.

Chapter 3 has developed syntactic representations for the PP configurations in (1). Earlier approaches (Van Riemsdijk 1990; Rooryck 1996; Koopman 1997; Zwart 1993) were discussed. I have adopted Kayne's (1994) analysis of universally head-initial syntactic structure and leftward movement. Hence, adpositional phrases are prepositional underlyingly. Post- and circumpositional PPs are derived from the head-initial structure by leftward movement, see (2).

(2) a. \([_{rp}P\,DP]\) \ldots prePP
b. \([_{rp}DP,\,P,\,[_{pp}\,t_1,\,t_1]\) \& FP = DIRP \ldots postPP
c. \([_{rp}\,[_{pp}\,P\,DP],\,[_{pp}\,P\,t_1]\) \ldots circumPP

The movements are considered to be instances of minimalist feature checking. A strong feature in a functional projection attracts either an XP or an X\(^*\) to check it off. The two possibilities are equally economical, and both options have been shown to be available in Dutch adpositional syntax. There seems to be a tendency towards favouring XP-movement.

In most of the representations, the nature of the functional projection and the strong feature have not been specified. However, I have identified the functional projection in a postpositional PP as DIRP. The path semantics (and the corresponding 1-dimensionality), characteristic of postpositional PPs, is related to the directionality phrase as follows:

(3) A DP object in SpecDIRP gets 1-dimensionality.

This is illustrated in (4).

(4) a. De man is de ladder op geklommen.
the man is the ladder on climbed
'The man has climbed up the ladder.'
b. \([_{dirp}\,de\,ladder,\,op,\,[_{rp}\,t_1,\,t_1]\]"

The ladder in (4) functions as a path along which the climbing takes place.

Chapter 4 was concerned with extension of the PP by modification, especially length modification. The analysis is based on Zwarts (1994; 1997b). Zwarts has observed a correlation between vector properties and modification possibilities. He works this out for prepositional PPs with locative adpositions. In chapter 4, this correlation is formalised in terms of vector length restrictions in the definition of the
Conclusion

Moreover, Zwartz's proposal is extended to postpositional phrases and prepositional PPs with a so-called extended locative adposition. This semantic approach makes it possible to formulate a generalisation for length modification with PPs. The relevant criterion for modification by *twee meter* 'two metres' is argued to be the restriction on vector length.

(5) Length modification is possible if there are no inherent restrictions on the length of the (relevant) vector in the definition of the PP.

If the semantic structure (i.e. definition) of the PP includes a length restriction for the (relevant) vector, length modification is not possible. The underlying idea is that the length of the vector can be given only once; either it is found in the definition of the PP or it is given by a length modifier but crucially not by both. After directionality, length modification is a second instance where we observe an interaction between semantic and syntactic structure; it has been shown that the (inherent) semantic structure of the PP determines the (syntactic) process of length modification.

Chapters 5 and 6 have presented case studies, investigating the interaction between internal syntactic structure and the PP's external syntax. The first case study concerns PP-extraposition. In extraposition constructions, the PP appears to the right of the verb complex. The approach proposed in chapter 5 takes Barbiers's (1995) analysis as a starting-point. Adverbal PPs, which are adjoined to the left of the verb in the base structure, appear to the right of the verb as a result of verb movement. The verb is assumed to move to a position to the left of the PP; or more precisely, to SpecPP.

The interaction between the internal syntax of the PP and the PP's external syntax is strongly confirmed in this case study. With regard to extraposition, the internal structure of a PP can restrict the PP's ability to appear in extrapoosed position. This is the case when movement of VP to SpecPP is blocked because the PP's specifier position is occupied. This was argued to be the case in postpositional PPs, R-word PPs and circumpositional PPs. It was shown, however, that other factors might also influence the PP's possibility to extrapose. Predicative PPs do not extrapose, verb movement to SpecPP being blocked not because SpecPP is occupied but since this movement would be a case of (illicit) lowering.

Special attention was paid to constructions in which a particle seems to 'save' an extraposition configuration. An example is given in (6):

(6) dat hij de jas *(op) hangt [pp aan de kapstok] that he the coat on hangs on the coathooks 'that he hangs the coat on the coathooks'

I have adopted Zwart's (1997) account of predicate movement: a strong feature in the predicate phrase, a functional projection to the left of the VP, needs to be checked off. The two checking possibilities offered by the theoretical framework are used. The first possibility is XP movement to SpecFP: the entire complex predicate moves to the left of the verb, as illustrated in (7b). The second option is head movement to F⁰: the particle moves to F⁰ and the PP is stranded, as in (7c). The latter gives us the
extraposited word order: V PP.

(7)  a.  hang_\text{sc} [aan de kapstok [op]]_1 \quad \text{initial structure}
    b.  dat ik mijn jas [aan de haak op]_1 hang_\text{P} \quad \text{that I\ my\ coat\ on\ the\ hook\ up\ hang}
        'that I hang my coat on the hook'
    c.  dat ik mijn jas op_1 hang [aan de haak _t_i] \quad \text{that I my coat on hang on the hook}
        'that I hang my coat on the hook'

According to (traditional) German grammar, PP-extraposition is ungrammatical, at least in written language. I have shown that extraposition, which is indeed found in German, is restricted due to normative regulations. No syntactic restrictions are operative.

The second case study to investigate the interaction between internal and external syntax of the PP deals with R-word PP formation. The structural representation is head-initial:

(8) \quad [\text{pp, R-word}, [\text{P t}_1]]

The interaction between PP internal and external syntax for these PPs is as follows. As a precondition for R-word PP formation, the PP in question must exhibit the (sub)structure in (8). Simplex prepositional PPs, circumpositional PPs and complex prepositional PPs fulfill this structural requirement. Postpositional PPs and prepositional PPs with a directional adposition, on the other hand, do not. In these cases the internal structure of the PP blocks R-word PP formation. In both PP configurations, the DIRP plays a crucial role. I have argued that, in order to avoid a semantic clash, R-words are banned from SpecDIRP, which imposes 1-dimensionality on the DP object, see (3). As a result, R-word PP formation, which would involve movement of the R-word to SpecDIRP, is impossible with these PPs.

I have shown that the R-word can escape the PP via the PP internal specifier position, ending up in a position in the middle field. The distributional patterns of the R-words in the middle field vary. The R-word \text{er} tends to appear to the left of an adverb like \text{waarschijnlijk} 'probably', whereas \text{ergens} 'somewhere' occupies a position to the right of \text{waarschijnlijk}. The R-word \text{daar}, on the other hand, can appear on either side of this adverb:

(9)  a.  dat Jan \text{er} waarschijnlijk in is gesprongen
        that Jan\ probably\ in\ is\ jumped
        'that Jan probably jumped into it'
    b. ?? dat Jan waarschijnlijk \text{er} in is gesprongen
        that Jan\ probably\ in\ is\ jumped
    (10) a.  dat Jan \text{daar} waarschijnlijk in is gesprongen
        that Jan\ probably\ in\ is\ jumped
        'that Jan probably jumped into it'
b. dat Jan waarschijnlijk daar in is gesprongen
that Jan probably there in is jumped

(11) a.?? dat Jan ergens waarschijnlijk in is gesprongen
that Jan somewhere probably in is jumped
b. dat Jan waarschijnlijk ergens in is gesprongen
that Jan probably somewhere in is jumped

'that Jan probably jumped into something'

I have claimed that analogously to DP direct objects, these R-word do or do not undergo scrambling. Prosodic and interpretational properties of the R-words regulate this scrambling movement.

The case studies of PP-extraposition and R-word PP formation have shown that the internal syntax of the PP interacts with (and often restricts) the PP's external syntax. The syntactic structure of the PP blocks extraposition and R-word formation. But it is not just the internal structure of the PP that determines the PP's distributional characteristics. Especially in the chapter on extraposition it was argued that besides the PP's syntactic representation also the hierarchical position of the PP and prosodic characteristics influence the ability to appear in a position to the right of the verbal complex.

The interaction between semantic and syntactic structure has been shown to come in two ways. First, inherent semantic properties determine syntactic structure. This was illustrated for the syntactic representation of directionality and for the syntax of length modification. Second, syntactic structure determines the semantics of an adposition(al phrase). That is to say, depending on the adposition's syntactic position, the adposition(al phrase) displays a certain semantics. This was illustrated for DPs in SpecDIRP, exhibiting 1-dimensionality, cf. (3).

The main conclusions of this thesis are the following. There are different types of interaction in the adpositional domain and they occur on different levels. Interactions have been observed between the internal and external syntax of the PP and between syntactic and semantic structure. A subclassification of the core adpositions, both syntactically and semantically motivated, gives us insight into (i) the internal syntax of PPs and (ii) the interaction between syntax and semantics in the adpositional domain. The interactions in the adpositional domain were illustrated for PPs which are head-initial underlyingly and with leftward movement.

This thesis was concerned with, but not restricted to the Dutch adpositional domain. Phenomena found in the adpositional domain were related to other well-studied phenomena of Dutch grammar, e.g. scrambling. The discussion of the Dutch adpositional phrase has been extended to German syntax. Chapter 5 dedicates a section to extraposition in German. Moreover, German (case) morphology has been shown to give indications for PP internal (structural) relations and the hierarchical position of the PP (in the small clause).

From a theoretical perspective, this thesis has contributed to an insight into optionality, which is considered problematic in Minimalism (Chomsky 1995). I have shown that seemingly optional variation in the adpositional domain can be linked to the checking options offered in Minimalism. Strong morpho-syntactic features can be checked either by phrasal movement or by head movement, and both are
considered equally economical. Chapter 3 showed that one underlying syntactic structure exhibits variation in the output structure, due to these checking possibilities. Resulting structures include complex prepositional PPs, circumpositional PPs and complex postpositional PPs. Optionality of PP-extrapolation in particle constructions as in (7b,c) was shown to be the result of the checking possibilities in Minimalism as well.
Appendix

I PP Configurations and their adpositions

For each PP configuration listed below the adpositions found in the configuration in question are given. Exhaustiveness is aimed at. It should be noted that for certain adpositional constructions native speakers tend to disagree as to what adpositions they accept in a particular PP configuration.

The overviews list the adpositional constructions in my grammar of Dutch and are extended by judgements from other linguists and by data from the literature (as indicated). Nineteen constructions are considered. 1-11 are discussed in the preceding chapters; the remaining constructions are added without discussion.

1. Simplex prepositions (P DP)
2. Simplex postpositions (DP P)
3. Circumpositions with simplex preposition and simplex postposition (P DP P)
4. Adpositions with R-word (R-word P)
5. Complex prepositions (P-P DP)
6. Complex postpositions (DP P-P)
7. Circumpositions with complex preposition and simplex postposition (P-P DP P)
8. Circumpositions with simplex preposition and complex postposition (P DP P-P)
9. Circumpositions with complex preposition and complex postposition (P-P DP P-P)
10. Simplex intransitives (P)
11. Complex intransitives (P-P)
12. Adpositions as verb particle
13. Adpositions selected by V (Dutch: vast voorzetsel)
14. Adpositions combined with dat
15. Adpositions in conjunctions
16. Adpositions in parallel constructions
17. Adpositions combined with -dien
18. Adpositions combined with elkaar
19. Adpositions with superlative morphology

1. Simplex prepositions

schematic: [P XP]

The lists in this section together display the complete set of (simplex) prepositions in Dutch, based on the working definition in chapter 1.1

1.1. Narrow locative prepositions (no path)

<table>
<thead>
<tr>
<th>Preposition</th>
<th>English Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>aan</td>
<td>'on'</td>
</tr>
<tr>
<td>achter</td>
<td>'behind'</td>
</tr>
<tr>
<td>bachten</td>
<td>'behind'</td>
</tr>
<tr>
<td>beneden</td>
<td>'beneath'</td>
</tr>
<tr>
<td>benoorden</td>
<td>'north of'</td>
</tr>
<tr>
<td>in</td>
<td>'in'</td>
</tr>
<tr>
<td>na</td>
<td>'after'</td>
</tr>
<tr>
<td>naast</td>
<td>'next to'</td>
</tr>
<tr>
<td>nabij</td>
<td>'near (to)'</td>
</tr>
<tr>
<td>onder</td>
<td>'under'</td>
</tr>
</tbody>
</table>

In compiling these lists, I have used Geerts (1999). Two of the prepositions given in this dictionary have not been included in my lists: omwille van 'for the sake of' and tengevolge (van) 'as a result of', which I consider to be voorzetseluitdrukkingen (Geerts 1984: 636ff), not simplex prepositions. Geert'ss (1999) dictionary does not consider nopens, qua and behalve to be prepositions.
### Directional prepositions (=point locative)

- **af**: 'off'
- **naar**: 'to'
- **tot**: 'until'
- **van**: 'of'
- **vanaf**: 'from'
- **vanuit**: 'from'
- **via**: 'via'

### Extended locative prepositions

- **door**: 'through'
- **langs**: 'along'
- **om**: '(a)round'
- **ome**: '(a)round'
- **over**: 'across'

### Remaining prepositions

- **a**: 'a'
- **aangaande**: 'regarding'
- **ab**: 'ab'
- **absque**: 'without'
- **ad**: 'ad'
- **al**: 'along'
- **allernaaast**: 'very close to'
- **ante**: 'before'
- **anti**: 'against'
- **après**: 'after'
- **behalve**: 'besides'
- **behoudens**: 'except for'
- **belangende**: 'about'
- **benefens**: 'besides'
- **benevens**: 'besides'
- **betroffen**: 'concerning'
- **blijvens**: 'according to'
- **circa**: 'around (temporal)'
- **con**: 'with'
- **conform**: 'in accordance with'

---

The word *nopens* is classified as a pronoun in Geerts (1999), not as a preposition.
|contræ²| ‘contra’ | per³| ‘per’ |
|contrarie²|‘despite’ | plus³| ‘plus’ |
coram³|‘in the presence of’ | post³| ‘after’ |
cum³|‘cum’ | pour³| ‘for’ |
dankzĳ|‘thanks to’ | pro³| ‘pro’ |
de³|‘de’ | qua³| ‘as regards’ |
een³|‘on (temporal)’ | rechtover³| ‘opposite of’ |
en³|‘in’ | secundum³| ‘according to’ |
entre³|‘between’ | sedert | ‘since’ |
ex³|‘ex’ | sind | ‘since’ |
extra³|‘extra’ | sine³| ‘without’ |
gaaneweg³|‘during’ | sin³| ‘since’ |
gedurende³|‘during’ | spijt³| ‘despite’ |
geneven(s)³|‘next to’ | spits³| ‘despite’ |
getuige³|‘witness’ | staande | ‘during’ |
gezien³|‘in view of’ | sub³| ‘under’ |
hangende³|‘pending’ | super³| ‘above’ |
hors³|‘outside’ | tencij³| ‘except’ |
infra³|‘between’ | tijdens | ‘during’ |
ingsaande³|‘per (temporal)’ | toe³| ‘till’ |
ingevolge³|‘in accordance with’ | trots³| ‘despite’ |
ter³|‘between’ | uitgenomen | ‘except’ |
intra³|‘between’ | uitgezonderd | ‘except’ |
inzake³|‘concerning’ | vanwege | ‘because of’ |
jegens³|‘towards’ | versus³| ‘against’ |
krachtens³|‘by virtue of’ | vis-à-vis³| ‘opposite of’ |
lastens³|‘at the expense of’ | volgens | ‘according to’ |
luidens³|‘according to’ | wegen | ‘because of’ |
| | | zijdens | ‘from the side of’ |
| | | zónder | ‘without’ |

F = Foreign origin
R = Regional
S = Seldom used
A = Archaic
C = Colloquial

The prepositions classified as foreign origin, regional, seldom used, archaic, colloquial will not be included in part II of the appendix.
2. Simplex postpositions

schematic: [XP P]

<table>
<thead>
<tr>
<th>Af</th>
<th>'off'</th>
<th>onder</th>
<th>'under'</th>
</tr>
</thead>
<tbody>
<tr>
<td>binnen</td>
<td>'inside'</td>
<td>op</td>
<td>'on'</td>
</tr>
<tr>
<td>door</td>
<td>'through'</td>
<td>over</td>
<td>'across'</td>
</tr>
<tr>
<td>halve</td>
<td>'for reasons of'</td>
<td>rond</td>
<td>'round'</td>
</tr>
<tr>
<td>in</td>
<td>'in'</td>
<td>ten spijt</td>
<td>'despite'</td>
</tr>
<tr>
<td>langs</td>
<td>'along'</td>
<td>uit</td>
<td>'off'</td>
</tr>
<tr>
<td>om⁴</td>
<td>'around'</td>
<td>voorbij</td>
<td>'past'</td>
</tr>
</tbody>
</table>

3. Circumpositions with simplex preposition and simplex postposition

schematic: P₁ XP P₂

3.1. Adpositional combinations and examples

| aan ... voorbij | Ze ging met de traktatie aan hem voorbij. |
| achter ... aan | Ze fietsten achter de optocht aan. |
| achter ... heen | Je moet er achter heen gaan. |
| achter ... langs | Ze liepen achter het huis langs. |
| achter ... om | Je moet achter om af om lopen, Keesje. [Geerts 1984, 633] |
| achter ... uit | Zij namen de beslissing achter zijn rug om. |
| achter ... vandaan | De vloerbedekking stak een halve meter achter de auto uit. |
| achter ... weg | Kom eindelijk achter de kast vandaan. |
| bij ... af | Kom eindelijk achter de kast weg. |
| bij ... in | Die mantel is donkerblauw, bij zwart af. |
| bij ... langs | Het is wat je noemt bij de wilde spinnen af. [Geerts 1984, 633] |
| bij ... na | Gelukkig ging ze bij hem vandaan. |
| bij ... op | Eindelijk ging ze bij hem weg. |
| bij ... vandaan | Hij haalt de limiet bij lange na niet. [idiom] |
| bij ... weg | Het vliegtuig vloog boven de wolken langs. |
| boven ... langs | De telescoop stak boven het water uit. |
| boven ... uit | Ik kom niet boven het lawaai uit. |
| buiten ... om | Hij regelt een visum buiten de officiële kanalen om. |
| door ... heen | De snelweg loopt buiten de stad om. |
| langs ... heen | Hier is door de eeuwen heen niet veel veranderd. |
| langs ... heen | Ik kom niet door dat boek heen. |
| met ... mee | Ze keek straal langs mij heen. |
| niet ... toe | Ga je met mij mee naar de film? |
| naar ... toe | Hij had gelukkig met de wind mee. |
| naar ... toe | Jokeren doe je met de klok mee. |

---

3 Using onder as a postposition is regionally restricted to the southern part of the Netherlands and Flanders.
4 The adposition om is a postposition only in idiomatic expressions like een blokje om gaan ‘to go for a walk’ and het hoekje om gaan ‘to die’.
5 In the north of the Netherlands, vandaan tends to be replaced by weg.
APPENDIX

om ... heen  We kunnen niet om dit feit heen.
     Hij liep om het paaltje heen.

om ... toe  Hij bond het lint om de eik toe.

om ... vandaan  Hij haalt een lint om het kado vandaan.

om ... weg  Hij haalt een lint om het kado weg.

onder ... aan  Wat draagt een prof onder zijn toga aan?

onder ... door  Het fietspad loopt onder de snelweg door.

onder ... langs  De kabel loopt onder de vensterbank langs.

onder ... uit  Er komt een slang onder het bed uit.
     Hij komt niet onder zijn verplichtingen uit.

onder ... vandaan  Hij kwam langzaam onder het bed vandaan.

onder ... weg  Hij kwam langzaam onder het bed weg.

op ... aan  Ik ga maar eens op huis aan.

op ... af  Dat was op het kantje af. (idiom)

op ... na  Op mij na was iedereen genezen.
     Hij haalde het op geen stukken na.
     Hij was op drie na de beste.

over ... aan  Hij draagt een toga over zijn joggingpak aan.

over ... heen  Hij struikel over het hek heen.

rondom ... heen  Het leger stond rondom de stad heen opgesteld.

tegen ... aan  De fiets staat tegen het hek aan.
     De kleur van de jurk is blauw, tegen paars aan.

tegen ... in  Ze fietst altijd tegen de wind in.

tegen ... op  De ladder staat tegen de gevel op.

tot ... toe  Ze fietsten tot de brug toe.
     Het is tot nog toe niet gelukt.
     Hij klaagt tot vervelen toe over zijn moeder.

tussen ... door  Hij sloopt tussen de rijen door.
     Tussen twee afspraken door at hij een boterham.

lussen ... in  Hij zat tussen zijn ouders in.
     De kleur van de zee is tussen blauw en groen in.

lussen ... uit  Hij kneep tussen de vergadering uit.

lussen ... vandaan  De groenteboer haalt de appel tussen het rotte fruit vandaan.

tussen ... weg  De groenteboer haalt de appel tussen het rotte fruit weg.

uit ... vandaan  Het boek haalde hij uit de oude kast vandaan.

uit ... weg  Hij haalde het boek uit de bibliotheek weg.

van ... af  Van kinds af gehoorzaamde ze haar moeder.
     Kom van dat dak af!
     Hij is inmiddels van school af.
     Van boven af kon hij de boel beter overzien.

van ... uit  Dat heb ik van huis uit meegekregen.
     De kracht komt van binnen uit.

van ... vandaan  Hij komt van Amsterdam vandaan.

van ... weg  Ze ging van hem weg.

voor ... aan  Voor de stoet aan liep een fanfare.

voor ... langs  De koningin liep voor de eerste rij langs.

voor ... om  Je moet voor oma om lopen.

voor ... uit  Hij staart voor zich uit.
     Hij rent voor de menigte uit.

voor ... vandaan  Kom eindelijk voor de spiegel vandaan!

voor ... weg  Kom eindelijk voor de spiegel weg!
     Voor de vuist weg een verhaal vertellen.

3.2. Adpositions as $P_i$

aan  onder

achter  op
bij  over
boven  rondom
buiten  tegen
door  tot
langs  tussen
met  uit
naar  van
om  voor

3.3. Adpositions as P₂

aan  om
af  op
door  over
heen  toe
in  uit
langs  vandaan
mee  voorbij
na  weg

4. Adpositions with an R-word

The following adpositions can appear together with an R-word. The R-words in Dutch are: er 'there', daar 'there', waar 'where', hier 'here', ergens 'somewhere', nergens 'nowhere' and overal 'everywhere'. R-word PP formation is discussed in chapter 7.

aan  'on'
achter  'behind'
of  'off'
beneden  'beneath'
bij  'near'
binnen  'inside'
boven  'above'
buiten  'outside'
doors  'through'
heen  'to'
in  'in'
langs  'along'
mee  'with'
na  'after'
aan  'to'
aan  'next to'
naar  'to'
naast  'next to'
nabij  'near (to)'
nevens  'next to'
om  omstreeks  '(a)round'
omtrent  '(round) about'
onder  'under'
op  'on'
over  'across'
rondom  '(a)round'
tegen  'against'
tegenover  'across'
toe  'to(wards)'
tussen  'between'
ut  'out'
vand  'of'
vandaan  'away'
voor  'in front of'
voor  'past'
weg  'away'

6 The adpositions omstreeks and omtrent can be combined with the R-words daar and hier only.

7 R-word PP formation with nevens is restricted to the R-words daar and waar: daarnenevens, waarnevens.
5. Complex prepositions

schematic: \([P_1, P_2, XP]\)

5.1. van, voor, tot, sinds + P + object

<table>
<thead>
<tr>
<th>van ...</th>
<th>voor ...</th>
<th>tot ...</th>
<th>sinds ...</th>
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<tbody>
<tr>
<td>aan</td>
<td>aan</td>
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<td>rond</td>
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</tbody>
</table>

5.2. Locative complex prepositions

schematic: \([P_1, P_2, XP]\)

as \(P_1\):

achte    midden
binnen   onder
boven    voor
buiten   

5.3. Opaque complex preposition

doorheen ... 'through'

(Flemish, Geerts 1997: 527: doorheen de eeuwen 'through the centuries')

---

The class of complex prepositions is divided into four subclasses, which display different syntactic and semantic properties (see chapter 2).
langsheen ... 'along'  
(Flemish, Geerts 1997: 527: langsheen de steenweg 'along the road')
naasten... 'next to' (Flemish, Geerts (1999))
nabij ... 'near'
rondom ... 'around'
tegenover ... 'across'
voorbij ... 'past'

5.4. vanaf/vanuit/totaan
vanaf ... 'from'
vanuit ... 'from'
totaan ... 'until'

6. Complex postpositions
schematic: [XP P₁ P₂]
... achterlangs 'behind-long' ... onderdoor 'under-through'
... achteraan 'behind-after' ... tussendoor 'between-through'
... bijlangs 'near-long' ... voorbij 'past'

7. Circumpositions with complex preposition and simplex postposition (non-exhaustive)
schematic: [P₁ P₂ XP P₃]
tot aan ... toe
van achter ... uit
voor achter ... aan
voor achter ... langs
tot achter ... langs
van achter ... vandaan
voor achter ... om
tot achter ... toe
van beneden ... vandaan
voor achter ... uit
tot bij ... langs
van binnen ... vandaan
voor bij ... in
tot boven ... uit
van boven ... uit
voor bij ... langs
tot boven ... langs
van boven ... vandaan
voor boven ... langs
tot door ... heen
van buiten ... vandaan
voor boven ... uit
tot in ... toe
van naast ... vandaan
voor door ... heen
tot onder ... door
van om ... vandaan
voor met ... mee
tot onder ... langs
van onder ... uit
voor om ... heen
tot onder ... toe
van onder ... vandaan
voor om ... toe
tot op ... toe
van tussen ... vandaan
voor onder ... aan
tot tussen ... in
van uit ... vandaan
voor onder ... langs
tot tussen ... door
van voor ... vandaan
8. Circumpositions with simplex preposition and complex postposition

schematic: \([P_1 \, XP \, P_2 \, P_3]\)

<table>
<thead>
<tr>
<th>to ... aan toe</th>
<th>van onder ... uit vandaan</th>
<th>voor tot ... aan toe</th>
</tr>
</thead>
<tbody>
<tr>
<td>van ... af aan</td>
<td>van achter ... uit vandaan</td>
<td></td>
</tr>
<tr>
<td>van ... af vandaan</td>
<td>van boven ... uit vandaan</td>
<td></td>
</tr>
<tr>
<td>van ... uit vandaan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Circumpositions with complex preposition and complex postposition (non-exhaustive)

schematic: \(P_1 \, P_2 \, XP \, P_3 \, P_4\)

<table>
<thead>
<tr>
<th>to aan ... aan toe</th>
<th>van onder ... uit vandaan</th>
<th>voor tot ... aan toe</th>
</tr>
</thead>
<tbody>
<tr>
<td>to achter ... aan toe</td>
<td>van achter ... uit vandaan</td>
<td></td>
</tr>
<tr>
<td>to bij ... aan toe</td>
<td>van boven ... uit vandaan</td>
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<td>to binnen ... aan toe</td>
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<td>to boven ... aan toe</td>
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<td>to buiten ... aan toe</td>
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<td>to door ... aan toe</td>
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<td>to in ... aan toe</td>
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<td>to langs ... aan toe</td>
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<td>to naast ... aan toe</td>
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<td>to om ... aan toe</td>
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<td>to onder ... aan toe</td>
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<td>to op ... aan toe</td>
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<td>to tussen ... aan toe</td>
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<tr>
<td>to voor ... aan toe</td>
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<td></td>
</tr>
</tbody>
</table>

10. Simplex intransitives

schematic: \(P\)

<table>
<thead>
<tr>
<th>aan</th>
<th>Het licht is nog aan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>achter</td>
<td>Becker staat achter.</td>
</tr>
<tr>
<td>af</td>
<td>De trui is af.</td>
</tr>
<tr>
<td>beneden</td>
<td>Hij woont beneden.</td>
</tr>
<tr>
<td>bij</td>
<td>We zijn eindelijk weer bij.</td>
</tr>
<tr>
<td>binnen</td>
<td>Na het verkopen van de zaak is hij bieran.</td>
</tr>
<tr>
<td>boven</td>
<td>Ik slaap boven.</td>
</tr>
<tr>
<td>buiten</td>
<td>De schappen slapen buiten.</td>
</tr>
<tr>
<td>contra</td>
<td>Hij speelt de bal contra.</td>
</tr>
<tr>
<td>door</td>
<td>De broek is volledig door.</td>
</tr>
<tr>
<td>in</td>
<td>Hij sloeg de bal in.</td>
</tr>
<tr>
<td>langs</td>
<td>De vuilnisauto is al langs.</td>
</tr>
<tr>
<td>mee</td>
<td>Morgen mag jij mee.</td>
</tr>
<tr>
<td>na</td>
<td>Wat krijgen we na?</td>
</tr>
<tr>
<td>naast</td>
<td>De bokser sloeg naast.</td>
</tr>
<tr>
<td>om</td>
<td>De tijd is om.</td>
</tr>
<tr>
<td>onder</td>
<td>De duikboot is onder.</td>
</tr>
<tr>
<td>op</td>
<td>De chocolade is op.</td>
</tr>
<tr>
<td>over</td>
<td>De leerling is over.</td>
</tr>
<tr>
<td>pro</td>
<td>Hij is altijd pro.</td>
</tr>
<tr>
<td>rond</td>
<td>De fusie is rond.</td>
</tr>
</tbody>
</table>
tegen Waarom ben je altijd tegen?
toe Hij doet de ogen toe.
uit De bal was uit.
voor Sabatini staat voor.
weg Ik ben even weg.
zonder Ik zit al jaren zonder.

11. Complex intransitives

schematic: P₁-P₂

achteraan Hij staat altijd achteraan.
achteraf Ik hoorde het achteraf.
achterin De kinderen zitten achterin.
achterlangs De kabel loopt achterlangs.
achterna Hij kwam haar achterna.
achterom We lopen achterom.
achterop De kleuter zat achterop.
achterover Ze leunde achterover.
achteruit De auto rijdt achteruit.
benedenom De kabel loopt benedenom.
binnendoor We fietsten binnendoor.
binnenin We zaten binnenin.
bovenaan Sampras staat al jaren bovenaan.
bovenin Ze wonen bovenin.
bovenlangs De kabel loopt bovenlangs.
bovenom We moeten bovenom.
bovenop Dit document lag bovenop.
buitenom We fietsten buitenom.
in binnen Hij zat in binnen.¹
in buiten Ze speelden in buiten.
intussen Intussen begon het te regenen.
nabij Hij is mij nabij.
onderaan De slechtste staat onderaan.
onderaf Je moet onderaf beginnen.
onderin Het lekkerste zit onderin.
onderlangs De kabel loopt onderlangs.
onderom We liepen onderom.
onderop De houdbaarheidsdatum staat onderop.
ondertussen Ondertussen was de ruzie bijgelegd.
onderuit Jan ging met de fiets onderuit.
overlangs De slager snijdt het vlees overlangs.
ronduit Hij zei het haar ronduit.
te binnen De oplossing schiet me even niet te binnen.
te boven Dat gaat mijn petje te boven.
tegenover Hij woon tegenover.
te over Hij heeft knikkers te over.
tussendoor Tussendoor doet zij de boodschappen.
tussenin Ze hebben geen hoekhuis, maar wonen tussenin.
vooraaan Jaap staat altijd vooraaan.
vooraf Ik had het liever vooraf gehoord.
voorbij Nu is het feest voorbij.
voorheen Voorheen liet het hem koud.
voorin Mijn moeder zit nooit voorin.

¹ The combination of in and binnen/buiten is considered substandard.
voorlangs  Je mag niet voorlangs lopen.
voorum  We kwamen stiekem voorom.
voorop  De baby zat voorop.
voorover  Peter leunt voorover.
vooruit  De Daf rijdt vooruit.

12. Adpositions as verbparticle

schematic: P-V

aan  (-geven 'to hand'; -kijken 'to look at'; -sluiten 'to connect')
achter  (-blijven 'to lag behind'; -houden 'to withheld'; -laten 'to leave behind')
af  (-gaan 'to fail'; -houden 'to keep off'; -rijden 'to take one's driving test')
bij  (-blijven 'to keep pace'; -houden 'to keep up (with)'; -sturen 'to steer')
in  (-houden 'to keep in'; -looden 'to sneak in(to)'; -treden 'to enter')
boven  (-drijven 'to float'; -houden 'to keep up'; -komen 'to come up')
uit  (-sluiten 'to shut out'; -zetten 'to put out(side)')
door  (-geven 'to pass'; -sluiten 'to channel'; -strepen 'to cross out')
keen  (-gaan 'to die'; -rennen 'to run to')
in  (-maken 'to preserve'; -sluiten 'to enclose'; -voegen 'to insert')
langs  (-gaan 'to pass'; -komen 'to come past'; -lopen 'to walk past')
mee  (-doen 'to join'; -lopen 'to go with'; -spelen 'to play a part')
na  (-doen 'to copy'; -gaan 'to work out'; -kijken 'to check')
nabij  (-komen 'to come close'; fixed: nabijgelegen 'nearby')
onder  (-draaien 'to turn'; -gooien 'to knock over'; -keren 'to turn back')
op  (-dienen 'to serve'; -eten 'to eat up'; -gaan 'to come up')
over  (-gaan 'to move up'; -houden 'to have left'; -springen 'to jump over')
rand  (-delen 'to pass round'; -dalen 'to wander around'; -sturen 'to send round')
tegen  (-gaan 'to fight'; -houden 'to stop'; -werpen 'to object')
toe  (-dekken 'to cover up'; -geven 'to admit'; -treden 'to join')
tussen  (-komen 'to intervene'; -voegen 'to insert')
uit  (-delen 'to distribute'; -geven 'to spend'; -sluiten 'to exclude')
voor  (-dringen 'to push forward'; -gaan 'to go ahead'; -sorteren 'to get in lane')
voorbij  (-lopen 'to pass by'; -schieter 'to whizz by'; -streven 'to outstrip')
weg  (-gooien 'to throw away'; -kijken 'to look away'; -rijden 'to drive off')

13. Adpositions with dat

behalve dat  'except that'
dankzij dat  'thanks to that'
door dat  'because'
meet dat  'with that'
nadat  'after that'
ometdat  'because'
ondanks dat  'in spite of'
opdat  'so that'
totdat  'until that'
voordat  'before that'
zonder dat  'without that'
14. Adpositions in conjunctions

schematic: [P₁, en P₂]

aan en uit 'on and off'  
om en bij 'roughly'
af en aan 'to and fro'  
om en nabij 'roughly'
af en toe 'now and then'  
om en om 'every other one'
door en door 'through and through'  
op en af 'up and down'
in en in 'very'  
over en uit 'over and out'
in en uit 'in and out'  
tot en met 'out-and-out'

15. Adpositions as conjunctions in parallel constructions

schematic: [X P X]

aan  
dag aan dag 'day by day'
twee aan twee 'in twos'
zij aan zij 'side by side'
bij  
soort bij soort 'arrange according to sort'
beetje bij beetje 'little by little'
boven  
baas boven baas 'every man may meet his match'
wonder boven wonder 'by amazing good fortune'
in  
hand in hand 'hand in hand'
met  
al met al 'altogether'
na  
jaar na jaar 'year after year'
om  
leer om leer 'tit for tat'
oog om oog, tand om tand 'an eye for an eye, a tooth for a tooth'
op  
keer op keer 'time after time'
over  
hand over hand 'hand over fist'
tegen  
hard tegen hard 'the gloves are off'
tot  
(van) man tot man 'from man to man'
voor  
voetje voor voetje 'inch by inch'
woord voor woord 'word for word'

16. Adpositions selected by V (Dutch: vast voorzetsel)¹⁰

schematic: V PP

aan  
denken - 'to think of'; grenzen - 'to border on'; wennen - 'to get used to')
achter  
komen (er) - 'to find out about'; staan - 'to stand behind'; z. scharen - 'to side with')
bij  
passen - 'to match with'; stilstaan - 'to deal with'; z. neerleggen - 'to resign to')
door  
z. slaan - 'to pull through')
in  
berusten - 'to resign to'; geloven - 'to believe in'; z. vergissen - 'to be mistaken about')
met  
genoeggen nemen - 'to put up with'; vermeerderen - 'to increase by'; z. inlaten - 'to meddle with')
naar  
(informeren - 'to inquire after'; luisteren - 'to listen to'; zoeken - 'to look for')
om  
denken - 'to mind'; geven - 'to care about'; z. bekommeren - 'to bother about')
onder  
egebukt gaan - 'to be burdened with'; lijden - 'to suffer under'; vallen 'to fall under')
op  
(rekenen - 'to count on'; wachten - 'to wait for'; z. verheugen - 'to look forward to')
over  
(klagen - 'to complain about'; nadenken - 'to consider'; oordelen - 'to pass judgement on')
tegen  
(vechten - 'to fight against'; zeggen - 'to say to'; z. verzetten - 'to resist')

¹⁰ The adpositions door 'through' and tussen 'between' are missing in Geerts (1984: 849ff.).
tot (aansporen - 'to incite to'; komen - 'to come to'; z. richt en - 'to address to')
tussen (kiezen - 'to choose between')
uit (bestaan - 'to consist of'; putten - 'to draw on'; voortvloei en - 'to result from')
van (afzien - 'to abandon'; genieten - 'to enjoy'; houden - 'to love')
voor (vluchten - 'to flee from'; waarschuwen - 'to warn of'; z. schamen - 'to be ashamed of')

17. Adpositions combined with -dien

schematic: P-dien

bovendien 'moreover' nadien 'after(wards)
buitendien 'besides' sedertdien 'since (then)
indien 'if' sindsdien 'since'
naardien 'since' voordien 'before that'

18. Adpositions combined with elkaar

schematic: P-elkaar 'each other'

aan om
achter onder
bij op
boven over
buiten tegen
door tegenover
in tot
langs uit
met van
na voor
naast zonder

19. Adpositions with superlative morphology

schematic: P-st(e)

achter na (namely, naast)
binnen onder
boven voor
buiten
II Adpositions and their PP configurations

This part of the appendix lists for every adposition in what PP construction it can be found. The table which provides the overview should be read as follows. The adpositions found in Dutch are listed vertically. Horizontally, the columns are numbered. These numbers correspond with the constructions discussed in part I of this appendix; there are nineteen of them in total. If an adposition is possible in a particular construction, the corresponding cell is filled with a plus '+', otherwise the cell remains empty. For the complex PP constructions it is indicated as well what P position the adposition takes in the PP complex. The number of the P position is then given in the cell in question. E.g. for achter 'behind', the cell for column 3 is filled with '1'. This means that achter is possible in simplex circumpositions (column 3) where it occupies the P₁ position ('1'). For ease of reference, the list of the PP constructions and their numbering is repeated here:

1. Simplex prepositions
2. Simplex postpositions
3. Circumpositions with simplex preposition and simplex postposition
4. Adpositions with R-word
5. Complex prepositions
   5.1. van/voor/tot/sinds + P + object
   5.2. locative complex prepositions
   5.3. opaque complex prepositions + vanuit/vanaf/totaan
6. Complex postpositions
7. Circumpositions with complex preposition and simplex postposition
8. Circumpositions with simplex preposition and complex postposition
9. Circumpositions with complex preposition and complex postposition
10. Simplex intransitives
11. Complex intransitives
12. Adpositions as verbparticle
13. Adpositions selected by V (vast voorzetsel)
14. Adpositions combined with dat
15. Adpositions in conjunctions
16. Adpositions in parallel constructions
17. Adpositions combined with -dien
18. Adpositions combined with elkhaar
19. Adpositions with superlative morphology
<table>
<thead>
<tr>
<th>Table 1</th>
<th>Adpositions in PP constructions</th>
</tr>
</thead>
<tbody>
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Samenvatting in het Nederlands

Dit proefschrift biedt een overzicht van de voorzetselconstituut, de PP, in het Nederlands. Speciale aandacht is er voor de interacties binnen dit adpositionele domein. Ten eerste is er de interactie tussen de interne structuur en de externe structuur van de PP. Ten tweede stuiten we op de interactie tussen de syntactische en semantische structuur van de adpositionele constituant. In dit proefschrift ligt de nadruk op de adpositionele syntaxis van het Nederlands, maar een soortgelijke analyse kan worden aangenomen voor het Duits. Dit wordt o.a. in hoofdstuk 5, waar we ons op extrapositie richten, getoond.

Om conclusies te kunnen trekken aangaande bovenstaande interacties dienen de interne structuur van de adpositionele constituant en zijn eigenschappen te worden bepaald. Een cruciale aanname bij het bepalen van de interne structuur is de classificatie van de zogenaamde core adposities. Hoofdstuk 1 biedt zowel semantische als syntactisch-distributionele argumenten voor een driedeling binnen de groep van adposities: narrow locatieve, extended locatieve en directionele adposities. Voor de laatste groep van adposities wordt in dit proefschrift aangenomen, dat ze een functionele projectie DIRP hebben in hun syntactische structuur. Er wordt getoond dat directionaliteit een geval is van interactie tussen semantische en syntactische structuur. DIRP blijkt een belangrijke rol te vervullen in de syntaxis van postpositionele constituenten en bij de formatie van R-woord PP's.


Naast deze aannames voor de interne structuur van de PP blijkt de hiërarchische positie van de PP van essentieel belang. In Helmantel (1998a) heb ik beweerd dat PPs ofwel adjunkten ofwel small clause predikaten zijn. Deze tweedeling is funktioneel van aard; adverbiale PPs en geselecteerde PP's (voorzetselvoorwerpen) bevinden zich in adjunktieposities, terwijl predicatieve PP's als small clause predikaten worden weergegeven. In hoofdstuk 1 wordt deze tweedeling verder verfijnd; de relatieve positie van adverbiale PP's en geselecteerde PP's wordt daar bepaald. Aan de hand van verschillende testen (o.a. extrapositie, extractie) kan worden geconcludeerd dat de geselecteerde PP's zich structureel gezien dichterbij het werkwoord bevinden dan adverbiale PP's.

Hoofdstuk 2 presenteert een systematisch overzicht van de PP-mogelijkheden in het Nederlands. Uitgangspunt voor de volgende classificatie is de syntactische complexiteit van de PP, die gebaseerd is op het aantal adpositionele elementen en de uitbreidingsmogelijkheden van de betreffende PP:
Er worden vijf distributionele testen besproken om de syntactische en semantische eigenschappen van de bovenstaande PP configuraties te bepalen. Sommige van de PP-configuraties in (1) zijn nog verder onderverdeeld.


(2) a. \[_{PP}P\ DP\] ...prePP
b. \[_{FP}DP_{i}P_{j}_{PP}t_{i}\] & FP =DIRP ...postPP
c. \[_{FP}_{PP}P\ DP\] \[_{PP}P\ t_{i}\] ...circumPP

De verplaatsingen zijn gevallen van feature checking, vanuit PP naar de hogere functionele projectie FP. In deze FP worden kenmerken gechokeerd. Het Minimalisme biedt twee even economische mogelijkheden om een kenmerk in FP te checken: ofwel door XP-verplaatsing naar SpecFP ofwel door hoofdverplaatsing naar F₀. Beide opties worden in de Nederlandse adpositionele syntaxis gebruikt. In hoofdstuk 3 wordt echter getoond, dat er een tendens bestaat die de voorkeur geeft aan XP-verplaatsing.

De aard van de FP en het sterke kenmerk is in veel representaties niet nader vastgesteld. De functionele projectie in een postpositionele PP is echter geïdentificeerd als DIRP. De pad-semantiek (en de daarbij behorende 1-dimensionaliteit), die karakteristiek is voor postpositionele PP's, wordt als volgt aan de directionaliteitsconstituut gekoppeld:

(3) SpecDIRP dwingt 1-dimensionaliteit voor het DP-object af.

Dit wordt geïllustreerd in (4).
(4) a. De man is de ladder op geklommen.
   b. \[[\text{DRP de ladder}, \text{op}, [\text{PP t}_j t_i]]\]

De ladder in (4) fungeert als een pad waarlangs het klimproces plaatsvindt.


Deze semantische aanpak maakt het mogelijk om een generalisatie voor lengtemodificatie bij PP's te formuleren. Ik laat zien dat de restrictie op vectorlengte het relevante criterium is. Als de semantische structuur (i.e. de definitie) een restrictie voor de vectorlengte bevat, is lengtemodificatie met twee meter niet mogelijk. De achterliggende idee is dat de lengte van een vector slechts een maal kan worden weergegeven; we vinden zo'n restrictie ofwel in de definitie van de PP of de restrictie wordt gegeven in de vorm van een lengtemodificatie, maar cruciaal niet door beide. Na directionaliteit is lengtemodificatie een tweede geval waar we interactie van semantische en syntactische structuur kunnen waarnemen. Er wordt getoond dat de (inherent) semantische structuur van de PP het (syntactische) proces van lengtemodificatie bepaalt.


De wisselwerking tussen de interne structuur van de PP en de externe syntaxis van deze PP wordt in deze studie bevestigd. Voor extrapolatie geldt dat de interne structuur van de PP de mogelijkheid tot PP-extrapolatie beperkt. Dit is het geval wanneer de verplaatsing van het werkwoord v naar SpecPP geblokkeerd wordt omdat de specificeerderpositie van PP bezet is. Dit zien we in postpositionele PP's, R-woord PP's en circumpositionele PP's. Ik laat echter zien dat er ook andere factoren kunnen zijn die de mogelijkheid van PP-extrapolatie beïnvloeden. Predicatieve PP's verschijnen niet in extrapolatie configuraties. In deze PP's is extrapolatie niet mogelijk, niet omdat SpecPP al bezet is, maar omdat verplaatsing van het werkwoord een (niet toegestane) verplaatsing naar beneden in de structuur zou betekenen.

Er wordt speciale aandacht besteed aan constructies waarin toevoeging van een partikel extrapolatie van een predikatieve PP mogelijk maakt. (5) laat een voorbeeld hiervan zien:
(5) dat hij de jas *(op) hangt [\textsubscript{pr} aan de kapstok]

Ik volg Zwarts (1997) analyse van predicaat verplaatsing: een sterk kenmerk in de
\textit{predicate phrase}, een functionele projectie links van VP, moet worden gechecked.
Wederom worden beide mogelijkheden die voor checking door de theorie worden
aangeboden gebruikt. De eerste optie is met behulp van XP-verplaatsing naar
SpecFP; het hele complexe predicaat wordt naar een positie links van het werkwoord
verplaatst, zie (6a). De tweede mogelijkheid behelst hoofdverplaatsing naar F\textsuperscript{o};
het partikel gaat in dit geval naar F\textsuperscript{o}, zie (6b). Dit levert de extrapositie volgorde op: V
PP.

(6) a. dat ik mijn jas [aan de kapstok op\textsubscript{pr}], hang t\textsubscript{i} \hspace{1cm} \text{XP-verplaatsing} 
   b. dat ik mijn jas op\textsubscript{pr}, hang aan de kapstok t\textsubscript{i} \hspace{1cm} \text{X\textsuperscript{o}-verplaatsing}

Volgens de (traditionele) grammatica is extrapositie in het Duits niet toegestaan,
tenminste niet in geschreven taal. Ik heb laten zien, dat extrapositie van de PP, die in
het Duits weldegelijk wordt aangetroffen, beperkt wordt door normatieve, en niet
door syntactische restricties.

De tweede studie die de interactie tussen interne en externe syntax van de PP
onderzoekt, behandelt R-woord PP formatie. Voor de R-woord PP wordt in dit
proefschrift uitgegaan van een hoofdinitiële basisstructuur, zoals in (7):

(7) \hspace{.5cm} \text{[\textsubscript{pr} R-word, [\textsubscript{pr} P t\textsubscript{i}]]}

De interactie tussen de interne en externe syntax van de R-woord PP is als volgt.
Als voorwaarde voor de formatie van R-woord PP's, dient de PP in kwestie de
(sub)structuur uit (7) te hebben. Simplexe prepositionele PP's, circumpositionele
PP's en complexe prepositionele PP's voldoen aan deze structurele eis.
Postpositionele PP's en prepositionele PP's met een inherent directionele adpositie,
aan de andere kant, voldoen daar niet aan. In deze PP-configuraties blokkeert de
interne structuur de formatie van R-woord PP's. Ik laat zien dat in beide gevallen
DIRP een belangrijke rol speelt. Om een semantische botsing te voorkomen, worden
R-woorden uit SpecDIRP, die 1-dimensionaaliteit aan de DP oplegt, geweerd (zie
(3)). Het resultaat is dat R-woord PP formatie, die verplaatsing van het R-woord naar
SpecDIRP inhoudt, bij deze PP's niet mogelijk is.

Het R-woord kan via een PP interne specificeerderpositie uit de PP ontsnappen.
We treffen het R-woord vervolgens aan in het middenveld. De verschillende R-
woorden vertonen hier verschillende distributionele eigenschappen. Het R-woord \textit{er}
vrijheid in een positie links van een adverbiaal als \textit{waarschijnlijk}, terwijl \textit{ergens}
rechts van \textit{zo'n} adverbiaal staat. Het R-woord \textit{daar} daarentegen kan zowel links als
rechts van \textit{waarschijnlijk} verschijnen:

(8) a. dat Jan er waarschijnlijk in is gesprongen
   b. ?? dat Jan waarschijnlijk er in is gesprongen

(9) a. dat Jan daar waarschijnlijk in is gesprongen
   b. dat Jan waarschijnlijk daar in is gesprongen
(10) a. ?? dat Jan ergens waarschijnlijk in is gesprongen
b. dat Jan waarschijnlijk ergens in is gesprongen


De studies over PP-extrapositie en R-woord PP formatie hebben laten zien dat er een interactie plaatsvindt tussen de interne syntaxis van de PP en de externe syntaxis van deze PP. In deze gevallen blokkeert de interne structuur van de PP extrapositie en de formatie van R-woord PP's. Ik toon echter, dat naast de interne structuur van de PP ook andere factoren de distributionele eigenschappen van de PP bepalen. Zo wordt in het hoofdstuk over extrapositie beweerd dat zowel de syntactische representatie van de PP als ook de hiërarchische positie van de PP en de prosodische eigenschappen een invloed hebben op de mogelijkheid van de PP om in een positie rechts van het werkwoordencomplex te verschijnen.

De interactie tussen semantische en syntactische structuur heeft twee vormen. Ten eerste bepalen inherent semantische eigenschappen de syntactische structuur. Dit is te zien bij de syntactische representatie van directionaliteit en bij de syntaxis van lengtemodificatie. Ten tweede bepaalt de syntactische structuur de semantiek van een adpositie/adpositionele constuut. Dat wil zeggen dat een adpositie afhankelijk van de syntactische positie van de adpositie een bepaalde semantiek heeft. Dit zien we bij DP's in SpecDIRP, die 1-dimensionaliteit vertonen, zie (3).

De belangrijkste conclusies uit dit proefschrift zijn de volgende. Er bestaan verschillende types interactie binnen het adpositionele domein en ze vinden op verschillende niveau's plaats. We kunnen interacties waarnemen tussen de interne en externe syntaxis van de PP en tussen syntactische en semantische structuur. De subclassificatie van de core adposities geeft ons inzicht in (i) de interne syntaxis van de PP's en (ii) de interactie tussen syntaxis en semantiek in het adpositionele domein. De interacties worden uitgewerkt voor PP's die onderliggend hoofdinitieel zijn en enkel (interne) linkswaartse verplaatsing vertonen.

Dit proefschrift houdt zich voornamelijk, maar niet uitsluitend bezig met het adpositionele domein van het Nederlands. De fenomenen uit het adpositionele domein worden gerelateerd aan andere intensief bestudeerde gebieden van de syntaxis, o.a. scrambling. Verder worden de conclusies voor het Nederlands uitgebreid naar het Duits. Zo wijdt hoofdstuk 5 een sectie aan extrapositie in het Duits. Verder wordt Duitse (casus) morfologie gebruikt in de argumentatie voor de interne structurele relaties in de PP en de hiërarchische positie van de PP.

Vanuit een theoretisch perspectief draagt dit proefschrift bij aan het inzicht in optionaliteit, dat als problematisch wordt beschouwd in Chomsky (1995). Ik laat zien dat schijnbaar optionele variatie in het adpositionele domein kan worden gerelateerd aan de checking mogelijkheden die het Minimalisme ons biedt. Sterke morfo-syntactische kenmerken kunnen worden gechecked ofwel door constituentverplaatsing ofwel door hoofdverplaatsing. Beide mogelijkheden zijn even economisch/kostbaar. Hoofdstuk 3 toont dat er uitgaande van een onderliggende (input) structuur variatie optreedt in de output structuur, door de twee checking mogelijkheden. Zo levert dit complexe prepositionele PP's,
circumpositionele PP's en complexe postpositionele PP's op. Ook de optionaliteit zoals in (6) bij extrapositie van PP's met een partikel blijkt het resultaat te zijn van de verschillende checking mogelijkheden binnen het Minimalisme.
Curriculum Vitae
