

# Lexical and Functional Direction in Dutch

Joost Zwarts

The most obvious distinction within the class of spatial prepositions is that between locative prepositions (1a) and directional prepositions (1b):<sup>1,2</sup>

(1)	a	in 'in'	op 'on'	bij 'near'
		binnen 'inside'	buiten 'outside'	boven 'above'
		onder 'under'	voor 'in front of'	achter 'behind'
		naast 'beside'	tussen 'between'	
	b	van 'from'	naar 'to'	tot 'to'
		uit 'out of'	door 'through'	
		langs 'along'	om 'around'	
		over 'over, across'	voorbij 'past'	

This paper focuses on the syntax of the directional prepositions in (1b). I will show that *naar*, *van*, and *tot* differ from the other directional prepositions in a number of ways (section 1). These differences can be explained by assuming that *van*, *naar*, and *tot* are *functional* prepositions and *uit*, *door*, *langs*, *om*, *over*, and *voorbij* are *lexical* prepositions (section 2). Interestingly, the functional prepositions *van*, *naar*, and *tot* turn out to have lexical counterparts (like *af*, *heen*, and *toe*) that occur as postpositions (section 3).

## 1. Two kinds of directional prepositions

There are at least five clear differences between *naar*, *van* and *tot* (henceforth *naar*-type prepositions) and the other directional prepositions (*door*, *langs*, *om*, *over*, *uit*, *voorbij*, henceforth *door*-type prepositions) with respect to (in)transitivity, particle use, extraction, word order, and complementation.

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<sup>2</sup> Some more peripheral spatial prepositions are omitted from these lists (e.g. *benoorden* 'north of', *halverwege* 'halfway through', *rond* 'around', *via*). These and many other Dutch prepositions are discussed from a more general point of view in Zwarts (1995). *Naar* and *tot* are both glossed as *to*, although their meaning is obviously different: *naar* expresses *movement* to a goal, *tot* expresses *extension* of an activity or entity up to a certain point.

Many prepositions can be used intransitively, either in a spatial meaning, like *inside* in *John is inside (the building)* or with a special non-spatial meaning, like *on* in *The light is on*. When we consider directional prepositions in Dutch, such intransitive uses can be found for *door*-type prepositions (except for *langs*):

- (2) a Het tafelkleed is door  
The table-cloth is through  
'The table-cloth is worn-out'
- b De boom is om  
The tree is around  
'The tree has fallen'
- c Jan is over (uit Engeland)  
John is over (from England)
- d Moeder is uit  
Mother is out
- e De trein is voorbij  
The train is past  
'The train has passed'

*Naar*-type prepositions cannot be used in this way:

- (3) a \*Hij is naar (He is to)
- b \*Hij is van (He is from)
- c \*Hij is tot (He is to)

Many prepositions can be used as particles or left-hand members of verbal compounds.<sup>3</sup> When considering the directional prepositions, we can see that only the *door*-type prepositions can be productively used in this way:

- (4) a doorbreken 'break through', doorlopen 'pass through', ...
- b langslopen 'pass along', langsrijden 'drive along', ...
- c omdraaien 'turn around', omkopen 'buy over', ...
- d overlopen 'run over', overreden 'talk over', ...
- e uitdrijven 'drive out', uitkijken 'look out', ...
- f voorbijtrekken 'march past', voorbijzien 'look past', ...

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<sup>3</sup> There is no agreement in the literature about the proper treatment of particles. Particle-verb combinations are traditionally treated as morphologically built verbal compounds, but there is an influential generative tradition of analyzing particles as intransitive prepositions (Emonds 1972). If this is correct, then the particle use of certain directional prepositions can be related to their ability to be used intransitively, but pretheoretically these two properties should be handled as separate criteria. See Den Dikken (1992) and Neeleman (1994) for relevant discussions from different points of view.

The *naar*-type prepositions on the other hand can never be used in this way, although we have some intuition about what their meaning might have been:

- (5) a \**naargaan* (to+go, 'go towards')
- b \**vankomen* (from+come, 'come off')
- c \**totlopen* (to+walk, 'walk to'?)

Extraction of the complement of a preposition is possible in Dutch, but only when that complement takes the form of a so-called R-pronoun (Van Riemsdijk 1978):

- (6) Hij woont er achter  
      He lives there behind  
      'He lives behind it'

When the preposition is directional, extraction is possible with *door*-type prepositions:

- (7) a Gisteren is er een schaatser door gezakt  
      Yesterday is there a skater through sunk  
      'Yesterday a skater went through it'
- b Hier ben ik langs ontsnapt  
      Here am I along escaped  
      'I have escaped this way'
- c Hij bond daar een touw om  
      He tied there a rope around  
      'He tied a rope around it'
- d Waar wil hij niet over lopen?  
      Where wants he not over walk  
      'What doesn't he want to walk across?'
- e De rook kwam ergens uit  
      The smoke came somewhere out  
      'The smoke came out of something'
- f Ik sloop er stil voorbij  
      I sneaked there silently past  
      'I sneaked silently past it'

With the *naar*-type prepositions this is not possible:

- (8) a \*Ik ga er niet naar  
      I go there not to  
      'I am not going there'

- b \*Waar ben jij van gevallen?  
Where are you from fallen  
'What did you fall off of'
- c \*Het kanaal loopt daar tot  
The canal runs there to  
'The canal leads up to there'

In Dutch, prepositions (in the neutral, order-independent sense of adpositions or members of category P) can either precede their arguments (prepositions) or follow their arguments (postpositions). The directional *door*-type prepositions can be used in both ways:<sup>4</sup>

- (9) a door de jungle de jungle door 'through the jungle'  
b langs de heg de heg langs 'along the fence'  
c om het baken het baken om 'around the beacon'  
d over de streep de streep over 'across the line'  
e uit de grond de grond uit 'out of the ground'  
f voorbij de grens de grens voorbij 'past the border'

Some of them can also follow a PP:

- (10) a Hij kroop onder het doek door  
He crept under the curtain through  
'He crept under the curtain'
- b Zij sloop achter zijn rug langs  
She sneaked behind his back along  
'She passed sneakingly behind his back'
- c De snelweg loopt buiten het dorp om  
The highway runs outside the village around  
'The highway runs around the village'
- d Boven het lawaai uit klonk een schot  
Above the noise out rang a shot  
'Above the noise a shot rang out'

The *naar*-type prepositions always precede their complement, whether it is a DP or a PP.

<sup>4</sup> There are meaning differences between these two uses, but it is difficult to lay a finger on these and to make them explicit in the glosses. Koopman (1993) suggests that the postpositional use differs from the prepositional use in having a 'delimited' interpretation. See also Tenny (1987).

- (11) a \*de winkel naar      \*binnen naar  
          the shop to          inside to  
       b \*de stad tot          \*in de stad tot  
          the city to          in the city to  
       c \*de muur van          \*onder de muur van  
          the wall from        under the wall from

When a preposition takes a complement to its right, it is usually a noun phrase. PP complements are rarely used. The directional *door*-type prepositions can only be followed by DP complements, not by PP complements:

- (12) a \*door bij het huis          (through near the house)  
       b \*langs onder de muur      (along under the wall)  
       c \*om buiten de kamer        (around outside the room)  
       d \*over naast het station    (over beside the station)  
       e \*uit binnen de muur        (out (of) inside the wall)  
       f \*voorbij tussen de bomen   (past between the trees)

*Naar*-type prepositions on the other hand can have PP complements:<sup>5</sup>

- (13) a Hij ging naar binnen  
          He went to inside  
          'He went inside'  
       b De inbreker kwam van onder het bureau  
          The burglar came from under the desk  
       c Zij reisde tot diep in Afrika  
          She traveled to deep in Africa  
          'She traveled deep into Africa'

The following schema summarizes the five differences that will have to be explained:

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<sup>5</sup> For reasons unclear to me *naar* can only occur with PPs headed by an intransitive preposition (adverb) or with R-pronouns, but not with ordinary full PPs.

Table 1

	door, langs, om, over, uit, voorbij	naar, van, tot
(In)Transitivity	Yes (except <i>langs</i> )	No
Particles	Yes	No
Extraction	Yes	No
Word order	Pre and post	Pre
Complementation	DP	DP and PP

## 2. Lexical and functional prepositions

The main proposal of this paper is to derive the differences found in section 1 from the hypothesis that *door*, *langs*, *om*, *over*, *uit*, and *voorbij* are *lexical prepositions* (P[-F]) and *van*, *naar*, and *tot* are *functional prepositions* (P[+F]).

A distinction between lexical prepositions and functional prepositions has been made earlier for Dutch by several authors. Van Riemsdijk (1990) and Rooryck (1994) treat postpositions as functional heads taking a PP complement to their left. Koopman (1993) has a functional head *Path* in the syntactic structure of all directional PPs, which can be occupied by postpositions. All three of these authors analyze the opposition between pre- and postpositions as a lexical-functional distinction and they do not apply it within the set of directional prepositions. In my proposal, the lexical-functional opposition cuts across the set of directional elements in a different way. Postpositions will actually turn out to be lexical instead of functional from this point of view.

When we compare prototypical lexical heads like *boek* 'book' or *lees* 'read' with clear functional heads like the determiner *de* 'the' or the complementizer *dat* 'that', a lot of differences emerge. For this paper the following differences are relevant. First, it is a well known fact that lexical heads can be used as morphological building-blocks for compounds (*leesboek* 'reading-book') and derivations (*boekje* 'booklet'; *lezer* 'reader'), but that functional heads do not have such a use. Second, lexical heads can often be used intransitively, without a complement, even if their basic use is transitive. However, it is simply impossible to use functional heads intransitively.<sup>6</sup> Transitivity is an essential property of functional

<sup>6</sup> The intransitive use of inherently transitive verbs like *verslinden* 'devour' may require a lot of context and even then the result may sound marked (Jan eet niet, hij verslindt 'John doesn't eat, he devours') but still much better than intransitive articles and complementizers.

heads.<sup>7</sup> Third, the complement of a lexical head can be moved, but the complement of a functional head has to stay in its position. In other words, functional heads (determiners, complementizers, conjunctions) cannot be stranded.<sup>8</sup> These general observations already provide us with an independent account for three differences between *door*-type and *naar*-type prepositions that were summed up.

First, we derive the fact that the *door*-type prepositions can be compounded with verbs, but that the *naar*-type prepositions do not have this possibility, from the general properties of the lexical-functional distinction. This is independent of the question how these constructions are derived: in a separate morphological component or by a syntactic operation of incorporation of an intransitive preposition into a verb by means of head movement. In both cases the particle has to be a lexical head. Second, the impossibility of using *naar*-type prepositions intransitively can be made to follow from their functional nature, while *door*-type prepositions can be used intransitively, because they are lexical.<sup>9</sup> Third, given their lexical status, we can understand that *door*-prepositions can be stranded by extraction of the R-pronoun, while extraction of the complement of the functional heads *naar*, *van*, and *tot* is blocked.

The other two properties described in section 1 require assumptions that go beyond what can simply be observed, but we can draw on proposals that have been made independently. As for the word order data I follow proposals of Kayne (1994) and Zwart (1993) that specifiers precede heads and heads precede complements universally in underlying structure. As a consequence, all languages have basic VO order and prepositions. When OV orders or postpositions occur in a language, then these are derived by movement of the complement of the verb or preposition to a specifier position preceding the head. Applying this proposal to the present data, we can say that directional prepositions all have the same underlying order and complement possibilities:<sup>10</sup>

<sup>7</sup> At first sight, pronouns could be a counterexample if they are analyzed as intransitive functional elements (Ds), but several authors have argued that the syntactic structure of pronouns involves an empty noun. See Zwarts (1994) for references and further discussion.

<sup>8</sup> If this is a valid characterization of functional elements, then the widespread assumption that modals and auxiliaries are functional heads (e.g. INFL) has to be given up, because the VP complement of a modal or auxiliary can be fronted:

(i) John would win the race, and [<sub>VP</sub> win the race ], he will/did *t*

We are forced to say that *will* and *did* are lexical verbs, although with some morphological and syntactic deficiencies that make them less 'lexical' than main verbs.

<sup>9</sup> The impossibility of using *langs* intransitively as a predicate requires an independent explanation, which I don't have. It might simply be an accidental lexical gap. If particles are underlyingly intransitive prepositions, then *langs* is used intransitively in constructions like *langsrijden* 'pass along'.

<sup>10</sup> Similar underlying orders for postpositional constructions are assumed in Koopman (1993) and Zwart (1993, 1994).

- (14) a [ door [DP de kamer ]] (through the room)  
       b \*[ door [PP onder de tafel ]] (through under the table)  
 (15) a [ van [DP de tafel ]] (from the table)  
       b [ van [PP onder de tafel ]] (from under the table)

The crucial difference is that *door*-type prepositions allow their complement to be moved but the complement of a *naar*-type preposition has to remain in its position:

- (16) a [ de kamer [ door t ]] (the room through)  
       b [ onder de tafel [ door t ]] (under the table through)  
 (17) a \*[ de tafel [ van t ]] (the table from)  
       b \*[ onder de tafel [ van t ]] (under the table from)

This contrast follows directly from the lexical-functional distinction: the complement of a lexical preposition can be moved (16), but the complement of a functional head (17) cannot.

There is in fact no reason why the complement of a functional head should move in the first place. A functional head does not select its complement, but it forms an extended projection with it which is headed by the functional head and the (extended) head(s) of its complement (Grimshaw 1991). The complement of a functional head is not a complete, independent phrase and no special facilities like theta-marking or specifier-head agreement are necessary to license it. More specifically, the DP and PP in (15) are irrelevant for a condition like the Theta-Criterion, because this is a condition on the combination of lexical heads with its arguments. Moreover, these phrases do not have to be checked in the specifier of a functional head, since they are already licensed by being part of an extended projection. The question that remains is why movement of a DP is optional and movement of a PP is obligatory with *door*-type prepositions. Since I have nothing of interest to say about the general issue of obligatory and optional movement, I will leave this question as a problem for future research.<sup>11</sup>

<sup>11</sup> An anonymous reviewer suggested that the obligatory movement of PP complements of lexical Ps could be made to follow from the Unlike Category Condition, an LF condition that requires a head and its complement to be of different categories (Bennis and Hoekstra 1984). The P + PP structure in (14b) is ruled out by this condition, but moving the PP to the specifier in (16b) makes it possible to escape it. No violation occurs when the PP is the complement of a functional preposition, as in (15b).

### 3. *Lexical counterparts of naar en van*

In this final section I will show that the functional prepositions *naar* and *van* each have lexical counterparts that allow movement of the complement and have other lexical characteristics. *Tot* is left out of consideration here, because its behaviour would disturb the line of argument of this paper.<sup>12</sup>

As we already saw, extraction of the complement of *naar* and *van* is not possible when these prepositions have a directional interpretation:

- (18) a \*Ik ga er niet naar  
         I go there not to  
         'I am not going there'  
       b \*Waar ben jij van gevallen?  
         Where am you from fallen  
         'What did you fall off of'

Surprisingly, extraction is possible when the same prepositions are used as *grammatical* prepositions, i.e. as heads of prepositional objects:

- (19) a Daar verlangt hij naar  
         There longs he for  
         'He is longing for that'  
       b Hier geniet zij van  
         Here enjoys she of  
         'She enjoys this'

The assumptions made in the preceding section lead inevitably to the conclusion that the grammatical instances of *naar* and *van* differ from directional *naar* and *van* in being *lexical* instead of functional. It might sound like a contradiction to say that *grammatical* prepositions are *lexical* elements, because often grammatical prepositions are considered to be functional elements, having no meaning of their own, but only a grammatical role. The contradiction disappears as soon as we stop identifying the distinction between lexical and functional heads with a distinction between elements with and elements without meaning. There are functional heads with meaning and there are lexical heads without meaning. Grammatical prepositions are lexical heads without meaning used to transmit the thematic role of a governing verb, noun, or adjective to a DP complement and this thematic function requires them to be lexical. Furthermore, the decision to treat grammatical

<sup>12</sup> *Tot* alternates with *toe* in certain constructions (\**er tot* vs. *er toe*), but it is not clear whether this alternation is syntactic or more superficial. A similar alternation can be found with *met* 'with' (\**er met* vs. *er mee*). Van Riemsdijk (1976) captures these alternations in terms of a phonological rule.

prepositions as lexical heads does not affect the proposal of this paper. Grammatical prepositions do not have an independent existence in the lexicon, but they are always part of the lexical structure of other items (*verlangen naar* 'desire', *genieten van* 'enjoy', etc.). As a result, they do not independently participate in the kind of processes that we have discussed, although syntactic operations (like movement of *er*) may apply to structures like *verlangen naar er* as a whole.

The Goal and Source meanings of *naar* and *van* can be expressed in a number of alternative ways, using postpositions instead of prepositions:

- |                          |                         |
|--------------------------|-------------------------|
| (20) Ik ging ...         | (I went ...)            |
| a naar de stad           | (to the city)           |
| b *er naar               | (there to)              |
| a' *de stad heen         | (the city to)           |
| b' er heen               | (there to)              |
| a'' naar de stad toe     | (to the city to)        |
| b'' er naar toe          | (there to to)           |
| (21) Jij kwam ...        | (You came ...)          |
| a van de maan            | (from the moon)         |
| b *er van                | (there from)            |
| a' *de maan vandaan      | (the moon fromPRT)      |
| b' er vandaan            | (there fromPRT)         |
| a'' ?van de maan vandaan | (from the moon fromPRT) |
| b'' ??er van vandaan     | (there from fromPRT)    |
| (22) Zij kwam ...        | (She came ...)          |
| a van het podium         | (off the stage)         |
| b *er van                | (there off)             |
| a' het podium af         | (the stage off)         |
| b' er af                 | (there off)             |
| a'' van het podium af    | (off the stage off)     |
| b'' er van af            | (there off off)         |

*Van* has two variants, depending on the meaning: *vandaan* is used when *van* has a pure source meaning glossed as *from* (21) and *af* is used when *van* has a source meaning with an additional 'detachment' component glossed as *off* (22).<sup>13</sup>

The natural step to take, given the proposal we made earlier, is to take these elements as lexical counterparts of the functional prepositions *naar* and *van*:<sup>14</sup>

<sup>13</sup> We may follow Zwart (1993) in assuming that the preposition *vanaf* is derived by head adjunction of *van* to *af*.

<sup>14</sup> *Vandaan* might actually be a bit more complicated, being composed of the functional preposition *van* and a cranberry morpheme *-daan*. The facts follow when we assume the following structure:  
 [FP van- [PP -daan ... ]]

(continued overleaf)

- |                         |                         |
|-------------------------|-------------------------|
| (23) naar = P [Goal,+F] | heen = P [Goal,-F]      |
|                         | toe = P [Goal,-F]       |
| van = P [Source,+F]     | af = P [Source,-F]      |
|                         | vandaan = P [Source,-F] |

The meaning is the same, but the value for the F(unctional) feature differs. Because they are lexical, *heen*, *toe*, *af*, and *vandaan* allow their complements (whether they are R-pronouns, DPs, or PPs) to be moved to an initial (specifier) position, yielding a structure in which the P occurs postpositionally. In fact, the complement has to move to this initial position. What is obviously needed in addition to the feature specification in (23) is a (strong) feature specification that triggers obligatory movement of the right kind of phrase to this initial checking position.

Notice that there is independent evidence for the lexical status of the postpositions *af*, *heen*, and *toe*. They occur as particles of verbs (24) and they can be used intransitively (25):

- (24) a afdrijven 'drift off', afvegen 'wipe off', ...  
 b heengaan 'go away', heenzenden 'send away', ...  
 c toenaderen 'approach', toereiken 'reach out', ...
- (25) a Jij bent af 'You are out'  
 b Zij is ver heen 'She is far gone'  
 c De deur is toe 'The door is shut'

#### 4. Summary

In this paper, the class of directional pre- and postpositions in Dutch was studied from the perspective of the lexical-functional distinction. We have found a small class of functional directionals (P[+F]: *naar*, *van*, *tot*) and a much larger class of lexical directionals (P[-F]), the complement of which can be moved either optionally (*door*, *langs*, *om*, *over*, *uit*, *voorbij*) or obligatorily (*af*, *heen*, *toe*, *vandaan*), deriving the distinction between pre- and postpositions.

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The complement of *-daan* can be moved because *-daan* is a lexical head. *Vandaan* differs from the other postpositions in not allowing incorporation in the verb:

- (i) \*daar heeft hij niet kunnen vandaan komen  
 there has he not can fromPRT come
- (ii) daar heeft hij niet kunnen heen gaan  
 there has he not can to go

This can be made to follow from the complex syntactic structure of *vandaan* (see Koopman 1993 for a similar line). The anonymous reviewer suggested that this complex structure might also explain why (21a'') and (21b'') are not as good as we would expect given the whole paradigm in (20)-(22). Roughly speaking, there is one *van* to many in these cases.

The distinction between lexical and functional directionals made for Dutch seems to carry over to English. The directional prepositions *to* and *from* share some of the functional characteristics of *tot/naar* and *van* in Dutch (always transitive, no particle use, PP complementation for *from*), although stranding of these prepositions is possible. The other directional prepositions (like *around*, *off*, *out*, *over*, *through*) correspond to the lexical cases of Dutch as far as transitivity, complementation, and particle use are concerned.

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