

Adpositional constructions of location and motion in Dutch

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In traditional grammar, constructions of location and motion are standardly considered as adverbial adjuncts, i.e. as constituents that do not belong to the nuclear or core elements of the clause. However, in Dutch, as in many other languages, there are different classes of verbal predicates which require the presence of a location or motion constituent in order to yield a grammatical clause. Since these obligatory constituents are manifestly part of the verbal valency frame, the authors call them *location* and *motion objects*. The combination of the criterion of (non-)optionality and that of substitutability with pronominal or adverbial elements leads to the tripartition between adjunct, object and predicate complement. This distinction is further shown to pattern with different word order restrictions.

o. Introduction¹

Spatial descriptions can be divided conceptually into place (static location) and motion (dynamic location). Levinson and Wilkins (2006: 531–533) argue that there are three different styles of conceptualization of motion events cross-linguistically. First, they differentiate between a durative and a non-durative conceptualization. In a durative conceptualization motion is conceived of as “translocation”, that is, “as a durative displacement of the figure along a continuous trajectory over time”. In a non-durative conceptualization motion is solely thought of as a change of state without transitional phases. Further, a non-durative conceptualization involves either change of location or change of locative relation. However, “it turns out that motion verbs in a language are not necessarily of a consistent type, although a predominant type of semantic content may often be discerned”. Hence “a case can perhaps be made for a hierarchy of some kind across “motion” verbs, with a change-of-state semantics more often involved with boundary-crossing verbs, like *enter*, and a translocation semantics involved with basic motion verbs like *go* (...)” (Levinson & Wilkins 2006: 532–533).

Dutch motion descriptions conceptualize motion predominantly as a translocation, i.e. as a durative trajectory with a possible source, goal and intermediate phases (Van Staden et al. 2006: 500). In a translocative motion description the trajectory is salient: following Van Langendonck, Lamiroy and Van Belle (2008) we distinguish destination with attained goal, destination with expected goal, and mere direction. In addition, Dutch motion descriptions may encode motion as motion-in-place, i.e. as an activity that takes place within the boundaries of a certain space, or as change of location.

In the grammatical tradition of Dutch, expressions of location and motion are standardly treated as adverbial adjuncts. It is not denied, however, that with a small number of verbs, these adjuncts are obligatory (ANS 1997: 1191). In grammatical descriptions using a valency approach, by contrast, the distinction between “optional” and “obligatory adjuncts” is consistently replaced by the distinction between “adjuncts” and “objects” (Vandeweghe 2001; Van Belle et al. 2011). In line with the latter approach, this paper investigates the valency patterns of the verbal predicates involving location and motion.

In Section 1, we take a closer look at the different means involved in the expression of spatial description in Dutch: the use of verbs, adverbs, adpositional phrases (AdPs) and auxiliaries. Section 2 focusses on the three different patterns of syntactic behaviour that the AdPs in spatial descriptions may exhibit according to the valency approach: adjunct, object and predicate complement. We therefore introduce two criteria that can be used to determine the nuclear or non-nuclear status of the AdP, namely the optionality of the AdP and the proportionality of the AdP with pronominal and adverbial paradigms. In Section 3, we demonstrate that these three different syntactic functions exhibit different word order restrictions.

1. Spatial description in Dutch

In this section we discuss what type of verbs (1.1), adpositions (1.2) and adverbs (1.3) emerge in Dutch spatial descriptions and what kind of motion is expressed. In a final subsection (1.4) we discuss the use of temporal and aspectual auxiliaries in spatial descriptions and show that it is dependent on the kind of motion expressed.

1.1 Verbs

In Dutch, location can be expressed by a basic verb of location, such as *zijn* ‘to be’ or *zich bevinden* ‘to be located’ (1), or by a positional verb, such as *zitten* ‘to sit’, *staan* ‘to stand’, *liggen* ‘to lie’, *hangen* ‘to hang’ (2). Positional verbs express the

posture of the figure (Van Staden et al. 2006: 475) and are often preferred to the basic verbs of location (3).

- (1) *Zij is in de tuin/in de bibliotheek.*
'She is in the garden/in the library.'
- (2) a. *Het boek ligt op de kast.*
'The book lies on the cupboard.'
- b. *De schilderij hangt aan de muur.*
the painting hangs on the wall
'The painting is on the wall.'
- (3) *Het glas staat/?*is op de tafel.*
the glass stands/is on the table
'The glass is on the table.'

As to motion, we distinguish three types of motion verbs in Dutch (see (4)). Manner-of-motion verbs express aspects of the manner in which the motion takes place (4.1a) or the instrument with which the motion is performed (4.1b).² They encode motion as either motion-in-place or as a translocation. The distinction between motion-in-place and translocation may be marked by the auxiliary (non-telic *hebben* 'to have' or telic *zijn* 'to be') and/or by the adpositional phrase that is used (see (1.4)). Deictic motion verbs may specify a goal (*come* as in "he came late") or source (*go* as in "he goes away"), namely the place of speaking. The causative motion verbs include the transitive equivalents of the positional verbs mentioned above, expressing change of location (4.3a), and motion verbs that express caused motion (4.3b) – the latter, but not the former, may combine with a postpositional phrase (see §1.2.2).

- (4) dynamic location (motion):
 - 4.1 manner-of-motion verbs
 - a. without instrument: *wandelen* 'to walk', *lopen* 'to run',
zwemmen 'to swim', *klimmen* 'to climb', *springen* 'to jump',
rollen 'to roll', *glijden* 'to slide', *dansen* 'to dance'
 - b. with instrument: *rijden* 'to ride/drive', *fietsen* 'to cycle',
varen 'to sail', *vliegen* 'to fly'
 - 4.2 deictic motion verbs
gaan 'to go', *komen* 'to come', *vertrekken* 'to leave',
aankomen 'to arrive'
 - 4.3 causative motion verbs
 - a. change of location: *zetten* 'to set', *leggen* 'to lay', *hangen* 'to hang'
 - b. caused motion: *gooien* 'to throw', *rollen* 'to roll', *trekken* 'to pull', *duwen*
'to push', *schuiven* 'to shove'

1.2 Adpositional phrases

In spatial descriptions in Dutch three types of adpositional phrases are used: prepositional (§1.2.1), postpositional (§1.2.2) and circumpositional phrases (§1.2.3). Adposition, verb and the construction as a whole reveal what kind of motion is meant.

1.2.1 Prepositions

Dutch has a large set of static prepositions (5) that can be used with basic location and positional verbs to express place.

(5) static prepositions

a.o. *aan* 'on', *achter* 'behind', *beneden* 'below', *bij* 'close to', *binnen* 'inside', *buiten* 'outside', *door* 'through', *in* 'in', *langs* 'along', *naast* 'next to', *om* 'around', *onder* 'under', *op* 'on', *tegen* 'against', *voor* 'in front of/before'

Most static prepositions may also be used in motion descriptions when combined with a motion verb. Spatial descriptions consisting of a manner-of-motion verb and a static prepositional phrase express motion-in-place (e.g. *in het bos wandelen* 'to walk in the woods'), or, when the semantics of the verb involves vertical movement, possibly translocation (e.g. *in het water springen* 'to jump in/into the water') (see (36–37) in §2.1). In the latter case the prepositional phrase expresses destination with attained goal. The combination of a static prepositional phrase and a causative motion verb type 4.3b also encodes motion as translocation, with the prepositional phrase expressing source (*uit de kamer gooien* 'to throw out of the room'), path (*door de kamer rollen* 'to roll through the room') or destination with attained goal (*in de vuilbak gooien* 'to throw into the dustbin'). Combination with a deictic motion verb (e.g. *in de tuin gaan* 'to enter the garden') or causative motion verb type 4.3a (e.g. *op tafel zetten* 'to put on the table') involves change of location.

A rather small set of spatial prepositions (6) has an inherent dynamic meaning, precluding a combination with a basic location or positional verb. These prepositions indicate source, path, direction or goal of the described motion.

(6) dynamic prepositions

van/vanaf/vanuit 'from', *via* 'via', *naar* 'towards', *richting* 'in the direction of', *tot* 'until'

In spatial descriptions dynamic prepositional phrases are used only to express translocation and combine with all types of motion verbs except causative motion verbs type 4.3a. The prepositional phrases may express source (*van/vanaf/vanuit* 'from'), path (*via* 'via'), destination with attained goal (*tot* 'until'), destination with expected goal (*naar* 'naar') or mere direction (*richting* 'in the direction of').

1.2.2 Postpositions

Spatial descriptions with a postpositional phrase always have a dynamic meaning, expressing destination with attained goal. Compare the dynamic meaning of postpositional *het bos in wandelen* ('to walk into the woods') with the static meaning of prepositional *in het bos wandelen* 'to walk in the woods'.³ Postpositional phrases combine with all motion verb types except causative motion verbs type 4.3a. The postpositions listed in (7) can also be used prepositionally, with the single exception of postpositional *af* 'off', which has *van* 'from' as its prepositional counterpart.⁴

(7) postpositions

af 'off/from', *binnen* 'in/inside', *door* 'through', *in* 'in', *langs* 'along', *om* 'around', *op* 'upon', *over* 'across', *rond* 'around', *uit* 'out of', *voorbij* 'past/beyond'

1.2.3 Circumpositions

There are two main types of spatial circumpositions in Dutch, exemplified by (8) and (9) respectively. By themselves, the prepositional elements in (8) can either refer to a static location (i.e. the complete activity is situated 'behind the tree', 'under the cupboard/bridge' and so on), or to a dynamic one (i.e. the activity ends up being situated 'behind the tree', 'under the cupboard/bridge' and so on). The occurrence of the postposition, however, unambiguously imposes a dynamic reading on the overall structure. With *vandaan* 'from' in (8a), *uit* 'out' in (8b) and *door* 'through' in (8c) the original directional reading of the preposition is as it were reversed. The activities of 'jumping behind the tree', 'crawling under the cupboard' or 'running under the bridge' (may) refer to a movement towards a location 'behind the tree' or 'under the cupboard/bridge'. The presence of the postposition, however, not only cancels the directional reading of the preposition in favour of the static one, but also induces the opposite directional interpretation of movement away from that location. Thus the postposition actually denies or negates the original location, i.e. the subject is no longer situated 'behind the tree' in (8a) or 'under the cupboard/bridge' in (8b–c).

- (8) a. *Ze sprong achter de boom vandaan.*
 she jumped behind the tree from
 'She jumped from behind the tree.'
- b. *Ik kroop onder de kast uit.*
 I crawled under the cupboard out
 'I crawled from under the cupboard.'
- c. *Ze liep onder de brug door.*
 she ran under the bridge through
 'She ran underneath the bridge.'

The fundamental difference between the examples in (8) and the ones in (9) is that the postpositional element in (9) can be omitted without fundamentally altering the basic dynamic or static meaning of the prepositional element (Broekhuis 2002: 110–111; Helmantel 2002: 39). Postpositional *heen* ‘across’ in (9a) reinforces the directional contribution of the preposition *over* ‘over’ by adding a terminative notion of “all the way/completely/to the other side” (Broekhuis 2002: 106). Similarly, the postposition *aan* ‘at’ in (9b) provides the basic reading of *tegen* ‘against’ with an extra emphatic or terminative dimension. In other words, the prepositional elements *over* ‘over’ and *tegen* ‘against’ by themselves suffice to yield the sense of directionality in (9a) or location in (9b). With *achter* ‘behind’ in (8a) and *onder* ‘under’ in (8b–c), however, the prepositions are ambiguous between the static and the dynamic readings and the disambiguation is triggered by the postpositions.

- (9) a. *Hij kroop over de stoelen heen.*
 he crawled over the chairs across
 ‘He crawled across the chairs.’
- b. *De haven ligt tegen het centrum aan.*
 the port lies against the center at
 ‘The port is very close to the center.’

The two types of circumpositions are listed in (10) (Broekhuis 2002: 42).

- (10)⁵ a. circumpositions with non-omissible postposition
onder... door ‘underneath’/*tussen ... door* ‘through’; *achter... uit* ‘from behind’/*boven ... uit* ‘from above’/*onder... uit* ‘from under’/*tussen ... uit* ‘from between’/*voor ... uit* ‘ahead of’; *achter ... vandaan* ‘from behind’/*bij ... vandaan* ‘away from’/*onder ... vandaan* ‘from underneath’/*tussen ... vandaan* ‘from between’/*uit ... vandaan* ‘out of’/*van ... vandaan* ‘away from’
- b. circumpositions with omissible postposition
achter ... aan ‘at the back of’/*tegen ... aan* ‘very close to’; *door ... heen* ‘through’/*om ... heen* ‘around’/*over ... heen* ‘across’

Circumpositional phrases are used in translocation descriptions only. Circumpositions with postpositional *vandaan* or *uit* (type a) express destination with focus on leaving a starting point. Circumpositions with postpositional *door* (type a) or postpositional *heen* express destination with focus on the trajectory and circumpositions with postpositional *aan* (type b) express destination with focus on the attained goal.

1.3 Adverbs and pronominal adverbs

Dutch uses an elaborate set of adverbs to indicate motion in spatial descriptions: compounds of adverbs and prepositions (e.g. *voor+in* ‘in the front’, *achter+op* ‘at the back’), derivations ending in *-waarts* ‘-wards’ (e.g. *huiswaarts* ‘homeward’) and compound forms consisting of the static locative adverbial element *waar?* ‘where?’ or *er/daar* ‘there’ and an adposition (e.g. *daarin* ‘there-in’, *waarop?* ‘where-upon?’). These compound forms are called “pronominal adverbs” (“*voornaamwoordelijk bijwoord*” in Dutch; cfr. ANS 1997:490–503).⁶

Formally speaking, pronominal adverbs are combinations of a static locative adverbial element, e.g. *er/daar* ‘there’, *hier* ‘here’, *nergens* ‘nowhere’ and a preposition such as *in* ‘in, into’ in (11a) or *op* ‘on, onto’ in (11b), yielding compound word forms such as *erin* ‘there-in’, *daarop* ‘there-upon’ (stressed), *hierin* ‘here-in’, *waarop* ‘where-upon’ (interrogative or relative), or multi-word combinations such as *nergens in* ‘nowhere in’, *ergens op* ‘somewhere upon’, or *overal in* ‘everywhere in’.

- (11) a. *Het boek ligt in de kast/daarin.*
 the book lies in the cupboard/there-in
 ‘The book lies in the cupboard/in it.’
- b. *Zij heeft het boek op de kast/daarop gelegd.*
 she has the book upon the cupboard/there-upon put
 ‘She put the book upon the cupboard/upon it.’

Semantically, however, the original notion of space has disappeared: the adverbial element pronominalizes the (typically inanimate)⁷ NP complement *de kast* ‘the cupboard’ of the respective adpositions in (11), and is hence often called an R-PRONOUN (Tseng 2004; Koopman 1997).⁸

The formation of pronominal adverbs in Dutch, though far more productive than in English, in which obsolete forms such as *thereby* and *thereof* exist only in formal registers, is subject to several restrictions (for an overview see Van Canegem-Ardijns & Van Belle 2004:122–131). A first and purely lexical restriction involves the adposition per se: some adpositions do not form pronominal adverbs, either because they are morphologically complex, less grammaticalized (too recent), or more formal (ANS 1997:493). That is the reason why the following adpositions of place and motion do not have a pronominal adverb correlate: *in de richting van* ‘in the direction of’, *richting* lit. ‘direction’, and *via* ‘via’.

The formation of a pronominal adverb is further prohibited in cases where the relation between the adposition and its NP complement has become lexicalized.

- (12) a. *Hij leeft op kosten van zijn vader.*
 he lives on costs of his father
 ‘He lives off his father.’

- b. **Hij leeft daarop.*
 he lives there-on
- (13) a. *Hij slaat de fles in stukken.*
 he hits the bottle in pieces
 ‘He smashes the bottle to pieces.’
- b. **Hij slaat de fles daarin.*
 he hits the bottle there-in

Pronominalization of the adpositional construction by a pronominal adverb – or by any other pronominal element – renders the expression unintelligible (see 2.2.5.2, 2.2.6).

The potential of a particular adpositional construction to form a pronominal adverb is further crucially dependent on the tightness of the relation between the adpositional construction and the verb. Either the adposition must be selected by the verb, or the verb and the adpositional construction must be semantically closely related. The first criterion holds for adpositions that constitute so close a unit with the verb that the semantics of the adposition cannot be described independently of the semantics of the verb (cf. De Schutter & Van Hauwermeiren 1983: 45), as in (14), where the choice of the adposition (*op* ‘on’) is crucially dependent on the verb *betrappen* ‘catch’. The adposition can then be regarded as a “fixed” adposition, introducing what is called in Dutch grammar a “prepositional object” (“*voorzetselvoorwerp*” in Dutch; ANS 1997: 1168).⁹ Prepositional objects easily form pronominal adverbs.

- (14) *Ze betrapte hem op een leugen/daarop.*
 she caught him on a lie/there-upon
 ‘She caught him lying.’

In accordance with the second criterion, objects (15) typically do form pronominal adverbs, whereas adjuncts do so only to the extent that they are semantically closely related to the verb. Hence, adpositional adjuncts of location (16) and motion (17) normally do form pronominal adverbs, whereas adpositional adjuncts indicating time (18) or manner (19) do not, except in a few isolated instances which often have become lexicalized (e.g. *daarna* ‘afterwards’ and *daarop* ‘thereupon, afterwards’): place and motion, but not time and manner, narrowly delimit the kind of action or situation described by the verb (Shannon & Coffey 2004: 258).¹⁰

- (15) *Uit dat doosje/Daaruit kroop een spin.*
 out that box/there-out crawled a spider
 ‘A spider crawled out of that box/out of it.’
- (16) *Ze dansen altijd op dat zachte tapijt/daarop.*
 they dance always on that soft carpet/there-on
 ‘They always dance on that soft carpet/on that.’

- (17) *We hebben de hele morgen langs die rivier/daarlangs* cycled
 we have the whole morning along that river/there-by *gefietst*.
 ‘The whole morning we cycled along that river.’
- (18) *Ze is op die dag/*daarop* vertrokken.¹¹
 she is on that day/there-on left
 ‘She left on that day.’
- (19) *Ze heeft het op die manier/*daarop* gedaan.
 she has it on that way/there-on done
 ‘She did it that way.’

Finally, one key phenomenon occurring with pronominal adverbs, significant with regard to the distinction between objects and adjuncts, is that of *splitting*: their component parts may occur discontinuously in particular syntactic contexts (20b).

- (20) a. *Ze heeft het boek gisteren op de kast* gelegd.
 she has the book yesterday on the cupboard put.
 ‘Yesterday she put the book on the cupboard.’
- b. *Ze heeft het daar gisteren op* gelegd.
 she has it there yesterday on put

The potential of a pronominal adverb to occur in a discontinuous form is related to the degree of syntactic connectedness between the adposition and the verb (Van Riemsdijk 1990) and constitutes a continuum from “splitting obligatory” to “splitting impossible” (Van der Horst 1992). This property will be further discussed in 3.3.

1.4 Use of auxiliaries

With the manner-of-motion verbs listed in (4.1) the present perfect tense form may combine its past participle with either the auxiliary *zijn* ‘to be’ or the auxiliary *hebben* ‘to have’:

- (21) a. *Ze is op de tafel gesprongen*.
 she is on the table jumped
 ‘She jumped on the table.’
- b. *Ze heeft op de tafel gesprongen*.
 she has on the table jumped
 ‘She jumped on the table.’
- c. *Ze is de tafel op gesprongen*.
 she is the table on jumped
 ‘She jumped on the table.’
- d. **Ze heeft de tafel op gesprongen*.
 she has the table on jumped
 ‘She jumped on the table.’

With the prepositional construction *op de tafel* ‘on the table’ in (21a–b) both auxiliary forms are in principle possible.¹² The *zijn* ‘to be’ form in (21a) focuses on the translocation resulting in a change of location, whereas with *hebben* ‘to have’ in (21b) the action itself is the centre of attention (ANS 1997: 77). In other words, while the auxiliary *zijn* ‘to be’ emphasizes the endpoint of the motion, *hebben* ‘to have’ refers to the course of the motion. Broekhuis (2002: 60) distinguishes between the “telic” change of location reading of the former and the “atelic” reading of the latter, which does not involve change of location. The postpositional pattern *de tafel op* ‘the table on’ in (21c–d), by contrast, which is intrinsically directional and telic, is therefore incompatible with the auxiliary *hebben* ‘to have’ in (21d). This aspectual distinction in terms of telicity furthermore greatly restricts the possibility of inserting adverbs of duration, such as *urenlang* ‘for hours’ into the three acceptable patterns of (21a–c) above.¹³

- (22) a. **Ze is urenlang op de tafel gesprongen.*
 she is for hours on the table jumped
 ‘She jumped on the table for hours.’
- b. *Ze heeft urenlang op de tafel gesprongen.*
 she has for hours on the table jumped
 ‘She jumped on the table for hours.’
- c. **Ze is urenlang de tafel op gesprongen.*
 she is for hours the table on jumped
 ‘She jumped on the table for hours.’

Atelic expressions of duration require a combination of the auxiliary *hebben* ‘to have’ and a prepositional construction, as in (22b): they conflict with the auxiliary in (22a) and with both the auxiliary and the postposition in (22c).

2. Objects versus adjuncts of location and motion

In order to distinguish the various syntactic functions that the AdPs of location and motion may fulfil, this second part introduces two criteria, namely optionality (2.1) and proportionality (2.2), which together define the structure of the verbal valency frame.

2.1 Optionality

A first fundamental bipartition is based on the *optionality* or *omissibility* of the AdPs in question. More in particular, omitting the AdP from the location examples in (23) or the deictic motion verb example in (24) yields perfectly grammatical sentences of Dutch:

- (23) a. *Hij heeft heel zijn leven (op een boerderij) gewerkt.*
 he has all his life on a farm worked
 ‘He has worked (on a farm) all of his life.’
- b. *Zij heeft heel de middag (in de tuin) naar muziek geluisterd.*
 she has all the afternoon in the garden to music listened
 music listened
 ‘She has listened to music (in the garden) all afternoon.’
- (24) *Zij is gisteren (naar Berlijn) vertrokken.*
 she is yesterday to Berlin left
 ‘She left (for Berlin) yesterday.’

Such omission of the AdP is not allowed, however, with the positional verbs in (25), the change of location verb in (26) or the manner-of-motion verbs in (27), as indicated by the asterisk symbol outside of the brackets:

- (25) a. *Het boek ligt *(op de kast).*
 the book lies on the cupboard
 ‘The book lies *(on the cupboard).’
- b. *De schilderij hangt *(aan de muur).*
 the painting hangs on the wall
 ‘The painting is *(on the wall).’
- (26) *Zij heeft het boek *(op de kast) gelegd.*
 she has the book upon the cupboard put
 ‘She put the book *(upon the cupboard).’
- (27) a. *Zij is meteen *(in het water)/(het water in) gesprongen.*
 she is at once into the water/the water into jumped
 ‘She jumped (into the water) at once.’
- b. *Hij is *(onder de brug door) gelopen.*
 he is under the bridge through run
 ‘He ran (underneath the bridge).’

With actions such as ‘working’ in (23a) or ‘listening to music’ in (23b), reference to the location in which the described action takes place constitutes non-essential or peripheral information. Basically the same holds for the description of direction with actions such as ‘leaving’ in (24). To reflect their relatively marginal position within the sentence, such fully optional AdPs will be called *location adjunct* and *motion adjunct* respectively.

By contrast, with positional verbs such as ‘lying’ in (25a) or ‘hanging’ in (25b) and change of location verbs such as ‘putting’ in (26) the expression of the location cannot be omitted. The same lack of optionality holds for the indication of

direction with manner-of-motion verbs such as ‘jumping’ in (27a) or ‘running’ in (27b), at least not in combination with the auxiliary ‘to be’ (an issue we turn to at the end of this section). In these cases, the location or direction is part of the valency frame construing the essential participants involved in the described action. Because of their close connection to the (intrinsically locative or directional) verbal predicate, such obligatory AdPs will be called “location object” and “motion object” respectively.

The difference between the optionality of adjuncts and the non-optionality of objects can easily be demonstrated by means of the so-called *en wel*-test (‘namely’ or ‘more in particular’) in Dutch (see Luif 1998: 50; Vandeweghe 2001: 138). In the pattern *A en wel B*, A is a clause and B is a single constituent. The pattern works if B serves as the modification of a completely described situation in A, i.e. all necessary objects of the verb are expressed in A. However, if the pattern does not sound right, it means that A does not count as a complete description of the situation, which often means that B is a constituent part of A. Peripheral information with location and motion adjuncts in (28) works fine with the *en wel*-test, whereas essential information with location and motion objects in (29) does not:

- (28) a. *Hij heeft heel zijn leven gewerkt, en wel op een boerderij.*
 he has all his life worked and indeed on a farm
 ‘He has worked all of his life, namely on a farm.’ (=23a)
- b. *Zij is gisteren vertrokken, en wel naar Berlijn.*
 she is yesterday left and indeed to Berlin
 ‘She left yesterday, namely for Berlin.’ (=24)
- (29) a. **Het boek ligt, en wel op de kast.*
 the book lies and indeed on the cupboard
 ‘*The book lies, namely on the cupboard.’ (=25a)
- b. **Zij is meteen gesprongen, en wel in het water/het water in.*
 she is at once jumped and indeed into the water/the water into
 ‘*She jumped at once, namely into the water.’ (=27a)

Note, however, that the non-omissibility with location and motion objects should be slightly relaxed. Although the unacceptability of (25–27) is undoubtedly the default situation for this type of constructions, marginal examples do show up in which the omission of a location or motion object does not yield a bad result (ANS 1997: 1091; Vandeweghe 2001: 131–132):

- (30) a. *Doe wat je wil, maar ik blijf.*
 do what you want but I stay
 ‘(You can) do what you want, I’m staying.’

- b. (*Wanneer vertrek je naar Parijs?*) *Ik ga niet.*
 when leave you for Paris I go not
 ‘When are you leaving for Paris? I’m not going.’

- (31) *Ik wil niet langer zwerven, ik wil eindelijk wonen.*
 I want no longer INF-roam I want finally INF-reside
 ‘I no longer want to roam, I finally want to reside.’

This situation closely resembles that of patterns such as *I’m eating/reading*, in which a two-place predicate can occur without its direct object. In both cases an essential participant of the action is not overtly expressed, but is implied and can easily be retrieved from the context. The location object in (30a) must be clear from the conversational situation, whereas the motion object in (30b) refers back to the linguistic context of the preceding question. In (31) the semantics of the locative predicate itself changes somewhat (to that of “having a roof over one’s head”), in which case the location object remains completely unspecified.¹⁴ In sum, the dimension of optionality should be viewed as a cline rather than as a strictly binary subdivision.

A third syntactic function – in addition to those of adjunct and object – is exhibited by the obligatory AdPs in (32–34), which are part of complex verbal predicates or collocations such as *in de wolken zijn* ‘walk on air’, *in de bres springen* ‘throw oneself into the breach’, or *op de hoogte brengen* ‘inform’.¹⁵

- (32) *Ze was *(in de wolken) over de mooie resultaten.*
 she was in the clouds over the nice results
 ‘She was walking *on air* about the nice results.’
- (33) *Ze was voor haar collega *(in de bres) gesprongen.*
 she was for her colleague into the breach jumped
 ‘She had thrown herself *into the breach* for her colleague.’
- (34) *Ze heeft hem *(op de hoogte) gebracht van het goede nieuws.*
 she has him onto the height brought of the good news
 ‘She has informed him of the good news.’

Although the AdPs in (32–34) team up with the location and motion objects in revealing a tight connection to the verbal predicate, they are not so much independent participants in the described action, but rather constitutive parts of that action itself. More in particular, on the continuum of connectedness to the verb, they reveal an even greater degree of dependence than the objects. In other words, in spite of their formal resemblance to spatial expressions, the reference to location and motion with the AdPs in (32–34) has been lexically incorporated into the idiomatic verbal expression, often involving a shift from a literal spatial reading to an abstract or figurative reading. Such AdPs belonging to the description of

the action itself will henceforth be called “predicate complements”.¹⁶ In the next paragraph we will demonstrate that, although objects and predicate complements share the lack of omissibility, and both fail the *en wel*-test, they crucially differ from one another with respect to the criterion of proportionality.¹⁷

The opposition between telic *zijn* ‘to be’ and atelic *hebben* ‘to have’ with manner-of-motion verbs mentioned in 1.4 also correlates with the optionality or omissibility of the AdPs:

- (35) a. **Ze is gesprongen/gewandeld.*
 she is jumped /walked
 ‘She jumped/walked’
 b. *Ze heeft gesprongen/gewandeld.*
 she has jumped/walked
 ‘She jumped/walked.’

In the telic translocation patterns in (35a) the AdP cannot be omitted, whereas the atelic motion-in-place patterns focussing on the action itself in (35b) are perfectly acceptable without the AdP. Hence, the two patterns described in 1.4 not only involve the semantic distinction of direction versus location, but also a contrast between the syntactic functions of object and adjunct. In other words, the same verbs of movement allow two distinct perspectives on the described action: one in which a motion object is considered to be an essential participant, and the other in which a location adjunct optionally refers to a circumstance.¹⁸ The focus on the action as such with the atelic auxiliary *hebben* ‘to have’ is not only compatible with durational adverbs, but also with complex coordinate manner adverbs such as *op en neer* ‘up and down’ of *heen en weer* ‘to and fro’ in (36), which intrinsically encode bidirectionality – i.e. reversal of directionality – and repetition:

- (36) a. *Hij heeft/*is een kwartier in het water op en*
 he has/*is a quarter in the water up and
 neer gesprongen.
 down jumped
 ‘He jumped up and down in the water for fifteen minutes.’
 b. *Hij heeft/*is een kwartier op en neer gesprongen.*
 he has/*is a quarter up and down jumped
 ‘He jumped up and down for fifteen minutes.’
 c. *Hij heeft/*is een kwartier op en neer gesprongen in*
 he has/*is a quarter up and down jumped in
 het water.
 the water
 ‘He jumped up and down in the water for fifteen minutes.’

The prepositional phrases serving as location adjunct in (36a) are not only omissible, as shown in (36b), but can also move to the sentence-final position beyond the past participle in (36c) (see Section 3.2 below for a more detailed account of word order phenomena). By contrast, the postpositional phrases functioning as motion object in (37a) are incompatible both with a durational and a manner adverb, and neither their omission in (37b) nor their extraposition in (37c) is possible:

- (37) a. *Hij is/*heeft (*een kwartier) het water in (*op en*
 he is/*has a quarter the water in up and
neer) gesprongen.
 down jumped
 ‘*He jumped up and down into the water for fifteen minutes.’
- b. **Hij is (een kwartier) (op en neer) gesprongen.*
 he is a quarter up and down jumped
 ‘He jumped up and down for fifteen minutes.’
- c. **Hij is (een kwartier) (op en neer) gesprongen het water in.*
 he is a quarter up and down jumped the water in
 ‘*He jumped up and down into the water for fifteen minutes.’

The telic combination of the auxiliary *zijn* ‘to be’ with the postpositional pattern refers to the endpoint of the movement: a single act of jumping results in being located ‘in the water’ or ‘on the table’, which is clearly not as easily compatible with the bidirectionality or repetition encoded in the durational or manner adverbs.

2.2 Proportionality

The second criterion of *proportionality* is adopted from the Pronominal Approach (Van den Eynde et al. 2002:177; Smessaert et al. 2005:477). It involves the kinds of equivalence or substitution relations that are possible with the different types of AdPs. In general, the presence of proportionality indicates a connection between an independent entity and the described action or situation. By contrast, absence of proportionality either indicates complete lack of such a connection or else the loss of independence of the entity with respect to the situation. The different types of proportionality that the AdPs reveal, are then indicative of the different types of relations between the AdPs and the described situation.

In the case of static prepositions proportionality involves either an adverb or a so-called pronominal adverb (2.2.1), whereas with dynamic prepositions it concerns the difference between a prepositional phrase and a pronominal adverb (2.2.2). Afterwards, we go into proportionality patterns for AdPs with postpositions (2.2.3) and with circumpositions (2.2.4). Next we turn to more marginal constellations of non-spatial proportionality (2.2.5) or absence of

proportionality (2.2.6). We end this section by considering the interaction between the criteria of proportionality and optionality (2.2.7).

2.2.1 *Proportionality with static prepositional phrases*

2.2.1.1 *Adverb versus pronominal adverb.* The AdP's in (38) express the notion of static location or change-of-location: they constitute an adequate answer to a question introduced by the interrogative adverbial *waar?* 'where?', and they can be substituted for by the adverbial *daar* 'there':

- (38) a. *Het boek ligt in de kast/daar/daarin.*
 the book lies in the cupboard/there/there-in
 'The book lies in the cupboard/there/in there.'
- b. *Zij heeft het boek op de kast/daar/daarop gelegd.*
 she has the book upon the cupboard/there/there-upon put
 'She put the book upon the cupboard/there/upon it.'

The AdPs in (38) are said to be "proportional" to an adverbial *paradigm* of static location, which, in addition to "interrogative" *waar?* 'where?' and "assertive" *daar* 'there', also contains quantificational forms such as *ergens* 'somewhere', *nergens* 'nowhere' or *overal* 'everywhere'. Furthermore, as we discussed in connection with (11) in Section 1.3, the AdPs in (38) are also proportional to a second paradigm, namely that of the pronominal adverbs. In quite a number of cases, however, AdPs with static prepositions do not allow the double proportionality with the paradigms of both the adverb (for the general spatial notion) and the pronominal adverb (for the particular spatial constellation) illustrated in (38). Two complicating factors can be distinguished: the AdP is not a location or motion object (2.2.1.2) or the AdP is not a prototypical location object (2.2.1.3).

2.2.1.2 *AdP is not an object of location/motion.* As was hinted at briefly in Section 1.3, the potential proportionality of a particular AdP with a pronominal adverb is crucially dependent on the tightness of the relation between the AdP and the verb. Objects typically do form pronominal adverbs, adjuncts do so only to the extent that they are semantically closely related to the verb, as was the case with the verb *dance* in (16) above. Compare, for instance, the two AdPs introduced by the static preposition *bij* 'near/by' in (39):

- (39) a. *Ze ontmoeten elkaar bij het station/daar/*daarbij.*
 they meet each other near the station/there/there-by
 'They meet near the station/there/*there-by.'

- b. *Een afvalcontainer en kartonnen dozen die bij*
 a refuse container and paper boxes that near/by
de container/daar/daarbij lagen, waren in brand gestoken.
 the container/there/there-by lay were in fire set
 ‘A refuse container and paper boxes that lay by the container/there were set on fire.’

In both cases the AdP of location is proportional to the adverb *daar*. Substitution by the pronominal adverb, however, is prohibited with the location adjunct in (39a), but not with the location object in (39b). The same absence of proportionality with the pronominal adverbs *daarop* and *daarin* can be observed with the original examples of location adjunct in (23), repeated as (40):

- (40) a. *Hij heeft heel zijn leven op een boerderij/daar/*daarop gewerkt.*
 he has all his life on a farm/there/there-upon worked
 ‘He worked on a farm/there all of his life.’
- b. *Zij heeft heel de middag in de tuin/daar/*daarin*
 she has all the afternoon in the garden/there/there-in
naar muziek geluisterd.
 to music listened
 ‘She listened to music in the garden /there all afternoon.’

An extra complicating factor in (40) is furthermore that the static prepositions *op* ‘upon’ and *in* ‘in’ are not used in their prototypical spatial interpretations. This aspect of spatial configuration also plays a role in the case of location and motion objects, as will be discussed in more detail in the next subsection.

2.2.1.3 *AdP is not an object of prototypical location.* If the adposition is not used in its prototypical spatial sense, but in a more extended use, the proportionality with a (demonstrative) pronominal adverb may be difficult:¹⁹

- (41) a. *De krant ligt op de tafel/daar/daarop.*
 the paper lies on the table/there/there-upon
 ‘The paper lies on the table/there.’
- b. *De kasten staan op de zolder/daar/*daarop.*
 the cupboards stand on the attic/there/there-upon
 ‘The cupboards are in the attic.’
- (42) a. *Het medicijn zit in die doos /??daar/daarin.*
 the medicine sits in that box/there/there-in
 ‘The medicine is in that box/in there.’

- b. *De meisjes zitten samen in de tuin/daar/*daarin.*
 The girls sit together in the garden/there/there-in
 ‘The girls sit together in the garden/there.’
- (43) a. *Het eerste nulpunt zit binnen de cirkel/??daar /daarbinnen.*
 the first zero-point sits within the circle/there /there-within
 ‘The first zero point is within the circle/within it.’
- b. *Die man woont binnen de bebouwde kom/daar/*daarbinnen*
 that man lives within the built-up centre/there/there-within
 ‘That man lives within the town centre/there.’

The prepositions *op* ‘upon’, *in* ‘in’, and *binnen* ‘inside’ are prototypically used to indicate a situation in which some object is on top of (*op*) or contained within (*in*, *binnen*) another object. The b-sentences indicate a more extended use, where the cupboards are not on top of, but within the attic in (41b), whereas the girls and the man are not enclosed by but merely situated within the garden in (42b) and the town centre in (43b). Notice that proportionality with adverbial *daar* does not really work with *zitten* in (42a) and (43a) either, since in these cases the verb does not get its prototypical meaning of bodily position, but again the more abstract reading of “being located”. A related distinction seems to be at work with another positional verb, i.e. *hangen* ‘to hang’ in (44):

- (44) a. *De schilderij hangt aan een koperdraad /*daar/daaraan.*
 the painting hangs on a copper wire/there /there-on
 ‘The painting is hung up with a copper wire.’
- b. *De schilderij hangt aan de muur/daar/*daaraan.*
 the painting hangs on the wall/there /there-on
 ‘The painting is on the wall /there.’

Proportionality with the pronominal adverb holds with the prototypical vertical orientation of ‘to hang’ in (44a), but not with its more general spatial reading in (44b). The distinction between vertical and horizontal orientation also plays a crucial role with the dynamic prepositions (see 2.2.2.3).

2.2.2 Proportionality with dynamic prepositional phrases

2.2.2.1 *Prepositional phrase versus pronominal adverb.* The AdP with the dynamic preposition *naar* ‘to’ in (45a) is not proportional to the simple adverbial paradigm of space *daar/waar?* ‘there/where?’, nor to the simple paradigm of the pronominal adverb *daarnaar/waarnaar?* ‘there-to/where-to?’:

- (45) a. *Zij is gisteren naar Berlijn/*daar/*daarnaar vertrokken.*
 she is yesterday to Berlin left
 ‘She left for Berlin yesterday.’

- b. *Zij is gisteren daarheen/daarnaartoe/?naar daar vertrokken.*
 she is yesterday there-to/there-to-to/to there left
 'She left for there yesterday.'

Instead, two new types of proportionality arise in (45b). The first involves the paradigm of pronominal adverbs for direction which comes in two versions: the formal variant consists of interrogative *waarheen?* 'where-to?' and assertive *daarheen* 'there-to' and so on,²⁰ whereas the key members of the informal variant are interrogative *waarnaartoe?* 'where-to?' and assertive *daarnaartoe* 'there-to'. The crucial difference with the pronominal adverbs in the previous section is that the preposition *naar* no longer has the same shape when it is postposed, i.e. when it follows the R-pronoun, but changes either into the more archaic *heen* or else into the compound form *naartoe*.

With the second type of proportionality in (45b) the original preposition is no longer postposed in order to be morphologically integrated with the R-pronoun, but forms a phrasal combination with the R-pronoun, yielding prepositional phrases such as *naar daar/waar?* 'to there/where?', and similarly for the other dynamic prepositions *van daar/waar?* 'from there/where?', *tot daar/waar?* 'until there/where' and *langs daar/waar?* 'along there/where?'. However, these phrasal combinations strongly tend to have a deictic interpretation instead of an anaphoric one, which justifies the question marks with *naar daar* in (45b).

As we observed with the static prepositions in 1.3, the dynamic preposition *naar* need not be used in a spatial sense, for instance when it introduces a prepositional object. In such cases the proportionality of motion in (45b) is excluded, whereas the basic pronominal adverb *daarnaar* from (45a) resurfaces as the only possibility:

- (46) Ik verlang *naar de vakantie/daarnaar/*daarheen/*
 I long for the holidays/there-for/there-to/
**daarnaartoe/ *naar daar.*
 there-to-to/to there
 'I long for the holidays/for it/them.'

The dynamic preposition *tot* 'to' has to change shape as well when it is postposed to the R-pronoun to form a pronominal adverb, yielding *daartoe* instead of **daar-tot*. Strangely enough, however, this pronominal adverb is only proportional to an AdP functioning as a prepositional object in (47a) but not to an AdP functioning as motion adjunct or object in (47b):

- (47) a. *Ze heeft bijgedragen tot het mooie resultaat/daartoe/*tot daar.*
 she has contributed to the nice result/there-to/to there
 'She has contributed to the nice result/there-to.'

- b. *Ze liep snel van de bushalte tot de plek waar ze moest zijn/ *daartoe/tot daar.*
 she ran fast from the bus stop to the place where she
*moest zijn/ *daartoe/tot daar.*
 must be/ there-to/to there
 ‘She ran fast from the bus stop to the place where she had to be/to there.’

The resulting constellation is one of complementarity between the two proportionality strategies of the prepositional phrase *tot daar* ‘to there’ and the pronominal adverb *daartoe* ‘there-to’. As was the case with the static prepositions in the previous sections, a number of restrictions seem to hold on the available proportionality patterns. First of all, dynamic prepositions can combine both with static and dynamic verbs (2.2.2.2), and secondly, the sense of orientation of the motion involved plays a role (2.2.2.3).

2.2.2.2 *Static versus dynamic verbs.* The proportionality of an AdP of direction with a pronominal adverb may be determined by the meaning of the verb. The preposition *naar* ‘to’ in (48) for instance, forms a pronominal adverb ending in *naartoe* ‘to-to’ if used to express direction with a motion verb (48a), but does not form a pronominal adverb if used to express direction with a static verb (48b):²¹

- (48) a. *Ik rende naar de kerk/daarheen/daarnaartoe/naar daar.*
 I ran to the church/there-to/there-to-to/ to there
 ‘I ran to the church/to there.’
- b. *De berg helt af naar de rivier/*daarheen/*daarnaartoe/ naar daar.*
 the mountain slants down to the
 river/there-to/there-to-to/ to there
 ‘The mountain slants down to the river/to that side.’

With the static verb *afhellen* ‘slant down’ the AdP is only proportional to a prepositional phrase that consists of prepositional *naar* and an R-pronoun (48b). A similar restriction holds with the preposition *langs* ‘along’:

- (49) a. *die tevergeefs het gat in de haag zoekt*
 who in vain the hole in the hedge searches
waarlangs/langs waar ze is buitengeraakt.
 where-along/along where she is out-got
 ‘who searches in vain for the hole in the hedge through which she got out.’
- b. *Er zijn piramidevormige draadfiguren te kopen*
 there are pyramid-shaped thread-figures to buy

*waarlangs/*langs waar de ranken van de klimop kunnen*
 where-along/along where the vines of the ivy can
worden opgebonden.
 be up-tied

‘There are pyramid-shaped thread figures for sale along which the vines of the ivy can be tied up.’

In combination with a dynamic verb such as *buitengeraken* ‘get out’ in (49a) the AdP is proportional both to the pronominal adverb (*daarlangs/waarlangs* ‘there/where-along’) and to a prepositional phrase (*langs daar/waar* ‘along there/where’). With the static verb *opbinden* ‘tie up’ in (49b) only one type of proportionality survives, but unlike (48b), this time the pronominal adverb remains available. In other words, in (49a) the hole in the hedge dynamically indicates the path along which she got out, whereas in (49b) the thread figures statically indicate the spot against which the vines of the ivy can be tied up.

2.2.2.3 *Sense of orientation.* Within the category of dynamic verbs a further distinction can be drawn based on the sense of orientation involved in the described action. Depending on the semantics of the verb, the preposition *van* ‘from’, for instance, is compatible both with a vertical and a horizontal sense of direction:

- (50) a. *Ze sprong van het dak/daaraf/*van daar.*
 she jumped off the roof/there-off/off there
 ‘She jumped from the roof/off it.’
- b. *Ze kwam van het station/daarvandaan/van daar.*
 she came from the station/there-from/from there
 ‘She came from the station/from there.’

With *springen* ‘jump’ in (50a) the AdP introduced by *van* expresses a downward change of location and is proportional with a pronominal adverb ending in (*van*) *af*. In (50b), by contrast, the AdP refers to the point of departure of the action of coming and is proportional to a pronominal adverb ending in *vandaan*. Notice that the extra type of proportionality with the prepositional phrase *van daar* ‘from there’ is only compatible with the horizontal sense of orientation in (50b), but not with the vertical one in (50a).

2.2.3 *Proportionality with postpositional phrases*

As was discussed in connection with (38) in Section 2.2.1.1, AdPs with a static preposition such as *in* are proportional both to the adverb *daar/waar* ‘there/where’ and the pronominal adverb *daarin/waarin* ‘there/where-in’. When these prepositions are used postpositionally, as in (51a), however, they are no longer static, but

become dynamic. As a consequence, the proportionality with the static adverb *daar/waar* ‘there/where’ is lost:

- (51) a. *Zij is meteen het water in/*daar/daarin gesprongen.*
 she is at once the water into/there/there-in jumped
 ‘She jumped into the water/in it at once.’
 b. *Zij is meteen in het water/*daar/daarin gesprongen.*
 she is at once into the water/there/there-in jumped
 ‘She jumped into the water/in it at once.’

Example (51b) shows that the pronominal adverb *daarin* ‘there-in’ is also proportional to the prepositional phrase *in het water* ‘into the water’. This double proportionality is due to the possible or necessary vertical orientation of the movement expressed by verbs such as *springen* ‘to jump’, *kruipen* ‘to crawl’, *klimmen* ‘to climb’ and *klauteren* ‘to clamber’. On the contrary, manner-of-motion verbs typically referring to a horizontal change of location, such as *lopen* ‘to run’, *wandelen* ‘to walk’ and *fietsen* ‘to bike’ do not have this double proportionality. When these verbs combine with the auxiliary *zijn* ‘to be’, they focus on the change of location and the pronominal adverb can only be proportional to a postpositional construction as in (52) and (53) below.

- (52) a. *Hij is erop gelopen.*
 he is there-on run
 b. **Hij is op de trap gelopen.*
 he is on the stairs run
 c. *Hij is de trap op gelopen.*
 he is the stairs on run
 ‘He ran up the stairs.’
 (53) a. *Hij is daar gisteren op gefietst.*
 he is there yesterday on cycled
 b. **Hij is gisteren op de Mont Ventoux gefietst.*
 he is yesterday on the Mont Ventoux cycled
 c. *Hij is gisteren de Mont Ventoux op gefietst.*
 he is yesterday the Mont Ventoux up cycled
 ‘He cycled to the top of the Mont Ventoux yesterday.’

The difference between horizontal and vertical motion also determines the nature of proportionality with prepositional *van* ‘from, off’ in (50) above. The same sense of orientation plays a role with the postpositional counterpart of *van*, namely *af* ‘off’ in (54):

- (54) a. *De bal rolde de helling af/daaraf.*
 the ball rolled the slope off/there-off
 ‘The ball rolled down the slope.’

- b. *Ze vluchtten de weg af/*daaraf.*
 they fled the road off/there-off
 ‘They fled down the road.’

An AdP with *af* is only proportional with the pronominal adverb *daaraf* if used in its prototypical sense, meaning ‘off’ and indicating vertical change of location, as in (54a). No such proportionality holds if the situation involves horizontal change of location and means something like ‘all the way through’, as in (54b).

In addition to the sense of orientation, also the degree of prototypicality of the spatial constellation governs the proportionality of postpositional AdPs. Compare in this respect (55a–b):

- (55) a. *De mest loopt de kelders uit/daaruit/uit de kelders.*
 the manure runs the cellars out/there-out/out the cellars
 ‘The manure comes out of the cellars.’
- b. *Ik wandelde de straat uit/*daaruit/*uit de straat*
 I walked the street out/there-out/out the street
richting James zijn huis.
 direction James his house
 ‘I walked down the street in the direction of James’s house.’

In (55a) the postpositional pattern *de kelders uit* alternates with the prepositional pattern *uit de kelders*, which is roughly synonymous. In this case, both AdPs are proportional with the pronominal adverb *daaruit*. In (55b), however, the postpositional construction *de straat uit* does not alternate with prepositional *uit de straat* and the former is not proportional to *daaruit* either. In other words, the postposition *uit* alternates with the preposition *uit* in (55a) if *uit* is used in its prototypical spatial sense ‘out of’, which involves outward change of location or removal from a container or location. In (55b), by contrast, *uit* conveys the idea of a path that the subject referent is traversing. If there is no alternation with prepositional *uit*, there is no proportionality with a pronominal adverb either. Although this may be considered as support for the claim that pronominal adverbs can be proportional to prepositional constructions only, the difference between the prototypical and non-prototypical spatial semantics already plays a role with the prepositional use of *uit* by itself:

- (56) a. *Die brief komt uit de onderste lade van mijn bureau/*
 that letter comes out the bottommost drawer of my desk/
*daaruit/*van daar.*
 there-out/from there
 ‘That letter comes out of the bottommost drawer of my desk/out of it.’
- b. *Die politieke beweging komt uit Amerika/*daaruit/van daar.*
 that political movement comes out America/there-out/from there
 ‘That political movement comes from America/from there.’

The preposition *uit* in (56a) is prototypically used to indicate a situation in which some object is removed from (*uit*) another object. The example in (56b) indicates a more extended use, where the political movement is not removed from the United States, but takes this location as his point of departure. Only in its prototypical use in (56a) the AdP with prepositional *uit* is proportional to *daaruit*, whereas only in its extended use in (56b) it is proportional to the prepositional phrase *van daar*.

2.2.4 Proportionality with circumpositional phrases

In (8) and (9) of Section 1.2.3 two types of circumpositional patterns were distinguished depending on the inherently static versus dynamic nature of the prepositional element and on the optionality of the postpositional part. Not surprisingly, these differences are reflected in distinct proportionality constellations for (57) and (58):

- (57) a. *Ze sprong achter de boom vandaan* /**daarachter*/
 she jumped behind the tree from/there-behind/
daarachtervandaan.
 there-behind-from
 ‘She jumped from behind the tree/from there.’
- b. *Ik kroop onder de kast uit* /**daaronder*/*daaronderuit*.
 I crawled under the cupboard out/there-under/there-under-out
 ‘I crawled from under the cupboard/from there.’
- c. *Ze liep onder de brug door* /**daaronder*/
 she ran under the bridge through/there-under/
daaronderdoor.
 there-under-through
 ‘She ran underneath the bridge/underneath it.’
- (58) a. *Hij kroop over de stoelen heen*/*daarover*/*daaroverheen*.
 he crawled over the chairs across/there-over/there-over-across
 ‘He crawled (all the way) across the chairs/across them.’
- b. *De haven ligt tegen het*
 the port lies against the
centrum aan/*daartegen*/*daartegenaan*.
 center at/there-against/there-against-at
 ‘The port is very close to the center.’

As such, the prepositions *achter* ‘behind’ and *onder* ‘under’ can either get a static interpretation as in *Zij zat achter de boom/onder de tafel* ‘She was sitting behind the tree/under the table’ or a dynamic interpretation as in (57a–c). The presence of the postposition *vandaan* ‘from’ in (57a), *uit* ‘out’ in (57b) and *door* ‘through’ in (57c)

has a double effect. First of all, it cancels the motion reading of the preposition in favour of the static one: the starting point for the action in (57a), for instance, is 'behind the tree'. Secondly, the postposition induces the motion interpretation of movement away from that location. In terms of proportionality this means that only the complex pronominal adverb which incorporates both the prepositional and the postpositional element, such as *daar-achter-vandaan* 'there-behind-from' is available.

By contrast, with the circumpositional patterns in (58) the postpositional elements can be omitted without fundamentally altering the basic dynamic or static meaning of the prepositional element. In other words, the prepositional elements by themselves suffice to yield the sense of motion in (58a) or location in (58b), and the respective postpositional elements *heen* 'across' and *aan* 'at' merely add an emphatic or terminative dimension. As a consequence, two types of proportionality arise in these cases: a basic pattern where the pronominal adverb only incorporates the preposition, e.g. *daar-over* 'there-over', and a complex pattern in which the pronominal adverb incorporates both the prepositional and the postpositional parts of the circumpositional AdP, as in *daar-over-heen* 'there-over-across').

2.2.5 Non-spatial proportionality

The AdP's discussed so far all involve spatial proportionality of location or motion. In this section, we go into verb-particle combinations and predicate complement patterns, in which the proportionality, if any, is of a non-spatial type.

2.2.5.1 Verb-particle combinations. In connection with postpositional constructions it should be observed that for certain manner-of-motion verbs an adposition that combines with an NP to yield a postpositional motion object (59a) strongly resembles an element that enters into a verb-particle combination (59b). (ANS 1997: 508-509). Compare in this respect:

- (59) a. *Hij rijdt de nieuwe auto de garage in.*
 he drives the new car the garage into
 'He enters/drives the new car into the garage.'
- b. *Hij rijdt de nieuwe auto in.*
 he drives the new car in
 'He runs in the new car.'

In (59a) *rijden* 'to drive' functions as a three-place predicate with 'the new car' as its direct object and a postpositional *in* 'into' which combines with *de garage* 'the garage' to yield the motion object *de garage in*. In (59b), by contrast, the particle *in* 'in' constitutes a part of the compound verb *inrijden* 'run in' which takes 'the new

car' as its regular direct object. Hence, the substring *de nieuwe auto in* 'the new car in' does not count as a (postpositional) constituent in (59b), in contrast with (59a). Notice that with this type of (idiomatic) compound verbs, semantic specialisation often shows up as well. This difference in status of the adpositional *in*-element correlates with different proportionality patterns:

- (60) a. *Hij rijdt (de nieuwe auto) ergens in, namelijk in*
 he drives (the new car) somewhere into namely in
de garage.
 the garage
 'He enters/drives (the new car) **somewhere**, namely into the garage.'
- a'. *Waar rijdt hij (de nieuwe auto) in? In de garage.*
 where drives he (the new car) into in the garage
 'Where does he drive (the new car)? Into the garage.'
- b. *Hij rijdt iets in, namelijk de nieuwe auto.*
 he drives something in namely the new car
 'He runs **something** in, namely the new car.'
- b'. *Wat rijdt hij in? De nieuwe auto.*
 what drives he in? the new car
 'What does he run in? The new car.'

The NP *de garage* 'the garage' which belongs to the motion object is proportional to *ergens* 'somewhere' in (60a), whereas the NP *de nieuwe auto* 'the new car' exhibits the default non-spatial proportionality of a direct object, namely with *iets* 'something' in (60b).

However, the difference between a compound verb and a verb combined with a postpositional AdP is not always as clear as in (59a–b). For many language users, the NP *de tunnel* 'the tunnel' in (61a) can be proportional to either *ergens* 'somewhere' or *iets* 'something', or both.²² Choosing the proportionality with *iets* indicates that the NP tends to function as the direct object of the compound verb *inrijden* 'drive into'.

- (61) a. *Hij rijdt de tunnel in.*
 he drives the tunnel into
 'He enters/drives into the tunnel'
- b. *Hij rijdt ergens in, namelijk in de tunnel.*
 he drives somewhere into namely in the tunnel
Waar rijdt hij in? In de tunnel.
 where drives he into in the tunnel
 'He drives **somewhere**, namely into the tunnel.
Where does he drive? Into the tunnel.'

- c. *Hij rijdt iets /hem in, namelijk de tunnel.*
 he drives something/him into namely the tunnel
Wat rijdt hij in? De tunnel.
 what drives he into the tunnel
 ‘He drives into **something/it**, namely the tunnel.’
 ‘**What** does he drive into? The tunnel.’

The fact that the postpositional use cannot always straightforwardly be distinguished from the particle use also yields a certain degree of spelling uncertainty, particularly with present perfect verb forms. Strictly speaking, particles are morphologically integrated into the past participle, witness (62a), whereas postpositions do not form a single word with the past participle. Often, however, postpositions do end up being attached to the past participle, yielding the spelling ambiguity with the motion objects in (62b–c):

- (62) a. *Hij heeft de nieuwe auto ingereden.*
 he has the new car in-driven
 ‘He has run in the new car.’
 b. *Hij is de garage in gereden/ingereden.*
 he is the garage into driven/into-driven
 ‘He has entered/driven into the garage.’
 c. *Hij heeft de nieuwe auto de garage in gereden/ingereden.*
 he has the new car the garage into driven/into-driven
 ‘He has entered/driven the new car into the garage.’

Notice, incidentally, that the present perfect verb form is built by means of the auxiliary *zijn* ‘to be’ in (62b) but with the auxiliary *hebben* ‘to have’ in (62a) and (62c). The auxiliary choice in the latter two examples is determined by the presence of a direct object. As a rule, transitive verbs take *hebben* as their auxiliary. The fact that this auxiliary is excluded in the case of (61c) demonstrates that the NP has not acquired the status of a full direct object yet.

2.2.5.2 Predicate complement patterns. In Section 2.1 we introduced the category of predicate complements for constituents which formally may look like spatial AdPs, but which are not independent participants in the described action. Instead, they are constitutive parts of that action and lexically incorporated into idiomatic verbal expressions. As can be inferred from the examples in (63) such predicate complements are not proportional to an adverb or a pronominal adverb:

- (63) a. *Ze is in de wolken/*daarin/*daar over de mooie resultaten.*
 she is in the clouds/ there-in /there over the nice results.
 ‘She walks on air because of the nice results.’

- b. *Ze was op de hoogte/*daarop/*daar van het goede nieuws.*
 she was onto the height/there-onto/there of the good news
 ‘She was informed of the good news.’

However, in some resumptive cases such as (64), where the predicate complement occurs in left-dislocation and the main clause contains a contrastive negation, the predicate complement reveals a non-spatial type of proportionality with an emphatic demonstrative pronoun *dat* ‘that’, which resembles the direct object patterns in (59) and (61–62):

- (64) a. *In de wolken, dat was ze niet over de mooie resultaten.*
 in the clouds that was she not about the nice results
 ‘She did not walk on air because of the nice results.’
 b. *Op de hoogte, dat was ze nog niet van het goede nieuws.*
 onto the height that was she still not of the good news
 ‘She was not yet informed of the good news.’

2.2.6 Absence of proportionality

In the examples in (64) the predicate complement combines with the static copular verb *zijn* ‘to be’. However, predicate complements also occur in more dynamic idiomatic expressions:

- (65) a. *Ze was voor haar collega in de bres/*daar/*daarin gesprongen.*
 she was for her colleague into the breach/there/there-in jumped
 ‘She had thrown herself *into the breach* for her colleague.’
 b. *Ze heeft hem op de hoogte/*daar/*daarop gebracht van het goede nieuws.*
 she has him onto the height/there/there-onto brought of the good news
 ‘She has informed him of the good news.’

As in (63) there is no proportionality with the adverb or the pronominal adverb. With the dynamic situations depicted in (65), however, the non-spatial alternative of (64) is not available either.²³

2.2.7 The interaction between proportionality and optionality

The general purpose of this second section was to draw a formal distinction between adjuncts and objects of location and motion. In order to achieve this, we used two criteria: optionality and proportionality, which together define verbal valency patterns. The interaction between these two criteria yields the tripartition

into adjunct, object and predicate complement, as summarized in Table 1. With the category of predicate complements the semantic distinction between location and motion is of no importance.

Table 1. The interaction between proportionality and optionality

	[+ proportionality]	[- proportionality]
[+ optionality]	location adjunct motion adjunct	
[- optionality]	location object motion object	predicate complement

As one may observe, the top right cell remains empty. However, one could argue that there are constituents with the properties [+optional, -proportional]. Examples such as *op de koop toe* (lit. on the bargain to, ‘in addition’) or *op de man af* (lit. on the man off, ‘straightforwardly’) can be considered as “sentential adjuncts” whose original semantics of location or motion has disappeared.

3. Word order

Cross-linguistically the distinction between adjuncts, objects and predicate complements is not dependent on the linear ordering of the constituents in the clause (Van Valin & LaPolla 1997: 27, 30–31). In Dutch, however, the three categories do reveal different word order tendencies. After a brief presentation of the general word order patterns in Dutch (3.1), we discuss the preferential word order patterns with the different types of AdP’s (3.2), and the possibilities of splitting the pronominal adverbs (3.3).

3.1 General word-order patterns in Dutch

In his overview of syntactic typological features, De Schutter (1994: 466) states that “(...) from the point of view of surface typology, [Dutch] is a moderately verb-final (SOV) language”. Within language typology, this view is generally accepted,²⁴ though Dutch word order has a number of features that are characteristic of SVO too: the existence of prepositions and sentence-initial complementizers, and the position of relative clauses after the antecedent. On the other hand, there is a lot of evidence that “Modifier before Head”, with the OV order as a specific instance, is the default word order in Dutch. The modifier precedes its head in different kinds of constituents such as compound words (66), noun phrases (67), and infinitival phrases (68).

- (66) *huiswerk, tandenborstel*
homework toothbrush
- (67) *een aangename vakantie*
a nice holiday
**een vakantie aangename*
- (68) *regelmatig een boek lezen*
regularly a book read
'to read a book regularly'
**lezen een boek regelmatig*

On the clausal level, however, a straightforward Modifier-Head order is only present in subordinate clauses. In the embedded clause in (69a), the direct object *een boek* 'a book' precedes the verb *kocht* 'bought' or the verbal group *had gekocht* 'had bought'. In main clauses (69b–c), the finite verb occupies the second position in declarative sentences and the first position in yes-no interrogatives and imperatives. If the main verb is also the finite verb, it has to occupy that position (69b). With periphrastic verb forms, the finite verb is an auxiliary and the main verb remains in end position (69c).

- (69) a. *dat zij een boek kocht/had gekocht.*
that she a book bought/had bought
'that she bought/had bought a book'
- b. *Zij kocht een boek.*
she bought a book
'She bought a book.'
- c. *Zij had een boek gekocht.*
she had a book bought
'She had bought a book.'

Sentence (69c) displays the so-called "brace-construction": when the main verb of a declarative sentence is used with one or more auxiliaries, these verbal forms occur as a discontinuous constituent. The two discontinuous verbal parts of the constituent are called "(verbal) poles" in Dutch grammar. Most sentence constituents are placed between these two verbal poles as in (70a–c). Normally, only one sentence constituent may be placed before the first verbal pole (the finite verb) of a declarative sentence. This constituent may be the sentence subject, an adverbial adjunct or an object, depending on the information structure of the sentence. Compare (70a–d):

- (70) a. *Zij heeft gisteren voor haar dochtertje een boek gekocht.*
she has yesterday for her little-daughter a book bought
'She bought a book for her little daughter yesterday.'

- b. *Gisteren heeft zij voor haar dochtertje een boek gekocht.*
 yesterday has she for her little-daughter a book bought
- c. *Voor haar dochtertje heeft zij gisteren een boek gekocht.*
 for her little-daughter has she yesterday a book bought
- d. **Voor haar dochtertje gisteren heeft zij een boek gekocht.*
 for her little-daughter yesterday has she a book bought

The possibility for constituents to occur in extraposition after the second verbal pole is restricted mainly to prepositional phrases and subordinate clauses. As a rule, NPs in extraposition are impossible. Compare (71a–b):

- (71) a. **Zij heeft gisteren voor haar dochtertje gekocht een boek.*
 she has yesterday for her little-daughter bought a book
- b. *Zij heeft gisteren een boek gekocht voor haar dochtertje.*
 she has yesterday a book bought for her little-daughter

The order of constituents between the two verbal poles is in accordance with the “inherence principle”, (Shannon & Coffey 2004:257) which basically states that the elements with the strongest semantic connection to the verb are in principle placed in the syntactic position that is closest to the verb in second pole position.²⁵ Hence, objects, and especially direct objects (DO), which are in a closer semantic relation with the verb than adjuncts, are located closer to the verb than adjuncts. This corresponds to the V-DO-IO-Adjunct order in VO languages such as English, as opposed to the Adjunct-IO-DO-V order in Dutch (compare (70a)). This order of constituents is also the most neutral or unmarked one if the finite verb is the main verb and the second pole is not occupied (72).

- (72) *Zij kocht gisteren voor haar dochtertje een boek.*
 she bought yesterday for her little-daughter a book

In accordance with this inherence principle, elements that are part of an idiomatic verbal expression or that form a semantic unit with the verb such that the verb’s valency is changed (cp. predicate complements), are placed immediately before the second pole, even if they have the form of a prepositional phrase (73). These elements, which are semantically “more inherent” than objects, remain in sentence-final position if the second pole is left empty (74).

- (73) a. *Zij is gisteren voor haar collega in de bres gesprongen.*
 she is yesterday for her colleague into the breach jumped
 ‘Yesterday she threw herself into the breach for her colleague.’

- b. *Zij is gisteren in de bres gesprongen voor haar collega.*
 she is yesterday into the breach jumped for her colleague
- c. **Zij is gisteren voor haar collega gesprongen in*
 she is yesterday for her colleague jumped into
de bres.
 the breach
- d. **Zij is gisteren in de bres voor haar*
 she is yesterday into the breach for her
collega gesprongen.
 colleague jumped

- (74) *Zij sprong gisteren voor haar collega in de bres.*
 she jumped yesterday for her colleague into the breach

The order of constituents in main clauses without an expressed second pole adduces strong evidence for the claim that “modifier before head” (and OV) is the default word-order in Dutch.²⁶

3.2 Position of adpositional phrases

As mentioned above, prepositional phrases may occur in extraposition after the second verbal pole. This means that there are fewer restrictions on their possible sentence positions than for noun phrases, which normally do not show up in extraposition. Exceptions to this free positioning of prepositional phrases are predicate complements (73), and also location and motion objects in (75–76). The latter have to be placed immediately before the second pole.²⁷ Location and motion adjuncts in (77–78), by contrast, may occur in extraposition, and in different positions between the two poles.

- (75) a. *Hij heeft lange tijd in Leuven gewoond.*
 he has long time in Leuven resided
 ‘He resided in Leuven for a long time.’
- b. **Hij heeft lange tijd gewoond in Leuven.*
 he has long time resided in Leuven
- (76) a. *Zij is meteen in het water gesprongen.*
 she is immediately into the water jumped
 ‘She immediately jumped into the water.’
- b. **Zij is meteen gesprongen in het water.*
 she is immediately jumped into the water
- (77) a. *Zij heeft heel de middag in de tuin naar*
 she has whole the afternoon in the garden to

muziek geluisterd.

music listened

‘She listened to music in the garden the whole afternoon.’

- b. *Zij heeft heel de middag naar muziek geluisterd in*
 she has whole the afternoon to music listened in
de tuin.
 the garden
- (78) a. *Zij is gisteren naar Berlijn vertrokken.*
 she is yesterday to Berlin left
 ‘Yesterday she left for Berlin.’
- b. *Zij is gisteren vertrokken naar Berlijn.*
 she is yesterday left to Berlin

Postpositional phrases that express direction are always objects (and not adjuncts) and cannot occur after the second verbal pole (79–80).

- (79) a. *Zij is meteen het water in gesprongen.*
 she is immediately the water into jumped
 ‘She immediately jumped into the water.’
- b. **Zij is meteen gesprongen het water in.*
 she is immediately jumped the water into
- (80) a. *Hij is gisteren die heuvel op gefietst.*
 he is yesterday that hill up cycled
 ‘Yesterday he cycled to the top of that hill.’
- b. **Hij is gisteren gefietst die heuvel op.*
 he is yesterday cycled that hill up

Circumpositional phrases of location and motion are subject to the same ordering restrictions as prepositional ones: as objects they normally occur immediately before the second pole (81–83), as adjuncts they may occur in extraposition as well (84–85).

- (81) a. *Ze zijn voorzichtig onder de brug door gelopen.*
 they are carefully under the bridge through run
 ‘They carefully ran underneath the bridge.’
- b. **Ze zijn voorzichtig gelopen onder de brug door.*
 they are carefully run under the bridge through
- (82) a. *Hij is van de steile helling af gefietst.*
 he is from the steep hill off cycled
 ‘He cycled off the steep hill.’
- b. **Hij is gefietst van de steile helling af.*
 he is cycled from the steep hill off

- (83) a. *De kat is van onder de kast vandaan gekropen.*
 the cat is from under the cupboard away crawled
 ‘The cat crawled from under the cupboard.’
- b. **De kat is gekropen van onder de kast vandaan.*
 the cat is crawled from under the cupboard away
- (84) a. *Ze hebben een huis tegen het centrum aan gebouwd.*
 they have a house against the centre to built
 ‘They have built a house close to the centre.’
- b. *Ze hebben een huis gebouwd tegen het centrum aan.*
 they have a house built against the centre to
- (85) a. *De bewolking zal na de middag van het westen*
 the cloudiness will after the midday from the west
uit toenemen.
 out increase
 ‘The clouds will increase from the west in the afternoon.’
- b. *De bewolking zal na de middag toenemen van het*
 the cloudiness will after the midday increase from the
westen uit.
 west out

In terms of the inherence principle, motion and location objects exhibit a stronger semantic relation to the verb than direct objects. In sentences with causative motion verbs of type 4.3 above, in which both a direct object and a location object have to occur, the location object normally follows the direct object, i.e. is placed closer to the second verbal pole than the direct object (compare (86)).²⁸ The same holds for manner-of-motion verbs of type 4.1b, some of which can also combine with both a direct object and a motion object (87).

- (86) a. *Zij heeft de piano in de hoek geduwd.*
 she has the piano into the corner pushed
 ‘She has pushed the piano in the corner.’
- b. **Zij heeft in de hoek de piano geduwd.*
 she has into the corner the piano pushed
- (87) a. *Zij heeft de auto de garage in gereden.*
 she has the car the garage into driven
 ‘She has driven the car into the garage.’
- b. **Zij heeft de garage in de auto gereden.*
 she has the garage into the car driven

To finish, in Section 1.2.2 we have observed that postpositional phrases like *de stad in* ‘into the town’ are intrinsically directional. Prepositional phrases like

in de stad, by contrast, may receive either a directional ('into the town') or a locational ('in the town') reading with manner-of-motion verbs such as *rennen* 'to run'. This meaning difference is reflected in the periphrastic perfect tense forms of these verbs: in the former case the verb takes *zijn* 'to be' as its auxiliary in the perfect tense, in the latter case it takes *hebben* 'to have'. If a manner-of-motion verb is combined with two motion/location expressions the alternation between pre- and postpositional phrases yields semantic differences. Compare (88–89):

- (88) a. *Hij rende over het veld naar de eretribune.* (ANS 1997:525)
 he ran across the field to the grandstand
 'He ran across the field to the grandstand.'
- b. *Hij rende het veld over naar de eretribune.*
 he ran the field across to the grandstand
 'He crossed the field running to the grandstand.'
- (89) a. *Hij is (over het veld) [naar de eretribune] gerend.*
 he is across the field to the grandstand run
 'He ran across the field to the grandstand.'
- b. *Hij is [het veld over] gerend (naar de eretribune).*
 he is the field across run to the grandstand
 'He crossed the field running to the grandstand.'

In spite of the apparent parallelism in word order of the original simple past examples in (88), the present perfect examples in (89) reveal fundamental differences in the word order structure: with the two prepositional phrases in (89a) the past participle *gerend* 'run' strongly tends to occur in final position, whereas with the postpositional phrase in (89b) the participle strongly favours a position in between the two AdPs. In (89a) the PP *naar de eretribune* 'to the grandstand' counts as the motion object of the 'running' and the prepositional *over het veld* 'across the field' as an optional motion adjunct referring to the path or trajectory along which the (durative/dynamic) running takes place. In (89b), by contrast, postpositional *het veld over* 'the field across' serves as the motion object focusing on the endpoint of that trajectory (i.e. "the grandstand being located at the other side of the field") whereas the sentence final position of the PP *naar de eretribune* 'to the grandstand' reflects its optional status as a directional adjunct (i.e. an extra comment or afterthought). In other words, the difference between prepositional *over het veld* 'across the field' and postpositional *het veld over* 'the field across' is a matter of both syntax and semantics, with the structural position immediately before the verbal participle typically being assigned to the syntactic function of non-optional motion object.

3.3 Splitting of pronominal adverbs

In the previous paragraph, we have shown that location and motion objects strongly prefer to be located immediately before the second verbal pole. This tendency is confirmed when these objects take the shape of a pronominal adverb. Under certain circumstances, these adverbs occur in split form. First, we discuss the general restrictions on this splitting operation (3.3.1). Secondly, we show that, for the categories of location and motion, differences in splitting behaviour strongly correlate with the opposition between object and adjunct (3.3.2).

3.3.1 General restrictions on the splitting of pronominal adverbs

As was mentioned in Section 1.3, the two component parts of pronominal adverbs often occur disconnectedly as they may be syntactically separated by other clausal elements. The pronominal adverb *daaraan* ‘to that’, corresponding to the AdP *aan de vergadering* ‘to the meeting’ in (90a), can occur both in the continuous form (90b) and the discontinuous form (90c). With the unstressed adverb *eraan* ‘to it’, however, only the discontinuous form in (90c) is possible (Van der Horst 1992: 131; Helmantel 2002: 160–161). In such a splitting configuration, the adposition stays close to the second verbal pole, whereas the adverbial part occurs more to the left, i.e. closer to the first verbal pole. A similar split configuration occurs in (90d), where the interrogative adverbial part is located in sentence initial position.

- (90) a. *Ze heeft gisteren niet aan de vergadering deelgenomen.*
 she has yesterday not to the meeting participated
 ‘Yesterday she did not participate in the meeting.’
- b. *Ze heeft daaraan gisteren niet deelgenomen.*
 she has there-to yesterday not participated
- c. *Ze heeft er/daar gisteren niet aan deelgenomen.*
 she has there/there yesterday not to participated
 ‘Yesterday she did not participate in it/that.’
- d. *Waar heeft ze gisteren niet aan deelgenomen?*
 where has she yesterday not to participated
 ‘What did she not participate in yesterday?’

Furthermore, the possibility of splitting is dependent on the syntactic function. In the case of adjuncts of time, reason or manner, for instance, the pronominal adverb cannot be split. This can be explained by the observed fact (e.g. in Van Riemsdijk 1990) that the potential of a pronominal adverb to occur in discontinuous form is related to the degree of connectedness between the adposition and the verb. In this sense, pronominal adverbs can be situated on a continuum from “obligatory splitting” to “impossible splitting”, as suggested by Van der Horst (1992). As far as

syntactic functions are concerned, Van der Horst's continuum runs from prepositional objects, over instruments and spatial adjuncts, manner adjuncts and some types of spatial adjuncts, to sentential adjuncts. It follows that the tightness of the semantic link between the adposition and the main verb corresponds to the easiness with which the pronominal adverb occurs as a discontinuous form. This observation is entirely in accordance with the inherence principle discussed above, which basically states that the elements with the strongest semantic connection to the verb are in principle placed in the syntactic position that is closest to the verb in second pole position. Since AdP's with the function of predicate complement are not proportional to a pronominal adverb (see 2.2.6), the issue of splitting does not arise.

3.3.2 *Splitting of pronominal adverbs based on AdPs of location and motion*

As observed in Section 3.2, location and motion objects, which are part of the valency frame of the verb, are located closer to the second verbal pole (verbal endgroup) than location and motion adjuncts and must immediately precede it. Accordingly, the adposition (i.e. the second part) of a pronominal adverb that is proportional to a location or motion object must also take position immediately to the left of the second verbal pole. As a consequence, pronominal adverbs that function as location or motion objects typically occur in discontinuous form. Pronominal adverbs of location and motion adjuncts, on the other hand, hardly ever occur as a discontinuous form, if at all. The effect of this difference between objects and adjuncts is especially apparent with relative pronominal adverbs, which occur at the beginning of the clause, and in their continuous form entail a large distance between the second part of the pronominal adverb and the verb. Hence, with relative pronominal adverbs, splitting is more compulsory than with other pronominal adverbs (compare Broekhuis 2002: 288), and in the remainder of this section we therefore basically rely on the splitting behaviour of relative pronominal adverbs, as a way to distinguish between objects and adjuncts.

Motion objects with a postposition typically require splitting of the two parts of the pronominal adverb, as the contrast between (91b) and (91c) shows. In this respect, postpositions again resemble verbal particles, which also tend to be placed as close as possible to the verb.

- (91) a. *De padvinders zijn gisteren het donkere bos in gelopen.*
 the scouts are yesterday the dark wood in walked
 'Yesterday the scouts walked into the dark wood.'
- b. *het donkere bos, *waarin de padvinders gelopen zijn*
- c. *het donkere bos, waar de padvinders in gelopen zijn*
 the dark wood where the scouts in walked are
 'the dark wood in which the scouts walked into'

The same holds for motion objects in the form of a circumpositional phrase. Splitting is probably enhanced by the complex form of the pronominal adverb, which exhibits at least three component parts, i.e. an R-pronoun and two adpositions. The latter are obligatorily separated from the former. Compare:

- (92) a. *Hij reed van de heuvel af.*
 he drove from the hill off
 'He drove off the hill.'
- b. *de heuvel, *waar(van)af hij reed*
- c. *de heuvel, waar hij (van)af reed*
 the hill where he from-off drove
 'the hill that he drove from'
- (93) a. *We zitten tussen het hoge- en het lagedrukgebied in.*
 we sit between the high- and the low-pressure-area in
 'We are in between the high- and the low-pressure area.'
- b. *de drukgebieden, *waartussenin we zitten*
- c. *de drukgebieden, waar we tussenin zitten*
 the pressure areas where we between-in sit
 'the pressure areas that we are in between'

The circumpositional phrase in (94) is even more complex in that it contains two prepositions (*van* and *onder*) and one postposition (*uit*), all three of which stay close to the second verbal pole.

- (94) a. *Er werd een vrouw levend van onder het ingestorte
 there was a woman alive from under the collapsed
 gebouw uit. gehaald.*
 building out pulled
 'A woman was pulled out alive from under the collapsed building.'
- b. *het gebouw, *waarvanonderuit/*waarvanonder/*waaronderuit een
 vrouw levend gehaald werd*
- c. *het gebouw, waar een vrouw levend van onderuit/van onder/
 the building where a woman alive from under-out/from under/
 onder uit gehaald werd*
 under out pulled was
 'the building from under which a woman was pulled out alive'

If a location or motion object does not have such a complex pronominal adverb, the latter usually (95b), though not obligatorily (95c), occurs in discontinuous form.

- (95) a. *De brief ligt in de onderste bureaulade.*
 the letter lies in the bottom desk-drawer
 'The letter lies in the bottom desk drawer.'

- b. *de lade waar de brief in ligt*
 the drawer where the letter in lies
- c. *de lade waarin de brief ligt*
 the drawer where-in the letter lies
 'the drawer in which the letter lies'

On the other hand, relative pronominal adverbs that are proportional to location or motion adjuncts, typically do not occur as a discontinuous form.

- (96) a. *De kat is weggelopen (door een gat in de haag).*
 the cat is away-run through a hole in the hedge
 'The cat ran away through a hole in the hedge.'
- b. *het gat in de haag, waardoor de kat is weggelopen*
 the hole in the hedge where-through the cat is away-run
- c. *het gat in de haag, [?]*waar de kat [?]*door is weggelopen*
 'the hole in the hedge through which the cat ran away'
- (97) a. *Ze hebben het boek teruggevonden (onder de kast).*
 they have the book back-found under the cupboard
 'They found the book under the cupboard.'
- b. *de kast waaronder ze het boek teruggevonden hebben*
 the cupboard where-under they the book back-found have
- c. *de kast [?]*waar ze het boek [?]*onder teruggevonden hebben*
 'the cupboard under which they found the book'

Splitting of the pronominal adverb is entirely prohibited in clauses like (98) and (99) which, in addition to a location or motion adjunct, also contain a location or motion object.

- (98) a. *De kat is uit de tuin geraakt door een gat in de haag.*
 the cat is out the garden got through a hole in the hedge
 'The cat got out of the garden through a hole in the hedge.'
- b. *het gat in de haag waardoor de kat uit de tuin geraakt is*
 the hole in the hedge where-through the cat out the garden got is
- c. *het gat in de haag *waar de kat *door uit de tuin geraakt is*
 'the hole in the hedge through which the cat got out of the garden'
- (99) a. *De boot is onder de brug door de haven*
 the boat is under the bridge through the harbour

binnen gevaren.

inside sailed

‘The boat sailed into the harbour underneath the bridge.’

- b. *de brug waaronder de boot de haven*
the bridge where-under-through the boat the harbour

binnen is gevaren

inside is sailed

- c. *de brug, *waar de boot *onderdoor de haven binnen is gevaren*
‘the bridge underneath which the boat sailed into the harbour’

To conclude, we have demonstrated in this section that the difference in syntactic function between objects and adjuncts of location and motion is reflected in a clear difference concerning the splitting possibilities of the corresponding pronominal adverbs: objects have a strong preference to occur in discontinuous form, whereas with adjuncts the discontinuous form is only marginally available.

4. Conclusion

In the grammatical tradition of Dutch, expressions of location and motion are standardly treated as adverbial adjuncts. It is not denied, however, that with a small number of verbs, these adjuncts are obligatory (ANS 1997: 1191). In grammatical descriptions using a valency approach, by contrast, the distinction between “optional” and “obligatory adjuncts” is consistently replaced by the distinction between “adjuncts” and “objects” (Vandeweghe 2001; Van Belle et al. 2011). In line with the latter approach, we have investigated the valency patterns of the verbal predicates involving location and motion. On the basis of this detailed survey, we have introduced the categories of location object and motion object in addition to the regular adjuncts. The central aim of this paper was to underpin this distinction with formal criteria.

Verbal valency can be defined in terms of two formal criteria: \pm optionality and \pm proportionality. The application of these criteria reveals the existence of three different patterns of syntactic behaviour: adjuncts [+optional, +proportional], objects [–optional, +proportional] and predicate complements [–optional, –proportional]. Predicate complements differ from the other two in that they contribute to the characterization of the valency pattern itself.

Adpositional constructions of location and motion are further subdivided into prepositional, postpositional, and circumpositional constructions on the basis of the number of adpositions and their linear ordering with respect to the NP complement. We have shown that the postpositional patterns are excluded

with adjuncts, and serve either as motion objects or as predicate complements. The prepositional patterns, by contrast, can function as predicate complements and as both location and motion adjuncts or objects.

We have also demonstrated how the distinction between adjuncts, objects and predicate complements is reflected in the word order patterns and the splitting behaviour of location and motion AdP's. In line with the inherence principle, adpositional predicate complements and objects need to be placed immediately in front of the second verbal pole and remain in sentence-final position even if the second pole is "empty", i.e. if the verbal predicate in the main clause only contains a finite verb in the first pole. Accordingly, postpositional patterns, which serve as predicate complements or objects only, cannot occur after the second pole. If prepositional phrases function as adjuncts, they may occur after the second pole or in different positions between the two poles. Circumpositional phrases are subject to the same position restrictions as prepositional ones: as objects they normally occur immediately before the second verbal pole, as adjuncts they may occur in extraposition as well. As far as the splitting of pronominal adverbs is concerned, those that function as objects of location or motion typically turn out to occur in discontinuous form, i.e. the adposition retains its position immediately before the second pole. Pronominal adverbs that function as adjuncts of place and motion, by contrast, occur less likely as a discontinuous form, if at all.

Notes

1. We would like to thank Nicole Delbecque, Karen Lahousse, Odon Leys and Willy Van Langendonck for their comments on an earlier draft of this paper.
2. In their analysis of motion descriptions in Dutch Van Staden et al. (2006:500) classify verbs that express the medium through which the motion takes place as manner-of-motion verbs as well, whereas we classify them as causative motion verbs type 4.3b. Our typology counts as an attempt to a systematic and consistent typology of motion verbs in Dutch.
3. Mere direction is expressed by the combination of the direction indicating nouns *kant* 'side' or *richting* 'direction' with particular postpositions (*die kant op* 'that way', *die richting uit* 'that way').
4. Compare: *Ze sprong van de brug/de brug af.*
she jumped from the bridge/the bridge off
'She jumped from the bridge.'
5. The fact that the postpositional element of the type a circumpositions attributes independent meaning to the circumpositional construction is confirmed by the fact that it typically shows up as the first preposition when translated into English (which does not have the circumpositional patterns). The postpositional element of the type b circumpositions, on the

other hand, only postmodifies the prepositional element and often does not receive an independent translation into English.

6. Pronominal adverbs have an adverbial, i.e. unalterable, form, but function like a pronoun, as they are used to refer back to (typically inanimate) things.
7. Pronominal adverbs typically pronominalize non-human objects of adpositions, much less human objects. The occasional pronominalization of a human object is restricted to colloquial speech; in that case the pronominal adverb typically contains the relative adverb *waar* ‘where’, as e.g. in *de man waarmee ik ben gaan wandelen* ‘the man I have been taking a walk with’.
8. The term R-pronoun refers to the r-sound in which the adverbial elements *er*, *daar*, *hier*, *waar* end.
9. We restrict the use of the term “prepositional object”, which has no immediate counterpart in the English or French grammatical tradition, to prepositional constituents that fulfil a participant role in the valency frame of the verb, that are introduced by a preposition with no or a very restricted paradigm and that are typically not omissible.
10. For a more elaborate overview of the restrictions on the formation of pronominal adverbs, see Van Canegem-Ardijns & Van Belle (2004).
11. *Ze is daarop vertrokken* is possible as such, but in that case *daarop* functions as a sequential temporal connective (meaning ‘immediately thereafter’), and not as the pronominal adverb referring to ‘on that day’.
12. In Section 2.2.3 we will show that the difference between horizontal and vertical motion affects the acceptability of the auxiliaries.
13. See Helmantel (2002:68–71) for further discussion of the aspectual differences involved.
14. The distinction between (30) and (31) corresponds to the distinction between definite and indefinite null complements made by Fillmore (1986:96) and Goldberg (1995:58).
15. Most AdPs of this type are prepositional ones as illustrated in (32–34), but postpositional (a) and circumpositional (b) phrases occur as well. Compare:
 - (a) *Zijn gedrag hangt me de keel uit.*
his behaviour hangs me the throat out of
‘I’m fed up with his behaviour’
 - (b) *Zij was door het dolle heen.*
she was through the crazy away
‘She was completely off her head’
16. Notice that in this combination, the term “complement” is not used in its broad sense of argument or object.
17. Taking the predicate complements out of their clauses by definition yields incomplete descriptions of the situation:

- (32') **Ze was over de mooie resultaten, en wel in de wolken.*
she was over the nice results and indeed in the clouds
‘*She was walking about the nice results, namely on air.’

- (33') **Ze was voor haar collega gesprongen, en wel in de bres.*
 she was for her colleague jumped and indeed into the breach
 '*She had thrown herself for her colleague, namely into the breach.'

18. Vandeweghe (2001:209) refers to verbs of movement with or without implied transition from an initial to a final state.
19. The construction with a relative pronominal adverb often remains more acceptable: e.g. *de zolder waarop de kasten staan* 'the attic upon which the cupboards stand' (Van Canegem-Ardijns & Van Belle 2004: 127). In the remainder of this section we focus on the formation of demonstrative pronominal adverbs with *daar* 'there'.
20. Quantificational phrasal forms are e.g.: *ergens heen* 'somewhere', *nergens heen* 'nowhere' or *overal heen* 'everywhere'
21. Broekhuis (2002:269) argues that directional prepositional constructions introduced by *naar* 'to' do not allow for the formation of a pronominal adverb. In his view the pronominal adverb in (48a) is proportional to the circumpositional construction *naar NP toe*, and not to the prepositional construction *naar NP*. This view is in line with that of Helmantel (2002: 143) according to whom directionality severely restricts the possibility of having a pronominal adverb.
22. The difference between 'driving into the garage' and 'driving into the tunnel' may correlate with the type of movement involved, and with the extent to which the NP complement is still perceived as locative.
23. By analogy with full AdPs like *in de wolken* 'in the clouds', *in de bres* 'into the breach', and *op de hoogte* 'onto the height' that in (64–65) function as predicate complements and as such are not proportional to a pronominal adverb, there are also pronominal adverbs that are NOT proportional to a full AdP in the same syntactic function of predicate complement. That is, if the pronominal adverb is part of an idiomatic expression (ANS 1997: 494), it is typically used as a non-referential "dummy element" (compare Leys 1979: 241), e.g. in *erop los leven* 'to lead a loose life', and *eronderdoor gaan* 'go to pieces'.
24. The first arguments for the position that Dutch is basically an SOV language are due to Koster (1975). In more recent work Koster has changed his view following the minimalist position according to which all languages have SVO as the underlying or deep structure order. Dryer (2007:77), however, remarks that: "Over the history of generative grammar, various arguments have been offered for some order being the underlying or deep structure order. Often, these arguments are based on the overall grammar being somewhat simpler if one order is treated as the underlying order. The arguments often depend on the assumptions of a particular version of generative grammar at a particular point in time and no longer apply under later assumptions. And even under a given set of assumptions, there are often competing arguments for which order is basic. And while the notion of underlying order is sometimes assumed to be the same as basic order, and hence the arguments for one order being underlying are arguments for that order being basic, it is not at all clear that the notions are the same."
25. In this short overview of Dutch clausal word order, we disregard information structure phenomena, which, of course, have an effect on the order of constituents. For a more comprehensive discussion of Dutch word order, see Van Belle et al. (2011:2–38).

26. The word order in an example such as *Zij sprong gisteren in de bres voor haar collega* is the same as in (73b) without the second verbal pole. In other words, the prepositional phrase *voor haar collega* occurs in extraposition.

27. This restriction needs to be somewhat relaxed: heavy AdP objects may also occur in extraposition. Compare:

Hij heeft het boek op de tafel in de keuken gelegd/gelegd op
 he has the book on the table in the kitchen put/put on
de tafel in de keuken.
 the table in the kitchen
 ‘He put the book on the kitchen table’

28. Compare in this respect the English and French translations of (86a): *She pushed the piano in the corner*; *Elle a poussé le piano dans le coin*, in which the location object turns out to be less inherent than the direct object. If location objects were considered equally inherent in English and French as in Dutch, we would expect the mirror image word order: **She pushed in the corner the piano*; **Elle a poussé dans le coin le piano*.

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