Doubling PPs in Flemish Dialects*

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1. Introduction

(Standard) Dutch exhibits three kinds of adpositions: prepositions, postpositions and circumpositions. An example of each of these is given in (1).

(1) a. Het boek ligt **op** de tafel. [preposition]
the book lies on the table
b. De kat springt de tafel **op**. [postposition]
the cat jumps the table on
'The cat jumps on(to) the table.'
c. Hij loopt **op** mij **af**. [circumposition]
he runs on me from
'He's running towards me.'

Standardly, postpositions are assumed to derive from prepositions by movement of the DP object across the P element (see Koopman 2000, 2010; Helmantel 2002; Den Dikken 2010). This is shown in (2a). Likewise, circumpositions are derived through movement of the lower PP, i.e. PP_2 in (2b).

(2) a. [P [DP object]] → [[DP object] P t_{DP}]

b. $[_{PP1}\ P_1\ [_{PP2}\ P_2$ [DP object]]] → $[_{PP1}\ \underline{[_{PP2}\ P_2\ [DP\ object]]}\ P_1\ t_{PP2}]$

In Standard Dutch, the two P elements in circumpositions are not identical. It turns out, however, that certain Belgian Dutch dialects, more specifically the dialects from and around the region Flemish Brabant, display circumpositions

with identical prepositions and postpositions, as in (3).[1] The interpretation of this PP is parallel to the Standard Dutch counterpart with either a preposition – when the latter gets a directional reading – or a postposition, cf. (4) for (3a).[2]

(3) a. dat hij **op** dem berg **op** is geklommen. [Asse Dutch]
that he on the.MASC hill on is climbed
'that he has climbed up on the hill.'
b. Ik durf niet **door** dat bos **door** te wandelen.
I dare not through that wood through to walk
'I don't dare walk through that wood.'
c. Ik kom **in** die kamer niet **in**.
I come in that room not in
'I don't enter that room.'

(4) a. dat hij **op** de berg is geklommen. [Standard Dutch]
that he on the hill is climbed
b. dat hij de berg **op** is geklommen.
that he the hill on is climbed
'that he has climbed up on the hill.'

This doubling phenomenon will be the main topic of the paper. In the next section we discuss the main properties of doubling PPs. Before we can proceed to explaining these properties, section 3 provides some crucial background information on the internal structure on Dutch PPs in general, so that we can apply this information in our analysis of doubling PPs in sections 4 and 5. The last section concludes.

2. Properties of Doubling PPs

The present section presents the main properties of doubling PPs. First we deal with their distribution, then their behaviour with respect to movement is discussed, and lastly we discuss R-pronouns.

2.1. *The distribution of Doubling PPs*

Helmantel (2002) distinguishes core spatial PPs from PPs selected by a verb, cf. (5). A preposition selected by a verb does not retain its core lexical meaning: It is a fixed P forming an interpretational unit in combination with the selecting verb.

(5) a. De boeken staan **in** de kast. [spatial]
the books stand in the bookcase
'The books are in the bookcase.'
b. Hij gelooft nog **in** sprookjes. [selected]
he believes still in fairytales
'He still believes in fairytales.'

A first distributional characteristic of doubling PPs is that doubling is only allowed with spatial PPs, not with selected PPs, as (6) illustrates.

(6) a. Lili is **op** de kast **op** gekropen. [spatial]
Lili is on the cupboard on crawled
'Lili crawled onto the cupboard.'
b. Hij had **op** Lili (***op**) gerekend. [selected]
he had on Lili on counted
'He had counted on Lili.'

These spatial (non-selected) PPs basically come in two flavours: locative and directional PPs, cf. Koopman (2000, 2010); Den Dikken (2010). Postpositions are always directional (Den Dikken 2010), whereas prepositions are usually locative, but can be get a directional interpretation as well when they occur with a verb of motion (Koopman 2000), as in (7b).[3]

(7) a. Lola zit **op de kast**. [locative]
Lola sits on the cupboard
b. Lola springt **op de kast**. [locative/directional]
Lola jumps on the cupboard
Locative: Lola is on the cupboard, jumping up and down.
Directional: Lola's jump causes her to end up on the cupboard.
c. Lola springt **de kast op**. [directional]
Lola jumps the cupboard on
'Lola jumps onto the cupboard.'

Not only are doubling PPs restricted to spatial PPs, they are only allowed with directional PPs, not locative ones, as illustrated in (8).[4] This is further confirmed by the fact that in constructions featuring a manner of motion verb, the use of a doubling PP forces the selection of the auxiliary *zijn* 'be' rather than *hebben* 'have' (see (9)), as is typical of directional resultatives in general.

(8) Lili springt **op** de kast **op**.
Lili jumps on the cupboard on
'Lili jumps onto the cupboard.' [directional]
'Lili jumps up and down on the cupboard.' [locative]

(9) a. Lili <u>is</u> **op** de kast **op** gesprongen.
Lili is on the cupboard op jumped
'Lili has jumped onto the cupboard.'
b. Lili <u>heeft</u> **op** de kast (***op**) gesprongen.
Lili has on the cupboard on jumped
'Lili has jumped (up and down) on the cupboard.'

2.2. *Doubling PPs and movement*

A second property of doubling PPs is their behaviour with respect to movement. In doubling PPs, the preposition and the DP object can undergo movement as a unit, to the exclusion of the postposition. This is shown in (10) for topicalisation, *wh*-movement and scrambling across negation.

(10) a. **Op dienen berg** is Lili *t* **op** geklommen. [topicalisation]
on that.MASC hill is Lili on climbed
'That hill has Lili climbed up on.'
b. **Op welken berg** is Lili *t* **op** geklommen? [*wh*-movement]
on which.MASC hill is Lili on climbed
'Which hill has Lili climbed up on?'
c. Lili is **op dienen berg** niet *t* **op** geklommen. [scrambling]
Lili is on that.MASC hill not on climbed
'Lili didn't climb up on that hill.'

The doubling PP as a whole – including the postposition – cannot move, cf. (11).

(11) a. * **Op dienen berg op** is Lili *t* geklommen. [topicalisation]
on that.MASC hill on is Lili climbed
b. * **Op welken berg op** is Lili *t* geklommen? [*wh*-movement]
on which.MASC hill on is Lili climbed
c. * Lili is **op dienen berg op** niet *t* geklommen. [scrambling]
Lili is on that.MASC hill on not climbed

The postposition needs to be adjacent to the verbal cluster, and can be incorporated into it, as (12) illustrates. Such incorporation is typical of postpositions, not prepositions, in Standard Dutch, cf. (13).

(12) Lili zal op dienen berg **<op>** moeten **<op>** klimmen.
Lili will on that.MASC hill on must on climb
'Lili will have to climb up on that hill.'

(13) a. dat ze dat boek **<op>** de tafel heeft <***op**> gelegd. [PreP]
that she that book on the table had on laid
'that she put that book on the table.'
b. dat de kat de kast **<op>** is **<op>** gesprongen. [PostP]
that the cat the cupboard on is on jumped
'that the cat jumped onto the cupboard.'

2.3. *R-pronouns*

A third defining property of doubling PPs concerns R-pronouns. In Standard Dutch a neuter pronoun in the complement of a preposition moves to a specifier position in the extended projection of P and surfaces as an R-word:

(14) a. Hij is {ergens op/*op iets} geklommen.
he is somewhere on on something climbed
'He climbed onto something.'
b. Hij is {daarover/* over dat} gesprongen.
he is there.over over that jumped
'He jumped over that.'

In doubling PPs, however, R-word formation of the indefinite pronoun *iets*, resulting in *ergens*, is ungrammatical, cf. (15). R-words are not categorically ruled out in doubling PPs, however. The *wh*-pronoun *wat* can stay *in situ* but may also surface as the R-word *waar*, as (16a) shows; and the definite demonstrative pronoun in fact undergoes R-word formation obligatorily: *in situ* placement of *dat* in (16b) is ungrammatical.

(15) a. Lili is op iets op geklommen.
Lili is on something on climbed
'Lili climbed onto something.'
b. Lili is ergens op (*op) geklommen.
Lili is somewhere on on climbed

(16) a. {Op wat /waarop} is Lili op geklommen?
on what where.on is Lili on climbed
'What did Lili climb up on?'
b. dat Lili {*op dat /daarop} is op geklommen.
that Lili on that there.on is on climbed
'that Lili climbed up on that.'

Summing up, doubling PPs are restricted to directional (spatial) PPs and cannot undergo movement as a whole, but the preposition and the object are allowed to move to the exclusion of the postposition. Moreover, the indefinite neuter pronoun cannot undergo R-formation, but *wh*-pronouns and definite pronouns can (in the latter case obligatorily). In sections 4 and 5 we present an analysis which captures these properties, but first, the next section provides some necessary background on the internal structure of Dutch PPs in general.

3. The Internal Structure of Dutch PPs

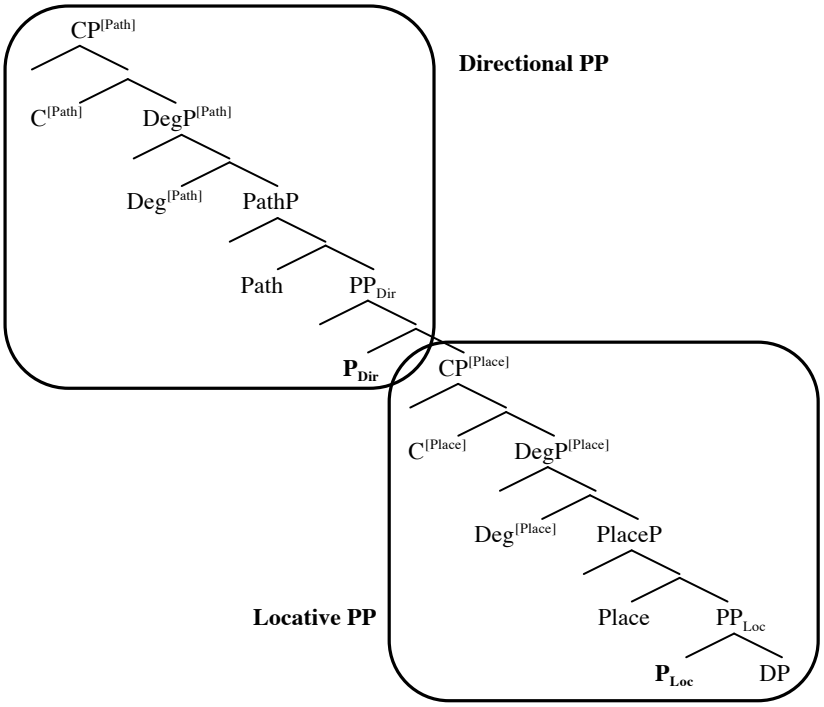
Van Riemsdijk (1978, 1990) argues that, parallel to the verbal/clausal and nominal domains, the adpositional domain contains functional structure as well. Koopman (2000, 2010) develops this idea further for Dutch PPs and proposes that the lexical PP is selected by a functional head Place, parallel to v in the verbal domain. The extended P projection also contains a DegP, which hosts degree modifiers, and is topped off by a $CP^{[Place]}$, hosting R-pronouns. According to Koopman, the CP layer is also the layer allowing a projection to undergo extraction (cf. also Chomsky 2001).

Moreover, she argues that directional PPs differ from locative PPs structurally in that they have a functional PathP on top of the extended P_{Loc} projection. This leads to the functional structures in (17a,b) for locative and directional PPs.

(17) a. $[_{CP(Place)}\ C^{[Place]}\ [_{DegP(Place)}\ Deg^{[Place]}\ [_{PlaceP}\ Place\ [_{PP}\ P]]]]$
b. $[_{PathP}\ Path\ [_{CP(Place)}\ C^{[Place]}\ [_{DegP(Place)}\ Deg^{[Place]}\ [_{PlaceP}\ Place\ [_{PP}\ P]]]]$

Den Dikken (2010) builds on her analysis, but argues for a separate lexical P_{Dir} for directional PPs, which has its own extended projection. This results in the extended structure in (18).[5] Den Dikken argues that this basic structure allows for six possible extended PPs, depending on whether or not the lexical Ps project functional structure (see Den Dikken 2010 for a more detailed discussion). In the next section we apply this structure to doubling PPs and show how a reduced P_{Dir} layer can capture the first two properties discussed in section 2.

(18)



4. The Analysis, Part 1: A Reduced Higher P layer

4.1. *The P_{Dir} layer*

Den Dikken (2010) puts forward two options for the directional P layer: P_{Dir} can either project a full functional structure up to $CP^{[Path]}$, or none at all:

(19) a. $[_{CP(Path)}\ C^{[Path]}\ [_{DegP(Path)}\ Deg^{[Path]}\ [_{PathP}\ Path\ [_{PP}\ P_{Dir}\ [\ldots]]]]]$
b. $[_{PP}\ P_{Dir}\ [\ldots]]$

These different options come with certain consequences. In the presence of a full extended projection for P_{Dir} the postposition cannot undergo incorporation into the verb cluster, as this operation is blocked by the functional heads. The entire directional phrase can undergo movement as a unit (it is a CP), but the locative phrase cannot be subextracted from it. This ban on subextraction of $CP^{[Place]}$ (if

present) is due to an A-over-A effect: if P_{Dir} projects a full $CP^{[Path]}$, this $CP^{[Path]}$ will always be closer to a potential attractor than the prepositional $CP^{[Place]}$. Thus, "attract closest" blocks subextraction of $CP^{[Place]}$ when $CP^{[Path]}$ is present. Conversely, when P_{Dir} lacks functional structure above it, the postposition incorporates into the verb cluster. The directional phrase cannot move as a unit, but a $CP^{[Place]}$ complement of P_{Dir} can be subextracted unproblematically.

4.2. *Doubling PPs*

Our analysis of doubling PPs should account for the fact that in doubling PPs (i) the prepositional layer can move as a unit, but the entire doubling PP cannot, and (ii) the postposition can be incorporated into the verb. We have seen that a reduced P_{Dir} layer has exactly these consequences for movement. Hence, we argue that P_{Dir} in doubling PPs does not project any functional structure.

The doubling PP in (20a) is thus analysed as in (20b,c): the preposition is merged in P_{Loc} and the postposition, in this case identical to the preposition, is merged in P_{Dir}. As P_{Dir} is incorporated into the verb (cluster), $CP^{[Place]}$ becomes the verb's derived object and can be extracted out of PP_{Dir}.[6]

(20) a. Lili is **op** de berg **op** geklommen.
Lili is on the hill on climbed
'Lili has climbed up on the hill.'

b. $[_{PP}\ \mathbf{P_{Dir}}{=}op\ [_{CP}\ C^{[Place]}[_{DegP}\ Deg^{[Place]}[_{PlaceP}\ Place\ [_{PP}\ \mathbf{P_{Loc}}{=}op\ \textit{de berg}]]]]]$

c. $[_{CP}\ \underline{C^{[Place]}[_{DegP}\ Deg^{[Place]}[_{PlaceP}\ Place\ [_{PPLoc}\ \textbf{\textit{op de berg}}]]]}]\ldots[_{PPDir}\ \textbf{\textit{op}}\ t_{CP(Place)}]$

This analysis captures the first two properties of doubling PPs given in section 2: The distribution is accounted for, as the structure contains both a locative P and a directional P, resulting in a directional reading. Moreover, as discussed above, because P_{Dir} does not come with any functional structure here, but P_{Loc} does, the prepositional layer $CP^{[Place]}$ can undergo movement to the exclusion of the postposition, which is incorporated into the verb (cluster).

The next section focuses on the lower P layer, capturing the third property, and addresses the identity requirement on doubling PPs.

5. The Analysis, Part 2: A Defective Lower P layer

5.1. *Two positions for R-movement*

The third property of doubling PPs listed in section 2 concerns R-word formation – in particular, the fact that the indefinite neuter pronoun *iets* 'something' cannot surface as an R-word in doubling PPs, cf. (15) above, unlike the other pronouns.

Koopman (2000, 2010) proposes that there are, in principle, two positions that can accommodate R-words: SpecCP and SpecPlaceP. We argue that there is a difference between SpecPlaceP and SpecCP with respect to the kinds of R-pronouns they can house. More specifically, we take SpecPlaceP to be a *scrambling* position — a position with information-structural import. What is raised to SpecPlaceP gets a 'strong' interpretation. By contrast, movement to SpecCP$^{[Place]}$ does not have any intrinsic information-structural consequences.

It follows that *definite* R-pronouns are freely licensed in either SpecPlaceP or SpecCP, whereas *indefinite* R-pronouns are not licensed in SpecPlaceP unless they receive a 'strong', [+specific] interpretation. We can test this by investigating the relative placement of R-words *vis-à-vis* degree modifiers such as *vlak* 'right' in the DegP between C and PlaceP, as shown in (21). We expect *definite* R-words to be able to appear on either side of such modifiers (because they can surface either in SpecPlaceP or in SpecCP), but *indefinite* R-words to show a more restricted behaviour. This prediction is borne out: (22a), with the distal R-word *daar*, is perfect with *daar* on either side of *vlak*; but out of context, (22b) strongly prefers the indefinite R-word *ergens* to be placed to the left of *vlak*. This preference is strengthened when the negative polarity marker *ook maar* is added: (22c) is sharply worse with *ook maar ergens* to the right of *vlak*. Since *ook maar ergens* can only support a non-specific interpretation, the strong deviance of the relevant version of (22c) supports our proposal that the two positions for R-words are different in terms of the interpretation they trigger.

(21) $[_{CP}$ _ $[C^{[Place]}$ $[_{DegP}$ *vlak* $Deg^{[Place]}$ $[_{PlaceP}$ _ $[Place$ $[_{PP}$ $\mathbf{P_{Loc}}$ DP]]]]]]

(22) a. <daar> *vlak* <daar> onder/boven/naast/...
there$_{DISTAL}$ right there$_{DISTAL}$ under/above/next.to
'right under/above/next to that'

b. <ergens> *vlak* <$^{??}$ergens> onder/boven/naast/...
somewhere right somewhere under/above/next.to
'right next to/above/under something'

c. nooit <ook maar ergens> *vlak* <*ook maar ergens> onder
never also but somewhere right also but somewhere under
'never right under anything (at all)'

5.2. *A defective lower layer*

We capture the ban on R-movement of *ergens* in doubling PPs by arguing that a key property of doubling PPs is that the $C^{[Place]}$ of doubling PPs is defective (annotated as C*).[7] One salient consequence of the defectivity of this C*-head is that it cannot be specified for the EPP property. As EPP is the trigger for terminal movement, this entails that nothing can move into the $SpecCP^{[Place]}$ in the complement of P_{Dir} in P-doubling constructions as a final move in a chain. This explains the illicitness of *ergens* in (15b): there is no trigger for terminal R-movement to $SpecCP^{[Place]}$. Out of context, therefore, a bare indefinite pronoun has no choice but to stay *in situ* in doubling-PPs, as in (15a).

While it is impossible to *terminally* raise an indefinite R-word into the specifier of C*, there is no reason to expect the same to hold for *non-terminal* movement to the specifier of α. Movement is standardly taken to proceed via a succession of intermediate steps – successive-cyclic movement. For those intermediate steps we do not expect that they should be feature-driven (cf. Bošković 2007).

This brings us back to (16a), where the R-word *waar* is allowed. The essential difference between *ergens* and *waar* is that movement of *ergens* to SpecCP terminates the derivation. Movement of [+*wh*] *waar* into SpecC*P in doubling PPs is an intermediate step, necessarily followed by movement into the matrix SpecCP – either of *waar* by itself or with pied-piping. This explains the legitimate status of *waar* in doubling PPs despite the defective C*.

Finally, definite pronouns, which are [+specific] and hence must scramble, obligatorily move to SpecPlaceP. This explains the grammaticality of the string with R-word *daarop… op* and the illicitness of **op dat (…) op*.

5.3. *On the defectivity of C*[Place]*

A second consequence of C*'s defectivity ensues from the requirement of defective C* to amalgamate with a lexical host in the structure dominating it in order to be licensed. This lexical host must be featurally compatible with it in order for amalgamation to occur. As C* is a member of P_{Loc}'s extended projection, it is specified for P_{Loc}'s features. So for P_{Dir} to be able to serve as C*'s host, it must be specified for the features of P_{Loc}. From this, we derive that C* can only amalgamate with P_{Dir} if the latter spells out identically to P_{Loc}.[8]

This is what gives rise to doubling: although the two P-elements are merged independently as spell-outs of separate P-heads, they must be identical in order for the defective C* in the extended projection of the lower P to be licensed. The defectivity of C*P in P_{Dir}'s complement is directly responsible for doubling.[9] It is impossible to derive the identity of the two P-elements as a result of the spell-out

of more than one link in a movement chain (cf. Nunes 2004; Barbiers *et al.* 2009). The major obstacle to such an approach to P-doubling is that the chain-formation operation on which it would be contingent cannot be performed. There could only be a chain with members in the locative and directional P-heads if it were legitimate for P_{Loc} to move to P_{Dir} and be realised in both positions. In doubling PPs, however, there is a $CP^{[Place]}$ in the complement of P_{Dir}, and we know independently that head movement cannot proceed through C-heads: CPs always break head-movement chains. So this precludes an analysis of P-doubling in terms of the spell-out of multiple members of a head-movement chain.

The defectivity of $C^{*[Place]}$ has a third consequence: it prevents P_{Dir} from projecting its own extended projection, which is crucial for our explanation of the movement property of doubling PPs. In the extended projection of a lexical category, features are shared from bottom to top. An extended projection is only well-formed if it contains *at most one* instance of any functional category that can share features with the lexical category at the foot of the extended projection.

This restriction implies that P_{Dir} in doubling PPs cannot build its own $CP^{[Path]}$. As a result of the obligatory amalgamation of P_{Dir} and C*, P_{Dir} is an active party in the feature sharing relationship down from P_{Loc}, which also includes $CP^{[Place]}$. Since every extended projection contains at most one instance of any functional category, P_{Dir} cannot project its own $CP^{[Path]}$. The fact that PP_{Dir} must stay small captures the movement data for doubling PPs: $C^*P^{[Place]}$ can subextract, but the entire $[P_i\ DP\ P_i]$ string cannot undergo movement as a whole.

Summing up, the defectivity of C* in the complement of P_{Dir} in doubling PPs has three major consequences: (i) It is responsible for the two identical occurrences of P elements because of the amalgamation of C* and P_{Dir}, (ii) it prevents P_{Dir} from projecting its own functional structure and thus prohibits movement of the entire $[P_i\ DP\ P_i]$ string, and (iii) it explains the impossibility of R-word formation with *iets/ergens* because C* does not have an EPP property.

6. Conclusion

Our central claim has been that doubling PPs in Flemish dialects are the result of identical spell-outs of a locative and a directional P in a reduced P_{Dir} structure. The properties of doubling PPs are the following: (i) it only occurs with spatial directional PPs, (ii) the entire $[P_i\ DP\ P_i]$ string cannot undergo movement, but the prepositional part can subextract and the postposition can incorporate into the verb cluster, and (iii) indefinite neuter pronoun *iets* cannot surface as the R-word *ergens*, but *wh*-pronoun *wat* and definite *dat* can. A reduced structure where PP_{Dir} is bare and P_{Loc} projects a defective C* accounts for these characteristics.

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* Thanks to our informants for their judgements, and to the audience at TiN-dag 2011 for many useful comments. We also thank our two anonymous reviewers for their inspiring remarks. This research is also funded by the FWO Odysseus project 2009-Haegeman-G091409.

[1] P-doubling with identical P-elements also occurs in directional PPs in Swiss German, cf. (i).

(i) ab dem Berg abe (Van Riemsdijk 1990; Den Dikken 2003)
off the.DAT mountain off
'down from the mountain'

In the examples given in Van Riemsdijk for Swiss German, the postposition gets a schwa inflection, however, and is therefore not exactly identical to the preposition, contrary to the Flemish examples.

More recent work by Huijbregts & Van Riemsdijk (2007) on German adpositions shows that in German the postposition describes the orientation of the path: *auf das Dach hinauf* expresses an

upward movement onto the roof, whereas *auf das Dach hinunter* expresses a downward movement onto the roof (see Huijbregts & Van Riemsdijk 2007: (6)).

The analysis of such circumpositions is beyond the scope of this paper. What is important, however, is the observation that the Flemish doubling dialects do not exhibit this phenomenon: in the doubling cases the two P elements are necessarily identical. This will be explained by the analysis.

[2] An anonymous reviewer pointed out to us an empirical contrast between prepositions and postpositions (first noticed by Kraak & Klooster 1968, but see also Den Dikken 2003, footnote 10): a sentence containing a prepositional phrase in (i)a can be interpreted literally, i.e. run into a physical trap that has been set, or figuratively, i.e. be misled, run into a mind trap. The postpositional phrase in (i)b, on the other hand, lacks this figurative reading. In the Flemish doubling PP in (ii) the figurative reading is also dispreferred.

(i) a. Hij is in de val gelopen.
he is in the trap run
b. Hij is de val in gelopen.
he is the trap in run

(ii) Hij is in de val in gelopen.
he is in the trap in run
All: 'He ran into the trap.'

This unavailability of the figurative reading in both postPPs and doubling PPs can be explained as follows. In postPPs, the complement of P is moved, and as a result the idiomatic reading becomes unavailable; in doubling PPs, the prePP in the complement of the directional P is moved, and once again, idiomaticity disappears. It is well known that movement of idiom chunks is severely limited. The fact that both simple postPPs and doubling PPs lack idiomatic readings thus supports the movement analysis that we are subscribing to in this paper.

[3] There are prepositions such as *naar* 'to' and *via* 'via' that are always interpreted directionally, and do not have a postpositional counterpart. For more discussion, see Den Dikken (2003, 2010).

[4] A few speakers allow doubling PPs with (predicative) locative PPs as well, see footnote 10 below.

[5] Den Dikken (2010) relabels the functional heads to bring the adpositional domain more in line with the clausal and nominal domain. We use Koopman's (1997) labels to keep the structures transparent.

[6] Alternatively, an anonymous reviewer suggests to assume remnant movement of the entire PP_{Dir}, out of which the P_{Dir} itself has moved. Such an account is not tenable, however, as PP_{Dir} cannot move.

[7] The availability of this defective C* correlates with the use of the directional P *van* 'of, from' as a clause introducer in NP-raising constructions, found in the dialects that display doubling PPs. In the interest of space, however, we do not elaborate on this correlation or the distribution and evolution of defective C* here, but refer the reader to a longer paper we wish to publish in the near future.

[8] We take the identity requirement to be a PF requirement. Note, moreover, that we conceive of the locative/directional opposition as a privative one, with [dir] as the marked feature. A P_{Dir} *op* is hence specified for <u>all</u> of P_{Loc} *op*'s features: there is no feature conflict between [loc] and [dir]; P_{Dir} is more richly specified than P_{Loc} and C*, but shares all of P_{Loc}'s and C*'s features, and can license C*.

Note that the fact that P_{Dir} is a featural superset of C* makes our notion of defectivity compatible with Roberts' (2010) notion of 'defective goal', according to which in a probe-goal relationship in which the probe is a proper featural superset of the goal, the goal is defective. Of course the parallel between Roberts's proposal and ours ends there: P_{Dir} is not a probe for C*; C* is not a goal. But the notion of 'defectivity' appealed to in both accounts is essentially the same.

[9] Speakers for whom this amalgamation process is in an advanced stage allow for P doubling in purely locative contexts as well. Even for these speakers, however, grammaticalisation of P_{Dir} to C is not fully complete yet: for all speakers, (i) – in principle ambiguous between a locative and a directional reading – is only interpreted directionally. P_2 continues to be analyzed as a spell-out of P_{Dir} (rather than C) whenever such a parse is possible.

(i) Lili zou nooit in het water in springen.
Lili would never in the water in jump