

Dutch, PPs, R-pronouns

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1 Introduction

The term R-pronoun (van Riemsdijk, 1978) refers to a set of nominal elements that can strand prepositions in Dutch (and German). It is special because Dutch is a normally non-preposition stranding language. R-pronouns morphologically consist of a combination of a preposition and locative pronoun. In the example (1) *mee* ‘with’ is the preposition and *er* ‘there’ is the locative pronoun.

- (1) Ik klim er-op.
I climb there-on
‘I am climbing on it.’

This paper focuses on a single R-pronoun in a specific type of free relative construction. The R-pronoun I focus on is the relative pronoun *waarmee* ‘with what’, which is interesting for two reasons. First, just like for all R-pronouns, the *wh*-element is the locative, but there is no meaning component related to location in ‘with what’. Second, the preposition *met* ‘with’ changes into *mee* ‘with’ when it is combined with an R-pronoun.

The construction I focus on is a mismatching free relative. This is a free relative construction in which the two predicates (the one in the main clause and the one in the embedded clause) combine with two different cases (i.e. the case requirements do not match). I illustrate this in (2). The predicate in the embedded clause, *schildert* ‘paint’, combines with an instrumental PP. The predicate in the main clause, *gekocht* ‘bought’ combines with an accusative DP. The R-pronoun *waarmee* ‘with what’ is used here.¹

- (2) Ik heb gekocht waar jij mee schildert.
I have bought where you with paint

¹In this example *mee* ‘with’ is stranded and *waar* ‘where’ is moved to the left edge of the embedded clause. It is also possible for *waar* ‘where’ to bring *mee* ‘with’ along, as in (i) but it is regarded as slightly less natural.

- (i) Ik heb gekocht waar jij mee schildert.
I have bought where you with paint
‘I bought what you are painting with.’

‘I bought what you are painting with.’

If one were to switch around the predicates between the clauses, the R-pronoun does not appear anymore. In (3), *schilder* ‘paint’ combines with an instrumental PP in the main clause and *gekocht* ‘bought’ combines with an accusative DP in the embedded clause. The use of an R-pronoun is ungrammatical, as indicated by the ungrammaticality of (3a). Instead, a combination of the regular instrumental preposition *met* ‘with’ and the regular wh-pronoun *was* ‘what’ is used.

- (3) a. *Ik schilder waarmee jij hebt gekocht.
I paint where with you have bought
‘I paint with what you bought.’
b. Ik schilder met wat jij hebt gekocht.
I paint with what you have bought
‘I paint with what you bought.’

The use of *met wat* ‘with what’ is ungrammatical in the context in which *waarmee* ‘with what’ appeared in (2). This is illustrated in (4).

- (4) *Ik heb gekocht met wat jij schildert.
I have bought with what you paint
‘I bought what you are painting with.’

In this paper I show that distribution of *waarmee* ‘with what’ and *met wat* ‘with what’ in these free relative constructions gives us a unique insight into the internal structure of R-pronouns. In what follows I show that R-pronouns and regular preposition compete to spell out the same syntactic features. If all features form a constituent, the R-pronoun surfaces. If the constituent is interrupted, the preposition-pronoun combination shows up. This straightforwardly follows in a system in which spellout targets phrasal constituents: Nanosyntax (Starke, 2009).

This paper is structured as follows. First, I show that it really is constituency. Then I decompose R-pronouns, prepositions and regular pronouns. Last, I show in derivations that constituency connects to the choice for R-pronoun or preposition and regular pronoun. Unmarked examples are constructed and have been verified by native speakers.

2 The distribution between *waarmee* and *met wat*

In the introduction I discussed the distribution between *waarmee* ‘with what’ and *met wat* ‘with what’ in free relatives with predicates that combine with different cases. Table 2 repeats the generalization. When the main clause predicate combines with an accusative and the embedded clause predicate with an instrumental, *waarmee* is grammatical and *met wat* is ungrammatical. When the main clause predicate combines with an instrumental and the embedded clause predicate with an accusative, *waarmee* is ungrammatical and *met wat* is used.

In this section I first show that R-pronouns are the default complement of a preposition. Next, I illustrate that a necessary requirement for an R-pronoun is that it forms

Table 1: Distribution between *waarmee* and *met wat*

	<i>waarmee</i>	<i>met wat</i>
m:ACC, e:INS	✓	*
m:INS, e:ACC	*	✓

a proper constituent.

2.1 R-pronouns as default

The goal of this section is to show that *waarmee* ‘with what’ is the default as instrumental relative pronoun. This generalization is not new, it has already been made van Riemsdijk (1978) and Koopman (2003). In order to show that *waarmee* ‘with what’ is the default, I discuss the distribution of R-pronouns and regular pronouns in more general. I start with the personal pronouns and then return to the wh-pronouns.

Dutch has the personal pronouns *haar* ‘her’, *hem* ‘him’ and *het* ‘it’ that can be used as animate and inanimate objects of verbs, as illustrated in (5).

- (5) Objects of verbs
- a. Ik zie haar/hem.
I see her/him
‘I see her/him.’
 - b. Ik zie ’t.
I see it
‘I see it.’

The example in (6a) shows that for animate objects the same pronouns (*haar* ‘her’ and *hem* ‘him’) appear as objects of prepositions. However, the inanimate personal pronoun *het* ‘it’ cannot be used as an object of a preposition, shown in (6b). Instead, an R-pronoun appears. This is illustrated in (6c). (6d) shows that the R-pronoun obligatorily moves to the left of the pronoun.

- (6) Objects of prepositions
- a. Ik schilder samen met haar/hem.
I paint together with her/him
‘I am painting together with her/him.’
 - b. *Ik schilder met ’t.
I paint with it
‘I am painting with it.’
 - c. Ik schilder er-mee.
I paint there-with
‘I am painting with it.’
 - d. *Ik schilder mee er.
I paint with-there
‘I am painting with it.’

Met is not the only preposition with which this happens. *Op* ‘on’ and *in* ‘in’ do not combine with the inanimate personal pronoun *’t*, but the R-pronoun is used obligatorily.

- (7) a. Ik zit er-op.
I sit it-on
‘I am sitting on it.’
b. *Ik zit op ’t.
I sit on it
‘I am sitting on it.’
- (8) a. Hij zwemt er-in.
He swims it-in
‘He is swimming in it.’
b. *Hij zwemt in ’t.
He swims in it
‘He is swimming in it.’

The situation of the inanimate wh-pronouns resembles the inanimate personal pronouns. *Wat* ‘what’ can function as an object of a verb (see (9a)), but not as an object of a preposition (9b). In that case, the R-pronoun *waarmee* ‘with what’ is appears, as shown in (9c).²

- (9) a. Wat zie jij?
what see you
‘What do you see?’
b. *Met wat schilder jij?
With what paint you
‘What are you painting with?’
c. Waar schilder jij mee?
Where paint you with
‘What are you painting with?’

Waarmee ‘with what’ and not *met wat* ‘with what’ does not only appear in wh-questions, but also in other contexts. (10) gives an example of a headed relative, and (11) shows a free relative in which both predicates combine with an instrumental PP. The use of *met wat* ‘with what’ is ungrammatical in both contexts, and *waarmee* ‘with what’ is used.

- (10) a. Ik schilder met de kwast waar jij ook mee schildert.
I paint with the brush where you also with paint
‘I am painting with the brush that you are painting with too.’
b. *Ik schilder met de kwast met wat jij ook schildert.
I paint with the brush with what you also paint
‘I am painting with the brush that you are painting with too.’

²The sentence in (9b) is unacceptable with neutral intonation. It becomes only acceptable if *wat* ‘what’ is stressed, for example in a context in which the speaker questions the choice for the object hearer is painting with.

- (11) a. Ik schilder waar jij ook mee schildert.
 I paint where you also with paint
 'I am painting with what you are painting with too.'
- b. *Ik schilder met wat jij ook schildert.
 I paint with what you also paint
 'I am painting with what you are painting with too.'

Table (11) summarizes the distribution of inanimates in Dutch. Inanimate (personal and wh-)pronouns in Dutch can function as objects verbs, but they are ungrammatical as objects of prepositions. In these contexts, *r*-pronouns appear.

Table 2: Inanimates in Dutch		
	pers. pronouns	wh-pronouns
objects of verbs	<i>at</i>	<i>wat</i>
objects of prepositions	<i>er</i>	<i>waar</i>

The next section discusses the role of constituency in *r*-pronouns.

2.2 *Waarmee* is a constituent, *met wat* is not

Let me now return to the mismatching free relatives. I repeat the relevant grammatical examples in (12).

- (12) a. Ik heb gekocht waar jij mee schildert.
 I have bought where you with paint
 'I bought what you are painting with.'
- b. Ik schilder met wat jij hebt gekocht.
 I paint with what you have bought
 'I paint with what you bought.'

In this section I showed that *r*-pronouns are expected in combinations with prepositions. This means that the use of *waarmee* 'with what' (12a) is not surprising. Something that is surprising is the use of *met wat* 'with what' in (12b), and this is the example something more needs to be said about. In the remainder of this section I argue that this 'something more' is that the instrumental PP in (12b) does not form a proper constituent, i.e. it is not a constituent to the exclusion of any other elements. The other side of the coin is that constructions with *r*-pronouns contain a PP that does form a proper constituent.

Below I repeat the examples with instrumental PPs I discuss so far in this paper.

- (13) a. Ik schilder er-mee.
 I paint there-with
 'I am painting with it.'
- b. Waar schilder jij mee?
 Where paint you with
 'What are you painting with?'

- c. Ik schilder met de kwast [waar jij ook mee schildert].
I paint with the brush where you also with paint
'I am painting with the brush that you are painting with too.'
- d. Ik schilder [waar jij ook mee schildert].
I paint where you also with paint
'I am painting with what you are painting with too.'

In each of these examples the instrumental PP forms a constituent at a certain point in the derivation. In (13a), the PP forms a proper constituent in the surface order, as shown in (14a). In (13b), the PP forms a proper constituent before *wh*- and V2-movement, shown in (14b). The structure in (14c) represents a stage in the derivation of the embedded clauses in (13c) and (13d).³ Again, in the stage, which comes before relative movement of the pronoun to the left periphery of the relative clause, the PP forms a proper constituent.

- (14) a. [[ik] [[schilder] [er-mee]]]
- b. [[jij] [[schilder] [[waar] [mee]]]]
- c. [[jij] [[ook] [[schilder] [[waar] [mee]]]]]

There is additional evidence for the fact that *waarmee* 'with what' forms a constituent in the constructions above. In the example in (13b)-(13d) only *waar* 'where' was fronted, but (15) shows that also the phrase containing *mee* 'with' can be moved. As *wh*-movement can only target constituents, it follows that *waar* 'where' and *mee* 'with' have to form a constituent.

- (15) a. Waarmee schilder jij?
where with paint you
'What are you painting with?'
- b. Ik schilder [waarmee jij ook schildert].
I paint where with you also paint
'I am painting with what you are painting with too.'
- c. Ik schilder met de kwast [waarmee jij ook schildert].
I paint with the brush where with you also paint
'I am painting with the brush that you are painting with too.'

The mismatching free relative in (12b) is not the only construction in which the string *met wat* 'with what' appears. I give examples of two more occurrences in (16). In (16b), *wat* 'what' is the *wat* 'what' in the so-called *wat voor* 'what for'-construction (cf. Corver, 1991). In (16b), *wat* appears as a quantifier, and it means 'some'. In both construction *wat* 'what' takes a complement and *met wat* 'with what' do not form a proper constituent. The brackets within the examples indicate the constituency.

- (16) a. [Met [wat [voor [potloden]]]] taken jij?
with what for pencils draw you
'What kind of pencils do you with?'

³I assume that the antecedent in a free relative is a phonologically empty element, in line with cf. Bresnan and Grimshaw, 1978; Groos and van Riemsdijk, 1981; Himmelreich, 2017. Under that view, (13c) and (13d) are identical, except for that in (13d) modifies phonologically empty element.

- b. Ik wil graag thee [met [wat [suiker]]].
 I want please tea with some sugar
 'I would like to have tea with some sugar.'

Let me now show how this applies to the examples with the mismatching free relatives. The two predicates I used in the free relatives are *kopen* 'to buy' and *schilderen* 'to paint'. *Kopen* 'to buy' takes an accusative DP as its object, illustrated in (17a). *Schilderen* 'to paint' can take an instrumental PP as its object, shown in (17b).⁴

- (17) a. Ik koop het schilderij.
 I buy the painting
 'I am buying the painting.'
 b. Ik schilder met een kwast.
 I paint with a brush
 'I am painting with a brush.'

I repeat the mismatching free relative in which *waarmee* 'met wat' appears in (18). The predicate *schildert* 'paints' combines in the embedded clause with the instrumental PP. The PP forms a proper constituent within the embedded clause, and the PP can be realized as the R-pronoun *waarmee* 'with what'.⁵

- (18) Ik heb gekocht [waar jij mee schildert].
 I have bought where you with paint
 'I bought what you are painting with.'

Next, we arrive at the mismatching free relative in which *waarmee* 'with what' cannot be used, but *met wat* 'with what' appears. The embedded clause predicate *gekocht* 'bought' combines with an accusative DP. The accusative object of a verb is always *wat* 'what', as I showed in (9a). The instrumental PP only comes into the picture in the main clause, when *schilder* 'paint' combines with an instrumental PP. At no point in the derivation does the PP form a proper constituent, and *waarmee* 'with what' does not surface.

- (19) Ik schilder met [wat jij hebt gekocht].
 I paint with what you have bought
 'I paint with what you bought.'

(20) summarizes what I showed in this section. *Met wat* 'with what' can never surface when *met* 'with' and *wat* 'what' form a proper constituent. It always becomes *waarmee* 'with what'. This is schematically shown in (20a). There are other contexts in which *met wat* 'with what' appears. This can be either when *wat* 'what' takes a complement, or when *wat* is part of the a clause that *met* 'with' is not a part of. This last option is schematically showed in (20c), and it represents the mismatching free relative in (19).

⁴Of course, *schilderen* also optionally takes an accusative DP, but I am focussing on the instrumental here.

⁵I assume that the embedded clause modifies a phonologically empty noun here which is the DP argument of *gekocht* 'bought'.

- (20) a. *[[met] [wat]] → [waarmee]
 b. [met [wat [X]]]
 c. [met [[wat] [X]]]

This section showed that being a proper constituent is a necessary requirement for *waarmee* ‘with what’ to surface. The next section elaborates on how proper constituency and spellout relate to each other.

3 *Waarmee* as suppletion

Met ‘with’ is a preposition that combines with full DPs and animate pronouns. *Wat* ‘what’ is a wh-element that appears as subject or object. There is no principled reason why *met wat* ‘with what’ should be ruled out. Previous work on R-pronoun has not given many insights, other than van Riemsdijk (1978) postulating a filter that prohibits the existence of constituents consisting of prepositions and wh-elements or Koopman (2003) who makes reference to a different paradigm.

In this section I start with showing a similar instance in which proper constituency and spellout go hand in hand. Then I show how these facts can be straightforwardly follow from the spellout algorithm in Nanosyntax. The section ends with showing how this logic can be applied to *waarmee* ‘with what’ and *met wat* ‘with what’.

In what follows I show another instance in which proper constituency influences spellout, suppletive negative forms in Korean as discussed in Chung (2007). The point is that suppletion only goes through when the relevant features form a proper constituent, and not when an additional feature intervenes.

Sentences in Korean can be negated by the two negative prefixes *ani* or *mos*, as shown in (21).

- (21) a. ca -n -ta
 sleep -PRES -DECL
 ‘is sleeping’
 b. mos/an(i) ca -n -ta
 NEG sleep -PRES -DECL
 ‘cannot sleep / is not sleeping’ (Chung, 2007)

The verb *al-* ‘know’ does not combine with any of the negative markers, but it it uses the suppletive stem *molu.NEG*. This is illustrated in (22).

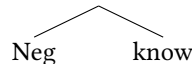
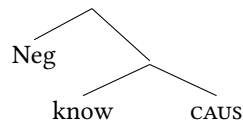
- (22) a. al -n -ta
 know -PRES -DECL
 ‘know(s)’
 b. *mos/*an(i) al -n -ta
 NEG know -PRES -decl
 c. molu -n -ta
 NEG.know -PRES -DECL
 ‘do(es) not / cannot know’ (Chung, 2007)

When *al-* ‘know’ is causativized before it is negated, the regular stem is used again, shown in (23b). (23c) illustrates that the suppletive stem *molu-* is no longer grammatical.

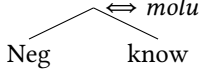
- (23) a. *al* *-li-*
 know -CAUS
 ‘let know, inform’
 b. *ani/ mos al* *-li* *-ess* *-ta*
 NEG NEG know -CAUS -PAST -DECL
 ‘did not /could not inform’
 c. **molu* *-li* *-ess* *-ta*
 NEG.know -CAUS -PAST -DECL

(Chung, 2007)

Chung (2007) points out that it cannot be phonological adjacency of the negation and *al-* ‘know’ that causes the suppletion in (22c). The reason for that is that in (23b) *al-* also follows the negation, but there is no suppletion. Chung (2007) suggests crucial difference has to do with in proper constituency. The structure of (22c) is given in (24a): Neg and *al-* ‘know’ form a proper constituent. (24b) represents the structure of (23b). Neg and *al-* ‘know’ no longer form a proper constituent, because CAUS is also part of the structure as the sister of *al-* ‘know’.

- (24) a. 
 b. 

Caha (2009) uses this pattern to argue in favor of a model with phrasal spellout rather than inserting phonology into terminal nodes, specifically Nanosyntax (Starke, 2009). The idea is that the lexicon contains syntactic structures that are linked to a particular piece of phonology. If Korean has a lexical entry as in (25), this can be inserted into the syntactic tree in (24a).

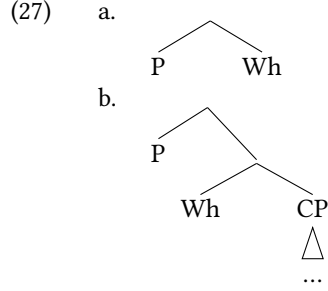
- (25) 

Important in the insertion process is the Superset Principle.

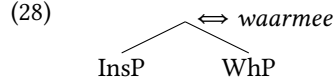
- (26) The Superset Principle Starke (2009):
 A lexically stored tree matches a syntactic node iff the lexically stored tree contains the syntactic node.

This ensures (25) is not inserted into the structure in (24b), as CAUS is contained in the syntactic structure but not in the structure in the lexicon in (25).

The same logic can be applied to *waarmee* ‘with what’ and *met wat* ‘with what’. The preposition and wh-element together form a proper constituent, as in (27a), or the embedded CP of the relative clause is a sister of the wh-element, as in (27b).



Assume we have a lexical entry for *waarmee* ‘met wat’ that look as (28). This entry can only be inserted into (27a), because the lexical structure matches the syntactic structure. It cannot be into (27b), because the lexical structure does not contain the CP.



What I have shown in this section is how proper constituency relates to a change in phonology. However, this analysis missed numerous phonological properties of *waarmee* ‘with what’ and *met wat* ‘with what’, e.g. that they both contain the morpheme *wa*. Under the suppletion analysis above, one can the phonological form of *waarmee* could just as well be completely phonologically unrelated. The point of presenting the problem like this is to illustrate that the distribution between *waarmee* ‘with what’ and *met wat* ‘with what’ can be captured as a matter of spellout.

In the next section I decompose *waarmee* ‘with what’ and *met wat* ‘with what’. I show that both spell out the same set of features, but the distribution is different.

4 A finer decomposition

In this section I investigate the internal structure of *waarmee* ‘with what’ and *met wat* ‘with what’ to capture the phonological similarities between the two forms.

Table 3: *met* ‘t and *ermee*

WH	DEIX	F4	F3	F2	F1	THING
w	a	<i>met</i>			(ə)t	
			<i>mee</i>			(ə)r

The R-pronoun I focus on is the relative pronoun *waarmee* ‘with what’, which is interesting for two reasons. First, just like for all R-pronouns, the wh-element is

the locative, but there is no meaning component related to location in ‘with what’. Second, the preposition *met* ‘with’ changes into *mee* ‘with when it is combined with an R-pronoun.

What we do not capture is: formal similarities between *waarmee* and *met wat*. I will talk about *w*, *a*. What I will not talk about it: *mee* and *met* why we see the locative. I will talk about that.

What I account for: *w*, *a*, why we see the locative

What I don’t: similarity between *met* and *mee*, that preps do not change form and *i* need to say something about the assumption *i* make for pronouns

Van Riemsdijk said that R-pronouns are pronouns and they originate in the complement of P. Due to R-movement they move to the spec of PP, and due to suppletion they change form, coincidentally to something identical to the locative. Full DPs cannot move to the spec of PP because they do not have access to that spec.

I claim that this movement is not a special r-movement, but a movement driven by spellout. The suppletion also follows from the regular spellout algorithm, and it is the locative that is inserted.

Koopman’s account differ from Van Riemsdijk’s in that she assumes R-pronouns obligatorily move to specPlace. The fact that locatives and R-pronouns are syncretic is not a surprise. They occur in the same structural configuration.

Place does not make a lot of sense in *waarmee*, because we do not have a place here.

Abels says that this movement from the complement to the spec is not allowed. He argues that, instead, that R-words are base generated as the specifiers of distinguished class of zero-place prepositions. R is the complement of P and is subextracted from the complement of P (which is allowed, because it is subextraction and not extraction of it as a whole.)

I agree with Abels in that *r* is subextracted from the complement of the preposition. However, I say that *r* is actually the pronoun. What he refers to as an R-word is in Dutch *w-aa-*, which I also assume is merged later.

I do not care whether *w-* and *-a-* are merged before or after.

WHY DOES MEE MOVE? I DO NOT KNOW. BUT IT DOES. AND SO DOES WAAR. *waar* maybe because it is remnant movement?

start with *met wat*.

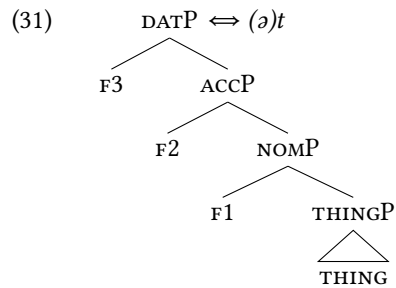
–here taking xxx apart–

’t ‘it’ from (31) can be used as subject, direct object and indirect object.

- (29)
- a. *’t* Staat in de hal.
3SG.N.NOM stands in the hallway
‘It is standing in the hallway.’
 - b. Ik zie *’t*.
I see 3SG.N.ACC
‘I see it.’
 - c. Ik heb *’t* een klap gegeven.
I have 3SG.N.DAT a hit given
‘I hit it.’

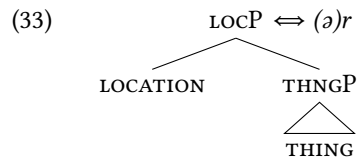
Pronouns in other genders alternate between nominative (non-oblique) and accusative/dative (oblique) in these contexts.

- (30) a. Hij staat in de hal.
3SG.M.NOM stands in the hallway
'He is standing in the hallway.'
- b. Ik zie hem.
I see 3SG.M.ACC
'I see it.'
- c. Ik heb hem een klap gegeven.
I have 3SG.M.ACC a hit given
'I hit him.'



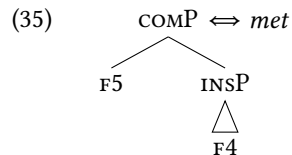
Er can be used as a locative.

- (32) Ik ben er al geweest.
I am there already been
'I have already been there.'



Met can be used for as instrumental or comitative.

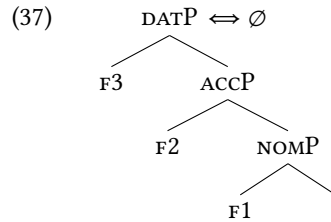
- (34) Ik dans met hem.
I dance with him
'I am dancing with him.'



Either way, it combines with accusative/dative (oblique), which can be seen on the pronouns. But only for the comitative, because for the instrumental we are getting

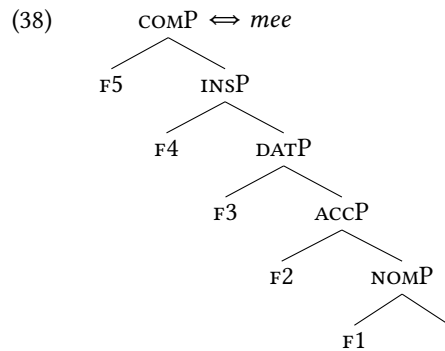
an *r*-pronoun. Full DPs do not show any marking, leading me to postulate the zero marker up to the dative.

- (36) a. Ik dans met de man.
I dance with the man
'I am dancing with the man.'
b. Ik schilder met een kwast.
I paint with een brush
'I am painting with een brush.'



So *met* expresses F4, and *(ə)r* expresses THING and F1 to F1. *(ə)r* only expresses THING. *Erme* and *met 't* express the same features, which leaves F1 to F4 for *mee*.

Table 4: <i>met 't</i> and <i>ermee</i>				
F4	F3	F2	F1	THING
<i>met</i>			<i>(ə)t</i>	
	<i>mee</i>			<i>(ə)r</i>



a/aa is distal, *ie/i* is proximal. Medial?

- (39) a. h-ie-r
here
'here'
b. d-aa-r
there
'there'

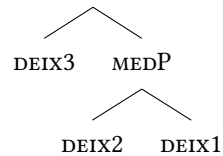
- c. d-i-t
this
'this'
- d. d-a-t
that
'that'

(40) WP $\Leftrightarrow w$



WP is the interrogative/wh, whatever.

(41) DISTP $\Leftrightarrow a$



5 Derivation

Spellout

- (42) Merge F and
 - a. Spell out FP
 - b. If (a) fails, attempt movement of the spec of the complement of F, and retry (a)
 - c. If (b) fails, move the complement of F, and retry (a)
- (43) Cyclic Override
Lexicalisation at a node XP overrides any previous match at a phrase contained in XP.
- (44) Backtracking
When spellout fails, go back to the previous cycle, and try the next option for that cycle.

The functional sequence of *ermee*.

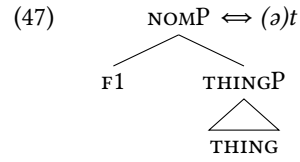
(45) F4 > F3 > F2 > F1 > THING

We start with THING. This is realized as $(\partial)r$, because it has less junk than $(\partial)t$.

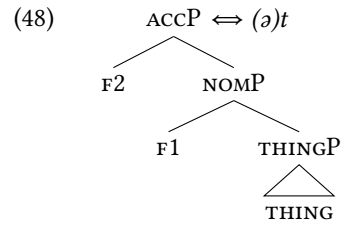
(46) THINGP $\Leftrightarrow (\partial)r$



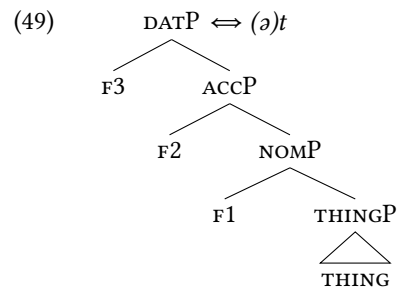
F1 is merged. $(\partial)r$ is no longer a candidate, but $(\partial)t$ is. So the spellout is overridden.



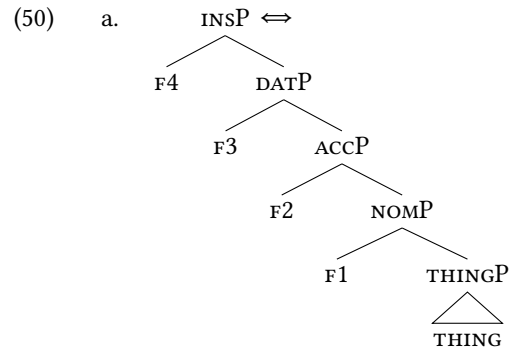
F2 is merged, which can still be realized by $(\partial)t$.



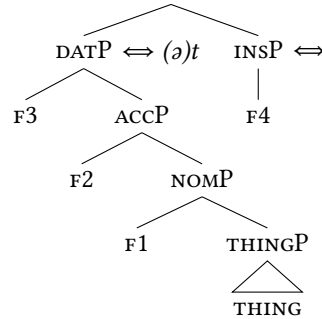
Idem for F3.



Now F4 is merged. No candidate for phrasal spellout, no candidate after complement movement.



b.



The next step in the algorithm is backtracking. We try the next option for the cycle in which f_3 was merged. This option is complement movement. However, there is no lexical entry that fits, so we try the next option.

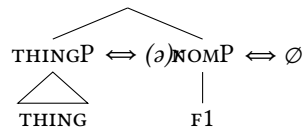
show here

The exact same happens for f_2 .

show here

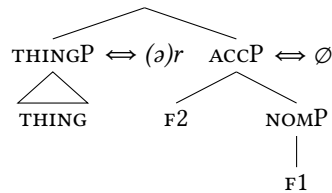
Now for f_1 it is different. There is a candidate when we try complement movement, namely $THING$ is realized as $(\partial)r$ and f_1 is spelled out as \emptyset

(51)



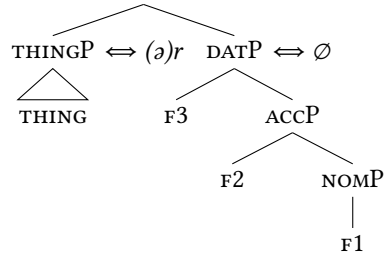
Merge f_2 , there is no candidate for phrasal spellout, we try spec to spec movement and get a match:

(52)



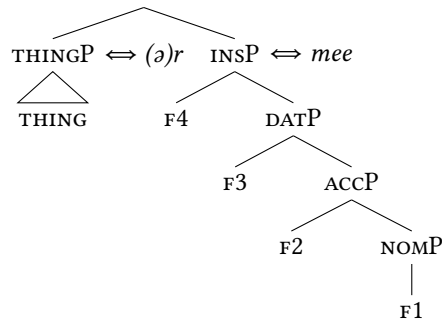
Idem for f_3 .

(53)



Now F4 is merged. No phrasal spellout, but there is a match after spec-to-spec movement. However, is is not \emptyset anymore, but the inserted morpheme is *mee*.

(54)



Then show here that this does not happen if not all features form a proper constituent. Spellout can just not target a constituent.

6 Connecting *wat* to *waar* and *met* to *mee*

So, *waarmee* and *met wat* realize the same features but their spellouts differ.

- (55) a. Ik heb gekocht [waar jij mee schildert].
I have bought where you with paint
'I bought what you are painting with.'
b. Ik schilder met [wat jij hebt gekocht].
I paint with what you have bought
'I paint with what you bought.'

A few things should be noted here. First, position of the elements: the regular pronoun follows the adposition and the *r*-pronoun precedes the preposition. Second, the shape of the *wh*-pronoun: the *r*-pronoun differs from the non-*r*-pronoun in the lengthening of the vowel that the final consonant is *r*. Third, the shape of the adposition: *met* and *tot* change in *mee* and *toe* when they combine with *r*-pronouns.

Now let's look at it like this: *waarmee* realizes particular features. Say *waar* expresses A and B and *mee* expresses C and D. Say, A B C and D. *met wat* realizes the same features. Saying that *wat* also realizes A and B and *met* also C and D misses

the point of having different realizations. So instead, say *wat* only realizes A and *met* realizes B, C and D. Or *wat* realizes A, B and C and *met* only realizes D. In both cases all features are expressed, but they are distributed differently, allowing for different realizations.⁶

I will argue for the last option, that *met* spells out fewer features than *mee*. The main argument for that comes from the fact that Dutch is a non-preposition stranding language, so prepositions cannot be moved out of the PP. Also, you cannot move the complement of a P to its spec, but you can subextract from them (Abels). And I show that *r*-pronouns behave like clitic in how high they move.

In a nutshell, if all features are merged at once, we will always get an *r*-pronoun. Due to spellout driven movement the *r*-pronoun strands the features to be realized by a preposition and a little more. The *r*-pronoun is a clitic and moves high. The preposition + a little more realizes as *mee* in case of *waarmee*. Now if the features are not merged all at once, the regular spellout driven movements cannot take place, and we see *met wat*. So, the answer of how constituency connects to change in phonological form lies in one of the core assumptions of nanosyntax: phrasal spellout spells out constituents.

- (56) a. *waar* = w + a + r
b. *wat* = w + a + t

So the difference between *t* and *r* was actually the only difference we need to account for.

Dutch is a non P-stranding language.

- (57) a. Met wie heb jij gedanst?
with who have you danced
'Whom did you dance with?'
b. *Wie heb jij gedanst met?
who have you danced with
'Whom did you dance with?'

Abels shows that extraction from a PP is not categorically excluded. It happens in Slavic.

–examples here–

What if *r*-pronouns are actually clitic? And they pattern with Slavic in that they

⁶I did not address the ordering difference of the wh-element and the adposition. A topic related to (but not relevant for) this paper is the different positioning of identical adpositions in Dutch. In (i), *in* changes meaning dependent on whether it precedes or follows the DP, it is respectively locational or directional.

- (i) a. Ik klim in de boom.
I climb in the tree
'I am climbing in the tree.'
b. Ik klim de boom in.
I climb the tree in
'I am climbing into the tree.'

The different positioning of the adpositions in *r*-pronouns is driven by spellout and is, therefore, meaningless.

clitic can never follow Ps.

Do we have more reasons to believe that *r*-pronouns are clitics? The non-wh *r*-pronouns in Dutch are able to move very high, just like clitics and unlike regular pronouns in Dutch.⁷

- (58) a. Ik heb veel geld aan de badkamer uitgegeven.
I have much money on the bathroom spent
'I spent a lot of money on the bathroom.'
- b. Ik heb er veel geld aan uitgegeven.
I have there much money on spent
'I spent a lot of money on it.'
- (59) a. Ik heb veel geld aan mijn zoon uitgegeven.
I have much money on my son spent
'I spent a lot of money on my son'
- b. Ik heb veel geld aan hem uitgegeven.
I have much money on him spent
'I spent a lot of money on him.'
- c. *Ik heb **hem** veel geld aan uitgegeven.
I have him much money on spent
'I spent a lot of money on it.'

This has shown that *er* is small, smaller than regular pronouns. So we go for this option:

Now the difference in distribution between *met wat* and *waarmee* is going to follow from spellout. If we get higher than dative case, we need prepositions. Making prepositions is a very 'costly' operation in the language, it is the last resort option in the spellout procedure. Dutch also has forms that are not only prepositions, but can also function as postpositions. They are less 'costly'. To avoid building a complex specifier, different spellout options are used. That is why we get the *r*-pronoun in the picture. *r*-pronouns can combine with these postpositions.

Open issues:

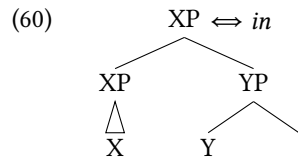
still need to incorporate *a* and *w*. They can either come before case or after it.

7 Conclusion and open issues

In the analysis laid out above it is a coincidence that *mee* 'with' and *met* 'with' look so much alike.

Another topic I do not discuss is that in almost all cases the preposition does not change form when it combines with an *r*-pronoun, e.g. *in*. If this proposal is on the right track, such elements can be used as either a prefix and as a suffix. A lexical entry as in (60) would be a candidate for such an element.

⁷(59c) can also be excluded by saying that *aan* and *hem* cannot split.



I leave it to future research to determine whether this is a feasible solution.

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