The R-pronoun and postposition *waar-mee* in Dutch

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1 Introduction

Dutch has the preposition *met* 'with' that expresses the instrumental. In (1a), *met* 'with' is combined with a full DP. The inanimate pronoun in Dutch is *'t* 'it'.[1] (1b) illustrates that *'t* 'it' can be used as the object of a verb.

(1) a. Ik schilder met een kwast.
I paint with a brush
'I am painting with a brush.'
b. Ik zie 't.
I see it
'I see it.'

Met 'with' and *'t* 'it' do not appear together, as illustrated in (2a). Instead, Dutch uses the R-pronoun *'r* 'there' and the postposition *mee* 'with', as shown in (2b).[2,3]

(2) a. *Ik schilder met 't.
I paint with it
'I am painting with it.'
b. Ik schilder 'r -mee.
I paint there -with
'I am painting with it.'

R-pronouns (van Riemsdijk, 1978; Koopman, 1994) are nominal elements that are syncretic with locative pronouns, which in Dutch means they contain the morpheme *r*. The adpositions they combine with obligatorily follow the R-pronoun, see (2b) and (3). Notice also that the preposition *met* 'with' differs phonologically from the postposition *mee* 'with' (see (1a) and (2b)).

[1] The longer form that is mostly used in writing is *het* 'it'. I will use the spoken variant *'t* throughout this paper.

[2] The R-pronoun *'r* in (2b) can be written as *er*, *der* and *'r* and pronounced as respectively /ɛr/, /dər/ or /ər/. As far as I am aware, there is no clear meaning difference between these forms. See Wesseling (2018) for discussion. In my examples I use *'r*, but the other two forms fit just as well.

[3] In this paper I do not make any claims about the distinction between prefixes and prepositions, or suffixes and postpositions.

(3) *Ik schilder mee 'r.
I paint with there
'I am painting with it.'

The main question I address in this paper is how to correctly rule out *met 't* 'with it' in (2a), and let the R-pronoun and postposition in (2b) appear. I argue that R-pronouns are not something special, but a consequence of regular spellout mechanisms. Just like van Riemsdijk (1978) I analyze an R-pronoun and postposition as a type of allomorph of the preposition and pronoun. The crucial difference in the current approach is that spellout rules out the ungrammaticality of the preposition and pronoun and not the stipulation of a filter.

This paper is focuses on the instrumental R-pronoun and postposition *'r-mee* 'with it' and *waar-mee* 'with what' in Dutch. This instance is interesting for two reasons. First, just like for all R-pronouns, the R-pronoun is syncretic with the locative. In many of the R-pronouns and postpositions, the meaning component of the locative is intuitive, as many prepositions express locations, directions etc. However, an instrumental expresses an instrument, which does not have a meaning component associated with location. Ideally, an analysis treats the syncretism not as accidental but allows for the locative meaning to be absent. The second reason why I focus on this particular R-pronoun and postposition has to do with the form of the adposition. The preposition *met* 'with' does not only turn into a postposition, but it also changes into *-mee* 'with' when it is combined with an R-pronoun. This last observation has so far remained unexplained.

The main generalization is that the instrumental R-pronoun and postposition *waar-mee* 'with what' takes precedence over the instrumental preposition and inanimate pronoun *met wat* 'with what'. This generalization is subject to an important condition: the instrumental object needs to form a proper constituent i.e. a constituent to the exclusion of other features. When this condition is not met, the preposition and pronoun appear. This can straightforwardly follow in a system in which spellout targets phrasal constituents: Nanosyntax (Starke, 2009). I work this idea out capturing the following observations. First, R-pronouns are syncretic with locatives. Second, regular pronouns appear with prepositions, R-pronouns with postpositions. Third, the instrumental preposition and postposition differ in form (*met* vs. *mee*).

This paper is structured as follows. In Section 2 I discuss the condition that R-pronouns and postpositions are subject too: they need to form a proper constituent. I show that R-pronouns and postpositions and prepositions and pronouns are in complementary distribution, depending on whether all features form a proper constituent or not. In Section 3 I decompose *waar-mee* 'with what' and *met wat* 'with what', and I connect them to parts of syntactic structure. Section 4 shows in a derivation how *waar-mee* 'with what' is derived and the role that constituency plays. Section 5 concludes and discusses possible extensions of the analysis. All examples in this paper are from Dutch, unless indicated otherwise. Unmarked examples are constructed and have been verified by native speakers.

2 R-pronouns are proper constituents

The goal of this section is to show that R-pronouns and postpositions appear when all relevant features form a proper constituent, i.e. that all features form a constituent to the exclusion of any other features. I start the section by showing that *'rmee* 'with it' and *waar-mee* 'with what' are

the default, that normally they appear instead of *met 't* 'with it' and *met wat* 'with what'. Then I show an exception, in which *met wat* 'with what' has to be used and *waar-mee* 'with what' cannot. I argue that the crucial difference between the exception and other cases is that in the exception the relevant features do not form a proper constituent.

2.1 R-pronouns as default

In what follows I discuss the distribution of R-pronouns and regular pronouns in general (van Riemsdijk, 1978; Koopman, 1994). I start with the personal pronouns and then return to the wh-pronouns.

Dutch has the accusative personal pronouns *haar* 'her', *hem* 'him' and *'t* 'it' that can be used as animate and inanimate objects of verbs, as illustrated in (4).

(4) a. Ik zie haar/hem.
I see her/him
'I see her/him.'
b. Ik zie 't.
I see it
'I see it.'

Example (5a) shows that for animate objects the same pronouns (*haar* 'her' and *hem* 'him') appear as objects of prepositions. Repeating from the introduction, the inanimate personal pronoun *'t* 'it' cannot be used as an object of a preposition, shown in (5b). Instead, an R-pronoun appears. This is illustrated in (5c). (5d) shows that the R-pronoun has moved obligatorily to the left of the adposition.

(5) 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 'r -mee.
I paint there -with
'I am painting with it.'
d. *Ik schilder mee 'r.
I paint with there
'I am painting with it.'

Met is not the only preposition with which this happens. For example, *op* 'on' and *in* 'in' also do not combine with the inanimate personal pronoun *'t*, but the R-pronoun and postposition are used obligatorily.

(6) a. Ik zit 'r op.
I sit there on
'I am sitting on it.

b. *Ik zit op ’t.
I sit on it
‘I am sitting on it.

(7) a. Hij zwemt ’r in.
he swims it-in
‘He is swimming there it.’
b. *Hij zwemt in ’t.
he swims in it
‘He is swimming in it.’

The situation of the inanimate wh-pronouns resembles the one of the inanimate personal pronouns. *Wat* ‘what’ can function as an object of a verb (see (8a)), but not as an object of a preposition (8b). In that case, the R-pronoun and postposition *waar-mee* ‘with what’ appears, as shown in (8c).[4]

(8) 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 -mee schilder jij?
where with paint you with
‘What are you painting with?’

Waar-mee ‘with what’ and not *met wat* ‘with what’ does not only appear in wh-questions, but also in other contexts. (9) gives an example of a headed relative, and (10) shows a free relative in which both predicates combine with an instrumental object. The use of *met wat* ‘with what’ is ungrammatical in both contexts, and *waar-mee* ‘with what’ is used.

(9) a. Ik schilder met de kwast waar -mee 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.’
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.’

(10) a. Ik schilder waar -mee jij ook schildert.
I paint where with you also 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.’

[4]The sentence in (8b) is unacceptable with neutral intonation. It becomes acceptable if *wat* ‘what’ is stressed, for example in a context in which the speaker is highly surprised about the choice of the object the hearer is painting with.

In sum, *'t* 'it' and *wat* 'what' do not combine with prepositions. They are substituted by respectively *'r* 'there' and *waar* 'where'.

2.2 *Met wat* 'with what' shows up

This section discusses an exception to what is shown in the previous section. I show an instance in which *met wat* 'with what' has to be used instead of *waar-mee* 'with what'. This instance comes from a mismatching free relative construction.

A mismatching free relative 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 give an example in which the R-pronoun and postposition appear before I get to the exception. Consider (11a). The predicate in the embedded clause, *schildert* 'paint', combines with an instrumental object. The predicate in the main clause, *gekocht* 'bought' combines with an accusative object. The R-pronoun and postposition *waar-mee* 'with what' is used here. The use of *met wat* 'with what' is ungrammatical in this context, illustrated in (11b).[5]

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

b. *Ik heb gekocht met wat jij schildert.
I have bought with what you paint
'I bought what you are painting with.'

If the predicates are switched between the clauses, the R-pronoun and postposition do not appear anymore. In (12), *schilder* 'paint' combines with an instrumental object in the main clause and *gekocht* 'bought' combines with an accusative object in the embedded clause. The use of an R-pronoun and postposition is ungrammatical, as indicated by (12a). Instead, a combination of the regular instrumental preposition *met* 'with' and the regular wh-pronoun *wat* 'what' in used.

(12) a. *Ik schilder waar -mee 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.'

Table 1 summarizes the pattern. When the main clause predicate combines with an accusative and the embedded clause predicate with an instrumental, *waar-mee* 'with what' is grammatical

[5]In this example, *waar* 'where' takes *-mee* 'with' to the left edge of the embedded clause. It is also possible for *-mee* 'with' to be stranded, and *waar* 'where' to be moved to the left edge of the embedded clause on its own.

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

and *met wat* 'with what' is ungrammatical. When the main clause predicate combines with an instrumental and the embedded clause predicate with an accusative, *waar-mee* 'with what' is ungrammatical and *met wat* 'with what' is used.

Table 1: Distribution between *waar-mee* and *met wat*

	waar-mee	*met wat*
m:ACC, e:INS	✓	*
m:INS, e:ACC	*	✓

In the remainder of this section I argue that the crucial point of (12b) is that the instrumental object 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 and postpositions contain an instrumental object that does form a proper constituent.

Below I repeat the examples with instrumentals I discussed so far in this paper.

(13) a. Ik schilder 'r -mee.
I paint there with
'I am painting with it.'

b. Waar -mee schilder jij?
where with paint you with
'What are you painting with?'

c. Ik schilder met de kwast [waar -mee 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.'

d. Ik schilder [waar -mee jij ook schildert].
I paint where with you also paint
'I am painting with what you are painting with too.'

In each of these examples the instrumental object forms a proper constituent at a certain point in the derivation. In (13a), the instrumental object forms a proper constituent in the surface order, as shown in (14a). In (13b), the instrumental object 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). Again, in the stage, which comes before relative movement of the pronoun to the left periphery of the relative clause, the instrumental object forms a proper constituent.

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

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 object, illustrated in (15a). *Schilderen* 'to paint' can take an instrumental as its object, shown in (15b).[6]

[6] *Schilderen* also optionally takes an (accusative) object, but I am focusing on the instrumental object here.

(15) 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 *waar-mee* 'with what' appears in (16). The predicate *schildert* 'paints' combines in the embedded clause with the instrumental object. The instrumental object forms a proper constituent within the embedded clause, and the it can be realized as the R-pronoun and postposition *waar-mee* 'with what'.[7]

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

Next, I arrive at the mismatching free relative in which *waar-mee* 'with what' cannot be used, but *met wat* 'with what' appears. The embedded clause predicate *gekocht* 'bought' combines with an accusative object. The accusative object of a verb is always *wat* 'what', as I showed in (8a). The instrumental only comes into the picture in the main clause, when *schilder* 'paint' combines with an instrumental object. At no point in the derivation does the instrumental object form a proper constituent, and *waar-mee* 'with what' does not surface.

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

The mismatching free relative in (17) is not the only construction in which the string *met wat* 'with what' appears. I give examples of two more occurrences in (18). In (18a), *wat* 'what' is the *wat* 'what' in the so-called *wat voor* 'what for'-construction (cf. Corver, 1991). In (18b), *wat* appears as a quantifier, and it means 'some'. In both constructions *wat* 'what' takes a complement and *met wat* 'with what' do not form a proper constituent. The brackets within the examples indicate the constituency.

(18) a. [Met [wat [voor [potloden]]] teken jij?
with what for pencils draw you
'What kind of pencils do you with?'
b. Ik wil graag thee [met [wat [suiker]]].
I want please tea with some sugar
'I would like to have tea with some sugar.'

(19) 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 *waar-mee* 'with what', as shown in (19a). *Met wat* 'with what' can appear when the instrumental object does not form a proper constituent. This can be either when *wat* 'what' takes a complement before it combines

[7] I assume that the accusative case requirement of *gekocht* 'bought' is satisfying by grafting a subconstituent of *waar-mee* 'with what' (Bergsma, 2019).

with *met* 'with', as shown in (19b), representing the examples in (18). The other option is that *wat* 'what' is part of the a clause that *met* 'with' is not a part of, schematized as (19c) as an illustration of (17).

(19) a. [[met] [wat]] → [waar-mee]
b. [met [wat [X]]]
c. [met [[wat] [X]]]

3 Decomposing *waar-mee* and *met wat*

In this section I decompose *waar-mee* 'with what' and *met wat* 'met wat' into smaller units, which I connect to parts of syntactic structure. *Waar-mee* 'with what' and *met wat* 'met wat' spell out the same set of features but the distribution is different. I decompose *waar-mee* and *met wat* as I show in (20). Earlier works have decomposed these pronouns in similar ways (cf. Hachem 2015; Noonan 2017; Wesseling 2018).

(20) a. w -aa -r -mee
w -DEIX -LOC -INS
b. met w -a -t
INS w -DEIX -N.SG

In this section I first identify *w* and *a* as morphemes that appear in both expressions. Putting these two aside, I concentrate on *'rmee* 'with it' and *met 't* 'with it'. Along the way I introduce some necessary theoretical background on Nanosyntax.

3.1 Overlap: *w-* and *-a-*

Let me start with the morphemes *w* and *a* that appear in both *waar-mee* 'with what' and *met wat* 'met wat'. I assume that they correspond to the same syntactic structure in both. As I am interested in the differences between the two expressions, I do not discuss the featural content of *w* and *a* into depth.

For *w* I follow Hachem (2015) who investigated *d* and *w* elements in German and Dutch. In her work, *d* establishes a definite reference and *w* triggers the construction of a set of alternatives in the sense of Rooth (1992) (see Hachem 2015 for discussion).[8]

(21) wP ⟺ *w*
△
W

I follow several authors (cf. Lander 2016; Noonan 2017; Wesseling 2018) that assume the morpheme *a* is related to deixis. Dutch distinguishes between proximal by using *ie* (/i:/) and *i* (/ɪ/)

[8]Throughout the paper, ⟺ indicates the pairing between a lexical tree and a phonological form in a lexical entry, and ⟹ indicates how a node in the syntactic structure is spelled out.

and distal by using *aa* (/aː/) and *a* (/ɑ/), illustrated in (22).[9] I analyze the transformation from /ɪ/ into /iː/ and /ɑ/ into /aː/ as a result of the final r.

(22) a. h-ie-r
here
b. d-aa-r
there
c. d-i-t
this
d. d-a-t
that

For the purpose of this paper I let *a* correspond to DEIXP.

(23) DEIXP $\Leftrightarrow$ *a*

DEIX

I put *w* and *a* aside for now, assuming they spell out the same syntactic structure in *waar-mee* 'with what' and *met wat* 'with what'. This leaves *'r-mee* 'with it' and *met 't* 'with it'.

(24) a. 'r -mee
there with
b. met 't
with it

3.2 Differences: *'rmee* vs. *met 't*

In this section I discuss the forms *met 't* 'with it' and *'rmee* 'with it'. I set up an account that makes the ungrammaticality of *met 't* and the appearance of *'rmee* follow from spellout. The analysis accounts for the following three observations, taking *met 't* as the point of departure. First, *met* 'with' changes from being a preposition to being a postposition. This process is restricted to inanimate pronouns, and it does not apply to full DPs and animate pronouns. Second, *met* changes form into *-mee*. Third, *'t* is replaced by *'r*, a morpheme that is associated with the locative in Dutch.

3.2.1 *'t* vs. *'r*

In this section I give the lexical entries for *'t* and *'r*, and I show that *'r* is actually the base form and *'t* a suppletive nominative, accusative and dative.

Let me start with the lexical entry for *'t*. *'t* 'it' can be used as a subject (associated with nominative), direct object (associated in accusative) and indirect object (associated with dative),

[9] A question that remains open is why wh-elements combine with the distal marker *a*, and they cannot with the proximal marker *i/ie*.

as shown in (25).

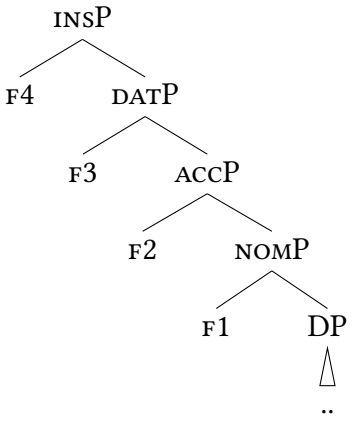
(25) a. ’t Staat in de hal.
3SG.N.NOM stands in the hallway
‘It is standing in the hallway.’
b. Ik zie ’t.
I see 3SG.N.ACC
‘I see it.’
c. Ik heb ’t een klap gegeven.
I have 3SG.N.DAT a hit given
‘I gave it a hit.’

Pronouns in other genders alternate between nominative (non-oblique) and accusative/dative (oblique) in these contexts, illustrated in (26).

(26) 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.DAT a hit given
‘I gave him a hit.’

For case, I follow Caha (2009) in that case features are organized as in the containment relation in (27). The higher, more complex cases contain the smaller, less complex cases. For the purpose of this paper, I only show case features relevant for the argument.

(27)

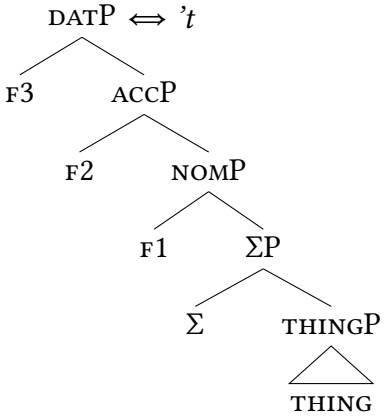


Following the distinctions from Cardinaletti and Starke (1996), I assume *’t* ‘it’ is a weak pronoun. It is not a clitic, because it can occur in sentence initial position, shown in (25a). It is not a strong pronoun, because it cannot be coordinated, as indicated in (28a). (28b) shows that *’t* ‘it’ needs to combine with *da-*/*di-* to be able to be coordinated.

(28) a. *Hij en 't staan in de hoek.
he and it stand in the corner
'He and it are standing in the corner.'
b. Hij en dit/dat staan in de hoek.
he and this/that stand in the corner
'He and it are standing in the corner.'

(29) shows the lexical entry for *'t* 'it'. I assume that the *'t* contains the ontological category THING (Kayne, 2005). The feature Σ indicates that the pronoun is a weak pronoun. For reasons of space I let singular be the absence of number and neuter the absence of gender. The morpheme *'t* can act as nominative, accusative and dative, as I showed in (25).[10]

(29)



This lexical entry can lexicalize the DATP, but also the ACCP and NOMP. This is due to the Superset Principle.

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

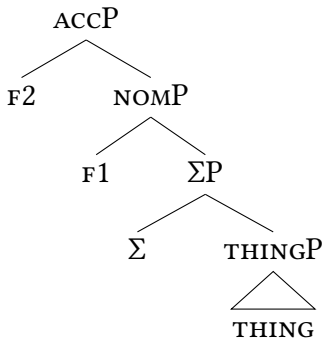
In other words, a lexically stored structure does not have to be identical to the syntactic structure. It is enough if the syntactic structure is contained in the lexically stored tree. This has as a consequence that the lexical entry in (29) can also be inserted in (31a) and (31b).

[10] Another possibility is to claim that *'t* can only spell out THING and Σ and it combines with a zero suffix for the cases up to dative. This could be the same zero marker that full DPs combine with.

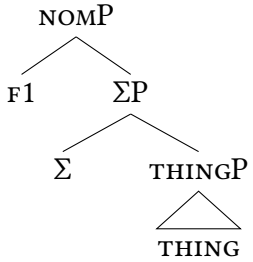
(i) a. De kast-∅ staat in de hal.
the cabinet-NOM stands in the hallway
'The cabinet is standing in the hallway.'
b. Ik zie de kast-∅.
I see the cabinet-ACC
'I see the cabinet.'
c. Ik heb de kast-∅ een klap gegeven.
I have the cabinet-DAT a hit given
'I gave the cabinet a hit.'

The proposed account fares equally well with both alternatives. I work the proposal out with *'t* realizing the cases up to the dative.

(31) a.



b.

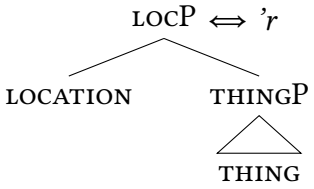


Let me move on to *'r*. *'r* 'there' can be used as a locative.

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

I follow Baunaz et al. (2018) in assuming that the ontological category LOCATION contains THING.[11]

(33)



Notice here that, via the Superset Principle, *'r* can be used to realize the feature THING as well, as it is contained in LOCP. Moreover, in a syntactic structure like in (34) the lexical entry (33) will be inserted and not (29).

(34)

This is due to the Elsewhere Condition. The idea is that when two lexical entries are both candidates for spellout, the most specific is inserted.

(35) The Elsewhere Condition (Kiparsky 1973, formulated as in Caha 2020):
When two entries can spell out a given node, the more specific entry wins. Under the Superset Principle governed insertion, the more specific entry is the one which has fewer unused features.

[11] Baunaz et al. (2018) place in addition PERSON between THING and LOCATION, which I have left out here.

The syntactic structure in (33) only has LOC as an unused feature, whereas in (29) Σ up to F3 remain unused.

This means that the caseless base form of the neuter singular pronoun in Dutch is actually *'r* and *'t* should be analyzed as a suppletive nominative, accusative and dative. The base form only shows up in the higher cases, from instrumental on, see Table 2.

Table 2: Fragment Dutch N.SG

	N.SG
NOM	't
ACC	't
DAT	't
INS	-r -mee

A similar situation appears in Iron Ossetic, shown in Table 3. In the first person singular of this language, it is only the nominative that is suppletive: *æz*. The higher cases have the stem *mæn* and they combine with the suffixes that nouns normally also combine with.

Table 3: Fragment Iron Ossetic 1.SG and noun (Erschler et al., 2012)

	1.SG	head
NOM	æz	sær-∅
ACC	mæn-∅	sær-∅
DAT	mæn-æn	sær-æn
INS	mæn-æj	sær-æj

Caha (2019) uses evidence from a phenomenon called suspended affixation to argue that *mæn* is a caseless stem and and *æz*. Consider the ordinary coordination in (36a). Both conjuncts are marked by a plural marker and a case marker. Suspended affixation is shown in (36b). Here the case marker only appears on the second conjunct and not on the first one without changing the interpretation. *Bæx-tæ* 'horse-PL' in (36b) does not carry any case marking here.

(36) a. bæx-t-imæ æmæ gæl-t-imæ
horse-PL-COM and ox-PL-COM
b. bæx-tæ æmæ gæl-t-imæ
horse-PL and ox-PL-COM
'with horses and oxen' (Iron Ossetic, Erschler et al. 2012, p. 165)

(37) gives examples of the first person singular in a suspended affixation contexts. It shows that it is *mæn* that appears as a caseless first conjunct and that the use of *æz* is ungrammatical. This means that *mæn* is the bare stem that combines with case markers, and *æz* the suppletive nominative. In Section 4 I show how a derivation with this type of elements works in Nanosyntax.

(37) a. mæn æmæ Zauyr-æn
1.SG and Zaur-DAT

b. *æz æmæ Zauyr-æn
1.**sg** and Zaur-DAT
'me and Zaur' (Iron Ossetic, Беляев 2014, p. 39 after Caha 2019)

The point of showing the Ossetic example is that Dutch is not unique in having suppletive forms that are less marked (in this case nominative, accusative and dative), and higher cases that are a combination of a suffix and a caseless base form.

3.2.2 *-mee* vs. *met*

The last two forms to specify lexical entries for are *-mee* 'with' and *met* 'with'. An important distinction between these two is that *-mee* appears after the element it combines with ('R), while *met* appears before the element it combines with (*'t*). I will analyze *-mee* as a postposition and *met* as a preposition.[12] In this section I discuss the relation between prepositions and postpositions, and how this is modeled with the case hierarchy in Nanosyntax (Caha, 2009).

In the previous section I argued that *'t* realizes case features up to F3 (see (29)). However, case can also be expressed by prepositions (or prefixes) and postpositions (or suffixes). The division between which cases are expressed by prepositions and which are expressed by postpositions is not arbitrary.

(38) The preposition/postposition hierarchy
a. If the expression of a particular case in the case sequence (below) involves a preposition, then all cases to its right do as well.
b. The case sequence: NOM – ACC – DAT – GEN - INS – COM (Caha, 2009)

The result of that is that a PP can contain a preposition and a suffix. In the German example in (39), the dative suffix is used with a instrumental preposition.

(39) mit ein -em Löffel
with a -DAT.SG spoon
'with a spoon' (German)

With the case hierarchy in Nanosyntax this can be modeled by letting the DP move as high as above the DATP in the syntactic structure in (27). The features below the DATP are realized as a suffix, and the features above DATP are realized as a preposition.

[12] A topic related to this paper is the different positioning of identical adpositions in Dutch (see Caha (2010) for an account of German and Dutch and Pretorius (2017) for Afrikaans). In (i), *in* 'in' changes meaning depending on whether it proceeds 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.'

In (i), the movement of the adposition is driven by movement, and it is meaningful. The movement of R-pronouns I discuss in this paper is driven by spellout, which is meaningless.

There is variation with respect to how high a DP can move in the structure, both between languages and within languages. An example of the latter comes from Bulgarian. (40a) shows that pronouns can take the suffix *-i* to realize dative, but full DPs need a preposition *na* 'to'.

(40) a. Tazi duma m -i e nepoznata.
that word I -ACC/DAT.CL is unfamiliar
'That word is unfamiliar to me.'
b. Tazi duma e nepoznata na m -en.
that word is unfamiliar to me -ACC/DAT.FULL
'That word is unfamiliar to me. (with contrast)'
c. Tazi duma e nepoznata na sina mi.
that word is unfamiliar to son my
'That word is unfamiliar to my son.' (Bulgarian, Caha 2009, p. 39)

In Dutch the split is not between pronouns and full DPs but between inanimate pronouns on the one hand and animates and full DPs on the other hand. In Dutch, inanimate pronouns combine with the postposition *-mee* (see (41a) and not with the preposition *met* (see (41b)).

(41) a. Ik schilder 'r -mee.
I paint there -with
'I am painting with it.'
b. *Ik schilder met 't.
I paint with it
'I am painting with it.'
c. Ik schilder met dat.
I paint with that
'I am painting with it.'

Animate pronouns and full DPs, however, combine with the preposition met, as shown in (42a) and (42b). The use of the postposition *-mee* is ungrammatical (see (42c) and (42d)).

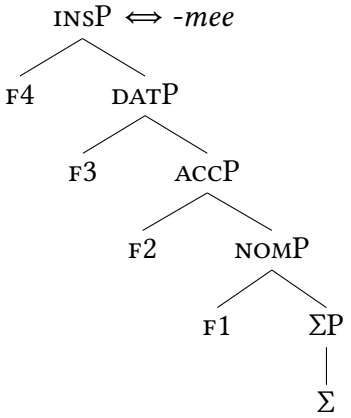
(42) a. Ik schilder samen met hem.
I paint together with him
'I am painting with him.'
b. Ik schilder samen met de man.
I paint together with the man
'I am painting together with the man.'
c. *Ik schilder samen 'm-mee.
I paint together him-with
'I am painting together with him.'
d. *Ik schilder samen de man-mee.
I paint together the man-with
'I am painting together with the man.'

In other words, inanimates can move higher than animates and full DPs in Dutch. To be more precise, the inanimate *'t* is replaced by *'r*, and this element can move as high as above the dative to combine with *-mee*. I return to what it is that prevents animates and full DPs from being

combined with *-mee* shortly.

First I show what the lexical entry of *-mee* looks like. Two facts need to be captured. *-mee* combines with *'r* and is a postposition. First, *-mee* expresses instrumental (and comitative) case and it combines with *'r*.[13] This means that the combination of *'r* and *-mee* has to realize THING, Σ and all case features up to F4. So far, *'r* 'there' only realizes the feature THING. This leaves Σ and F1 to F4 to be realized by *-mee*. I give the lexical tree of *-mee* in (43).

(43)

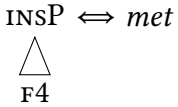


This leads me to the second point: *-mee* is a postposition. Notice that the foot of the structure has a singleton feature. Nanosyntax distinguishes pre-elements from post-elements by the shape of their lexical entry (Starke, 2018). As a result, it follows from the spellout procedure whether an element appears before or after the previously inserted element. Post-elements have a unary bottom (i.e. the foot of the tree is a single feature), so they can only appear as the result of movement. Post-elements have a binary bottom (i.e. the foot of the tree consists of two features), so they cannot be a candidate as a result of movement. I illustrate this in Section 4.

Why does *-mee* not combine with animates and full DPs? I claim that has to do with the bottom feature of the lexical entry of *-mee*. Full DPs do not take features related to pronominal strength. According to the Superset Principle, a lexical tree can match a syntactic tree with a subpart of the features, but a tree can only shrink from the top, so *-mee* will always realize Σ. It is less clear to me why animates do not combine with *-mee*. The crucial difference between animates and inanimates if gender features. For now I assume that gender features are situated between Σ and F1. The lexical entry of *-mee* includes both these features, so any additional gender features are incompatible with *-mee*. So far I do not have independent evidence for placing gender features between features of pronominal strength and case, and I leave this for future research.

So far I discussed *-mee* is a postposition, which follows *'r* and is stored with a unary bottom. *Met*, on the other hand, is a preposition, it precedes *'t*, so it should be stored with a binary bottom. The highest case feature *'t* can realize is F3, so the preposition realizes F4. I give the lexical entry for *met* in (44).

(44)



[13]For reasons of space I leave COMP out of the lexical entries and discussion, even though *-mee* 'with' and *met* 'with' can also express comitative.

In the next section I put all features back together in a derivation and I show how *waar-mee* 'with what' and not *met wat* 'with what' surfaces when all features form a constituent.

4 In a derivation

Before I show that *waar-mee* 'with what' is used when all features form a proper constituent, I need to make some assumptions about the spellout procedure in Nanosyntax explicit. Spellout happens in a cyclic derivation, following a spellout algorithm (Starke, 2018). After each instance of merge, spellout takes place. If no spellout exists for the phrase created by the newly added feature, evacuation movements specified in the spellout algorithm take place. The algorithm is given in (45).

(45) 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).

When a new match is found, it overrides previous spellouts.

(46) Cyclic Override (Starke, 2018):
Lexicalisation at a node XP overrides any previous match at a phrase contained in XP.

If the spellout procedure in (45) fails, backtracking takes place. This is the operation that leads from the suppletive nominative, accusative and dative *'t* to the base form *'r*.

(47) Backtracking (Starke, 2018):
When spellout fails, go back to the previous cycle, and try the next option for that cycle.

If backtracking also does not help, a specifier is constructed. This is what happens when the preposition *met* 'with' is inserted.

(48) Spec Formation (Starke, 2018):
If Merge F has failed to spell out (even after backtracking), try to spawn a new derivation providing the feature F and merge that with the current derivation, projecting the feature F at the top node.

With this theoretical background in place, I can turn to the derivation. I first show how *'rmee* 'with it' is constructed. I leave out *w* and *a* to not unnecessarily complicate the story.[14]

I start with THING. The two candidates here are (29) and (33). Following the Elsewhere Condition, (33) wins the competition because it contains less unused material.

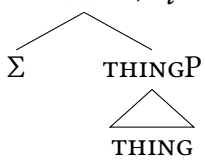
[14] I assume that the wP and DEIXP appear lower in the structure than the case features, so the functional sequence is as given in (i).

(i) [[[[[[[[THING] DEIX] W] F1] F2] F3] F4]

(49) THINGP ⟹ *'r*

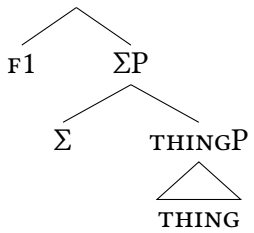
In the next step, Σ is merged. (33) is no longer a candidate because it does not contain Σ. (29) still is a candidate, because it contains all features in (50). The spellout is overridden and the structure is realized as *'t*.

(50) ΣP ⟹ *'t*



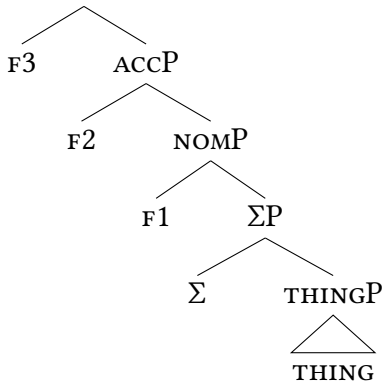
Then F1 is merged. This structure can still be realized by *'t*.

(51) NOMP ⟹ *'t*



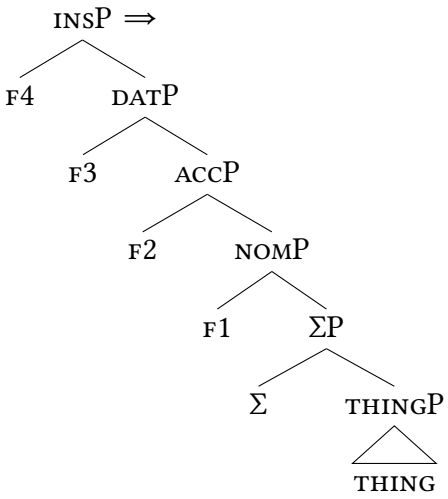
The same holds for the next two steps in which F2 and F3 are merged: the structure can still be spelled out as *'t*.

(52) DATP ⟹ *'t*



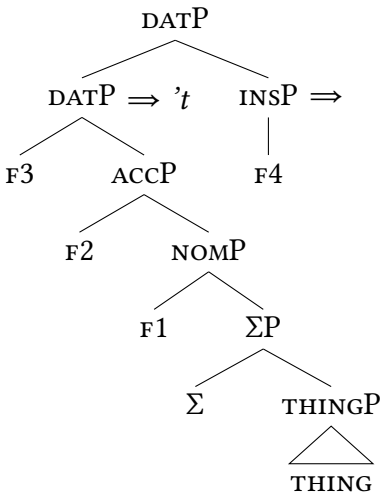
Then F4 is merged, as shown in (53). (29) can no longer spell out the structure, because it does not contain F4. There is also no other candidate to spell out the structure as it is.

(53)



According to the spellout algorithm in (45), it should be attempted to move the spec of the complement of F4. However, there is no specifier in (53), so this does not apply. The second movement option is complement movement. The complement of F4 moves to the specifier of INSP, resulting in the structure in (54). The lexicon does not contain an entry with INSP which contains only F4.[15]

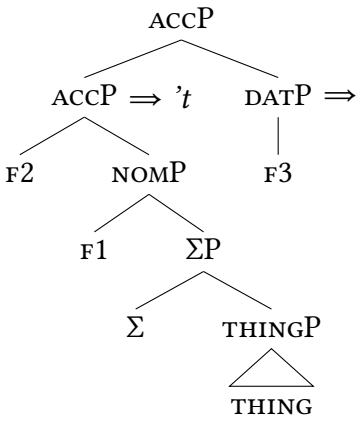
(54)



As I formulated in the introduction of this section, the operation called backtracking is triggered (see (47)). This means that the derivation goes back to the previous cycle, and the next option for that cycle is tried. In this case, the previous cycle is the one in which F3 is merged. The next option for that cycle is spec-to-spec movement. As there is no specifier, this does not apply. The option after that is complement movement, shown in (55). However, there is no match in the lexicon for an DATP that contains only F3.

[15] *Met* 'with' is not a candidate, because the syntactic structure has a unary bottom and the lexical structure has a binary bottom.

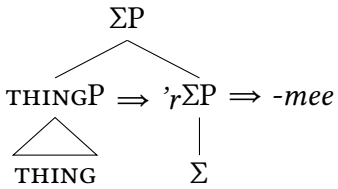
(55)



This means that backtracking proceeds further, into the cycle in which F2 was merged. Again, spec-to-spec movement does not apply because there is no specifier, and complement movement can be tried, but there is no fitting lexical entry available. The same holds for the cycle in which F1 is merged.

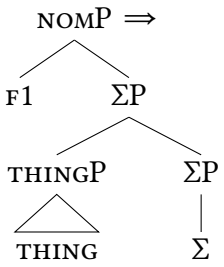
The situation changes when the derivation comes to the cycle in which Σ was merged. At this stage, THING was realized as *'r*. Again there was no specifier, spec-to-spec movement does not apply. However, complement movement provides a structure that is a match for the lexical entry in (43): *-mee*.[16]

(56)



From this point on the previously unmerged features are merged again one by one. First, F1 is merged again, shown in (57). No match exists for this syntactic structure.

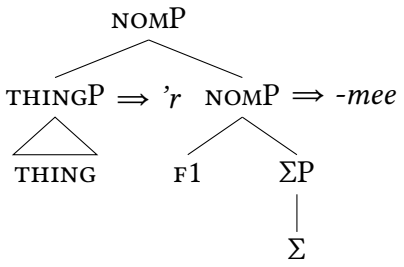
(57)



Following the spellout algorithm, the next step is spec-to-spec movement. The result is shown in (58). In that configuration F1 can be realized together with Σ as *-mee*.

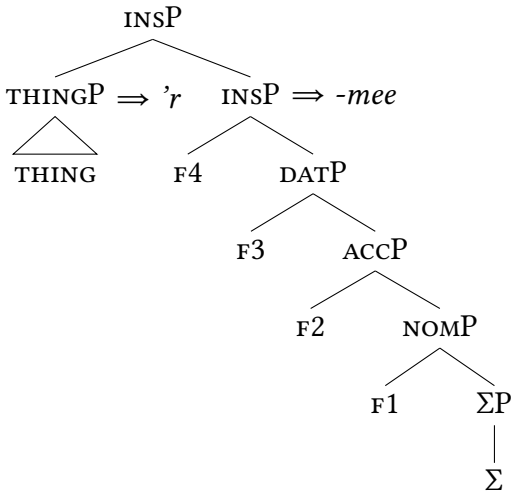
[16]This picture resembles the proposal of (Abels, 2003) in that not the whole complement of P is moved but only a part is subextracted. The current analysis differs in that the movement is not syntactically driven but by spellout.

(58)



The same happens for F2, F3 and F4. The features are merged one at a time, there is no spellout after merging the feature, but there is a spellout after spec-to-spec movement. I show the situation after F4 is realized as (59).

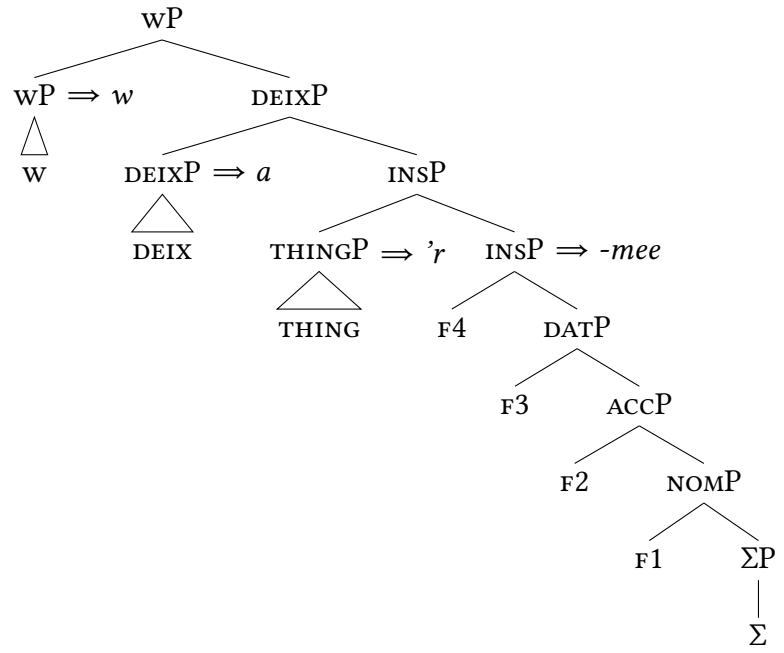
(59)



I skip over the details of how *w* and *a* end up in their positions.[17] The final result of the structure for *waar-mee* 'with what' look as in (60).

[17] I assume that WP and DEIXP are both complex specifiers that are created after THING is spelled out in (49). After each instance of merge after that, backtracking takes place, the complex specifier is detached from the structure and the case features are spelled out together with THING or as the postposition *-mee*.

(60)



A consequence of analyzing *-mee* 'with' as a postposition is that *'r* and *-mee* always form a constituent to the exclusion of *w* and *a*. At first sight this seems problematic, because it is possible for *waar* 'where' to *-mee* 'with'. I repeat the relevant example in (61).

(61) Ik heb gekocht waar jij mee schildert.
I have bought waar you with paint
'I bought what you are painting with.'

There is no constituent in (60) that contains *waar* but not *-mee*, so it is not possible to move *waar* from (60) and strand *mee* in the process. To resolve this situation I follow Noonan (2017) in assuming that the phrase containing the adposition (*-mee*) can syntactically move to a position higher in the structure. Evidence that *mee* 'with' has moved comes from the ungrammaticality of (62). This shows that *mee* 'with' cannot be stranded in its base position (see also (14c)).

(62) *Ik heb gekocht waar jij schildert mee.
I have bought waar you paint with
'I bought what you are painting with.'

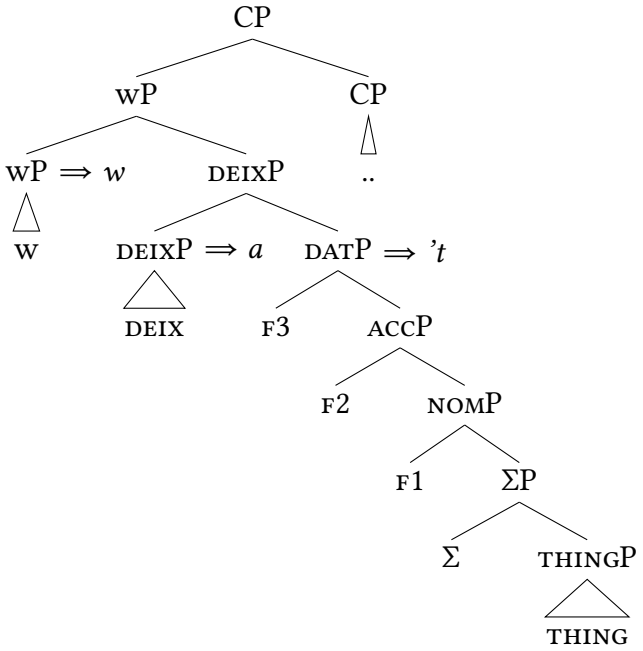
The movement of the adposition has the typical distribution of that of verbal particles (cf. van Riemsdijk 1978; Noonan 2017. The trigger for the movement of *mee* could be the feature Σ (which is contained in *mee* 'with'), associated with weak pronouns. Allowing *mee* to subextract from the wP resolves the issue. With *-mee* having moved out, the wP only contains features that are realized as *waar*, and it moves to the left edge of the clause, resulting in the surface order in (61).

So far I showed how *waar-mee* 'with what' is derived if all syntactic features form a constituent. Next I address how *waar-mee* 'with what' is blocked and *met wat* 'with what' appears when the features do not form a proper constituent is derived. An example of a situation in which all features do not form a constituent is given in (63).

(63) Ik schilder met wat jij hebt gekocht.
I paint with what you have bought
'I paint with what you bought.'

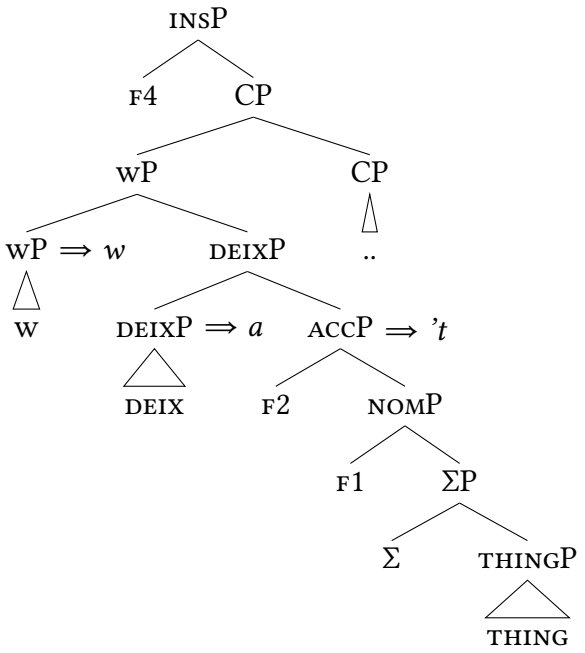
I start at the point at which *wat* 'what' is part of a syntactic structure with the rest of a relative clause as a sister. Even though F3 is not part of the embedded clause, I already added it to the structure. While it is unclear why, syncretic forms behave differently in that they seem to resolve case conflicts in free relatives and related phenomena (cf. Groos and van Riemsdijk 1981; Pullum and Zwicky 1986; Ingria 1990). I give the syntactic structure from which I start in (64).

(64)



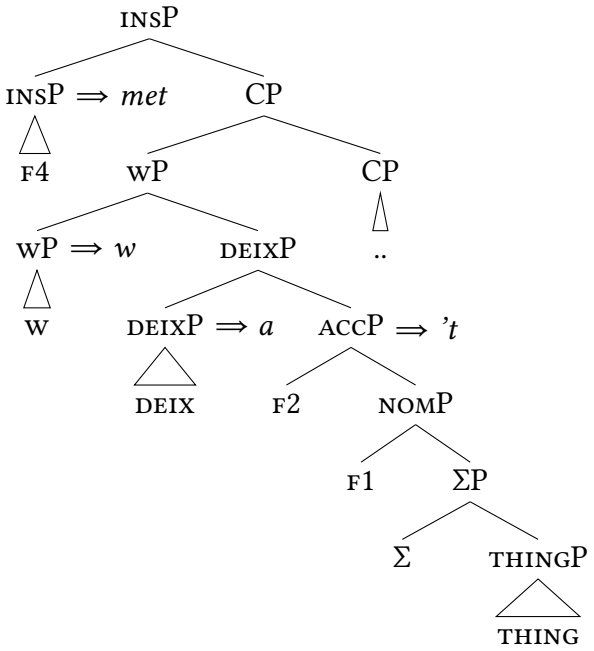
At this point F4 is merged, as shown in (65). Because of the presence of the CP, there is no possibility for F4 to be spelled out, even after the regular movements and backtracking.

(65)



The last resort possibility to spell out features is set in motion: a complex specifier is created, as described in (48). This is illustrated in (66).

(66)



This section showed how the instrumental inanimate relative pronoun is realized as *waar-mee* 'with what' when all relevant features form a constituent, and how *met wat* 'with what' appears when they do not.

5 Conclusion and discussion

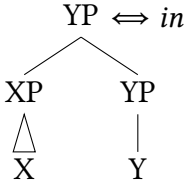
In this paper, I discussed the instrumental R-pronoun and postposition *waar-mee* 'with what' in Dutch. The main intuition is that this form appears when features of an instrumental inanimate object form a proper constituent. The form cannot appear, and *met wat* 'with what' surfaces instead, when all relevant features do not form a proper constituent. The described pattern follows from a core assumption in Nanosyntax: phrasal spellout spells out constituents (Starke, 2009).

Under this analysis, there is no need for a filter that rules out a combination of a preposition and an inanimate pronoun. As long as the relevant features form a proper constituent, the spellout algorithm ensures the R-pronoun and postposition takes precedence over the other form. The fact that locatives are syncretic with R-pronouns is not a coincidence. The lexicon contains a single entry for a locative, which is the one used for R-pronouns as well. The change in placement of the adposition is a consequence of spellout too. *Mee* 'with' is a postposition and is stored differently from the preposition *met* 'with', which leads to the correct placement with different constituency. The fact that *met* 'with' and *mee* 'with' differ phonologically can also be captured by storing them as two separate lexical entries.

In the remainder of this section I discuss how this analysis can be extended to other adpositions in Dutch. Giving *met* 'with' and *-mee* 'with' two distinct lexical entries has as a consequence that the phonological overlap between them seems like a coincidence. This can be questioned, because there is only one more preposition that changes form when it appears postpositionally. This preposition is *tot* 'to', and it changes into *toe* as a postposition. It has in common with *met* 'with' that it is the only preposition in Dutch that has the phonological structure CVt. For now I take the phonological resemblance to be a relic from the past without having any influence on the synchronic data.

In all other cases the adposition does not change form when it combines with an R-pronoun, e.g. *in* 'in'. If this proposal is on the right track, elements as *in* can be used as either a preposition or as a postposition. The lexical entry should then be usable as pre-element and as post-element, so it needs to have a binary bottom and a unary foot simultaneously. The lexical entry in (67) would be a candidate for such an element. YP can be inserted as a post-element, and XP can be inserted via the Superset Principle as a pre-element.

(67)



I leave it to future research to investigate such a proposal.

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