Replication of R-pronouns in German dialects*

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Claim: Copies are a general consequence of movement (Copy Theory). Overt replication of R-pronouns results from the different realization of copies with different vocabulary items (specified for the environments of the copies). The different realization prevents a lower copy from being deleted by Chain Reduction under phonological identity with a higher one. Dialectal variation is variation in the inventory of Vocabulary Items.

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1   Introduction

- German has two different kinds of pronouns in prepositional phrases. Either a regular NP pronoun follows the preposition (1), or the R-pronoun *da* appears in front of the preposition (2). The term *R-pronoun* (originally coined by van Riemsdijk 1978 for similar elements in Dutch) refers to the elements *da* 'there' and the interrogative counterpart *wo* 'where'. In combination with a preposition, these form what is called a *pronominal adverb* or alternatively a *prepositional adverb*.

(1) a. Fritz hat gestern   [PP an [NP sie]] gedacht.
         Fritz has yesterday   at   her   thought
         'Fritz thought of her yesterday.'
     b. Maria hat damals   [PP für [NP ihn]] gestimmt.
         Maria has back.then   for   him   voted
         'Maria voted for him back then.'   (Müller, 2000: 139)

(2) a. Fritz hat gestern   [PP da-r-an] gedacht.
         Fritz has yesterday   *da-r*-at   thought
         'Fritz thought of that yesterday.'
     b. Maria hat damals   [PP da-für] gestimmt.
         Maria has back.then   *da*-for   voted
         'Maria voted for that back then.'   (Müller, 2000: 140)

- *Da* and *wo* are termed R-pronouns since an epenthetic *r* is inserted if the adjacent preposition starts with a vowel (e.g. *da/wo-r*-an), see (3-a) and (3-b). There is also a distributionally more restricted form with the deictic *hier* 'here' (3-c).

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(3) a. Fritz hat gestern   da-r-an gedacht.
         Fritz has yesterday *da-r*-at thought
         'Fritz thought of that yesterday.'
     b. Wo-r-an hat Fritz gestern   gedacht?
         wo-r-at   has Fritz yesterday thought
         'What did Fritz think of yesterday?'
     c. Maria hat damals   hier-für gestimmt.
         Maria has back.then here-for voted
         'Maria voted for this back then.'

- At first glance, it seems that regular NP pronouns and R-pronouns are in complementary distribution, cf. (4) vs. (5).

(4) a. Fritz hat gestern   [$_{PP}$ an [$_{NP}$ sie]] gedacht.
         Fritz has yesterday   at   her   though
         'Fritz thought of her, yesterday.'   (*sie = Maria*)
     b. *Fritz hat gestern [$_{PP}$ da-r-an] gedacht.   (*da = Maria*)

(5) a. *Fritz hat gestern   [$_{PP}$ an [$_{NP}$ es]] gedacht.
         Fritz has yesterday   at   it   thought
         'Firtz though ot it, yesterday.'   (*es = das Spiel* 'the game')
     b. Fritz hat gestern [$_{PP}$ da-r-an] gedacht.   (*da = das Spiel* 'the game')

- However, as Müller (2000) notes, this does not generally hold. In interrogative contexts, the NP pronoun *was* (but not *wen*) freely alternates with the R-pronoun *wo* (6).

(6) a. [$_{PP}$ Wo-r-an] / [$_{PP}$ An was   ] hast du gedacht t?
             wo-r-at   /   at what   have you thought
         'What did you think of?'
     b. [$_{PP}$ Wo-für] / [$_{PP}$ Für was   ] hast du dich   entschieden t?
             wo-for   /   for what   have you yourself decided
         'What did you opt for?'
     c. [$_{PP}$ Wo-r-um   ] / [$_{PP}$ Um   was   ] geht es in der Sitzung t?
             wo-r-about /   about what   goes it in the meeting
         'What is the meeting about?'
     d. [$_{PP}$ *Wo-r-an] / [$_{PP}$ An wen] hast du gedacht t?
             wo-r-at   /   at who   have you thought
         'Who did you think of?'

- Also, whether *ihm, ihn, sie* and *ihr* can be replaced by an R-pronoun depends largely on their specific interpretation. If they refer to an entity that is capable of acting autonomously, an R-pronoun is impossible. This concept of volitionality, however, is vague and may or may not be attributed to animals depending on the specific context as illustrated by examples (7)–(11) from Müller (2000).

(7) a. Ich bin [PP da-mit] nicht richtig zufrieden.   (*da* = *das Buch* 'the book',
         I   am   *da*-with not   right satisfied   ?*das Pferd* 'the horse')
         'I am not really satisfied with it.'

     b. Ich bin [PP mit ihm] nicht richtig zufrieden.   (*ihm* = *das Buch* 'the book',
         I   am   with 3SG.N not   right satisfied   *das Pferd* 'the horse')
         'I am not really satisfied with him.'

(8) a. Maria musste   noch oft   [PP da-r-an] denken.   (*da* = *der Vorschlag* 'the proposal',
         Maria must.PST still often *da-r*-at think   **der Hausmeister* 'the caretaker',
         'Maria had to still often think of it.'   ?*der Esel* 'the donkey')

     b. Maria musste   noch oft   [PP an ihn] denken.   (*ihn* = *der Vorschlag* 'the proposal',
         Maria must.PST still often   at 3SG.M think   *der Hausmeister* 'the caretaker',
         'Maria had to still often think of him.'   *der Esel* 'the donkey')

(9) a. Ich bin [PP da-mit] nicht richtig zufrieden.   (*da* = *der Vorschlag* 'the proposal',
         I   am   *da*-with not   right satisfied   **der Hausmeister* 'the caretaker',
         'I am not really content with it.'   ?*der Esel* 'the donkey')

     b. Ich bin [PP mit ihm] nicht richtig zufrieden.   (*ihm* = *der Vorschlag* 'the proposal',
         I   am   with 3SG.M not   right satisfied   *der Hausmeister* 'the caretaker',
         'I am not really content with him'   *der Esel* 'the donkey')

(10) a. Maria musste   noch oft   [PP da-r-an] denken.   (*da* = *die Ausstellung* 'the exhibition',
         Maria must.PST still often *da-r*-at think   **die Frau* 'the woman',
         'Maria had to still often think of it.'   ?*die Katze* 'the cat')

     b. Maria musste   noch oft   [PP an sie] denken.   (*sie* = *die Ausstellung* 'the exhibition',
         Maria must.PST still often   at 3SG.F think   *die Frau* 'the woman',
         'Maria had to still often think of her.'   *die Katze* 'the cat')

(11) a. Alle waren [PP da-von] sehr beeindruckt.   (*da* = *die Ausstellung* 'the exhibition',
         all were   *da*-by   very impressed   **die Frau* 'the woman',
         'Everyone was very impressed by it.'   ?*die Katze* 'the cat')

     b. Alle waren [PP von ihr   ] sehr beeindruckt.   (*ihr* = *die Ausstellung* 'the exhibition',
         all were   by 3SG.F very impressed   *die Frau* 'the woman',
         'Everyone was very impressed by her.'   *die Katze* 'the cat')

- The overall generalisation about the distribution of NP pronouns and R-pronouns in Müller (2000) is the following:

(12)   In a PP there is

       a. obligatorily an NP pronoun with animate referents,
       b. optionally an NP pronoun or an R-pronoun with inanimate non-neuter referents,
       c. obligatorily an R-pronoun with *es* (accusative inanimate neuter).

- The important difference between regular NP pronouns and R-pronouns is that, while the former can never be dislocated out of the embedding PP (13), the latter are freely extractable and can therefore strand the preposition (14).

(13)   a.   *Fritz hat sie$_1$ gestern   [$_{PP}$ an t$_1$] gedacht.
            Fritz has her yesterday   at   thought
            'Fritz thought of her yesterday.'

       b.   *Ihn$_1$ hat Maria damals   [$_{PP}$ für t$_1$] gestimmt.
            him has Maria back.then   for   voted
            'For him Maria voted back then.'

       c.   *Wen$_1$ hat Maria damals   [$_{PP}$ für t$_1$] gestimmt?
            Whom has Maria back.then   for   voted
            'Whom did Maria vote for back then?'   (Müller, 2000: 3)

(14)   a.   Fritz hat da$_1$ gestern   [$_{PP}$ t$_1$ (dr)-an] gedacht.
            Fritz has *da* yesterday   *dr*-at   thought
            'Fritz thought of it yesterday.'

       b.   Da$_1$ hat Maria damals   [$_{PP}$ t$_1$ für] gestimmt.
            da   has Maria back.then   for   voted
            'Maria voted for it back then.'

       c.   Wo$_1$ hat Maria damals   [$_{PP}$ t$_1$ für] gestimmt?
            wo   has Maria back.then   for   voted
            'What did Maria vote for back then?'   (Müller, 2000: 3)

- This phenomenon has already been discussed extensively in the literature, see e.g. Fanselow (1983, 1991), Koster (1987), Grewendorf (1989), Bayer (1990, 1991), Oppenrieder (1991), Trissler (1993, 1999) and Müller (1991, 2000).[1]

2   R-pronoun replication

In numerous varieties of German, we find that there are two exponents of the R-pronoun present.

Split doubling:
Extraction of the R-pronoun does not strand the preposition. Instead, there are two exponents of the R-pronoun present, a somewhat reduced /də/ inside the PP and a full /da/ in the *Mittelfeld* (15-a) or in the *Vorfeld* (15-b, c).[2]

(15)   a.   Fritz hat da nicht [$_{PP}$ də-mit] gerechnet.
            Fritz has *da* not   *da*-with   reckoned
            'Fritz did not reckon with that.'

       b.   Da hat Maria damals   [$_{PP}$ də-für] gestimmt.
            da   has Maria back.then   *da*-for   voted
            'Maria voted for it back then.'

       c.   Da wusste Karl nichts   [$_{PP}$ də-von]
            da knew Karl nothing   *da*-of
            'Karl did not know anything of that.'   (*Swabian German*)

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[1] For discussion of the analogous phenomenon in Dutch see van Riemsdijk (1978).

[2] All examples tagged *Swabian German* are my own (K.B.). For the sake of convenience and since the examples are representative for many more German varieties, they have been adapted to Standard German orthography.

- Split doubling structures are considered colloquial (Duden 1959, 1973, they no longer appear in subsequent editions.)

- It is briefly described in the more theoretically oriented grammar of Eisenberg (1999) and in the diachronic literature, where they are often discussed in conjunction with stranding (see e.g. Behaghel 1899; Paul 1919; Behaghel 1932; Dal 1966; Lockwood 1968)

- It has been reported for Westphalian, Rhenish Franconian, Middle Bavarian, Swabian, Thuringian, Upper Saxonian, Berlin, High Alemmanic, Lower Alemannic, North Bavarian, East Franconian, Lower Franconian, Silesian, Central Hessian, Moselle Franconian and numerous other dialects (for an even finer-grained areal distribution, see Fleischer 2002).

Short doubling:
In lots of dialects that show split doubling, the R-pronoun is also doubled if nothing is extracted out of the PP. The two tokens then appear adjacent to each other and the preposition (16-a, b).However, if the prepositional phrase stays *in situ* local doubling seems to be infelicitous (16-c).[3] Extraction of both tokens while stranding the preposition is ungrammatical in all dialects (16-d).

(16)   a.   [$_{PP}$ Da-də-für] hat Maria damals   gestimmt.
              da-da-for   has Maria back.then voted
              'Maria voted for it back then.'
      b.   [$_{PP}$ Da-də-von] wusste Karl nichts.
              da-da-of   knew   Karl nothing
              'Karl did not know anything of that.'
      c.   *?Fritz hat nicht [$_{PP}$ da-də-mit   ] gerechnet.
              Fritz has not   *da-da*-with   reckoned
              'Fritz did not reckon with that.'
      d.   *Da$_2$ də$_1$ wusste Karl nichts   [$_{PP}$ t$_2$ t$_1$ von].
              da   da knew Karl nothing   of
              'Karl did not know anything of that.'   (*Swabian German*)

Local doubling is very rarely discussed in German grammars.[4] It is briefly mentioned in Paul (1919) and Curme (1922) and also in the Duden (2009).

Interrogative doubling:
Doubling (local and split) does not only apply to declarative pronominal adverbs with *da*, but also to their interrogative counterparts with *wo* 'where'. *Wo* behaves like *da* concerning extraction out of PP (stranding the preposition without any doubling) and pied-piping.

(17)   a.   Wo$_1$ hat Fritz nicht [$_{PP}$ t$_1$ mit   ] gerechnet?
              wo has Fritz not   with   reckoned
              'What did Fritz not reckon with?'
      b.   Womit$_1$ hat Fritz nicht t$_1$ gerechnet?

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[3]This holds under a neutral intonation. If stress falls on the prepositional adverb, local doubling *in situ* becomes acceptable for at least a subset of speakers.

[4]In the dialectology literature, the local doubling structure is described more often, for references see Fleischer (2002).

    c.   Wo$_1$ hat Maria damals   [$_{PP}$ t$_1$ für] gestimmt?
        wo has Maria back.then   for   voted
        'What did Maria vote for back then?'

    d.   Wofür$_1$ hat Maria damals t$_1$ gestimmt?

    e.   Wo wusste Karl nichts   [$_{PP}$ t$_1$ von] ?
        wo knew Karl nothing   of
        'What did Karl know nothing of?'

    f.   Wovon$_1$ wusste Karl nichts?

In the case of interrogative R-pronouns, however, *doubling* does not mean that there are two tokens of *wo* in the sentence, but that *wo* and *da* appear together. The examples in (18) illustrate split doubling, those in (19) local doubling.

(18)   a.   Wo hat Fritz nicht [$_{PP}$ dǝ-mit   ] gerechnet?
            wo has Fritz not   *da*-with   reckoned
            'What did Fritz not reckon with?'

       b.   Wo hat Maria damals   [$_{PP}$ dǝ-für] gestimmt?
            wo has Maria back.then   *da*-for   voted
            'What did Maria vote for back then?'

       c.   Wo wusste Karl nichts   [$_{PP}$ dǝ-von] ?
            wo knew Karl nothing   *da*-of
            'What did Karl know nothing of?'   (*Swabian German*)

(19)   a.   [$_{PP}$ Wo-dǝ-mit] hat Fritz nicht gerechnet?
              wo-da-with   has Fritz not   reckoned
            'With what did Fritz not reckon?'

       b.   [$_{PP}$ Wo-dǝ-für] hat Maria damals   gestimmt?
             wo-da-for   has Maria back.then voted
            'For what did Maria vote back then?'

       c.   [$_{PP}$ Wo-dǝ-von] wusste Karl nichts?
             wo-da-of   knew   Karl nothing of
            'Of what did Karl nothing?'   (*Swabian German*)

Sentences containing two copies of *wo* are ungrammatical (20-b, d) (independent of *wo*-extraction).

(20)   a.   Wo ist Fritz allergisch [$_{PP}$ dǝ-gegen   ] ?
            wo is Fritz allergic   *da*-against
            'What is Fritz allergic to?'

       b. *Wo ist Fritz allergisch [$_{PP}$ wo-gegen   ] ?
            wo is Fritz allergic   *wo*-against
            'What is Fritz allergic to?'

       c.   [$_{PP}$ Wo-dǝ-gegen] ist Fritz allergisch?
             wo-da-against   is Fritz allergic
            'To what is Fritz allergic?'

       d. *[$_{PP}$ Wo-wo-gegen] ist Fritz allergisch?
             wo-wo-against   is Fritz allergic
            'To what is Fritz allergic?'   (*Swabian German*)

Pronominal adverbs with *hier* 'here' behave like those with *wo*. Doubling occurs regardless of whether there is extraction of *hier* (21-a) or not (21-c). However, the copy in base position is *da* and never a second *hier* (21-b, d).

(21) a. Hier möchte Fritz [PP də-für] bezahlen.
         here wants Fritz *da*-for pay
         'Fritz wants to pay for that.'
    b. *Hier möchte Fritz [PP hier-für] bezahlen.
         here wants Fritz here-for pay
         'Fritz wants to pay for that.'
    c. [PP Hier-də-für] möchte Fritz bezahlen.
         here-*da*-for wants Fritz pay
         'Fritz wants to pay for that.'
    d. *[PP Hier-hier-für] möchte Fritz bezahlen.
         here-here-for wants Fritz pay
         'Fritz wants to pay for that.'   (*Swabian German*)

Reduced doubling:

Apart from full R-pronoun replication there also exist cases where one of the two tokens of *da* is reduced. The reduced form appears with vowel-initial prepositions and an epenthetic /r/. This is a general observation in all German dialects even if they usually do not allow doubling.

(22) a. Da₁ haben wir noch nicht [PP t₁ d-r-über] gesprochen.
         da have we yet not   da-r-over talked
         'We haven't talked about it yet.'
    b. *Da₁ haben wir noch nicht [PP t₁ (r)über] gesprochen.
         da have we yet not   over   talked
         'We haven't talked about it yet.'
    c. Da₁ sollte er unbedingt [PP d-r-an] denken.
         da should he definitely   d-r-at think
         'He should definitely think of that.'
    d. *Da₁ sollte er unbedingt [PP (r)an] denken.
         da should he definitely   (r)at think
         'He should definitely think of that.'

3   The structure of R-pronouns and the doubling puzzle

3.1   What needs to be explained

An overall analysis of German R-pronouns should ideally account for:

(i) the difference between the distribution of R-pronouns and regular NP pronouns and their movement properties

(ii) the difference between dialects with regard to replication of R-pronouns

(iii) it should explain why an (apparently redundant) replication process occurs.

3.2   What has been proposed so far: issue (i)

- Problematic analyses: ones which are based on incorporation of *da* into the verb (Abraham 1995) or on the concept of direct selection (Trissler 1993). These analyses presuppose verb adjacency of the stranded preposition. Data like (23), where the preposition appears in the *middlefield* but not at the left edge of the verb complex, poses serious problems for these approaches (for a detailed discussion of these proposals and its theoretical and empirical problems see Fleischer 2002).

    (23) a. Da hat er ihm mit auf den Kopf geschlagen.
              da has he him with on the head hit
              'He hit him on the head with that.'
          b. Da ist er mit zum Doktor gegangen.
              da is he with to.the doctor gone
              'He went to the doctor with that.'

- R-pronouns are a repair to what is called the 'Wackernagel-Ross-Dilemma' (Müller 2000).

- The dilemma: One requirement states that weak NP pronouns need to be in a position at the left periphery of the *middlefield* (Wackernagel 1892). PP-internal weak NP pronouns would thus have to move out of PP into that position. Such a movement, however, is foreclosed by the second requirement: nothing that receives case from a preposition can be extracted out of a PP (Ross 1967). These two requirements cannot be both respected by one and the same pronoun at the same time.

- Solution: A repair form *da*, the R-pronoun, is substituted. In OT terms, this means that replacing the original NP pronoun satisfies both of the two constraints. Since the R-pronoun is by definition not a regular NP pronoun, it is not subject to the Wackernagel constraint and satisfies it vacuously. Additionally, it does not receive case from the preposition and can thus be extracted out of the PP, which explains why displacement of *da* is possible.

    (24) a. *Fritz hat es$_1$ gestern   [$_{PP}$ an   [$_{NP}$ t$_1$]] gedacht.
              Fritz has it   yesterday   about   thought.
              'intended: Fritz thought about it yesterday.'
          b. *Fritz hat gestern   [$_{PP}$ an   [$_{NP}$ es$_1$]]   gedacht.
              Fritz has yesterday   about it   thought
              'intended: Fritz thought about it yesterday.'
          c. Fritz hat gestern   [$_{PP}$ da-r-an] gedacht.
              Fritz has yesterday   *da*-r-on thought.
   Fritz thought about it yesterday.   Müller (2000)

## 3.3   What has been proposed so far: issue (ii)

- Gallmann (1997), Müller (2000) and Fleischer (2002) assume that R-pronouns are base-generated in the complement position of the preposition (for a different stance on the issue see Oppenrieder 1991, Trissler 1993 and Abels 2003).

(25)

```
        PP
       /\
      P   D
      |   |
     mit  da
```
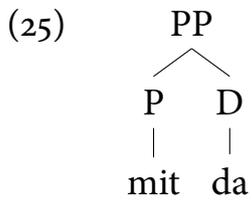
- Since the R-pronoun is never spelled out in this position, it inevitably has to move out of there.

- Gallmann (1997) proposes that the R-pronoun has two options: It can either incorporate into the preposition ((26), see Baker 1988 for incorporation) or move into the specifier position of the PP (27).

(26)

```
          PP
         /  \
             P'
            /  \
           P    DP
          /\    |
         D  P   t₁
         |  |
        da₁ mit
```

(27)

```
          PP
         /  \
      da₁    P'
            /  \
           P    DP
          /\    |
         D  P   t₁
         |  |
         e  mit
```
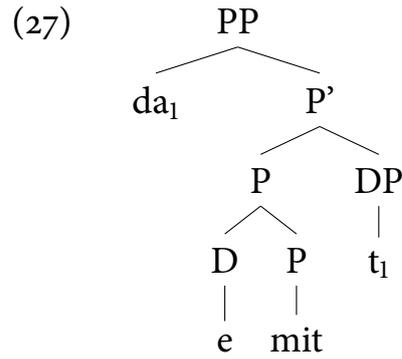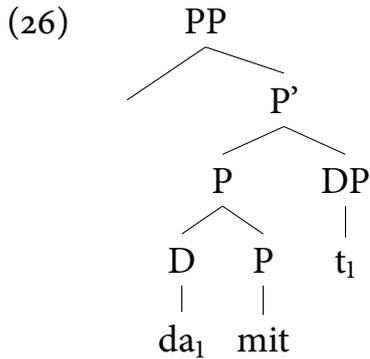
- Desirable consequence: extraction out of SpecPP is completely independent from the position of the verb.

- Second benefit that Gallmann (1997) and Fleischer (2002) point out: short doubling (*dadamit*) directly follows from the structure proposed in (27). The short doubling structure corresponds to the one in (27) with the difference that there is no empty element incorporated into P, 'sondern noch einmal ein *da*' (Fleischer, 2002: 398) ('but yet another *da* again') and 'Hier ist neben Inkorporation in P^0 auch SpecPP besetzt' (Fleischer, 2002: 405) ('As well as incorporation into P^0, SpecPP is also occupied').

(28)

```
          PP
         /  \
      da₁    P'
            /  \
           P    DP
          /\    |
         D  P   t₁
         |  |
        da  mit
```
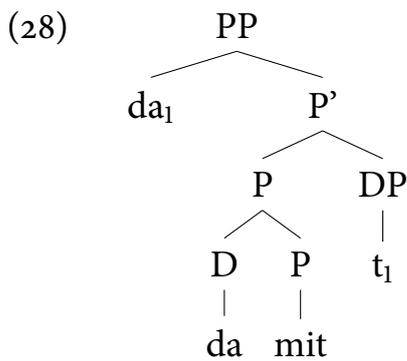
3.4   What has not been adressed so far: issue (iii)

- We do not agree with the statement that the structure in (28) follows directly or automatically from the possibility of two different movement types (incorporation into P and movement to SpecPP). Gallmann (1997) and Fleischer (2002) argue in favour of these two different movement types *because* doubling can be derived under this assumption (see Fleischer 2002: 404).

- Fleischer (2002) argues for the need of both movement types, but he does not discuss at all *why* incorporation and Comp-to-Spec movement should both apply to *one* R-pronoun in one structure and, if they did, how this leads to doubling of the R-pronoun.

- The advantage or benefit of having *da* in SpecPP obviously is the fact that it can (still) be extracted out of this position. This is needed for the cases of P-stranding and for distance doubling.

? But in the case of local doubling both *da*-elements stay inside the PP. The proposed structure (28) thus raises the following questions:

(29) a. If *da* does not appear in the *middle-* or the *prefield* (i.e. is not extracted out of PP), why should it leave the complement position and move into SpecPP/incorporate into P at all?

      b. If there is an independent reason for *da* to leave the complement position (see e.g. Müller 2000 and below), why is either movement to SpecPP or incorporation into P not sufficient to satisfy this requirement? Why is the presence of an additional *da* required or desirable?

Gallmann (1997) and Fleischer (2002) do not adress these questions, but at first sight the application of *both* movement types, incorporation and Comp-to-Spec movement, seems to be completely redundant.[5]

4 Analysis

4.1 Background

- *Copy Theory of Movement*
  We assume the Copy Theory of Movement, where movement is decomposed into the suboperations Copy and Merge and leaves a copy of the moved element in its base position (Chomsky, 1993, 1995).

- *Chain Reduction*
  Usually, only one link/copy in a movement chain is pronounced, namely the head of that chain, while the others are left unpronounced. Several attempts have been made to account for this (Brody, 1995; Bobaljik, 1995; Groat and O'Neill, 1996; Pesetsky, 1997, 1998), the most recent one is Nunes (2004). He proposes an operation of Chain Reduction that applies at PF and (in the standard case) deletes a lower element under phonological identity with a higher one that c-commands it.

- *Post-syntactic morphology (DM)*
  We further assume a late insertion approach to morphology such as Distributed Morphology (Halle and Marantz, 1993; Noyer, 1997) where terminal nodes in syntactic derivations are equipped with phonological information via a process of vocabulary insertion. Lexically stored pairs of morphosyntactic and phonological information, so-called Vocabulary Items (VIs), are matched with the morphosyntactic information in the terminals. A VI is inserted into a terminal if its morphosyntactic features are a subset of the terminal's morphosyntactic features (Subset Principle). If

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[5]For a cartographic approach to R-pronouns and reduced doubling of R-pronouns in German and Dutch see Noonan (2016).

more than one VI matches the morphosyntactic information of the terminal, the most specific one is chosen for insertion (Specificity).

- *Vocabulary Insertion ≫ Chain Reduction*
  Nunes' Chain Reduction is defined over phonological information and phonological information is only available after Vocabulary Insertion. Therefore, Chain Reduction has to apply after Vocabulary Insertion.

- *R-pronouns as P-complements*
  We follow Gallmann (1997), Müller (2000) and Fleischer (2002) in assuming that R-pronouns are base-generated in the complement position of the preposition (for a different stance on the issue see Oppenrieder 1991, Trissler 1993 and Abels 2003).

(30)

```
        PP
       /  \
      P    D
      |    |
     mit   da
```
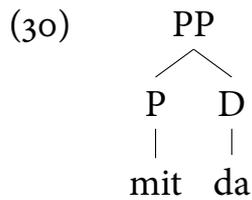
4.2 Derivation

- *Doubling as multiple copy spell-out*
  R-pronoun replication can be easily accounted for as being a consequence of Spell-Out of more than one copy of a moved element (analogous to what Abels, 2001; Nunes, 2004 and Hein, 2016 have proposed for verb doubling structures).

- *Phase-driven movement*
  Phase-driven movement requires the moving element to leave a copy in every intermediate landing position (Chomsky, 2000, 2001). Those are the specifiers of phase heads, i.e. Spec*v*P, SpecCP, and following Abels (2003) and Truswell (2009) also SpecPP (31).

(31)
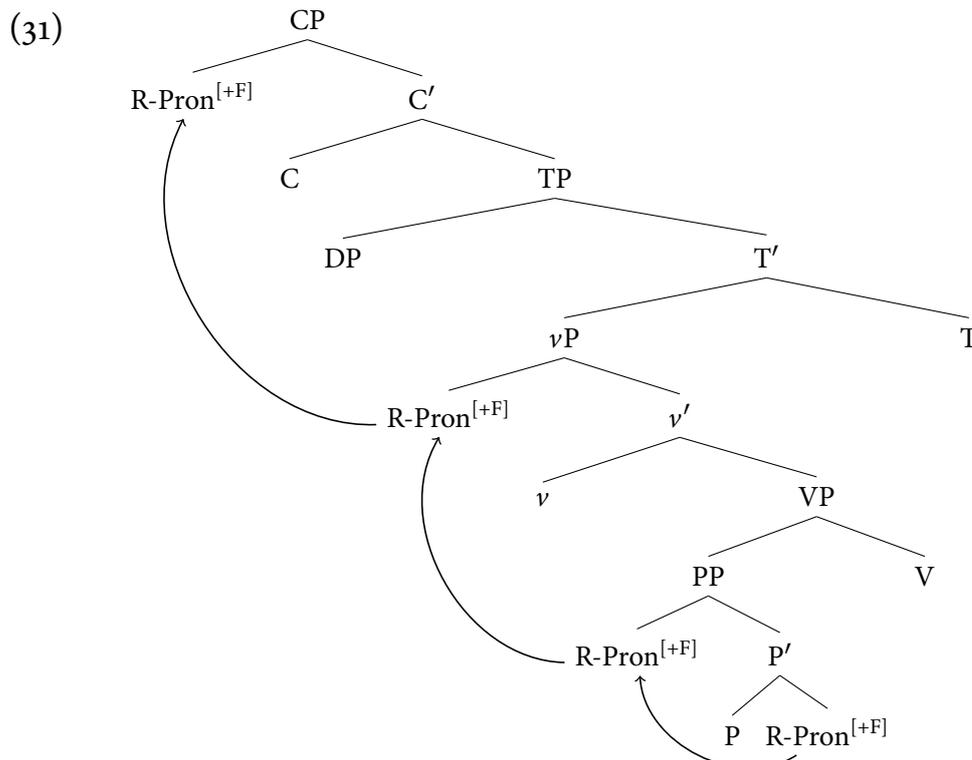
- *Pied-piping*
  Optionally, the whole PP may pied-pipe upwards. Following the standard view in the literature (Kayne, 1983; Cowper, 1987; Webelhuth, 1992; Grimshaw, 2000), we assume that this is due to an optionality of feature percolation. The movement-triggering feature of the R-pronoun may or may not percolate up to the PP-level. We envisage percolation as copying of the feature to the higher PP-level which is then closer to the probe in terms of Relativized Minimality. If it percolates up, the whole PP is displaced. If it does not percolate, only the R-pronoun is moved out of SpecPP. Crucially, this option is only available after the R-pronoun has moved to SpecPP.

(32)
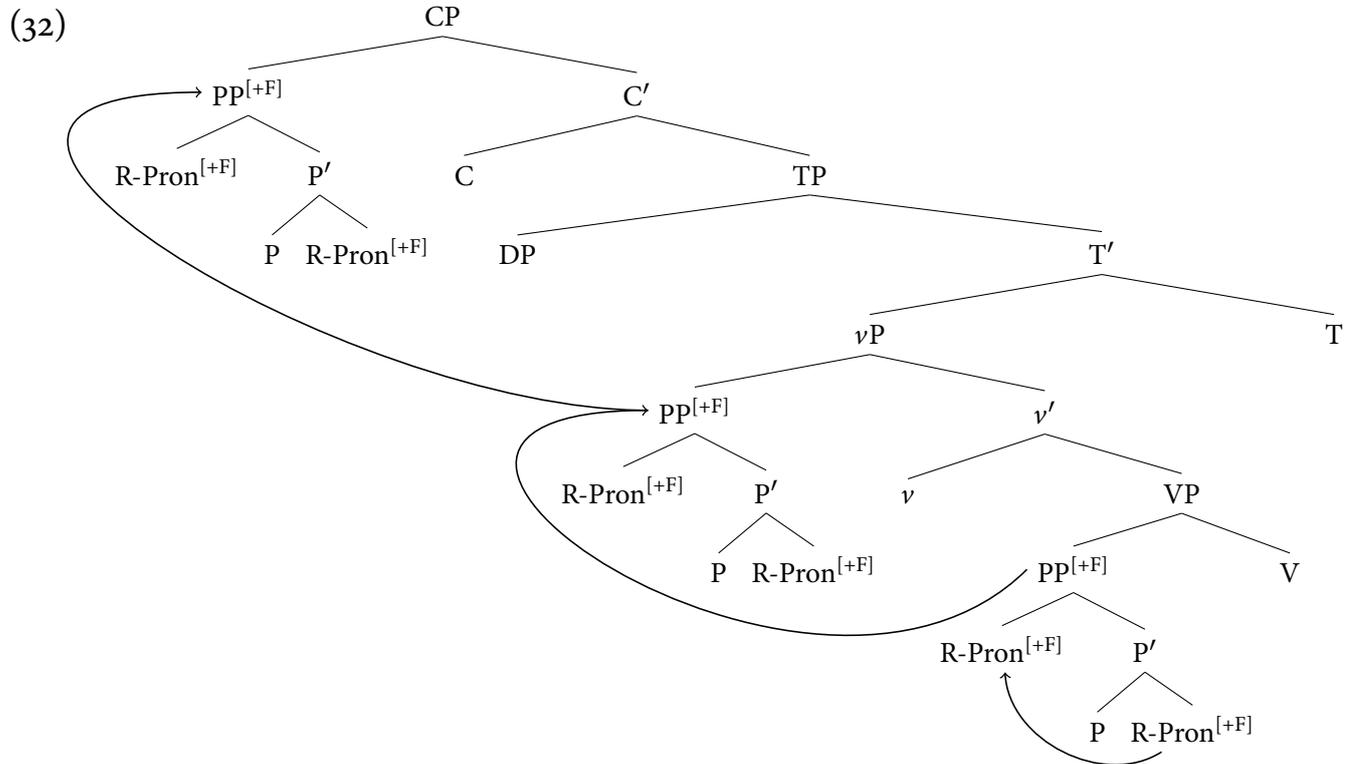
- *Linearization inside PP*
  Independently of the position of the PP, the R-pronoun which is the sister of P attaches to its head. We remain agnostic as to whether this is due to a linearization statement on the vocabulary item that is inserted into R-Pron, or to R-Pron's status as a proclitic (cf. Fleischer, 2002: who treats at least a subset of R-pronouns as proclitics).

(33)   *Cliticization/Linearization*
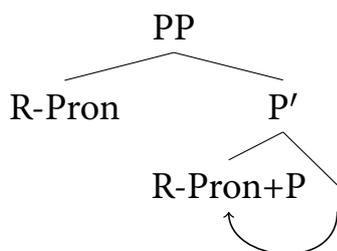
- *Underlying structure*
  We assume that (31) and (32) are the underlying structures of pronominal adverbs in all German dialects, i.e. there is always more than one copy of the R-pronoun present in the syntax. (This

is similar to Oppenrieder, 1991, who also assumes the doubling to be underlying. Non-doubling dialects then are the result of a phonological deletion.)

5   Deriving dialectal variation

- *Dialectal variation = variation in the lexicon*
  Dialectal differences can be reduced to differences in the number of distinct Vocabulary Items that each dialect has at its disposal to realise the R-Pron head.

5.1   Doubling dialects

- Doubling dialects dispose of the three declarative R-Pron Vocabulary Items plus one interrogative one (34). Two of them are specified for contextual features that can be understood as lists of roots in whose context the relevant item can occur (Embick, 2003). Those contextual features are assumed to be more specific than e.g. a [+wh] feature of the interrogative Vocabulary Item.

(34)   *List of VIs in doubling dialects*
    a.   /dar-/ ↔ [R-Pron]/__{an, auf, über, …}
    b.   /dǝ-/ ↔ [R-Pron]/__{mit, gegen, von, …}
    c.   /wo/ ↔ [R-Pron,+wh]
    d.   /da/ ↔ [R-Pron]

- The different copies of R-Pron are realised by different VIs due to their different environment. The lowest copy is realised by /dǝ-/ (35) and /dar-/ (36) because it is the sister of one of the prepositions listed in those VIs' contextual specifications.

- All other copies do not occur in this root-adjacent relationship with the preposition and therefore have to be realised by the elsewhere item /da/.

- After Vocabulary Insertion, Chain Reduction applies and deletes all copies that are phonologically identical to a higher c-commanding copy of the same element.

- Since the lowest copy is, in each case, phonologically different from the higher ones, it is not affected by deletion. Only the intermediate copies in SpecPP, which are c-commanded by and identical to the highest copies in SpecCP are deleted.

(35)   *Split doubling with consonant-initial P*

```
                    CP
         ┌──────────┴──────────┐
    R-Pron[+F]                  C′
        ↑              ┌────────┘ ⋯
      /da/                         VP
                           ┌───────┴───────┐
                          PP               V
                   ┌───────┴───────┐
              R-Pron[+F]           P′
                  ↑           ┌────┴────┐
                /da/          P      R-Pron[+F]
                              ↑          ↑
                            /mit/      /də-/
```
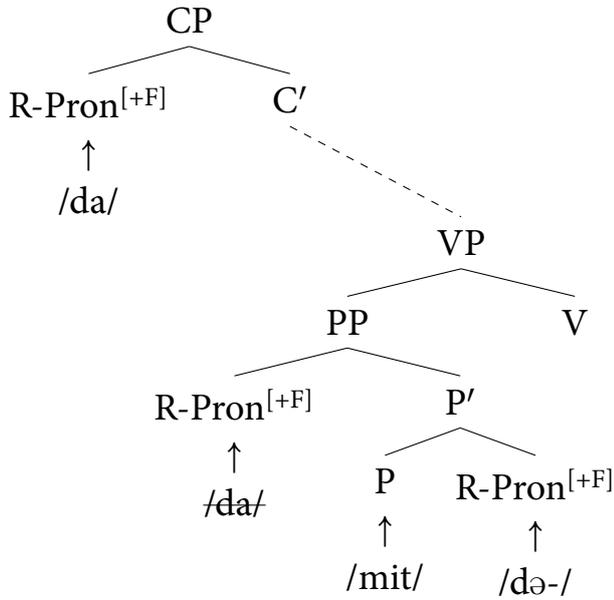
Lin.: *da … də-mit*

(36)   *Split doubling with vowel-initial P*

```
                    CP
         ┌──────────┴──────────┐
    R-Pron[+F]                  C′
        ↑              ┌────────┘ ⋯
      /da/                         VP
                           ┌───────┴───────┐
                          PP               V
                   ┌───────┴───────┐
              R-Pron[+F]           P′
                  ↑           ┌────┴────┐
                /da/          P      R-Pron[+F]
                              ↑          ↑
                            /an/       /dar-/
```
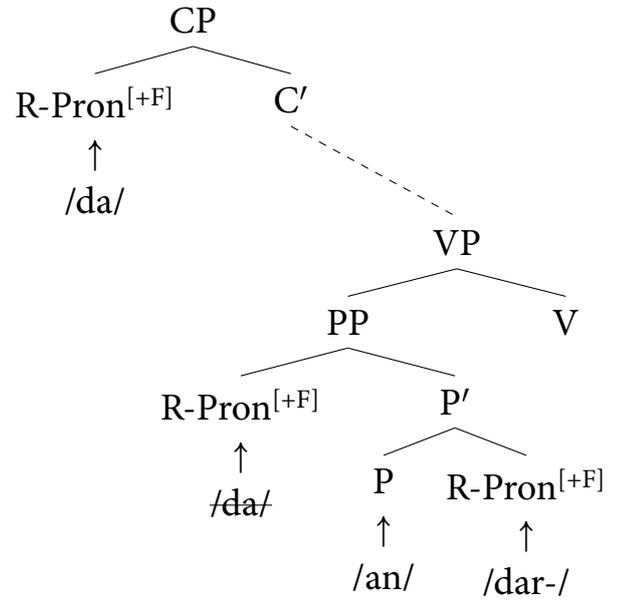
Lin.: *da … d(a)r-an*

- With interrogative pronouns insertion of /wo/ into the lowest copy is blocked because /də-/ and /dar-/ are both more specific. This blocking is the reason for the ungrammaticality of *wo-wo* doubling. The remaining higher copies are all realised by /wo/ which itself blocks the less specific /da/ from being inserted.

- Subsequent Chain Reduction deletes only the intermediate copy under identity with the highest one (37).

(37)   *Split doubling with interrogative R-pronoun*

```
                    CP
         ┌──────────┴──────────┐
    R-Pron[+wh]                 C′
        ↑              ┌────────┘ ⋯
      /wo/                          VP
                            ┌───────┴───────┐
                           PP               V
                    ┌───────┴───────┐
               R-Pron[+wh]          P′
                   ↑           ┌────┴────┐
                 /wo/          P      R-Pron[+wh]
                               ↑          ↑
                             /mit/      /də-/
                             /an/       /dar-/
```
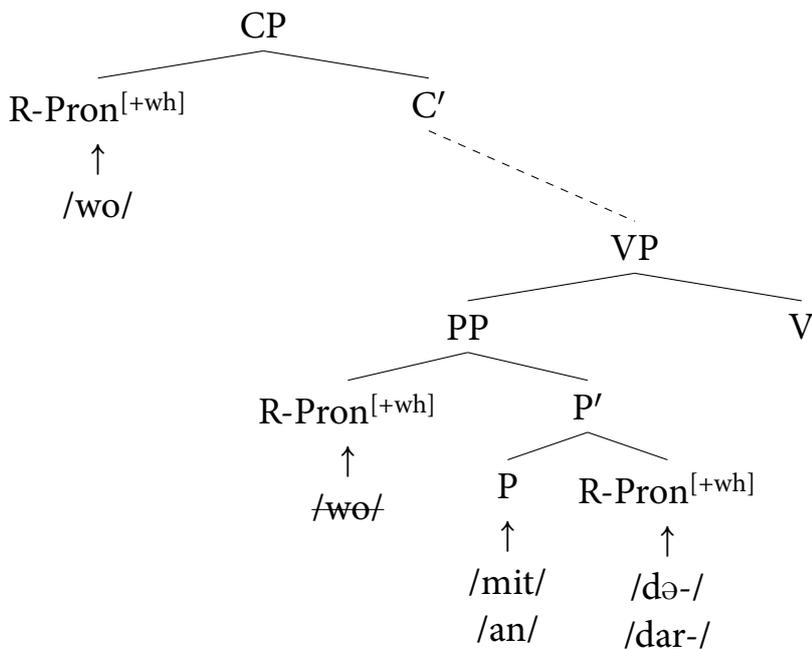
Lin.: *wo … də-mit/wo … d(a)r-an*

- In pied-piping contexts, where the whole PP is moved, /də-/ or /dar-/ is inserted into the lowest copies of R-Pron inside the different copies of the whole PP. The higher R-Pron copies within PP are realised by the default /da/.

- Chain Reduction then targets the lower copy of PP deleting it under identity with the higher copy in SpecCP. All copies of R-Pron inside the higher PP copy remain unaffected by deletion (38).

(38)   *Local doubling*
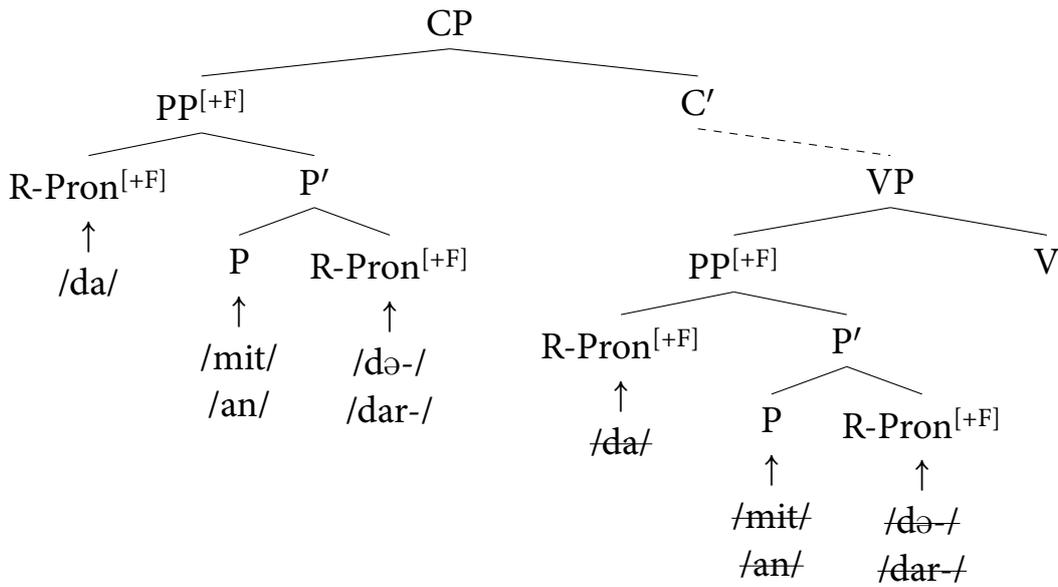
     Lin.: *da-də-mit …/da-d(a)r-an …*

- In local doubling with interrogatives /wo/-insertion into the lowest R-Pron copies is blocked by more specific /də-/ or /dar-/ just as in split interrogative doubling (37).

- The lower PP-copy is deleted under identity with the higher PP-copy whose inside remains unaffected by Chain Reduction because the higher and lower copies of R-Pron are phonologically distinct (39).

(39)   *Local doubling with interrogative R-pronoun*
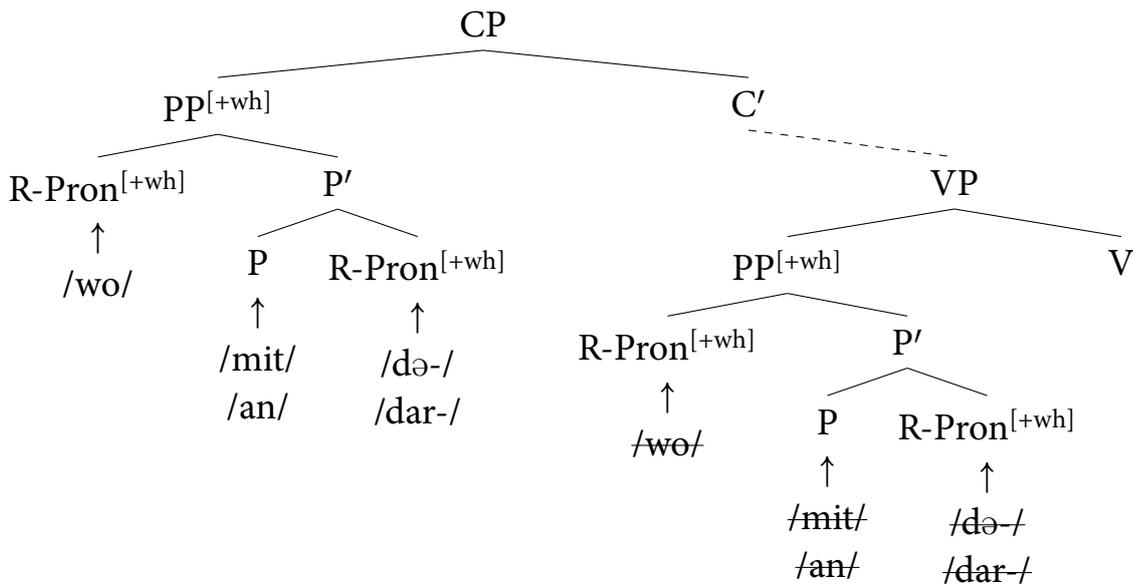
     Lin.: *wo-də-mit …/wo-d(a)r-an …*

- As observed in the data section, there is no doubling if the PP stays *in situ*. The approach derives this in a simple way: Because a movement-triggering feature is absent on R-Pron there is no PP-internal movement of R-Pron to SpecPP. R-Pron is then either realised by /də-/ or by /dar-/ depending on the preposition (40).

(40)   *Non-doubling in situ*

```
            CP
           /  \
              C′
              ┊  \
                  VP
                 /   \
              PP        V
             /  \
            P    R-Pron
            ↑      ↑
          /mit/  /də-/
          /an/   /dar-/
```
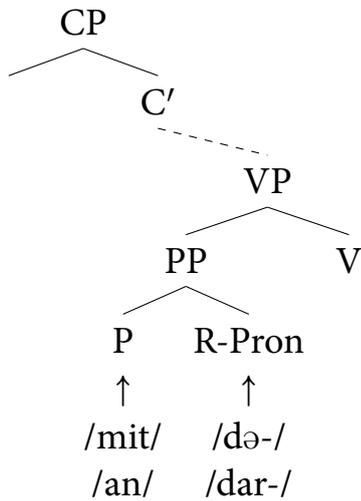
Lin.: … *də-mit/*… *d(a)r-an*

5.2 Non-doubling dialects

- Non-doubling dialects differ from doubling dialects with regard to the absence/presence of the reduced /də-/ Vocabulary Item. This means that with consonant-initial prepositions the default VI has to be inserted which renders the lowest copy identical to higher ones resulting in its deletion.

(41)   *List of VIs in non-doubling dialects*
    a.   /dar-/ ↔ [R-Pron]/__{an, auf, über, …}
    b.   /wo/ ↔ [R-Pron,+wh]
    c.   /da/ ↔ [R-Pron]

- With vowel-inital prepositions /dar-/ is inserted into the lowest copy of R-Pron since it is more specific than /da/ (42). Due to the absence of a designated VI /də-/ for consonant-initial prepositions, however, default /da/ has to be inserted into the lowest copy of R-Pron just as it is inserted into the higher copies (43).

- Subsequent Chain Reduction then applies as usual. Since the lowest copy of R-Pron with vowel-inital prepositions is phonologically distinct from its higher copies it is not affected by deletion (42). This derives the so-called reduced doubling with vowel-initial Ps in dialects that usually do not show doubling.

- The situation is different with consonant-initial prepositions. Since all copies of R-Pron are realised by the same VI, only the highest one evades deletion. As a consequence, the preposition is stranded in split constructions (43).

(42) *Split non-doubling with consonant-initial P* (43) *Split (reduced) doubling with vowel-init. P*
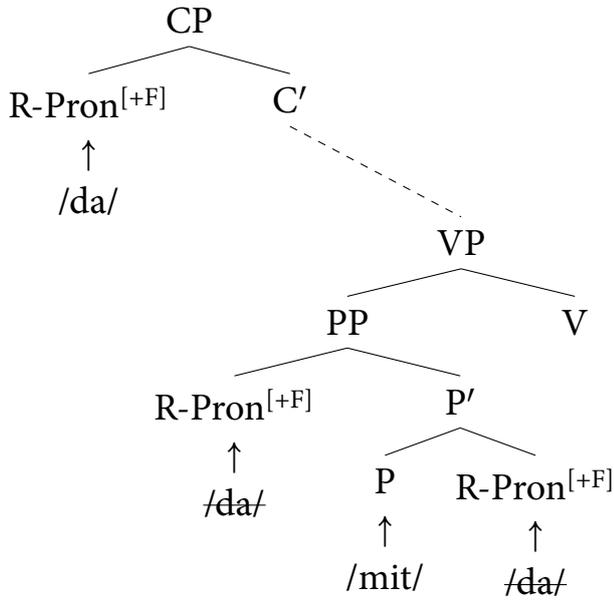

Lin.: *da … də-mit*
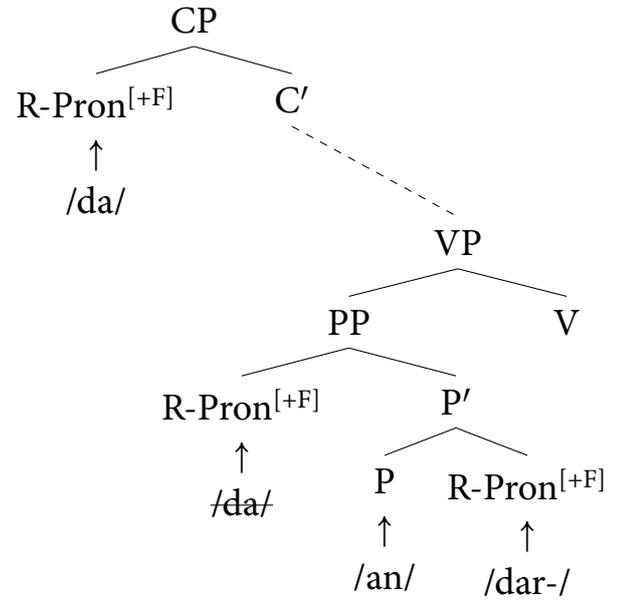
Lin.: *da … d(a)r-an*

- With interrogative R-pronouns (44) the situation is analogous to the derivations in (42) and (43).

(44) *Split doubling with interrogative R-pronoun*
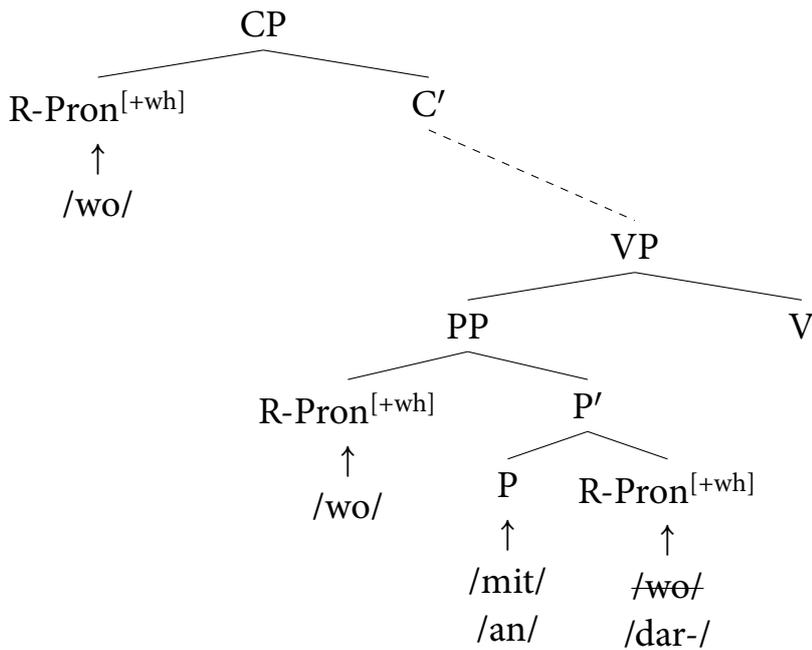
Lin.: *wo … mit/wo … d(a)r-an*

- In contrast to the doubling dialects, where local doubling occurs with every preposition (38), non-doubling dialects, though they generally do not allow doubling (45), obligatorily replicate the R-pronoun when the preposition starts with a vowel (46).

- This is as we would expect because there is a VI especially dedicated to realizing the R-Pron head in the context of vowel-initial prepositions which is different from the default /da/ and thus evades deletion. No such VI exists for consonant-initial prepositions.

(45)   *Local non-doubling with consonant-initial P*
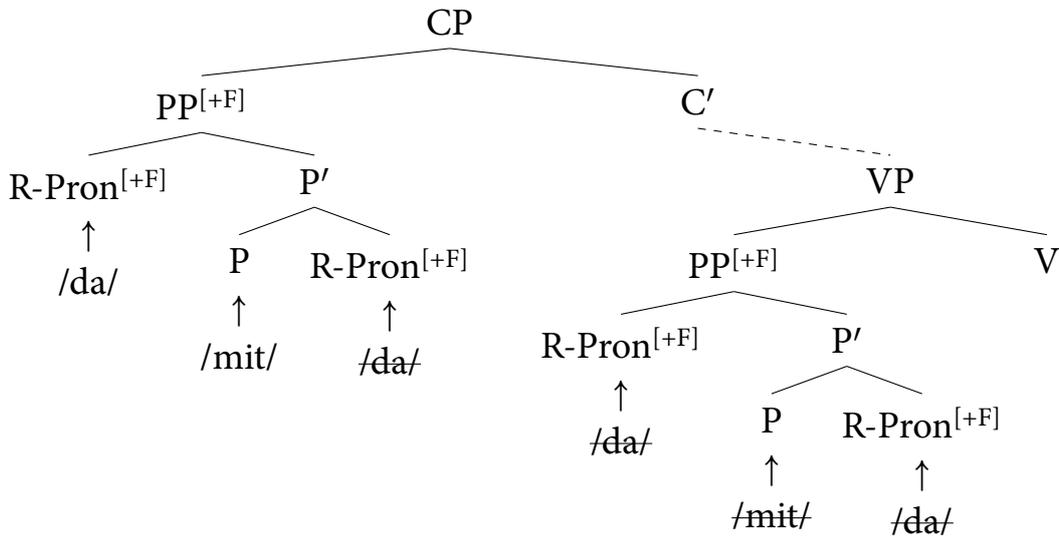
Lin.: *da-mit …*

(46)   *Local (reduced) doubling with vowel-initial P*
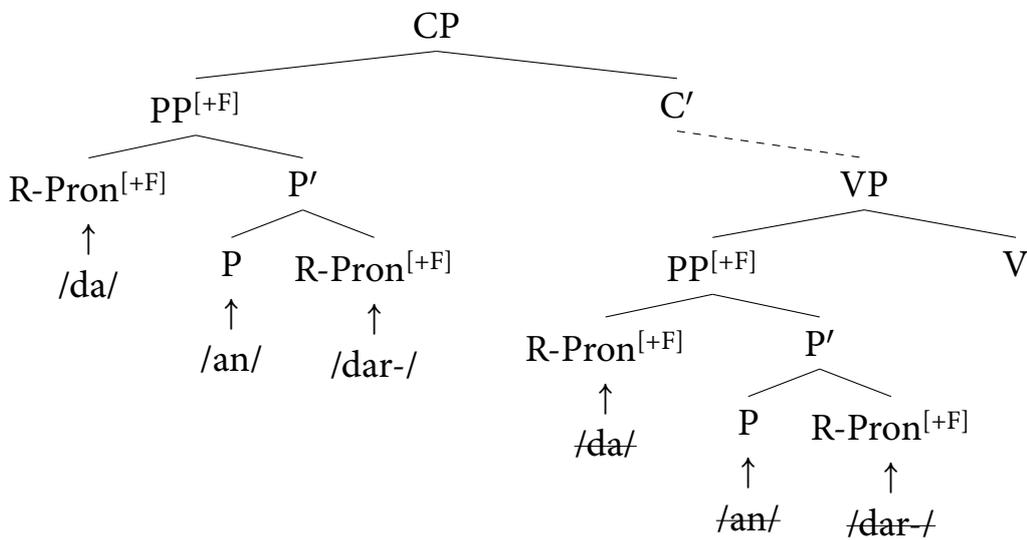
Lin.: *da-d(a)r-an …*

- Doubling *in situ* is unattested just as in doubling dialects because without any movement there is no reason to create a copy of R-Pron.

(47)   *Non-doubling in situ*
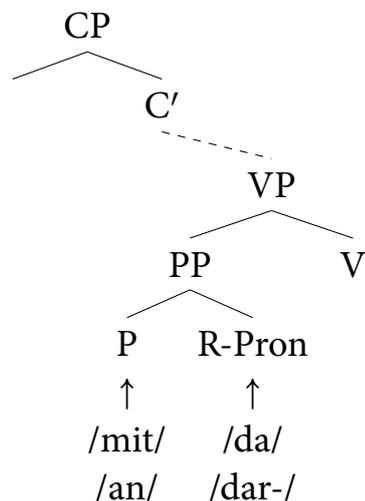
Lin.: *… da-mit/… d(a)r-an*

6 Dutch

6.1 Data

- Dutch is like German in that it does not allow preposition stranding by extracting a full noun phrase out of PP.[6]

  (48) a. *Welk boek$_i$ kijk je   [$_{PP}$ naar t$_i$] ?
           which book look you   at
           'Which book are you looking at?'
       b. *Deze onderwerpen$_i$ zijn   veel [$_{PP}$ over   t$_i$] gesproken.
           these topics   have.been a.lot   about   talked
           'These topics have been talked about a lot.'

- Dutch has two different variants of R-pronouns, *er* and *daar* with the former being the unstressed or weak form and the latter being the stressed or strong form. In contrast to German, it is always possible to strand the preposition by extracting an R-pronoun from the PP independent of the initial segment of the preposition.

  (49) a. Jan heeft er$_i$ de hele   dag t$_i$-op gewacht.
           Jan has   R-PRON the whole day   for waited
           'Jan waited for it all day long.'   *er* + vowel
       b. Die   schoenen passen er$_i$ heel goed t$_i$-bij.
           those shoes   fit   R-PRON very well   with
           'Those shoes go very well with it.'   *er* + consonant
       c. Jan heeft daar$_i$ gisteren   met Peter t$_i$-over gesproken.
           Jan has   R-PRON yesterday with Peter   about talked
           'Jan talked about that with Peter yesterday.'   *daar* + vowel
       d. Jan heeft daar$_i$ de hele   dag t$_i$-naar gezocht.
           Jan has   R-PRON the whole day   for   looked
           'Jan has looked for that all day long.'   *daar* + consonant

- Even though P-stranding is possible with both *daar* and *er*, the two R-pronouns differ with regard to where they can move to. While *daar* can occur in both the middle- and prefield (50-a), topicalization of *er* is excluded (50-b, c) (Broekhuis, 2013).

  (50) a. Daar   heeft Jan de hele   dag naar gezocht.
           R-PRON has   Jan the whole day for   looked
           'That Jan has looked for all day long.'
       b. *Er heeft Jan de hele dag naar gezocht.
       c. *Ernaar heeft Jan de hele dag gezocht.

- Like German, Dutch also has an interrogative variant of the R-pronoun, *waar*. It preferably strands the preposition (51-a) whereas pied-piping examples are acceptable but marked (51-b).

---

[6]All examples in this section are taken from Broekhuis (2013).

(51)   a.   Waar_i heeft Jan de hele   dag t_i-naar gezocht?
          where has   Jan the whole day   for looked
          'What did Jan look for all day long?'

     b.   (?)Waarnaar_i heeft Jan de hele dag t_i gezocht?

- In contrast to German, Dutch (at least the standard variant) to the best of our knowledge does not allow doubling of the R-pronoun, be it extracted or not.

6.2   Analysis

- In contrast to German, the choice between two phonologically distinct realizations of the R-pronoun in Dutch seems to not be conditioned by the preposition (49). Rather, the choice depends on whether the R-pronoun is information-structurally prominent (stressed/topicalized) or not.

- Therefore, we postulate the three Vocabulary Items in (52). *Er* is treated as the default realization of R-Pron while *daar* is more specific by realizing an additional [+top(ic)] feature. Likewise, the interrogative VI realizes a [+wh] feature.

(52)   *Vocabulary Items for (Standard) Dutch*
     a.   /daar/ ↔ [R-Pron,+top]
   b.   /waar/ ↔ [R-Pron,+wh]
     c.   /er/ ↔ [R-Pron]

- Dutch then behaves like non-doubling dialects with consonant-inital prepositions in German. The lower copies of R-Pron are always realized by the same VIs as the higher copies. Therefore, Chain Reduction deletes them in all cases whether the preposition is consonant- or vowel-initial (53).

(53)   *Split non-doubling with* daar *in Dutch* (54)   *Split non-doubling with* er *in Dutch*
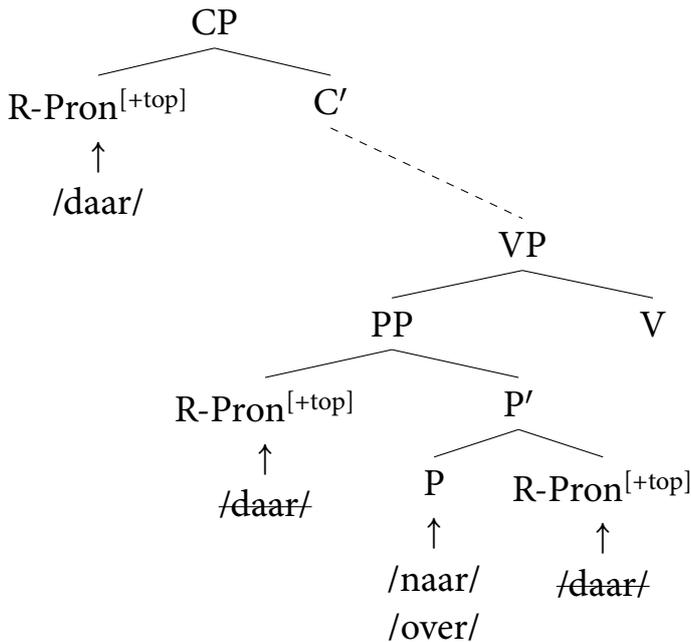
Lin.: *daar … naar/daar … over*
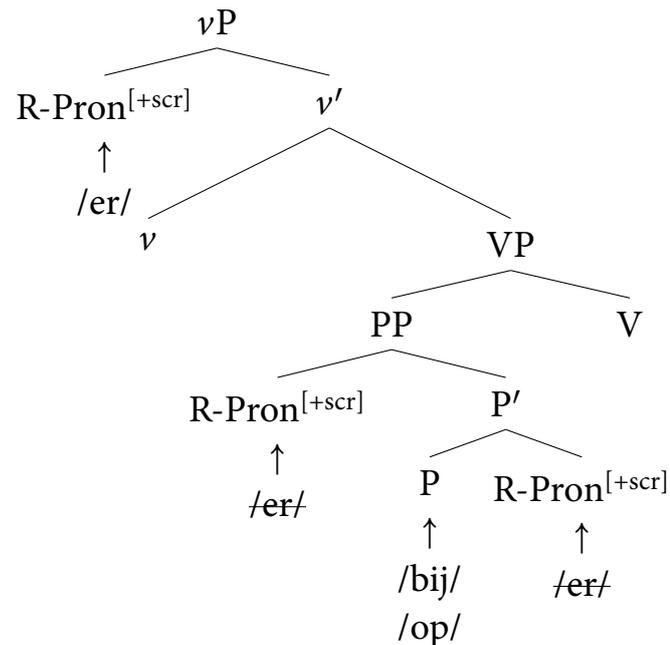
Lin.: *er … bij/er … op*

6.3 Overview of R-pronouns in German and Dutch

| | −P-adjacent | | +P-adjacent | |
	+strong	−strong	+vowel-init.	−vowel-init.
German (doubling)	da		dar-	də-
German (non-doubling)	da		dar-	da-
Dutch (Standard)	daar	er	daar/er	

7 Open issues

- *Mixed dialects*

  There are some dialects that allow split doubling for some prepositions (or in some construc-tions/environments) but never show full local doubling. For those, we would have to assume that they have the full set of Vocabulary Items, but the condition on feature percolation must be stricter: They have to decide right at the start whether they want to percolate the movement-triggering fea-tures. If they decide to not percolate, the R-pronoun moves to SpecPP and further up. Upon Vocabulary Insertion, the lowest copy is realised by a reduced /də/ and evades deletion resulting in doubling. If percolation applies, it applies at the very beginning of the derivation. Therefore, there is no PP-internal movement of the R-pronoun, only the whole PP moves. Its lower copies get deleted while in the highest copy there is only one token of R-Pron that is realised by /da/.

(55)   *List of VIs in mixed dialects*

    a.   /wo/ ↔ [R-Pron,+wh]

    b.   /dar-/ ↔ [R-Pron]/__{an, auf, über, …}

    c.   /də-/ ↔ [R-Pron]/__{mit, gegen, von, …}

    d.   /da/ ↔ [R-Pron]
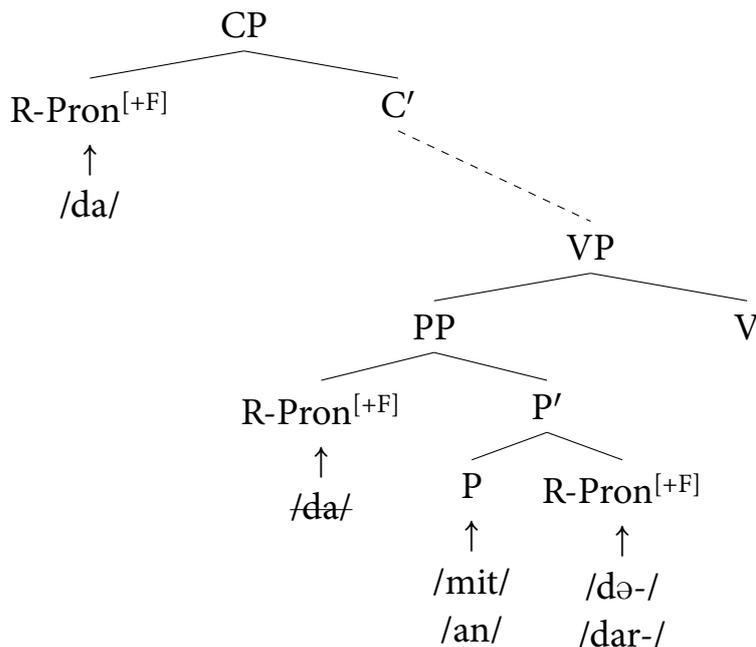
(56)   *Split doubling*   (57)   *Local non-doubling*
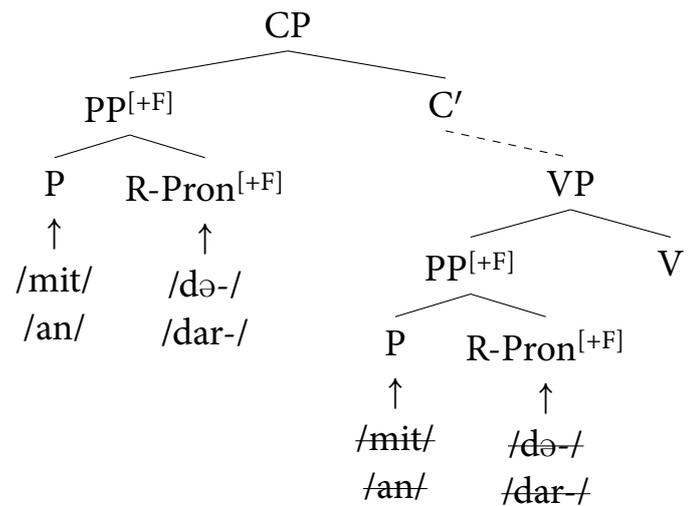
Lin.: *da … də-mit/da … d(a)r-an*   Lin.: *də-mit …/dar-an …*

- *Local reduced doubling variant*
  In non-replicating dialects, our analysis always predicts the reduced doubled form (*dadrüber, wodrüber*) with vowel-initial prepositions in local doubling (46). However, there also is an alternative variant without the doubled /d/ (*darüber, worüber*) only licensed in non-split constructions. A solution to this would be to allow those dialects to chose whether they percolate the movement-triggering feature at the start (resulting in *darüber*) or after PP-internal movement (resulting in *dadrüber*). This would be completely analogous to the solution to the problem of mixed dialects with the difference that, here, the timing of percolation is optional.

8   Summary and conclusion

- A considerable number of German dialects exhibit doubled R-pronouns with pronominal adverbs (*dadamit, dadafür, dadagegen*). At first sight, this type of replication seems to be completely redundant since there is no difference in meaning associated with it. The main purpose of this paper was to account for (i) the difference between dialects with regard to replication of R-pronouns and (ii) why an (apparently redundant) process of replication occurs.

- With regard to the issues raised in section 3.1, we have presented a new proposal to solve issues (ii) and (iii).

- Regarding the issue of apparently redundant replication (iii), we have argued that copies are a consequence of movement in general (Copy Theory). Replication of R-pronouns thus results from the different realization of copies with different vocabulary items (depending on the environments of the copies). This difference prevents a lower copy from being deleted under phonological identity which is the usual procedure in non-doubling dialects and Dutch.

- This leaves us the possibility to reduce dialectal variation in R-pronoun doubling to lexical variation plus Chain Reduction (issue ii).

- Further advantages:

  - Our analysis accounts for the fact that even in usually non-replicating dialects there is reduced doubling with vowel-initial prepositions.

  - The account also derives the impossibility of interrogative doubling with *wo* (**wowomit, *woworüber*).

  - Furthermore, it follows naturally that movement of both copies of the R-pronouns never occurs because the lower copy never leaves the complement position of the PP.

  - We also consider that the phonological shape of the two tokens of the R-pronoun differs. In fact, we predict that they have to be different in order for overt doubling to be possible, a prediction that can be tested empirically: If there existed a Dutch dialect with R-pronoun doubling, we would expect the two copies to be phonologically distinct.

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