Doubling and extraction from PP in Alemannic German*

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1 Introduction

- We examine the morpho-syntax of certain pronouns in Alemannic German, spoken in and around Switzerland.
 - ⊳ Specifically we discuss a type of pronoun, termed *R-pronoun* in van Riemsdijk (1978)'s study of Dutch, which also exists in German (see Abels (2012) and references therein).
 - ▶ Unlike typical nominal elements in standard German, R-pronouns precede prepositions (1a) and can be extracted from PP (1b):
 - (1) Standard German R-pronouns
 - a. R-pronoun in PP
 Ich ess [PP da-von/mit/...]
 I eat PRON-of/with/...
 'I eat with / (some) of this'
 - b. R-pronoun extraction from PP \mathbf{Da}_1 ess ich $[PP \ t_1 \ von]$ PRON eat I of

 'This, I eat (some) of
- Similar facts are found in Alemannic, with a difference: use of an R-pronoun in PP (2a) or extraction of it from PP (2b) require the appearance of another morpheme, *de*.
- We gloss this as 'DBL' for 'double':
 - (2) Alemannic R-pronouns¹
 - a. R-pronoun in PP
 I iass [PP do*(de)-vo]
 I eat PRON-DBL-of
 'I eat (some) of this'

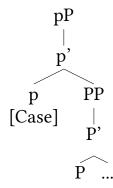
^{*}Thanks to Josef Bayer, Miriam Butt, Deniz Özyildiz, George Walkden, as well as participants of the Syntax Colloquium at the University of Konstanz, Incontro di Grammatica Generativa 48, Generative Linguistics in the Old World 46, and West Coast Conference on Formal Linguistics 41. The data reported here is based on the judgments of David Diem, a native speaker of the Alemannic dialect of western Austria (Lustenau).

¹Many of our Alemannic examples use the preposition *vo*, 'of', which often contributes a partitive interpretation, as indicated in the translations.

b. R-pronoun extraction from PP

$$\mathbf{Do}_1$$
 iass i [$_{PP}$ t_1 *(\mathbf{de})-vo] PRON eat I DBL-of 'This, I eat (some) of'

- ▷ As we will show, in isolation the morpheme *de* is an R-pronoun meaning 'it', though this morpheme is not interpreted in examples like the above.
- ★ Our goal is to argue that this redundant *de* can be understood as 'doubling', via the spell-out of a trace of PP-internal movement.
 - ⊳ Similar 'doubling' is likely possible in non-standard German more generally (Fleischer 2002), though here we focus on Alemannic, in which this doubling is obligatory.
 - We argue that these facts fit a theory in which PPs are dominated by a 'little p', which
 is responsible for assigning case to nominals in PP (van Riemsdijk 1990; Rooryck 1996;
 Koopman 2000; Svenonius 2003).²
 - (3) PP dominated by pP



- ▶ We will propose that case-assignment by pP triggers movement of R-pronouns, and thus doubling, prior to any other movement involving R-pronouns.
- ▶ We will also show that the distribution of doubles is limited by *haplology*—the tendency to avoid sequences of adjacent identical syllables/morphemes.
- We will provide an explicit account of this doubling using Distributed Morphology (Halle and Marantz 1993, a.o.) along with a copy theory of movement (Chomsky 1995; Nunes 2004).

²Posting a distinction between P and the head responsible for assigning case to PP-internal elements allows some these works to account for phenomena such as pseudo-passivization from PP: by retaining P but omitting the case-assigning pP, A-movement of the DP that is the complement of P is possible, as in sentences like 'This bed was slept in.'.

2 The basic patterns

- We first describe the basic facts we analyze using the pronoun *do* ('this/here') and the P *vo* ('of'), and discuss others later.³
 - ▶ From this point onward, unless otherwise indicated all data shown in this presentation is from Alemannic German.
- Typically, an R-pronoun can stand alone straightforwardly:
 - (4) Basic R-pronoun

```
Min hus isch do
my house is here
'My house is here'
```

- When focused, the R-pronoun can be accompanied by a second morpheme de:4
 - (5) *R-pronoun with focus*

```
Min hus isch do-de
my house is here-dbl
'My house is HERE'
```

- Further, when in a PP an Alemannic R-pronoun must always co-occur with *de*:
 - (6) R-pronoun in PP must have 'de'

```
I iass [PP do-*(de)-vo]
I eat PRON-DBL-of
'Of this, I eat (some)'
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• In isolation, this *de* is an R-pronoun meaning 'it':

³The Alemannic *do* has a proximal interpretation, unlike its cognate *da* in standard German, which is distal. In Alemannic a distal interpretation is conveyed by another R-pronoun, *döt*, which is a cognate of standard German *dort*. We discuss this further in section 4 below.

⁴Specifically, if *de* is present the R-pronoun is necessarily focused in examples like (5), but it is also possible for the R-pronoun to be focused without *de*. We will develop an analysis in which this *de* is derived by movement (though in (5) a very short one, see section 3.3). If our analysis is correct, then what we are seeing here is that focus on the R-pronoun can, but does not have to, involve movement. This is analogous to the fact that a focused element in English can remain in situ (with prosodic emphasis), or overtly move:

⁽i) a. I don't like those cookies, but I really like these cookies!

b. I don't like those cookies, but these cookies, I really like!

(7) Typical R-pronoun 'de'
 I iass [PP de-vo]
 I eat PRON-of
 'I eat (some) of it'

- ★ It is for this reason that we take examples like (5) and (6) to involve doubling: such examples appear to involve two pronouns, only one of which is actually interpreted.
 - PP examples with doubling like (6) above can be subjected to further syntactic modification.
 - One possibility is to extract the pronoun from PP, as we have already seen:
 - (8) R-pronoun extraction from PP

```
\mathbf{Do}_1 iass i [_{PP} t_1 *(\mathbf{de})-vo] PRON eat I DBL-of 'This, I eat (some) of'
```

- Alternatively, it is possible to move the R-pronoun and pied-pipe the PP along with it:
 - (9) Pied-piping of PP with movement of R-pronoun

```
[Do *(de)-vo]<sub>1</sub> iass i t_1
PRON DBL-of eat I
'Of this, I eat (some)'
```

• These patterns contrast with the behavior of more typical DPs, which follow P, and cannot be extracted from it, though pied-piping of DP along with P is permitted:

```
(10) a. DP in PP

I iass [PP vo deam Brot]
I eat of this bread

'I eat (some) of this bread'
b. No DP movement from PP

* [Deam Brot] iass i [PP vo t1]
This bread eat I of

'This bread, I eat (some) of'
c. Pied-piping with PP

[PP Vo deam Brot] iass i t1
Of this bread eat I

'(Some) of this bread, I eat'
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• Next, we will provide an analysis that accounts for all of the above facts.

3 Analysis

- Here we will first discuss why movement from PP is banned for typical DPs in German, following the analysis in Abels (2003, 2012).
- From that basis, we will then introduce the pP proposal, and show how this facilitates an analysis of the above doubling patterns.

3.1 Why extraction from PP is usually banned: Phases versus anti-locality

- Above we saw that R-pronouns can be extracted from PP, but typical DPs cannot.
- While the data we just showed is from Alemannic, the same contrast is known for German more generally, as well as Dutch (van Riemsdijk 1997; Abels 2003, 2012).
- Here are some examples illustrating the lack of DP extraction from PP for standard German:
 - (11) Standard German
 - a. DP in PP

Ich esse von diesem Brot

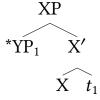
I eat of this bread

'I eat (some) of this bread'

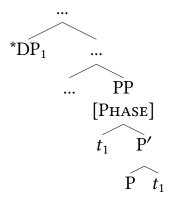
- b. No movement of DP from PP
 - * [Diesem Brot]₁ esse ich von t_1 This bread eat I of

'This bread, I eat (some) of'

- Abels argues that the inability of usual DPs to exit PP (in German and other languages) emerges from the interaction of two factors:
 - #1 PP is a *phase* (Chomsky 2000, 2001), so any movement from PP would have to pass through its specifier.
 - (12) Schema: Movement from PP must pass through spec-PP $XP_1 \dots \begin{bmatrix} PP_{Phase} & t_1 & P & t_1 \end{bmatrix}$
 - #2 There is a ban on movements that are too short—*anti-locality*—which prevents movement from complement to specifier of the same phrase:
 - (13) No movement from complement to specifier of the same phrase



- Since German DPs in PPs follow P, assume that they are merged in the complement of P. If this is so, then:
 - ▷ Any movement of that DP out of PP must go through spec-PP, since PP is a phase.
 - ▶ But this position is inaccessible because movement from complement to specifier of PP is banned:
 - (14) PP phasehood + anti-locality = no P-stranding



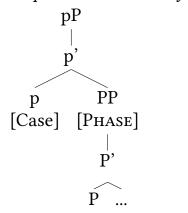
- ✓ Thus we derive the usual ban on P-stranding in German. The analysis applies equally to standard German and Alemannic.
- Next, we build from this analysis in order to account for the R-pronoun doubling facts.

3.2 Doubling of R-pronouns by raising to pP

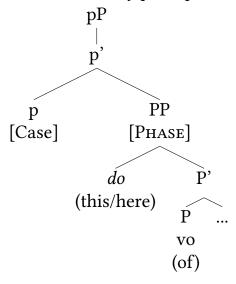
- Unlike usual DPs in German, we have seen that R-pronouns can be extracted from PP, and also uniquely precede the P that they merge with.
 - ▶ Abels argues that R-pronouns in PP involve the inclusion of an additional phrase in PP, in a way that facilitates R-pronoun extraction without violating anti-locality.⁵
- For our doubling analysis of Alemannic, we will adopt a structurally simpler proposal: that R-pronouns are externally merged in the specifier of the PP phase, rather than its complement.
- However, our doubling analysis requires us to posit that PPs involve an additional layer.
 - ▷ Specifically, as previewed above, we will hypothesize that PPs are dominated by a pP, which is responsible for the assignment of case to PP-internal elements.
 - ⊳ Along with this, we will also maintain Abels proposal that PP is a phase.

⁵Specifically, Abels posits a phrase between the R-pronoun and PP that he terms DRP, so-called due to facts about the realization of R-pronouns in Dutch and German. He also posits that similar structure, though always silent, facilitates extraction from PP in P-stranding languages like English and Norwegian. One might similarly propose that PP is not a phase in such languages, as Abels (2003) does.

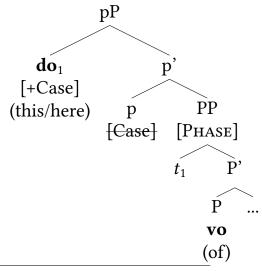
(15) PP phase dominated by pP



- As mentioned, we assume that R-pronouns are externally merged in the specifier of PP:⁶
 - (16) PP dominated by pP, R-pronoun merged in spec-PP



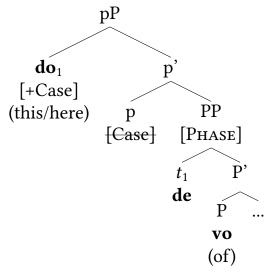
- We propose that after this, little p attracts the R-pronoun to its specifier upon assigning it case (this is accusative or sometimes dative case in German).
 - (17) R-pronoun receives case and moves to spec-pP



⁶It is also conceivable that a special rule of linearization orders P to the right when its complement is an R-pronoun. However, positing that R-pronouns are simply left-leaning complements does not capture the difference in extractability between R-pronouns and usual DPs, since under this analysis we would incorrectly predict R-pronouns to be frozen in PP by anti-locality.

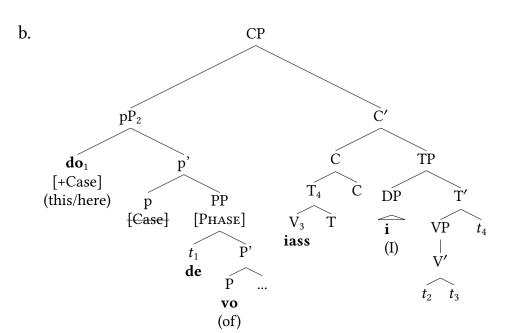
Another option that is more compatible with our analysis is that R-pronouns are adjuncts of PP. As long as they are not complements, their extractability is correctly predicted.

- ★ Importantly, we argue that in Alemannic, the trace left behind by this movement of the R-pronoun is spelled-out by the morpheme *de*, giving rise to **doubling**.
 - ▶ This doubling is essentially a form of resumption, since outside of doubling constructions, *de* is an R-pronoun meaning 'it'.
 - (18) R-pronoun trace in spec-PP pronounced as doubling

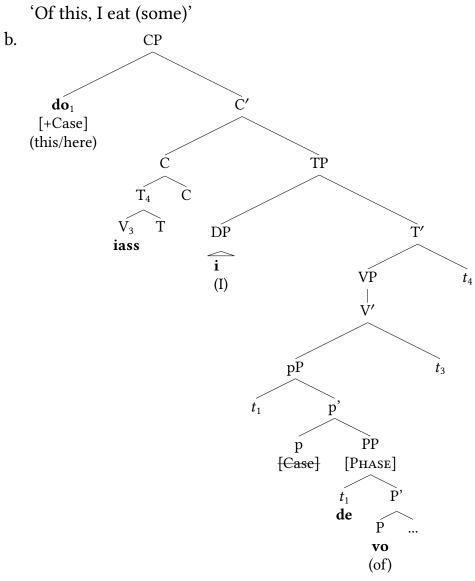


- □ Typical DPs which are born in the complement of PP, by contrast, cannot be attracted by pP and are not doubled, since they are frozen in place by the phase versus anti-locality conflict described above.
- After structures like (18) are derived, it is possible to move the R-pronoun further, either pied-piping pP along (19) or stranding it below (20):
 - (19) Pied-piping of pP
 - a. [**Do** *(**de**)-vo]₁ iass i t_1 PRON DBL-of eat I '(Some) of this, I eat'

⁷If p cannot access a DP in the complement of the PP phase in order to attract it, in principle we would also expect p to be unable to assign it case, which would presumably cause a crash. However, if case assignment is mediated by Agree (Chomsky 2000, 2001) and Agree is unlike Move in not being subject to the Phase Impenetrability Condition (Bošković 2007), then p can in fact assign such a DP case despite being unable to trigger its movement.



- (20) R-pronoun extraction from pP
 - a. \mathbf{Do}_1 iass i [$_{PP}$ t_1 *(\mathbf{de})-vo] PRON eat I DBL-of 'Of this, I eat (some)'



- ✓ In summary, after obligatory movement of the R-pronoun to spec-pP, which causes doubling, further movement of the R-pronoun may either pied-pipe or strand the pP.⁸
- However, notice that in the above tree, extraction of the R-pronoun from spec-pP creates a second trace, which conceivably might also be realized as *de*, resulting in 'tripling'.
- Such examples are not possible, however:
 - (21) No double 'de'

Do iass i (***de**)-**de**-vo PRON eat I DBL-DBL-of

'This, I eat (some) of'

- ✓ We argue that this is ruled out by *haplology*, which penalizes sequences of adjacent identical morphemes/syllables.
 - ▶ Though see also section 3.4 below, where we show that doubling in intermediate positions seems to be independently ruled out.
- As we will show soon, other R-pronouns in Alemannic must also be doubled when in a PP, not just *do*, with one exception: The R-pronoun *de* cannot be doubled.
 - (22) No doubling of 'de'

 I iass de-(*de)-vo
 I eat PRON-PRON-of

 'I eat (some) of it'
- ✓ This is what we expect, if haplology constrains the distribution of doubling.

⁸This account also makes correct predictions about contexts with coordinated PPs. If we coordinate two PPs below pP, the R-pronoun in each will move and be united in spec-pP via Across-The-Board movement (Ross 1967, a.o.). Both traces of such movement in spec-PP will be realized as doubling. After this, it is possible to either extract the R-pronoun from pP (ia), or pied-pipe the entire pP structure containing the R-pronoun to a higher position (ib):

⁽i) a. Luag, an riesiga Löffl us Schoggi! **Do** easse-mr jetz [**de-mit** und **de-vo**]. Look, a giant spoon from chocolate PRON eat-we now DBL-with and DBL-of 'Look, a giant spoon made out of chocolate! We eat with it, and of it.'

b. Luag, an riesiga Löffl us Schoggi! [**Do de-mit** und **de-vo**] easse-mr jetz. Look, a giant spoon from chocolate PRON DBL-with and DBL-of eat-we now 'Look, a giant spoon made out of chocolate! With it and of it, we eat.'

3.3 Doubling without PP

- We have shown above that, when focused, an R-pronoun can be doubled even when not in a PP:
 - (23) a. Basic R-pronoun

 Min hus isch do

 my house is here

 'My house is here'

 b. R-pronoun with focus

 Min hus isch do-de

 my house is here-DBL

 'My house is HERE'
- To account for this, we will adopt the proposal of Syed (2015) that a nominal phrase can be immediately dominated by a focus projection (FocP), which triggers movement of focused material.
- Specifically, we argue that when FocP immediately dominates the R-pronoun, it moves to spec-FocP, and that the trace of this movement is realized as doubling:⁹
 - (24) Doubling by focus movement

FocP
$$\mathbf{do}_1 \quad \text{Foc}'$$
Foc t_1

- The FocP can then undergo further movement:
 - (25) Movement of focused R-pronoun

 $\mathbf{Do-de}_1$ isch min hus t_1 here-DBL is my house

'My house is HERE'

- In examples with PPs, we saw that R-pronoun can be extracted, stranding the doubling morpheme *de* below.
- The same is not possible in PP-less doubling examples, however:

⁹This FocP we posit here appears analogous to the QP of Cable (2010), which dominates constituents that participate in A'-movements, and sometimes also motivates movement within those constituents prior to A'-movement of the material that QP dominates. The relevant constituent involved in these Alemannic patterns need not undergo further movement, however, though it can, as in (25).

(26) Pronoun movement cannot strand doubling morpheme when there is no PP

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* \mathbf{Do}_1 isch min hus [t_1 \ \mathbf{de}] here/there is my house DBL 'My house is HERE'
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• We suggest that this is because *de* is a bound morpheme, which is unable to stand alone, though this problem does not arise when *de* is next to a stranded P.

3.4 Doubling only targets the R-pronoun's original position

- If movement must successive-cyclically pass through the edge of phases, and if CP is a phase, we would expect examples that move an R-pronoun from an embedded CP to allow pronunciation of the R-pronoun's intermediate trace in spec-CP.
- However, this is not possible, as (27) below shows.
 - ▷ Example (27a) shows a sentence with an R-pronoun in a PP in an embedded clause.
 - ⊳ In (27b), we see acceptable cross-clausal pied-piping of PP with the R-pronoun.
 - ▶ In (27c), we see cross-clausal extraction of the R-pronoun, and the unacceptability of doubling in the edge of the embedded CP.
 - (27) a. *R-pronoun in PP in embedded clause*Du heasch gseit [dass i do-de-vo iass]

 you have said that I pron-dbl-of eat

 'You said that I eat (some) of this'
 - b. Pied-piping movement out of embedded clause possible $Dodevo_1$ heasth du gseit [t_1 dass i t_1 iass] PRON-DBL-of have you said that I eat 'You said that I eat (some) of this'
 - c. *R-pronoun extraction possible, but no doubling in spec-CP*Do heasch du gseit [t_1 (***de**) dass i t_1 de-vo iass]

 PRON have you said DBL that I DBL-of eat

 'You said that I eat (some) of this'
- We might suspect that this is due to a Doubly Filled Comp Filter violation, but this cannot be right, since Alemannic does not have this constraint (Bayer 2015):
 - (28) No Doubly Filled Comp Filter in Alemannic

 Du heasch gfroget [wo dass i iass]

 You have asked where that I eat

 'You asked where I eat'
- Overall, it appears that only the base position of the R-pronoun is ever subject to doubling. We set this puzzle aside for now.

4 Accounting for the morphology of doubling

- Above we have mainly shown examples that use the pronoun *do* ('this/here'), involving doubling by *de*.
- We have also so far only used the preposition *vo* ('of').
- ✓ All the patterns shown above can be replicated with the other R-pronouns *döt* ('that/there') and *wo* ('what/where'), as well as with other prepositions:
 - (29) Various pronouns and prepositions: Pied-piping movement
 - a. [Do/döt **de**-vo/mit/för]₁ iass i t_1 PRON DBL-of/with/for eat I '(Some) of/with/for this/that, I ate'
 - b. [Wo **de**-vo/mit/för]₁ iass i t_1 PRON DBL-of/with/for eat I '(Some) of/with/for what did I eat?'
 - (30) Various pronouns and prepositions: Pronoun extraction
 - a. Do/döt₁ iass i [t_1 **de**-vo/mit/för] PRON eat I DBL-of/with/for 'This/that, I ate (some) of/with/for '
 - b. Wo₁ iass i [t_1 **de**-vo/mit/för] PRON eat I DBL-of/with/for 'What did I eat (some) of/with/for?'
 - (31) PP-less focus doubling¹⁰
 - a. Min hus isch [do/döt]-de my house is here/there-DBL 'My house is HERE/THERE'
 - b. [Do/döt]-de₁ isch min hus t₁ here/there-DBL is my house
 'My house is HERE/THERE'
- ! Notice that all of these pronouns, do, döt, and wo, are doubled by the morpheme de.

If wh-phrases are inherently focused (see Rizzi (1997), for instance) then the problem in the above example may be the presence of redundant extra focus. Notice that wo does occur with doubling in PP examples like (29b) and (30b) above, where following our analysis doubling occurs for an independent reason: case-driven pP-internal movement, rather than focus.

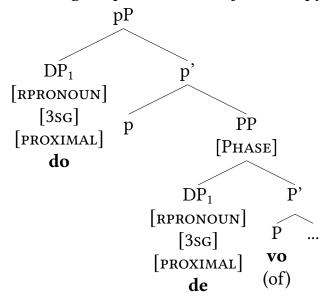
 $^{^{10}}$ It is not possible to double the $\it wh$ -R-pronoun $\it wo$ in examples like (31), however, as (i) shows:

⁽i) * Wo-(*de)₁ isch min hus t_1 ? where-DBL is my house 'Where is my house?'

- Recall that in isolation, *de* is interpreted as 'it'—likely the semantically weakest possible R-pronoun.
- Cross-linguistically, it is typical for doubling phenomena to involve reduced/un-marked elements.
 - ⊳ For instance, van Urk (2018) analyzes instances of full DPs doubled by pronouns, and Landau (2006) shows that verb doubling in Hebrew results in an infinitive.
- ✓ Thus it is not surprising that in Alemannic, different pronouns are doubled by a morpheme that normally represents a less-marked pronominal option.
- This analysis can be implemented in Distributed Morphology (Halle and Marantz 1993), which posits that syntactic nodes are assigned their morpho-phonological form post-syntactically, based on a list of Vocabulary Insertion (VI) rules.
 - ► For example, the following VI rules can describe R-pronoun doubling in Alemannic, provided we grant a few morphological assumptions that we describe next:¹¹
 - (32) The VI rules for R-pronouns and doubling in Alemannic
 - a. [RPRONOUN, 3SG, PROXIMAL] \leftrightarrow do ('this/here')
 - b. [rpronoun, 3sg, distal] ↔ döt ('that/there')
 - c. [RPRONOUN, 3sG, WH] ↔ wo ('what/where')
 - d. [RPRONOUN, 3sg] \leftrightarrow de ('it')
 - ▶ In this set of rules, all R-pronoun forms are specified for the features [RPRONOUN, 3sG], though *do*, *döt*, and *wo* have additional features (32a-c), while *de* does not (32d).
 - ⊳ This makes concrete the intuition that the R-pronoun *de*, which means 'it', is relatively un-marked and under-specified.
- The *Subset Principle* of Distributed Morphology requires a syntactic node to be realized by the VI rule that matches as many of that node's features as possible.
- ! Thus, while *de* matches a sub-set of the features of all R-pronouns, the more specific VI rules for the forms *do*, *döt*, and *wo* must usually be used when applicable.
- To implement doubling, we adopt the copy theory of movement (Chomsky 1995; Nunes 2004; van Urk 2018), for which movement leaves behind not traces, but full-fledged syntactic copies.
- We propose that when an R-pronoun moves, its lower copy can be realized as *de* via the VI rule in (32d), since this rule fits a sub-set of the features that all R-pronouns bear:

¹¹For concreteness these VI rules make explicit reference to a feature '[RPRONOUN]', which is obviously stipulative, though it is clearly necessary to syntactically distinguish R-pronouns and usual pronouns/DPs in some way.

(33) Doubling via pronunciation of lower copy



- However, if pronunciation of such lower copies is permitted (rather than the usual total silencing of them), we must ask why such lower copies are not always assigned exactly the same form as the highest copy formed by movement $(do/d\ddot{o}t/wo)$.
- We suggest that this is due to the general tendency for additional pronounced copies to take on a relatively impoverished form, as mentioned above with reference to Landau (2006) and van Urk (2018).

5 Conclusion

- We have analyzed data about the doubling of R-pronouns in Alemannic German. 12
- ★ Building on Abels account of the differing properties of usual DPs and R-pronouns in German, we have argued that these facts fit a theory in which PPs involve an additional phrasal layer.
 - We identified this layer as a case-assigning pP, which triggers movement of PP-internal nominals when possible.
- ✓ In reality this is only possible for R-pronouns, whose PP-internal traces are resumed by a pronoun that normally means 'it', yielding doubling.
- That a less-marked element is recruited to achieve doubling converges with previous findings about doubling phenomena cross-linguistically.

¹²Hein and Barnickel (1990) analyze similar facts in Swabian German (a related variety) and also pursue what is essentially a doubling analysis. Their analysis applies Optimality Theory (Prince and Smolensky (2004)) to syntax, and thus hypothesizes that syntactic derivations are governed by a set of ranked violable constraints. Their analysis relies on six such constraints, which they rank differently for German dialects that do and do not have doubling. While it is beyond the scope of this paper to debate the desirability of an Optimality-Theoretic syntactic theory, we suggest that our analysis offers a potentially simpler alternative.

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