

Untangling morphosyntactic microvariation in Dutch dialects

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Outline

Main goals for today

Introduction: the data set

Quantitative analysis

- Correspondence Analysis

- Cluster Analysis

- Cluster Description

- Conclusion

Qualitative analysis

- A case study

- 7 parameters

The bigger picture: determinants of variation



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2. Advocate for the combined use of quantitative (statistical) and qualitative (formal-theoretical) methods as a way towards achieving such an analysis.
3. Consider the bigger implications of this one case study for understanding the properties of and mechanisms behind variation in natural language.



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▶ **more specifically:**

- ▶ use quantitative-statistical means to identify patterns in the data
- ▶ use qualitative-theoretical means to interpret those patterns



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Quantitative analysis

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2. **Cluster Analysis:** cluster the dialects into groups based on those tendencies
3. **Cluster Description:** identify the linguistic phenomena that are characteristic for those clusters



Quantitative analysis: Correspondence Analysis

Correspondence Analysis:

1. We start from the raw data table:

	AUXDOUBL	AUXSEL	GERUND	ABSWITH	PERPASS
Midsland	0	1	0	0	0
Lies	0	1	0	0	1
West-Terschelling	0	1	0	0	0
Oosterend	0	0	0	0	1
Hollum	0	1	0	0	0
Schiermonnikoog	0	0	0	0	0
Ferwerd	0	1	0	0	0
Anjum	0	1	0	0	0
Kollum	0	1	0	0	0
Visvliet	0	1	0	0	0
...



Quantitative analysis: Cluster Analysis

- ▶ Cluster Analysis is a technique for combining observations into groups (clusters)

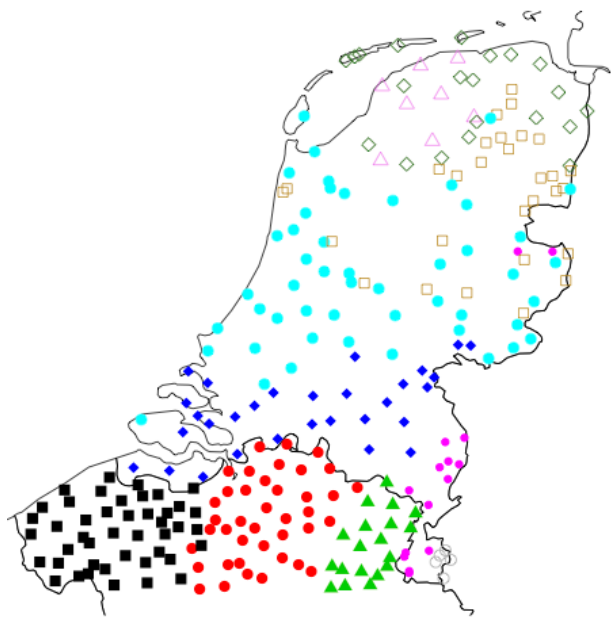


Quantitative analysis: Cluster Analysis

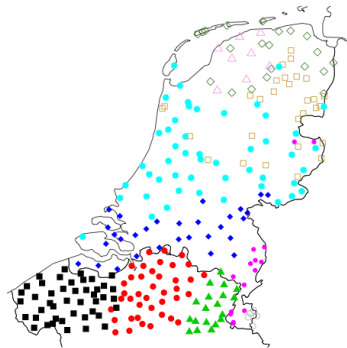
- ▶ Cluster Analysis is a technique for combining observations into groups (clusters)
- ▶ we are performing the Cluster Analysis based on the results of the Correspondence Analysis



Quantitative analysis: Cluster Analysis



Quantitative analysis: Cluster Analysis



Quantitative analysis: Cluster Description

- ▶ we can now list for each cluster which linguistic phenomena are significantly more present in that cluster than would be expected by chance

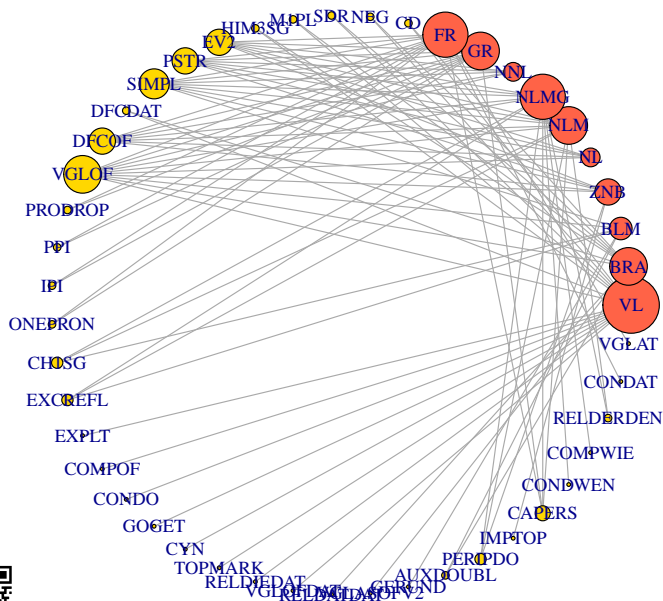


Quantitative analysis: Cluster Description

- ▶ we can now list for each cluster which linguistic phenomena are significantly more present in that cluster than would be expected by chance
- ▶ in other words, which linguistic features are characteristic for which dialect area?



Quantitative analysis: Cluster Description



Quantitative analysis: Conclusion

- ▶ the quantitative analysis has allowed us to distill from the initial data set of 260 dialect locations and 146 linguistic phenomena a smaller one consisting of 10 dialect areas and 37 linguistic phenomena



Quantitative analysis: Conclusion

- ▶ the quantitative analysis has allowed us to distill from the initial data set of 260 dialect locations and 146 linguistic phenomena a smaller one consisting of 10 dialect areas and 37 linguistic phenomena
- they will serve as input for the qualitative analysis



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Qualitative analysis: A case study

- ▶ **Central question:** to what extent can we make sense of the 37 phenomena retained in the quantitative analysis from a formal-theoretical point of view?

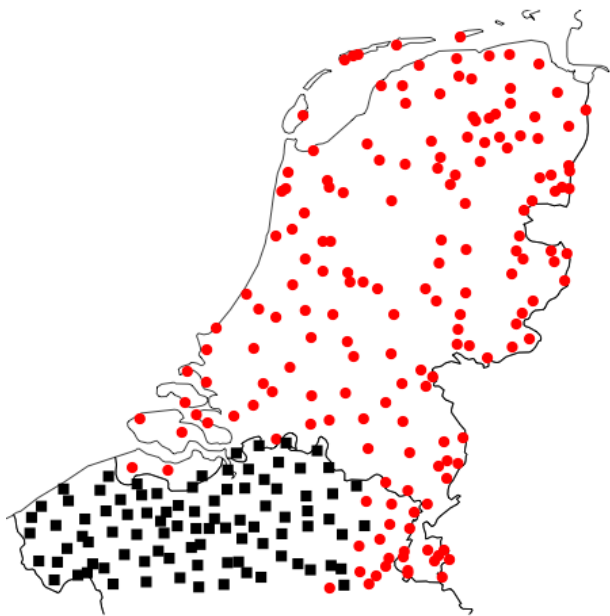


Qualitative analysis: A case study

- ▶ **Central question:** to what extent can we make sense of the 37 phenomena retained in the quantitative analysis from a formal-theoretical point of view?
- ▶ One case study characterizing the split between two areas in the south (Flanders and Brabant/Antwerp in Belgium) vs. the remaining areas in the north (the Netherlands + part of Belgian Limburg):



Qualitative analysis: A case study



Qualitative analysis: A case study

- ▶ The following phenomena are characteristic of the South:

clitic doubling

- (1) da-ze zaaile lachen.
that-they_{CLITIC} they_{STRONG} laugh
'that they are laughing.'

m-form of 1.pl subject pronoun

- (2) **Me** zijn doa nooit geweest.
we are there never been
'We have never been there.'

accusative 3.sg.masc pronoun in subject position

- (3) **Em** is dood.
him is dead
'He is dead.'



Qualitative analysis: A case study

- ▶ In addition: complex plural pronouns in the South (4) and simplex plural pronouns in the North (5):

complex plural pronouns

- (4) **Gu-lder** gelooft toch nie da **zu-lder** armer zijn
you-people believe PART not that they-people poorer are
dan **wu-lder**.
than we-people
'You won't believe that they are poorer than us.'

simplex plural pronouns

- (5) **Jim** gelove jammer genoeg net dat
You_{pl}-SIMPLEX believe unfortunately enough not that
sij it minder ha dan **wij**
they-SIMPLEX it less have than we-SIMPLEX.
'Unfortunately you do not believe that they are less well off
than we are.'

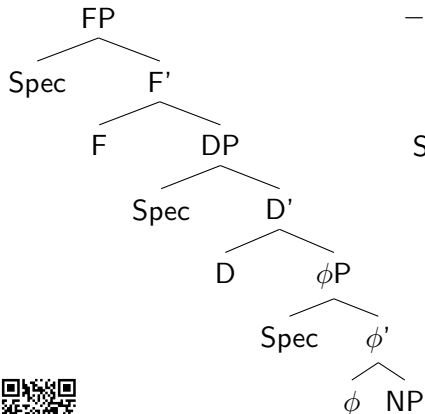


Qualitative analysis: A case study

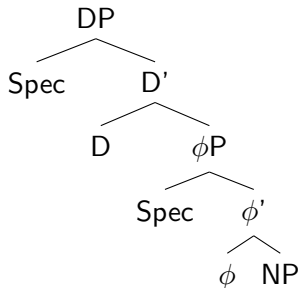
the **SPLIT-D Parameter**

DP {does/does not} have an extended left periphery.

+ **Split D-parameter**



- **Split D-parameter**



Qualitative analysis

- (6) da-ze **zaaile** lachen.
that-they_{CLITIC} they_{STRONG} laugh
'that they are laughing.'

- ▶ **starting point:** van Craenenbroeck and van Koppen (2008)'s analysis of clitic doubling:

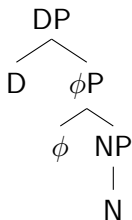


Qualitative analysis

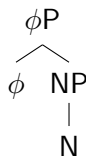
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'that they are laughing.'

- ▶ **starting point:** van Craenenbroeck and van Koppen (2008)'s analysis of clitic doubling:
- ▶ **step one:** strong pronouns in doubling dialects are pro-DPs, while subject clitics are pro- ϕ P (Déchaine and Wiltschko 2002)

- (7) **strong subject pronoun**

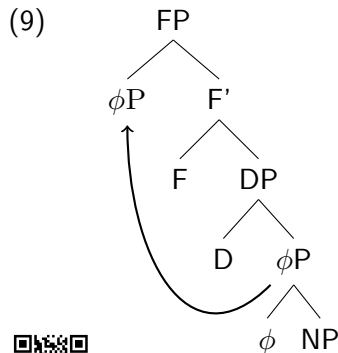


- (8) **subject clitic**



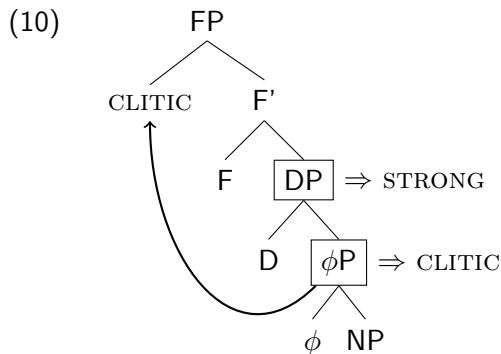
Qualitative analysis: A case study

- ▶ **step two:** a clitic-doubled subject is base-generated as a big DP; clitics are the result of ϕ P-movement into the extended left periphery of the DP
- ⇒ there has to be an additional layer above DP to host the movement of the clitic (FP) in order to avoid an anti-locality violation (Abels 2003):



Qualitative analysis: A case study

- ▶ **step three:** when the resulting structure is handed over to PF, the moved ϕ P is spelled out as a subject clitic, and the DP as a strong pronoun



Qualitative analysis: A case study

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	CD
SOUTH	+
NORTH	-



Qualitative analysis: A case study

- ▶ **supporting evidence:** Barbiers et al. (2016) argue for a similar big DP+movement-analysis for another linguistic phenomenon that is characteristic of the South: demonstrative doubling.

(11) **De die** zou k ik wiln op eetn.
the those would I_{CLITIC} I_{STRONG} want up eat
'I would like to eat those.'



Qualitative analysis: A case study

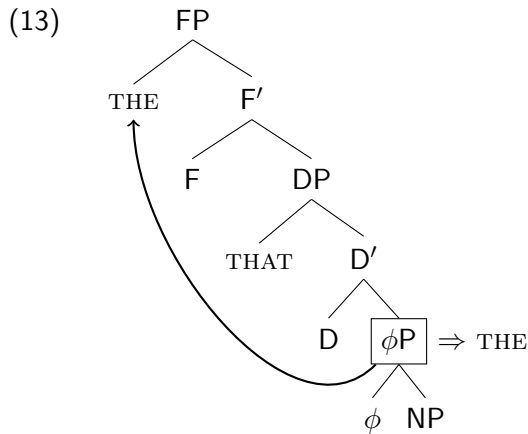
- ▶ **step one:** the definite article in demonstrative doubling pronominalizes ϕP , i.e. the part of the DP-structure hosting the noun, numerals, and adjectives:

- (12) a. de dien
the that
'that one'
- b. (* de) dien opa
the that grandfather
'that grandfather'
- c. De dieje (* twee) (* rode) liggen op de tafel.
the those two red are on the table
'Those are on the table.'



Qualitative analysis: A case study

- ▶ **step two:** ϕ P moves into the left periphery of the DP; anti-locality again requires that the left periphery of DP be complex.



Qualitative analysis: A case study

Further supporting evidence from possessive structures:

1. dialects with a negative setting for the D-parameter lack demonstrative doubling because they lack the additional DP-layer (no landing site for the definite article)



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1. dialects with a negative setting for the D-parameter lack demonstrative doubling because they lack the additional DP-layer (no landing site for the definite article)
2. these dialects (as well as the dialects with a positive setting for the D-parameter) do have THE+possessive pronoun:

(14) Ik vin **de zaine** ech geweldig.

I find the his really great

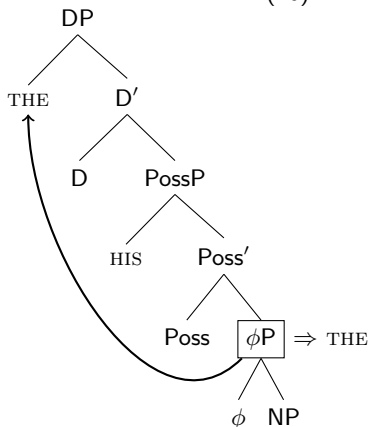
'I find his really great.'

(-split DP parameter)

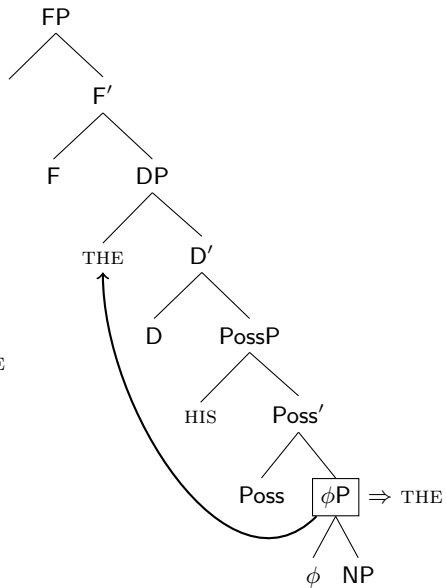


Qualitative analysis: A case study

(15)



(16)



Qualitative analysis: A case study

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(17) **Toin de zijnen** is geweldig.

Teun the his is great

'Teun's is great.'

(+SPLIT DP-Parameter)



Qualitative analysis: A case study

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- (17) **Toin de zijnen** is geweldig.
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'Teun's is great.' (+SPLIT DP-Parameter)
- (18) Ik vin (***Teun**) **de zaine** ech geweldig.
I find Teun the his really great
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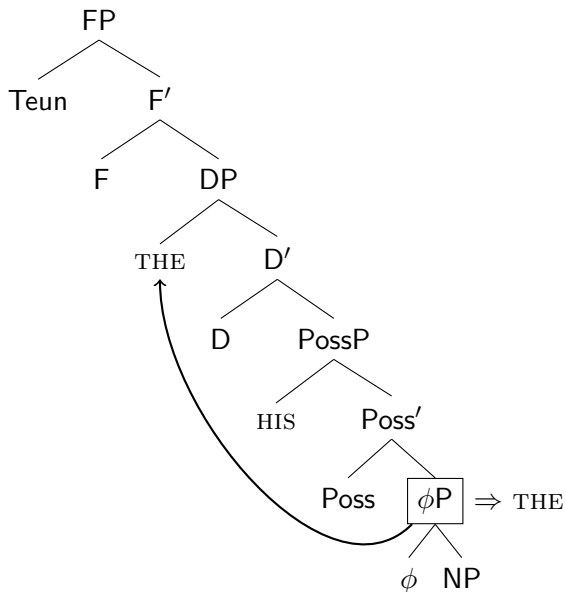
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→ this can be explained by the presence of an additional layer in the +Split D-dialects:



Qualitative analysis: A case study

(19)



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	CD	DD	THE POSS	POSS THE POSS
SOUTH	+	+	+	+
NORTH	-	-	+	-



Qualitative analysis: A case study

- ▶ Can this analysis also give us a handle on the variation concerning pronouns?

m-form of 1.pl subject pronoun

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we are there never been
'We have never been there.'

accusative 3.sg.masc pronoun in subject position

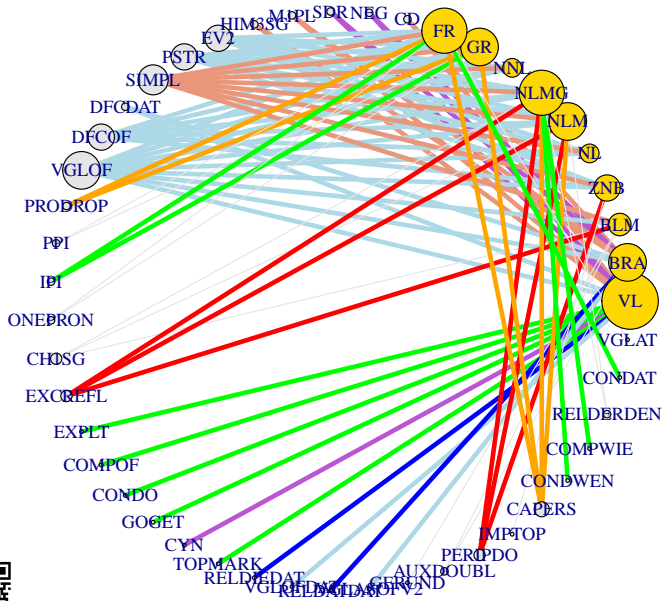
- (21) **Em** is dood.
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complex plural pronouns

- (22) **Gu-lder** gelooft toch nie da **zu-lder** armer zijn dan
you-people believe PART not that they-people poorer are than
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we-people
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Qualitative analysis: 7 parameters



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- ▶ We can analyze these 37 linguistic phenomena using 7 parameters:

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SPLIT D	+	+	-	-	-	-	-	-	-	-
SPLIT Force/FIN	+	+	-	-	-	-	-	-	-	-
SPLIT TP	-	-	+	+	-	+	+	-	-	-
SPLIT C3	+	-	-	-	-	-	+	-	-	+
AGR C-num	+	-	-	-	-	-	-	-	-	-
AGR C-pers	-	-	-	-	-	+	+	-	+	+



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- ▶ **Split C3-parameter:** The CP-domain {does/does not} have separate projections for comparatives and conditionals.



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Qualitative analysis: 7 parameters

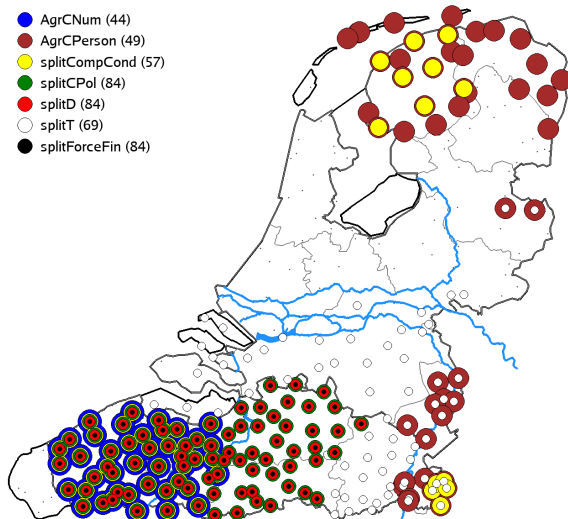
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 3. in whether or not a morphosyntactic feature triggers Agree (AGR)



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- ▶ our ten dialect groups differ:
 1. in whether or not a morphosyntactic feature heads its own projection (SPLIT)
 2. in the extent to which this happens
 3. in whether or not a morphosyntactic feature triggers Agree (AGR)
- reminiscent of Longobardi (2005)'s Principles & Schemata:

(23) **Parameter Schema:**

- a. Is F, F a functional feature, grammaticalized?
- b. Is F, F a grammaticalized feature, checked by X, X a lexical category?
- c. Is F, F a grammaticalized feature, spread on Y, Y a lexical category?
- d. Is F, F a grammaticalized feature checked by X, strong (i.e. overtly attracts X)?



The bigger picture: determinants of variation

- ▶ our ten dialect groups differ:
 1. in whether or not a morphosyntactic feature heads its own projection (SPLIT)
 2. in the extent to which this happens
 3. in whether or not a morphosyntactic feature triggers Agree (AGR)
- and of Biberauer and Roberts (2013)'s parameter hierarchies:

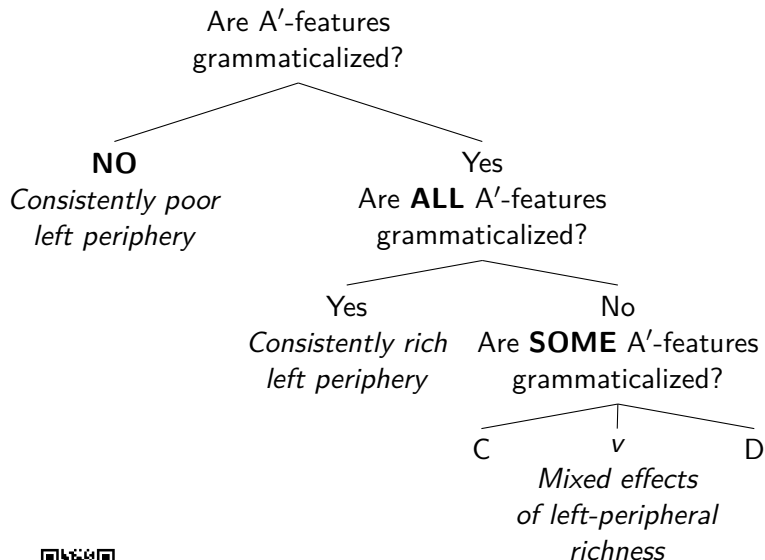
Parameter Hierarchy

For a given value v_i of a parametrically variant feature F:

- ▶ **Macroparameters:** all heads of the relevant type share v_i
- ▶ **Mesoparameters:** all heads of a given naturally definable class, a subset of the full class of heads of the relevant type, e.g. [+V], share v_i
- ▶ **Microparameters:** a small subclass of functional heads (e.g. modal auxiliaries, pronouns) shows v_i
- ▶ **Nanoparameters:** one or more individual lexical items is/are specified for v_i



The bigger picture: determinants of variation



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1. We have developed a parametric analysis for a large data set of morphosyntactic variation in Dutch dialects and have reduced the core tendencies in that variation to seven grammatical parameters.
2. In identifying those core tendencies we have crucially relied on quantitative-statistical means, but in identifying the grammatical parameters we started from formal-theoretical analyses.
3. At a more general level, these dialects seem to differ from one another in the choice of the morphosyntactic features that are grammaticalized and the degree to which they are.



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