

## Co-variation and varieties in Dutch ethnolect(s)

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## Co-variation

- Interested in variation analyses
- Between 3 of the largest groups in NL:  
Dutch, Turkish and Moroccan
- Two area's in NL:  
Amsterdam and Nijmegen
- Two age groups:  
10-12-year olds and 18-20-year olds

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## Co-variation

- How are linguistic variables related to the main social variables?
- Do they co-vary?
- If yes, does it suggest...
  - ... *one* ethnolect with two regional variants, i.e. 2 varieties with main division Dutch vs. non-Dutch? or
  - ... *two* regional ethnolects, i.e. two varieties with a main division between Amsterdam and Nijmegen?

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## Speakers (1)

- Male speakers with Turkish, Moroccan and non-immigrant Dutch language backgrounds
- Two cities: Amsterdam (A) and Nijmegen (N)
- Born and raised in A and N respectively



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## Speakers (2)

- 10-12 year-olds

	Language background			
	Moroccan (M)	Turkish (T)	Dutch (D)	Dutch (C)
<b>Inter-ethnic ties?</b>	yes	yes	yes	no
Amsterdam (A)	3	3	2	3
Nijmegen (N)	3	3	3	4

- 18-20 year-olds

	Language background			
	Moroccan (M)	Turkish (T)	Dutch (D)	Dutch (C)
<b>Inter-ethnic ties?</b>	yes	yes	yes	no
Amsterdam (A)	4	4	3	3
Nijmegen (N)	3	3	3	4

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## Data-collection

- Spontaneous conversations
  - Between 2 speakers
  - 3 or 4 conversations: With 1 or 2 speakers of their own language background and 1 speaker of each of the other language backgrounds.
  - About 60 minutes per conversation
  - Free conversation, if needed with help of card games, newspapers, soccer magazine

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### Variables (overview)

- 2 phonological features:
  - (z) at beginning of words
    - voicing (in 3 contexts)
    - sharpness
  - (ij)
    - Height of first element
    - Monophthongization (in 3 contexts)
- 1 grammatical feature:
  - neuter gender \*
    - determiners: articles,
    - determiners: demonstratives,
    - adnominals (adjectives, possessives)

\* data gender by Ariën van Wijngaarden

### Examples (z)

Voiced ; 'Non-sharp z' (Standard Dutch)

- maar je moet er ook wel **zin** in hebben hoor  
 but you also have to feel like it

Voiced; 'Sharp z' (non-Dutch variant)

- luister als ik uh **hartziektes** had  
 listen, if I had heart diseases

Devoiced z (Amsterdam + Nijmegen)

- 'k heb eigenlijk niet zoveel **zin**  
 actually, I don't feel like it

### Examples (ij)

Height of first element

*bij* 'he'

[ei] ↘  
[ai]

Monophthongization

*meisjes* 'girls'

[ei] vs. [e:]

### Examples Neuter Gender

	Standard Dutch	Non-Standard Dutch	English
article	<i>het</i> woord	<i>de</i> woord	'the word'
demonstrative	<i>dat</i> woord	<i>die</i> woord	'that word'
adnominal: adjectives	een <i>Engels</i> woord	een <i>Engelse</i> woord	'an English word'
adnominal: possessives	<i>ons</i> woord	<i>onze</i> woord	'our word'

### Indexes

- indexes (means) were calculated

	0,0000	...	1,0000
(z) voicing	all instances devoiced	...	all instances voiced
(z) sharpness of voiced /z/	only non-sharp instances	...	only sharp instances
	1,0000	...	4,0000
(I) height of first element	only closed variants (i.e. /e/)	...	only open variants (i.e. /a/)
	1,0000	...	3,0000
(I) monophthongization	all instances are diphthongues	...	all instances monophthongized
	0,0000	...	1,0000
neuter gender	all instances non-standard	...	all instances standard

### Relation linguistic + social variables

- ANOVA's (GLM, Univariate)

		LB_speaker	City	Age
(1)	(z) voicing Context: Obstruent	+	-	-
(2)	(z) voicing Context: Sonorant	+	+	-
(3)	(z) voicing Context: Vowel	+	-	-
(4)	(z) sharpness	+	-	-

### Relation linguistic + social variables

- ANOVA's (GLM, Univariate)

		LB_speaker	City	Age
(5)	(IJ) Height of first element	+	+	+
(6)	(IJ) Monophthongization: content word	+	-	-
(7)	(IJ) Monophthongization: semi function word	+	-	-
(8)	(IJ) Monophthongization: function word	+	-	+

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### Relation linguistic + social variables

- ANOVA's (GLM, Univariate)

		LB_speaker	City	Age
(9)	neuter gender: article	+	-	+
(10)	neuter gender: demonstrative	+	-	+
(11)	neuter gender: adnominal	+	-	-

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### Cluster-analysis (a)

- hierarchical cluster-analysis
- z-scores on all (11) linguistic variables
- Ward's method
- with Euclidean distances

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### Cluster-analysis (b)



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### Clusters x background

- Cluster 1 = 'Dutch', Cluster 2+3 = 'non-Dutch'
- Numbers of speakers in Clusters 2 and 3:

		C2	C3
LB_speaker	D	2	0
	M	4	7
	T	4	7
City	Amsterdam	5	7
	Nijmegen	5	7
Age	10-12 years olds	3 (!)	9
	18-20 years olds	7	5

- age group difference between C2 and C3 without two Dutch speakers:

Chi Square Test (Fisher's Exact Test) .031

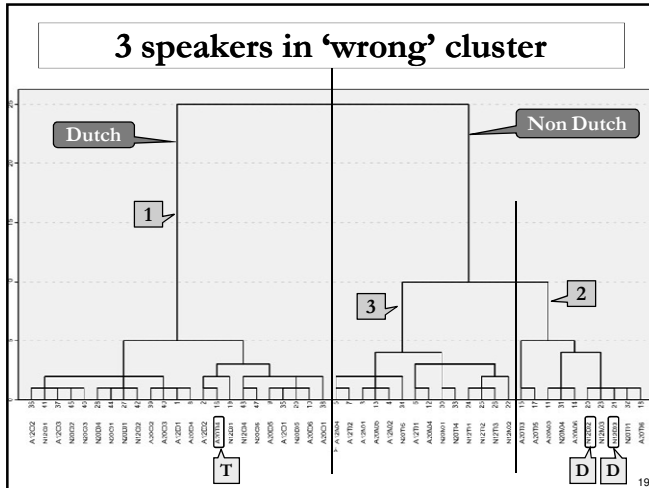
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### Clusters x features

- Cluster 2 sometimes matches Cluster 1, sometimes Cluster 3

Feature	Subsets
(1) (z) voicing Context: Obstruent	cluster 1 = cluster 2      cluster 3
(2) (z) voicing Context: Sonorant	cluster 1 = cluster 2      cluster 3
(3) (z) voicing Context: Vowel	cluster 1 = cluster 2      cluster 3
(4) (z) sharpness	cluster 1      cluster 2 = cluster 3
(5) (IJ) Height of first element	cluster 1 = cluster 2 = cluster 3
(6) (IJ) Monophthongization: content word	cluster 1      cluster 2 = cluster 3
(7) (IJ) Monophthongization: semi function word	cluster 1      cluster 2 = cluster 3
(8) (IJ) Monophthongization: function word	cluster 1 = cluster 2 = cluster 3
(9) neuter gender: article	cluster 1      cluster 2 = cluster 3
(10) neuter gender: demonstrative	cluster 1      cluster 2      cluster 3
(11) neuter gender: adnominal	cluster 1      cluster 2      cluster 3

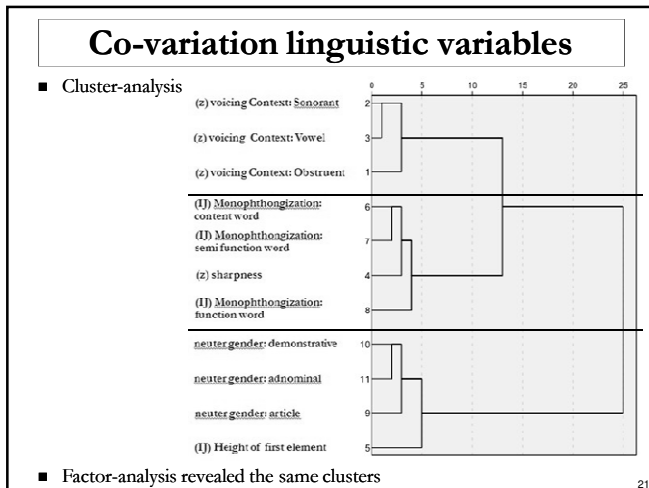
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### 3 speakers in 'wrong' cluster

■ features compared to the 3 clusters

Feature	Cluster 2		
	A20T04	N12D02	N12D03
(1) (z) voicing Context: Obstruent	Cluster 1=2	Cluster 1=2	Cluster 1=2
(2) (z) voicing Context: Sonorant	Cluster 1=2	Cluster 1=2	Cluster 1=2
(3) (z) voicing Context: Vowel	Cluster 3	Cluster 1=2	Cluster 1=2
(4) (z) sharpness	Cluster 1	Cluster 1	Cluster 1
(5) (I) Height of first element	Cluster 1=2=3	Cluster 1=2=3	Cluster 1=2=3
(6) (I) Monophthongization: content word	Cluster 1	Cluster 1 / 2=3	Cluster 1
(7) (I) Monophthongization: semi function word	Cluster 2=3	Cluster 2=3	Cluster 1
(8) (I) Monophthongization: function word	Cluster 1=2=3	Cluster 1=2=3	Cluster 1=2=3
(9) neuter gender: article	Cluster 1	Cluster 1	Cluster 2=3
(10) neuter gender: demonstrative	Cluster 1	Cluster 1 / 2	Cluster 3
(11) neuter gender: adnominal	Cluster 1	Cluster 3	Cluster 3



### Co-variation

■ Co-variation of linguistic features for clusters 1 and 2:

Feature	Subsets	
(z) voicing Context: Obstruent	cluster 1 = cluster 2	cluster 3
(z) voicing Context: Sonorant	cluster 1 = cluster 2	cluster 3
(z) voicing Context: Vowel	cluster 1 = cluster 2	cluster 3

■ Co-variation of linguistic features for clusters 2 and 3:

Feature	Subsets	
(z) sharpness	cluster 1	cluster 2 = cluster 3
(I) Monophthongization: content word	cluster 1	cluster 2 = cluster 3
(I) Monophthongization: semi function word	cluster 1	cluster 2 = cluster 3
neuter gender: article	cluster 1	cluster 2 = cluster 3

### Conclusions (1)

- How are linguistic variables related to the main social variables?
  - All linguistic variables show a significant main effect of language background speaker
  - Main effect of City only for 2 linguistic variables<sup>1)</sup>
  - Main effect of Age only for 4 linguistic variables

<sup>1)</sup> possibly caused by available variables

### Conclusions (2a)

- If there is co-variation, does it suggest...
  - ... *one* ethnolect with two regional varieties, i.e. 2 varieties with main division Dutch vs. non-Dutch? or
  - ... *two* regional ethnolects, i.e. two varieties with a main division between Amsterdam and Nijmegen?

## Conclusions (2b)

- Language background speaker important effect
- Visible in ANOVA's
- Also shows up at the cluster-analysis of the speakers
- The Dutch (C+D) form one cluster and the non-Dutch (T+M) another
- There seems to be a common ethnolect (i.e. variety of T+M)
  - with shared features in both Amsterdam and Nijmegen

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## Conclusions (2c)

- a common ethnolect (i.e. variety of T+M)
- which, speaker-wise, can be divided in 2 groups
  - possibly related to acquisition
- although one ethnolect, there are some regional influences – i.c. regarding /Ei/

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- Thank you.
- Questions / comments / suggestions?
- This research is part of the project: Roots of Ethnolects
- Mainly funded by the Netherlands Organisation for Scientific Research (NWO).
- More info about the project, as well as a handout of today's presentation can be found on

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