

Aus dem räumlichen Nebeneinander ein synchrones Argument

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Geographical linguistics

- Geographical linguistics, in particular dialect geography, is one of the oldest disciplines of variation linguistics
- Its original goal was historical:
 - Aus dem räumlichen Nebeneinander ein zeitliches Nacheinander
- A string of geographical locations may reflect a historical development.

Generative grammar and variation

- The study of geographical variation has never been absent from generative phonology
- For instance, there is the famous case of Canadian raising in Chomsky and Halle (1968): two dialects of Canadian English which can be described by the same set of two rules, but ordered differently

Dialect A	/rayt-ɚ/	/rayd-ɚ/	Dialect B	/rayt-ɚ/	/rayd-ɚ/
	‘writer’	‘rider’		‘writer’	‘rider’
Raising	rɛytɚ	—	Voicing	raydɚ	—
Voicing	rɛydɚ	—	Raising	—	—
	[rɛydɚ]	[raydɚ]		[raydɚ]	[raydɚ]

Notice that the existence of Dialect B has been called into question (Kaye 1990)

Geographical argumentation

- However, the argumentation usually concentrates on either:
 - the description of an individual dialect as a possible language system
 - the description of a 'diasystem' of several dialects without taking into account the geographical dimension (such as in the SPE)
- In this talk, we try to construct some arguments for which the geographical distribution *is* relevant.
- This will follow the traditional paradigm, but with a new twist: from geographical distance we conclude certain facts about synchronic theory.

First person singular in Dutch dialects

- *Verb: ik geleuv* 'I believe' [ɪkxəløv]
- *Noun: geloof* 'belief' [χəløf] (cf. *geloven* 'beliefs PLUR.' [γələvən])

Two possible theories

- The verbal form is part of a *paradigm*; other forms in the paradigm have a voiced fricative, e.g. because they have a vowel-initial suffix. The voicing in the first person singular is a matter of *paradigm uniformity*. The noun does not participate in such a paradigm.
- The first person singular is expressed by a null suffix, which is phonetically empty, but protects the final consonant from being devoiced.

Geographical distribution

Sjwa-deletie en stemhebbende fricatieven

94 | leve/gave/bleve (95)

9 ○ geloov/leev (10)

1 □ leve/gave/bleve, geloov/leev



Geography and history

- The map shows that lack of final devoicing is a possible step between having a full suffix and not having a full suffix
- The structural analysis can describe this in a literal way
- The paradigmatic analysis cannot: there is an arbitrary relationship between sticking to the paradigm and losing the schwa

Extra support

- In at least one region, all verbal forms in the present tense except the first person singular end in *-t*; due to voicing assimilation, the final fricative also devoices in these cases
- The paradigm thus is { *le:v*, *le:ft*, *le:ft*, *le:ft*, *le:ft*, *le:ft*, *le:ft* }. This is not exactly leveling
- On the other hand, the nouns actually have a plural (in the paradigm) which has a vowel-initial suffix

Linguistic distance

- The linguistic distance between two dialects of a language system equals the geographical distance between those dialects in a topological way
- The linguistic distance between two dialects is the minimal number of minimal rerankings (in OT) needed to get from one grammar to the other.

The study of linguistic distance

- Most works in dialectometry use refined statistical methods in order to measure the relative distance between dialects, which in turn allows us to compare this distance to a variety of other factors which can be equally measured with some precision
- It seems fair to say that the measurements in these projects are always fairly superficial from a linguistic point of view. In Heeringa (2004) for instance, differences in pronunciation are measured using Levenshtein distances as defined on phonetic transcriptions of individual words
- We present a view in which the distances between grammars are computed rather than the differences between words or constructions, which we view as products of the grammars.

Umlaut

- Umlaut in e.g. diminutives or plurals is basically absent in western dialects in the Netherlands; it is productive in the east
- This means that we find a landscape of less and less umlaut if we move from east to west
- We claim that this landscape can be described in grammatical terms rather than in terms of e.g. frequency (more frequent words keeping umlaut in a larger region):
- More and more phonological factors get imposed on umlauting

A strip of dialects

Places	Venlo	Maasbree	Sevenum	Deurne	Bakel	Beek	Sint- Oedenrode	Boxtel	Loon op Zand	Dongen
Code	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
Kloeke Code ^s	L271	L267	L266	L244	L208	L204	L200	K172	K164	K163
-V#	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
-V n	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
-ar(C)	✓	✓	✓	var	var	var	var	var	var	✗
-t	✓	✓	✓	var	var	var	var	var	var	✗
-s	✓	✓	✓	var	var	var	var	var	var	✗
-Vnt	✓	✓	✓	✓	var	var	var	var	var	✗
-C C	-	✓	✓	var	var	var	var	var	var	✗
arm	✓	✓	✓	✓	✓	✗	✗	✗	✓	✗
-	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
-p	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
-k	✓	✓	✓	✓	✓	✓	✓	✓	var	✗
-m	✓	✓	✓	✓	✓	✓	✓	✓	var	✗
-Vn	✓	✓	✓	✓	✓	✓	✓	✓	var	✗

OT Grammars

- B1 LIC-[cor]-Ft >>
 ANCHOR-R, LOCALITY, LIC-[cor]-VPlace, IDENT-IO(V)
- B2-3 ANCHOR-R >>
 LIC-[cor]-Ft >>
 LOCALITY, LIC-[cor]-VPlace, IDENT-IO(V)
- B4-8 ANCHOR-R >>
 LIC-[cor]-Ft , LOCALITY, LIC-[cor]-VPlace >>
 IDENT-IO(V)
- B9 ANCHOR-R >>
 LIC-[cor]-Ft , LOCALITY, LIC-[cor]-VPlace , IDENT-IO(V)
- B10 ANCHOR-R, IDENT-IO(V) >>
 LIC-[cor]-Ft , LOCALITY, LIC-[cor]-VPlace , IDENT-IO(V)

Calculating distance

B1	0	0
B2-3	2	2
B4-7	2	4
B8-9	1	5
B10	1	6

Two types of pronouns in Dutch

strong	weak	
ɪk	ək	I
jɛi	jə	you (Du)
y	y	you (Sie)
ɦɛi	di/ti/i	he
zɛi	zə	she
ɦɛt	ət	it
wɛi	wə	we
jœli	jə	you (Ihr)
zɛi	zə	they

A third type of pronoun?

- Next to the weak and strong pronouns mentioned before, there is also a third type, consisting of a consonant only:

☞	k	I
	j	you (Du)
		you (Sie)
		he
	z	she
☞	t	it
	w	we
	j	you (Ihr)
	z	they

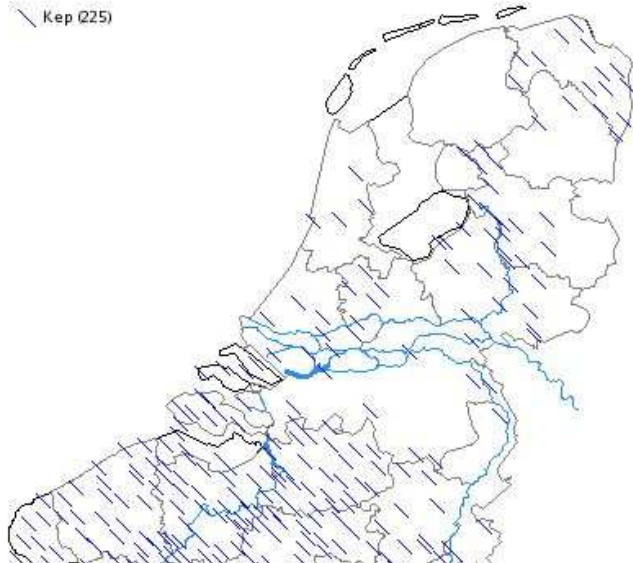
Implicational hierarchy

- kɛp 'I have' ʔ
kor 'I hear' ʔ
ksɑl 'I will' ʔ
ksɛx 'I say' ʔ
gbɛn 'I am' ʔ
gbəlɔfdə 'I believed'
- In my speech, there is no competition with a schwa version, because I cannot have that at the beginning of the phrase either; weak pronouns are simply impossible

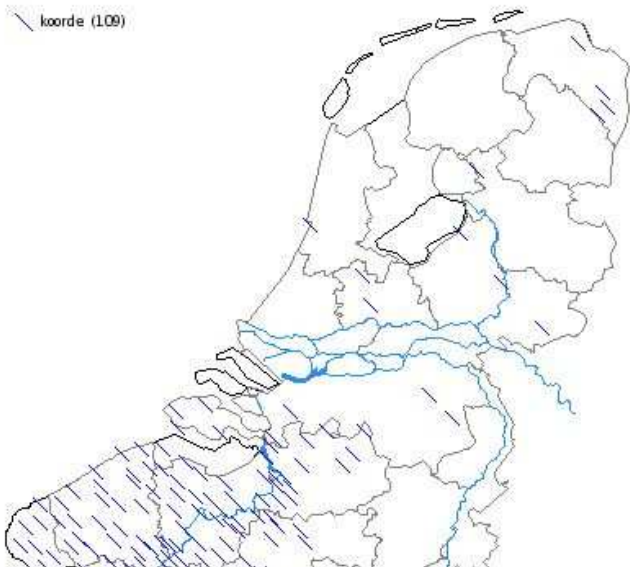
Data are from work done with Gertjan Postma

Ik heb = I have (Aux)

Key (225)



Ik hoorde = I heard



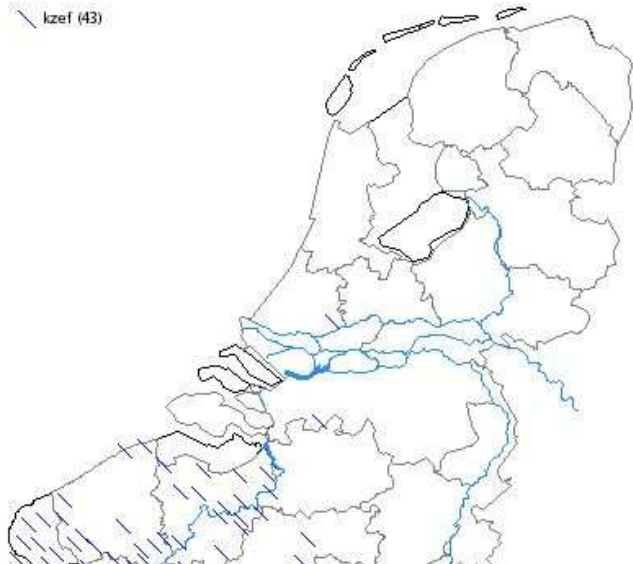
Ik zal = I will

Ik zal (61)



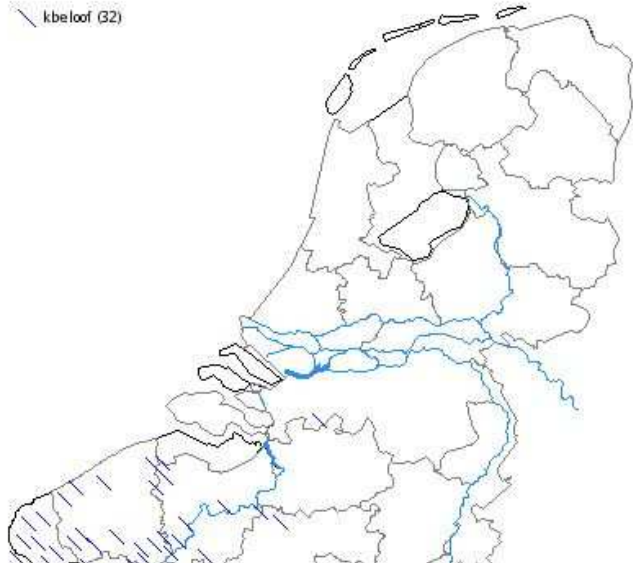
Ik zeg = I say

Ik zeg (43)



Ik beloof = I promise

▧ kbeloof (32)



Implicational hierarchy

A	B	C	D	E	
-	kεp	kεp	kεp	kεp	<i>have</i>
-	-	kor	kor	kor	<i>hear</i>
-	-	-	ksal	ksal	<i>will</i>
-	-	-	kɛx	kɛx	<i>say</i>
-	-	-	-	gbəlofdə	<i>promise</i>

Two observations

- ● Some forms are better than some other forms, there is no absolute grammaticality
- The relative judgements from speakers from the Netherlands are reflected by a geographical pattern in Belgium
- It seems plausible that all speakers have the same hierarchy, but a different cut-off point
- Hierarchies of judgements are difficult to capture in any classical (=categorical) generative theory of grammaticality

Variation in OT

- There are several theories on variation in OT; each of these can be used as to describe relative grammaticality
- I use Anttila's model as an example
- Variation within a grammar is modeled by assuming grammars have strata of unranked constraints
- E.g. suppose we have three constraints A, B, C
- Suppose 4 out of 6 possible grammars give output α for input x , and 2 grammars give output β
- This means that β will be judged more questionable than α .

Unacceptable forms

- In this case, it could be that the alternative form is using the full pronoun
- Let's assume that this would be marked by a constraint in favour of reduction
- We are dealing with phonotactic constraints as well as Alignment constraints on function words and lexical words

Comparison

	ALIGN	PHON	REDUCD
kεp 'I have'	✓	✓	✓
∅	✓	✓	*
kor 'I hear'	*	✓	✓
∅	✓	✓	*
ksal 'I will'	✓	*	✓
∅	✓	✓	*
kεx 'I say'	*	*	✓
∅	✓	✓	*

Rankings

	kεp	kor	ksal	kSEX
A»P»R	✓	∅	∅	∅
A»R»P	✓	∅	✓	∅
P»A»R	✓	∅	∅	∅
P»R»A	✓	✓	∅	∅
R»P»A	✓	✓	✓	✓
R»A»P	✓	✓	✓	✓
	6	3	3	2

Conclusions

- Geographical arguments can sometimes shed light on theoretical phonological issues, in particular if these involve a historical component
- We see geography as a topological space which can somehow be projected on the topological space of linguistic distance (or vice versa)
- Geographical facts (ultimately, facts about E-language) can be used to argue about grammar (I-language) when taken with care