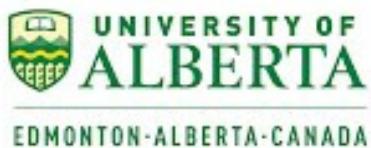


Conceptualization, Mental Scanning, and Derivational Morphology

A Construal Approach to Word-Formation Change

12th International Cognitive Linguistics Conference
University of Alberta, Edmonton

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JOHANNES GUTENBERG
UNIVERSITÄT MAINZ



-ung

Landung

'landing'

Bildung

'education'

Heizung

'heating device'

Hoffnung

'hope'

Gewässerverunreinigung

'water pollution'

Grundstücksverkehrsgenehmigungszuständigkeitsübertragungsverordnung

(a German regulation, now no longer in force)

-ung

Overview

1. Periodization
2. Frequency and Productivity
3. Accounting for the Changes:
How Construal Determines Constructional Change
4. Conclusion

Periodization

1050-1350

Middle High German

also ginomin dem segine er ingange zi leſinde vnde obrustiv werde ſwigunge zim tifche daz kaines murmilunge oder ſtimme niwan ainigis def leſerſ da werde gihorit (BrZw, MWB) ‘After the blessing, when the reading begins, there shall be complete silence at the table so that no one’s muttering nor voice be heard’

1350-1650

Early New High German

„Ich denken auch, daz ich gesündet han mit meinen fünf Sinnen, daz ist mit gesicht, mit gehörd, mit smakung, mit costung und auch mit der rüberung“ (Heinrich Wittenwiler: Der Ring) ‘I think that I have sinned with my five senses, that is with sight, with hearing, with olfaction, with tatse, and also with touch.’

1650-today

New High German

Ich fiel nach Lesung dieses Briefes, als ein vom Blitz gerührter, rückwärts auf mein Bette (NARR_P2_OMD_1731_SeefahrerRAW.txt, GerManC) ‘After reading this letter, I fell backwards on my bed as if struck by lightning’

[1950-today]

Present Day German]

Periodization

1050-1350

Middle High German

NHG *Schweigung, *Murmeling

also ginomin dem segine er ingange zi leſinde vnde obrutiv werde ſwigunge zim tische daz kaines murmilunge oder ſtimme niwan ainigis deſ leſerſ da werde gihorit (BrZw, MWB) ‘After the blessing, when the reading begins, there shall be complete silence at the table so that no one’s muttering nor voice be heard’

1350-1650

Early New High German

NHG *Schmeckung, *Kostung

„Ich denken auch, daz ich gesündet han mit meinen fünf Sinnen, daz ist mit gesicht, mit gehörd, mit smakung, mit costung und auch mit der rüberung“ (Heinrich Wittenwiler: Der Ring) ‘I think that I have sinned with my five senses, that is with sight, with hearing, with olfaction, with tatse, and also with touch.’

1650-today

New High German

PDG *Lesung* *(process of) reading‘

Ich fiel nach Lesung dieses Briefes, als ein vom Blitz gerührter, rückwärts auf mein Bett (NARR_P2_OMD_1731_SeefahrerRAW.txt, GerManC) ‘After reading this letter, I fell backwards on my bed as if struck by lightning’

[1950-today]

Present Day German]

Frequency and Productivity

Demske (2000):

- Decrease in morphological productivity
- Emergence of semantic constraints:
 - inchoative verbs (**Erblühung* ‘blooming’),
 - exchange verbs (**Gebung* ‘giving’),
 - iterative verbs (**Hüstelung* ‘coughing’)
cannot function as base verbs any more
- Infinitival Nominalization comes in as a “replacement process”
(Barz 1998)

Corpora

Corpus	Word count	<i>ung-</i> nominals (tokens)	<i>ung-nominals</i> (types)	Nominalized Infinitives (Tokens)	Nominalized Infinitives (Types)
Mainz ENHG Corpus	388598	3705	810	1039	233
GerManC Newspaper Corpus	101097	1317	454	235	91
Extended GerManC Corpus	683302	7046	1857	n.a.	n.a.

Frequency and Productivity

- Baayen (2009: 902):

→ realized productivity: type frequency of a construction

$$P = V(C, N)$$

→ potential productivity: sum of hapaxes of a construction divided by token frequency (cf. also Hilpert 2013: 132)

$$P = V(1, C, N) / N(C)$$

$V(C, N)$: type count of the members of the morphological category C in a corpus with N tokens

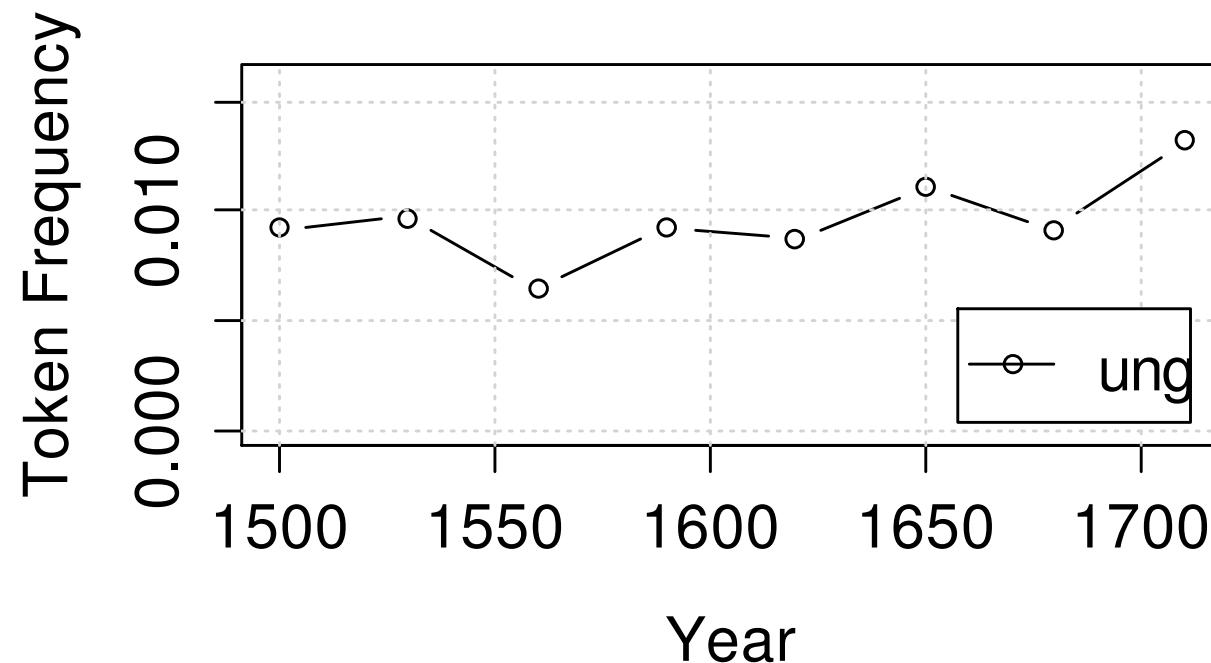
$V(1, C, N)$: hapax legomena belonging to C

$N(C)$: number of tokens belonging to C

Frequency and Productivity

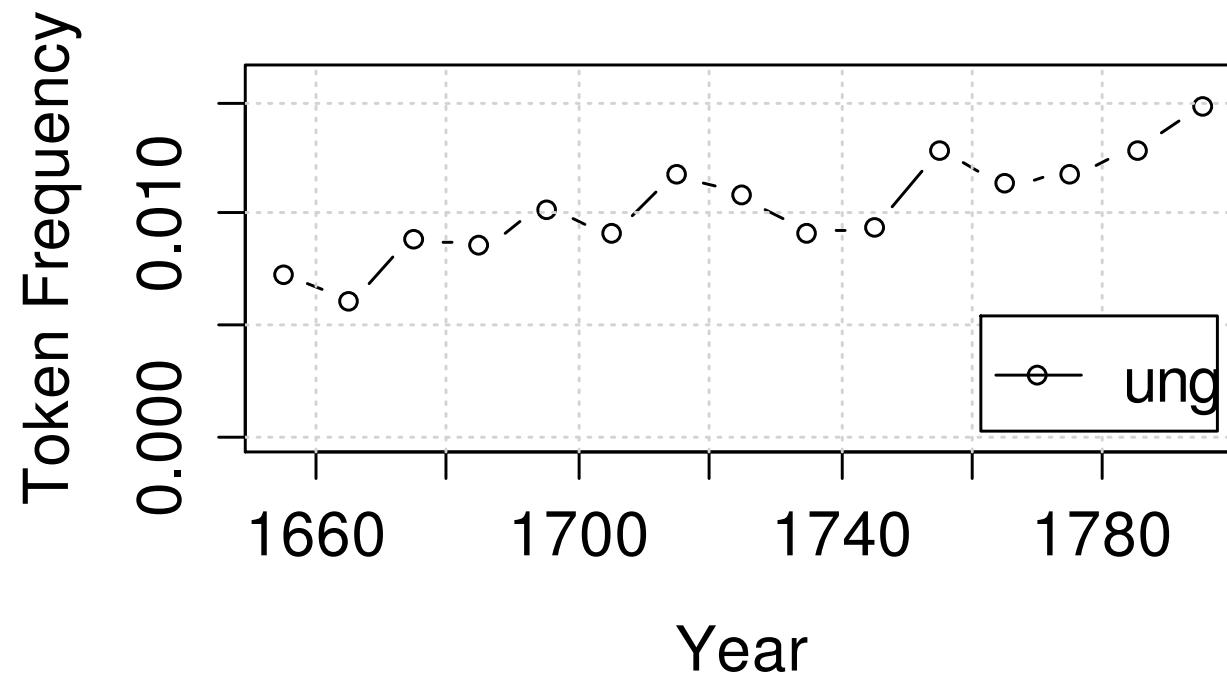
- Hypotheses:
 - increase in token frequency and realized productivity
 - decrease in potential productivity
- This is exactly what we find in the corpora.

Frequency and Productivity



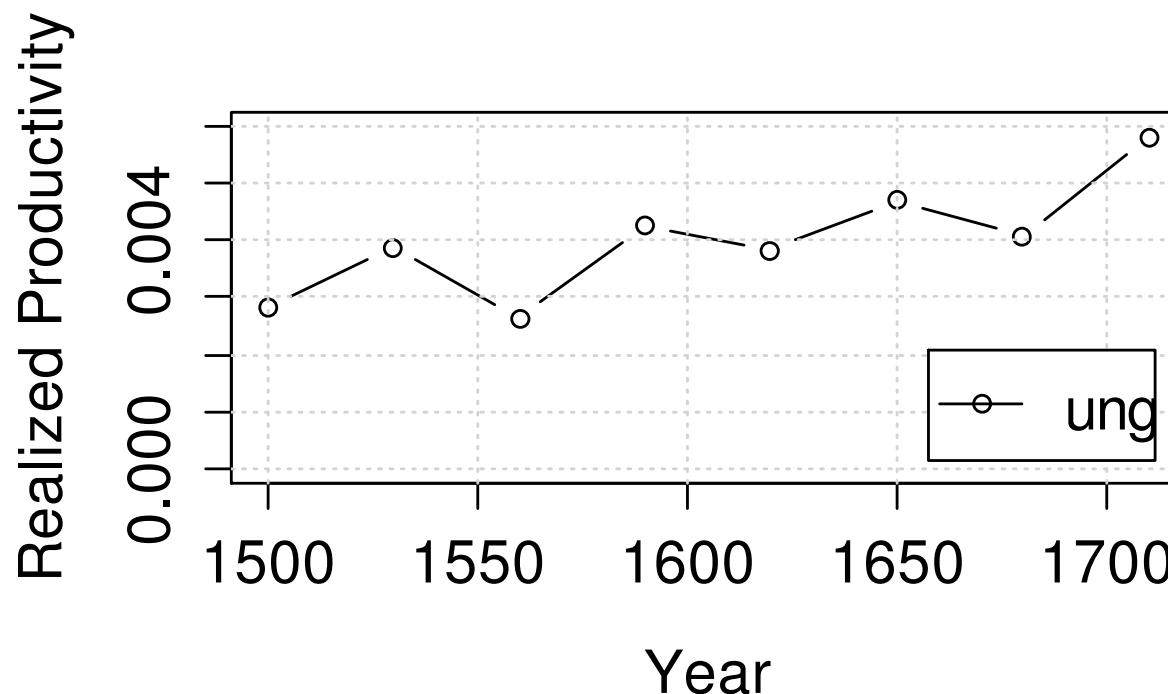
Mainz ENHG Corpus: no significant changes in token frequency

Frequency and Productivity



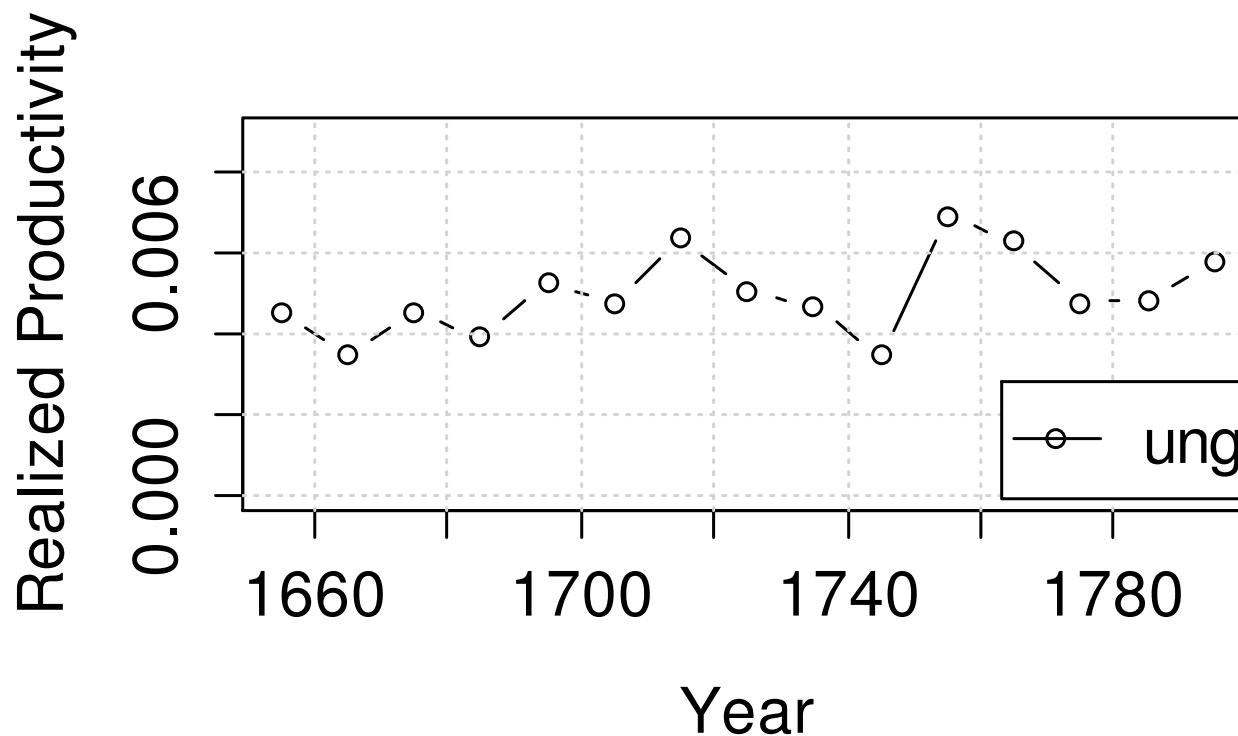
GerManC Corpus: significant increase in token frequency (Kendall's $\tau = 0.73$, $p_{\text{one-tailed}} < 0.0001$)

Frequency and Productivity



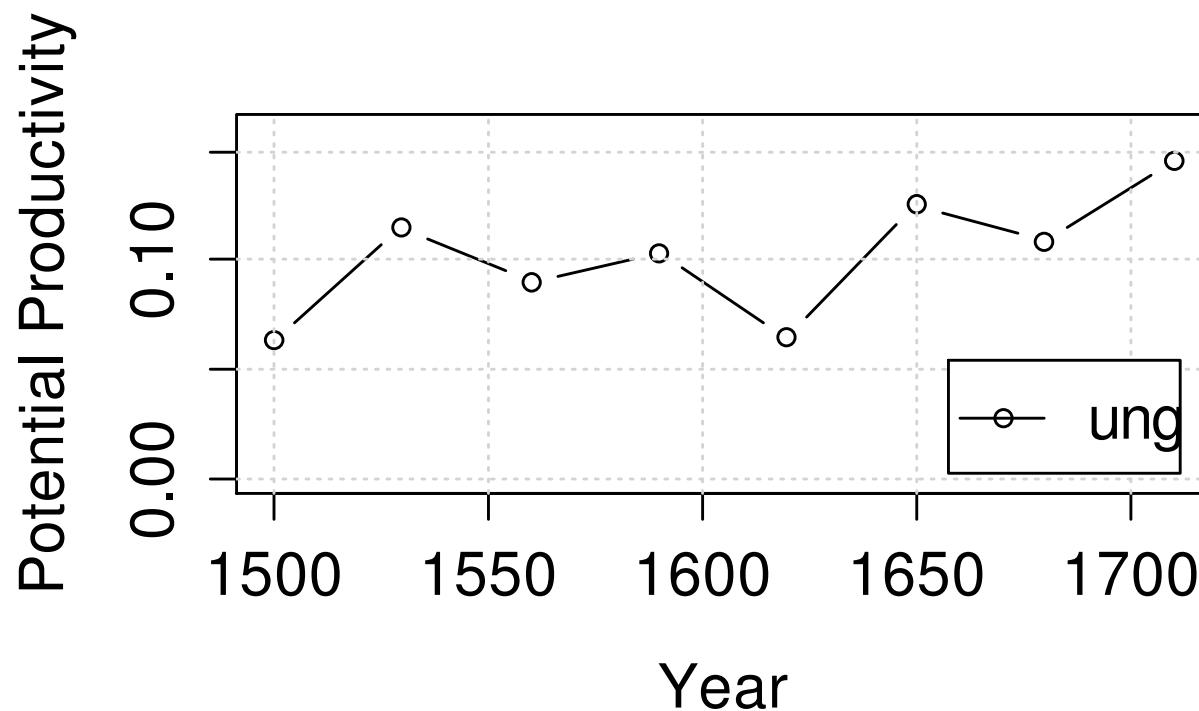
Mainz ENHG Corpus: significant increase in realized productivity (Kendall's $\tau = 0.57$,
 $p_{\text{one-tailed}} = 0.03$)

Frequency and Productivity



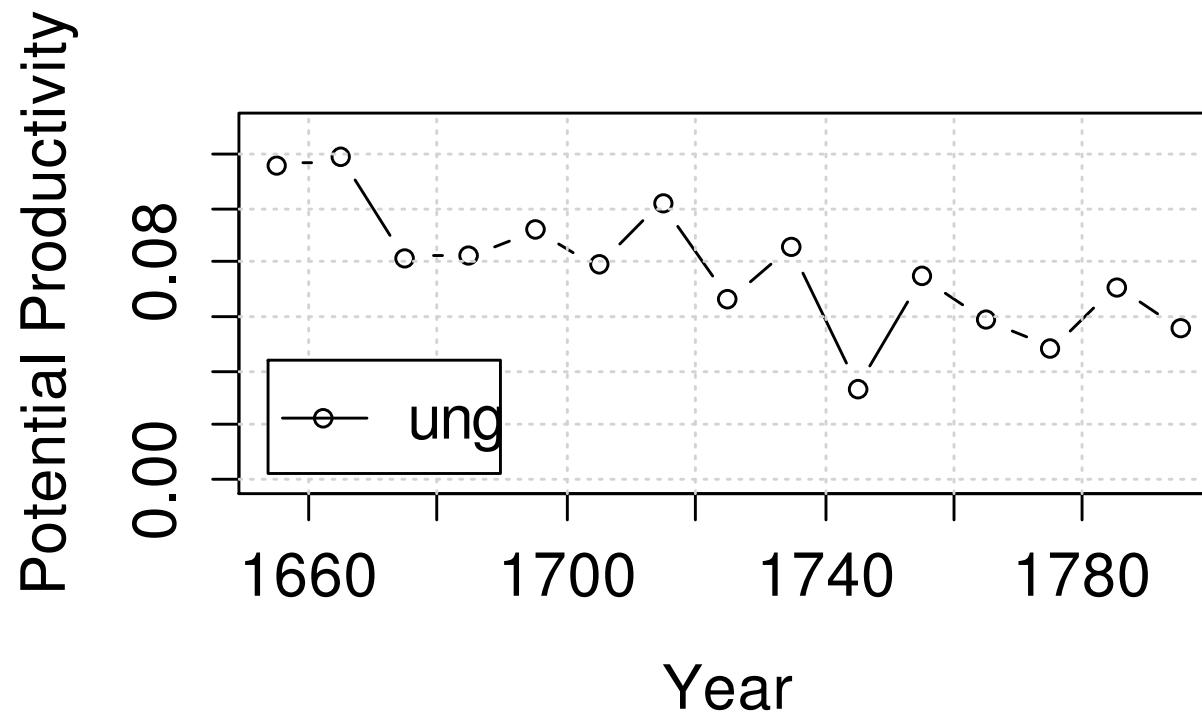
GerManC Corpus: Significant increase in realized productivity (Kendall's $\tau = 0.37$, $p_{\text{one-tailed}} = 0.03$)

Frequency and Productivity



Mainz ENHG Corpus: no significant changes in potential productivity (Kendall's $\tau = 0.5$, $p_{\text{one-tailed}} = 0.05$)

Frequency and Productivity



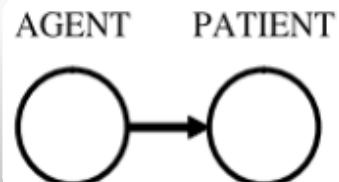
GerManC corpus: significant decrease in potential productivity (Kendall's $\tau = -0.58$, $p_{\text{one-tailed}} < 0.001$)

Accounting for the Changes

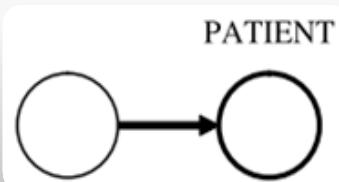
“[A]n expression’s meaning consists of more than just conceptual content – equally important to linguistic semantics is how that content is shaped and construed.”

(Langacker 1991b: ix)

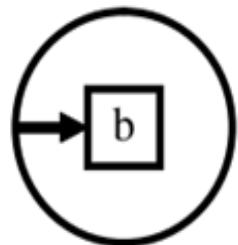
Accounting for the Changes



The boy kicks over the vase



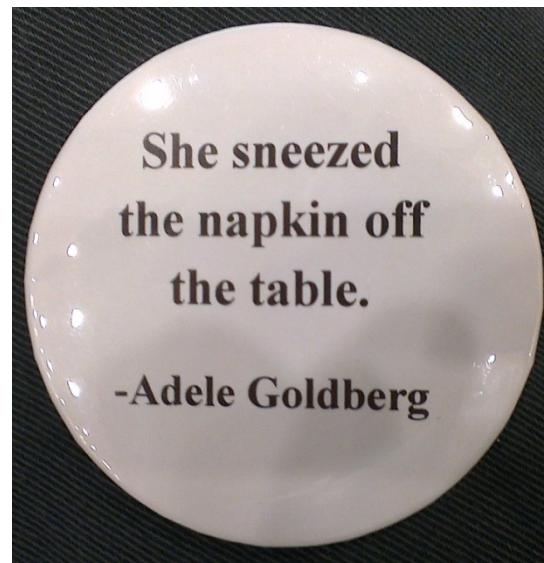
The vase is kicked over



The vase smashes into bits

Construal and Conceptualization

- Linguistic construal operations pertain not only to words, but also to **constructions** at different levels
- e.g. syntax:



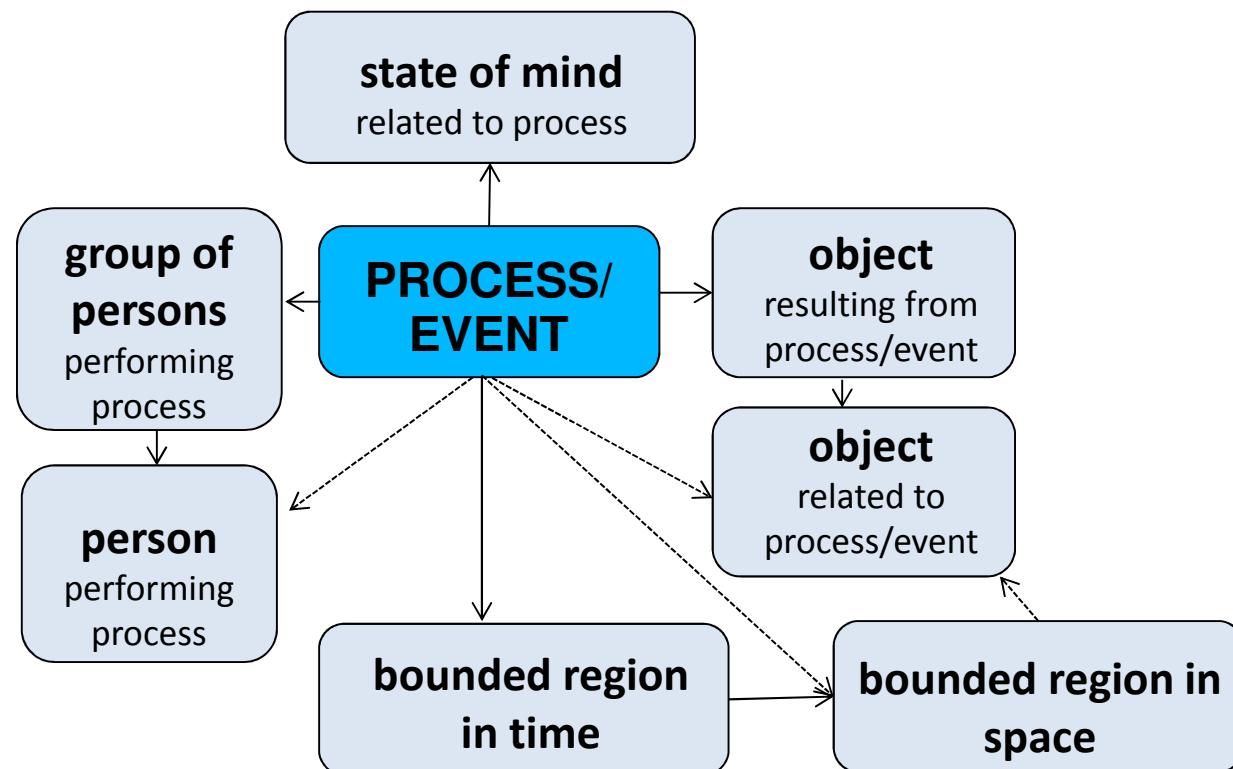
Construal and Conceptualization

- Word-formation patterns can be analyzed as morphological constructions; e.g. nominal compounding:
$$[[a]_{X_k} [b]_{N_i}]_{N_j} \leftrightarrow [\text{SEM}_i \text{ with relation R to } \text{SEM}_k]_j$$
(Booij 2010: 17)
- Word-formation patterns can be seen as carrying schematic content (cf. Ungerer 2007, Tuggy 2005), e.g. V-*er* (*teacher*) ‘professional human agent’ (Panther & Thornburg 2001)

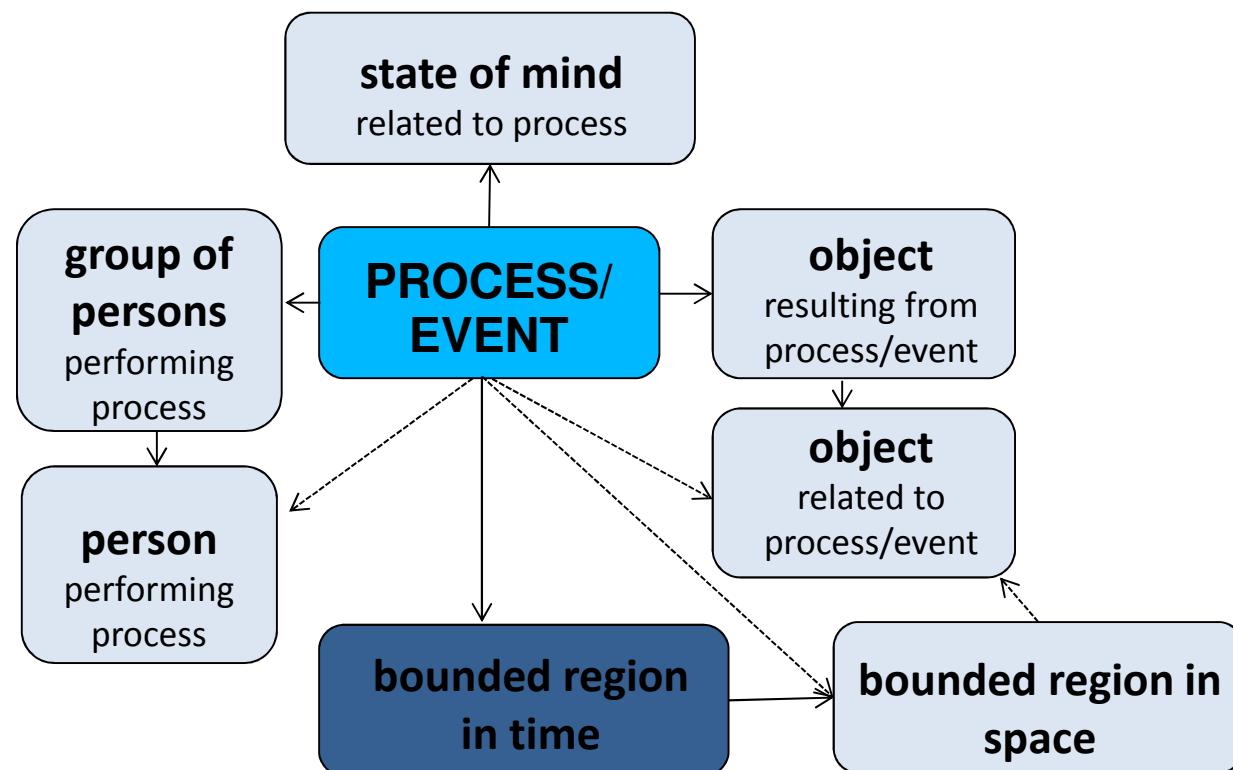
Construal and Conceptualization

- “Nominalization involves a conceptual reification” (Langacker 1991a: 22)
- *ung*-nominals are subject to **shifts in construal** causing **constructional change** (Hilpert 2011, 2013) at different levels:
 - a) **semantic** level: metaphorical and metonymic meaning extension of specific word-formation products → lexicalization; in many cases, the non-lexicalized, transparent readings come out of use, e.g. *Lesung* ‘(process of) reading’ > ‘reading event’; *Heizung* ‘(process of) heating’ > ‘heating installation’
 - b) **morphological** level: Modification of the conceptual network for *ung*-nominals: Changes in the availability of construal options; shifts in prototypicality

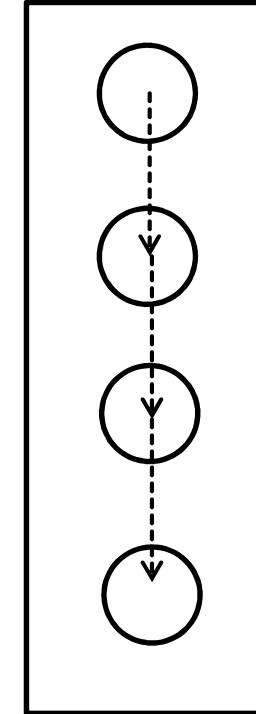
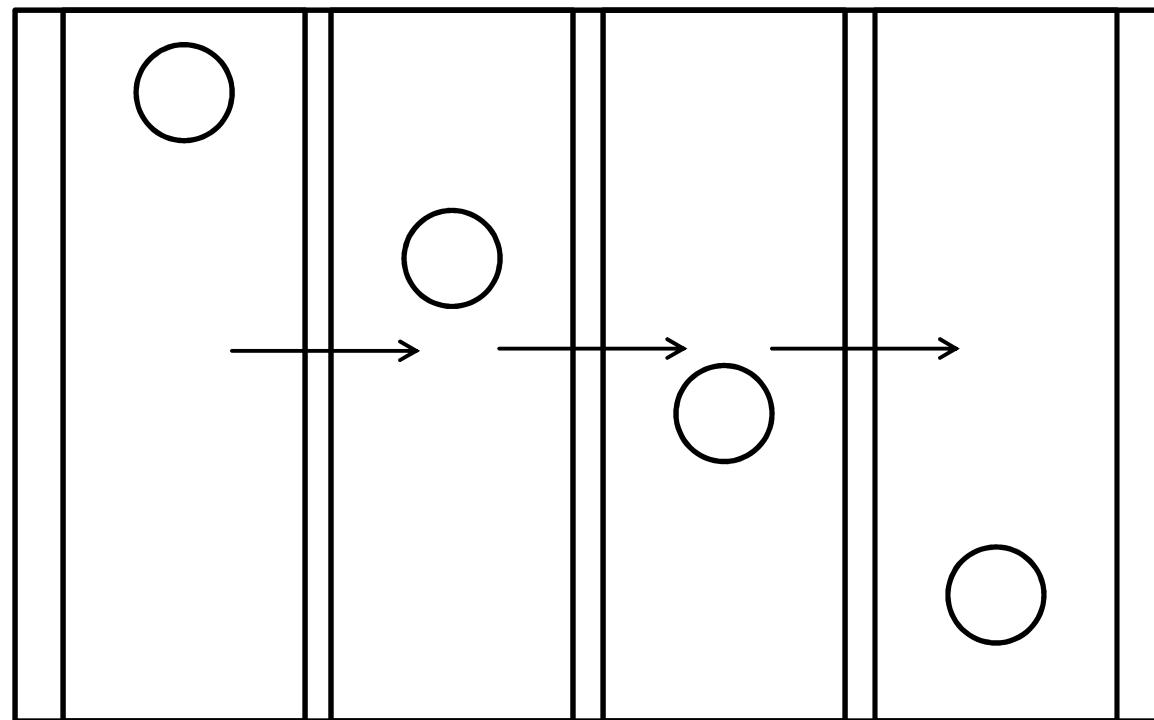
Construal and Conceptualization



Construal and Conceptualization

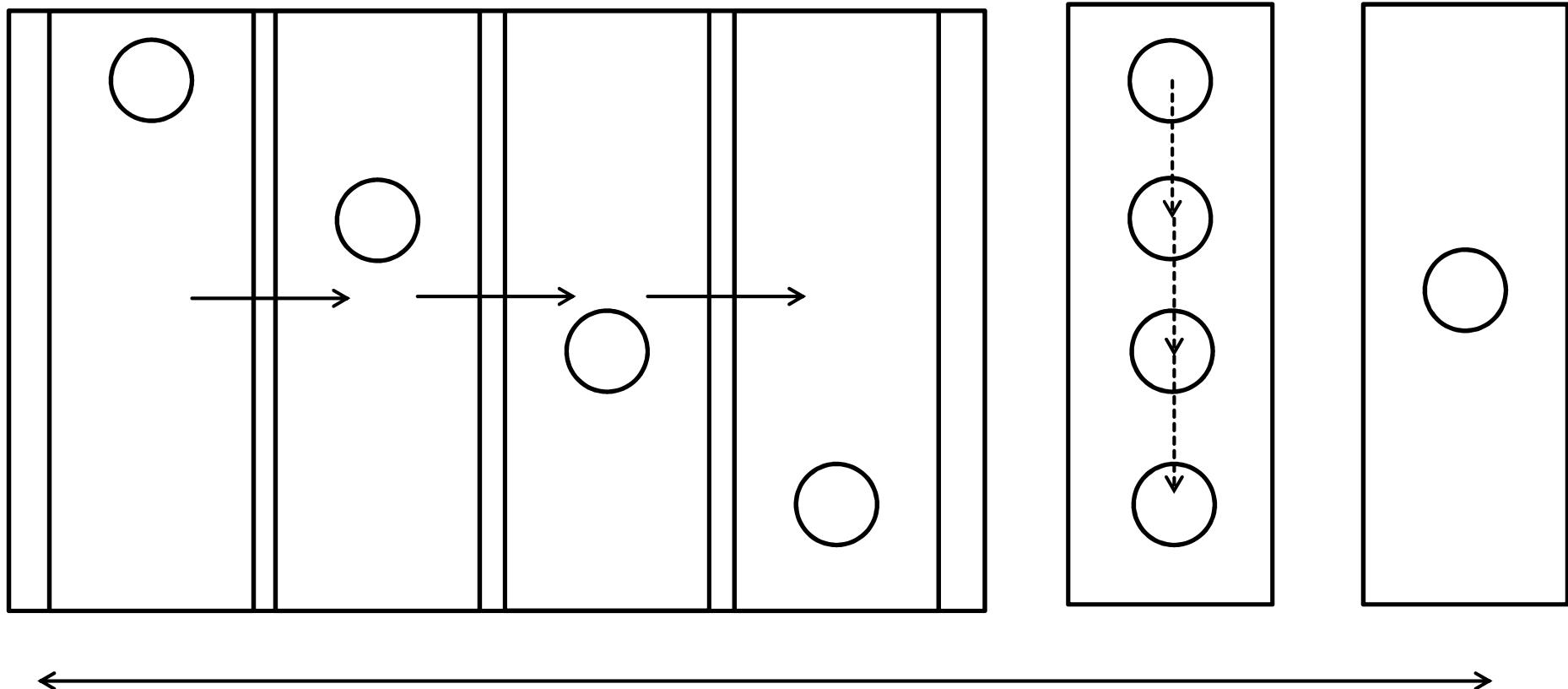


Mental Scanning



(adopted from Langacker 1987a, see also Langacker 1987b; Langacker 2008 a, b)

Mental Scanning



ENHG in grabung

'in (the process of) digging'

Landung

'landing'

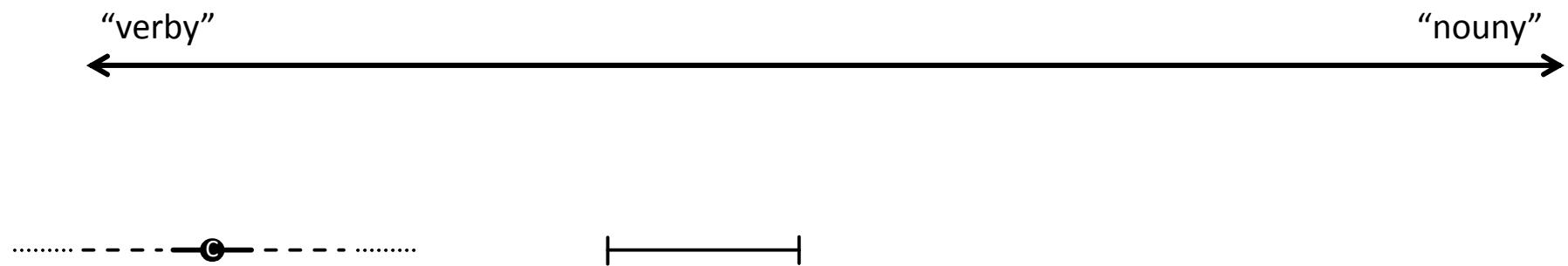
Verhandlung

'trial'

Heizung

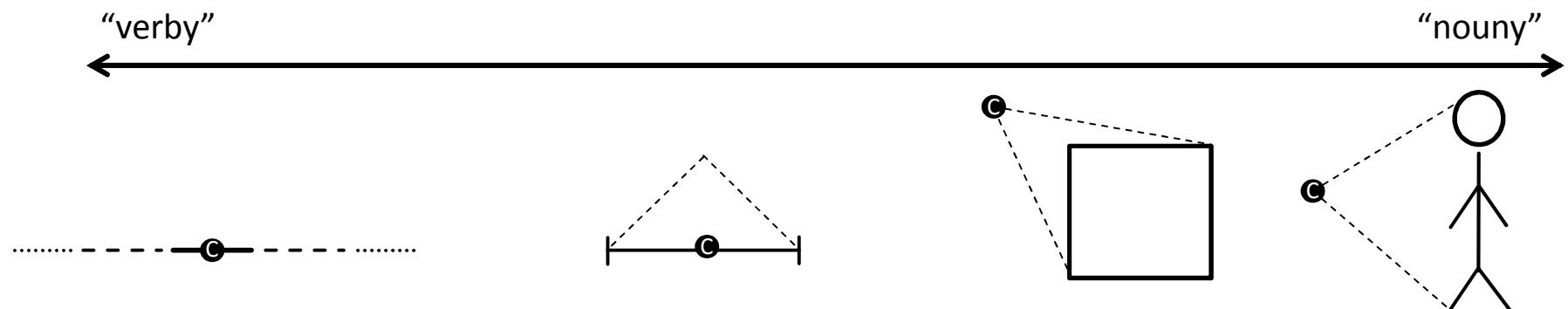
'heating
installation'

Construal and Conceptualization



process/event	bounded region in time / in space	object	person
non-countable			countable
non-pluralizable			pluralizable
non-contoured			contoured
non-individuated			individuated
ENHG <i>in grabung</i> 'in (the process of) digging'	NHG <i>Lesung</i> 'reading event'	NHG <i>Ausstellung</i> 'exhibition'	<i>Heizung</i> 'heating device'
			<i>Bedienung</i> 'waiter'

Construal and Conceptualization



process/event

- non-countable
- non-pluralizable
- non-contoured
- non-individuated

bounded region in time / in space



object

person

- countable
- pluralizable
- contoured
- individuated

ENHG in grabung
'in (the process of) digging'

NHG Lesung
'reading event'

NHG Ausstellung
'exhibition'

Heizung
'heating device'

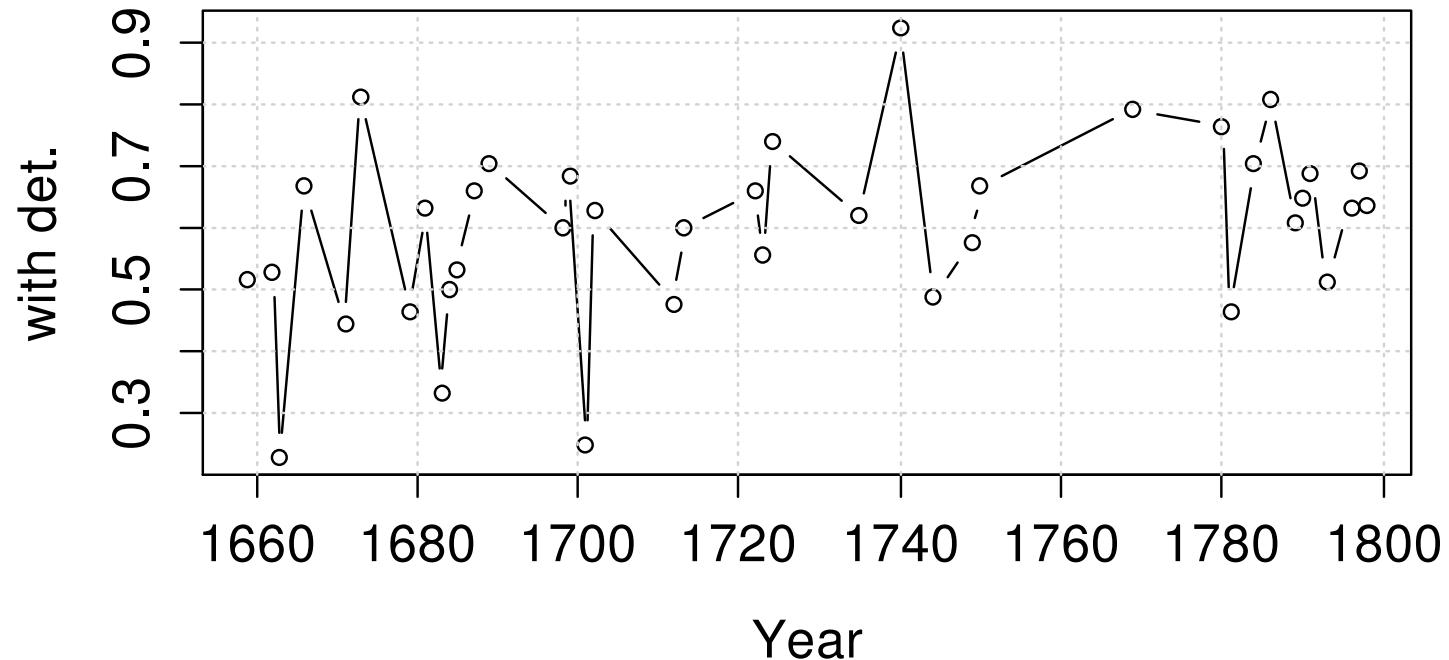
Bedienung
'waiter'

Construal and Conceptualization

- “Nominalization involves a conceptual reification” (Langacker 1991a: 22)
- *ung*-nominals are subject to **shifts in construal** causing **constructional change** (Hilpert 2011, 2013) at different levels:
 - a) **semantic** level: metaphorical and metonymic meaning extension of specific word-formation products → lexicalization; in many cases, the non-lexicalized, transparent readings come out of use, e.g. *Lesung* ‘(process of) reading’ > ‘reading event’; *Heizung* ‘(process of) heating’ > ‘heating installation’
 - b) **morphological** level: Modification of the conceptual network for *ung*-nominals: Changes in the availability of construal options; shifts in prototypicality
 - c) **syntactic** level: prevalent syntactic patterns reflect higher degree of reification

Construal and Conceptualization

ung-nominals with determiner



Significant increase (GerManC newspaper corpus, Kendall's $\tau=0.26$, $p_{\text{one-tailed}}=0.01$)

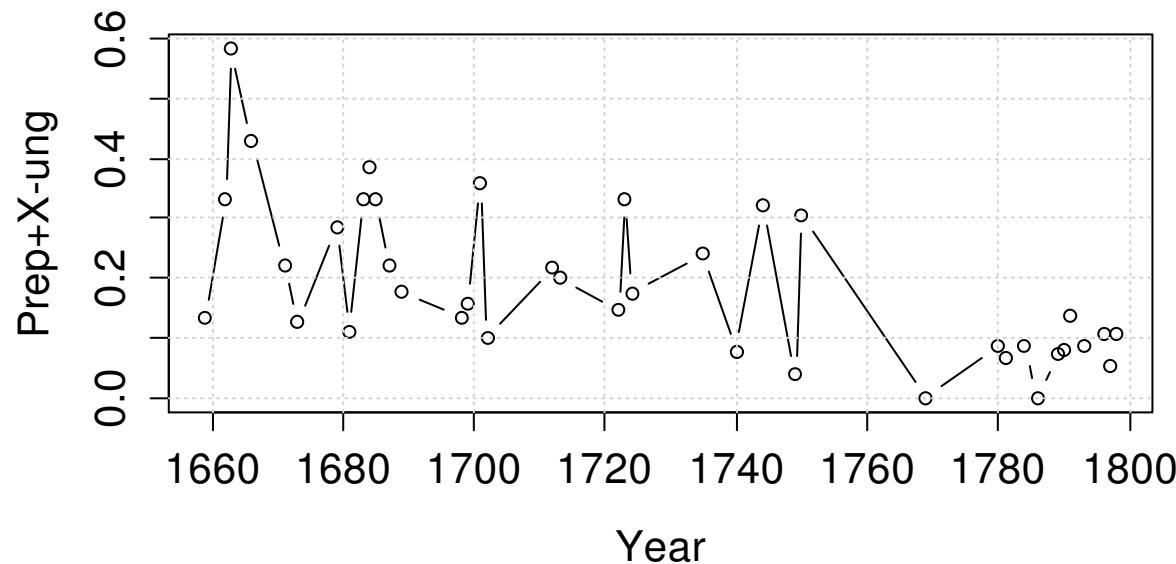
Construal and Conceptualization

Prep + V-ung construction

- (1) *es geschicht oft, daß in **Grabung** der Fundamenten viel Brunnquellen gefunden werden* 'It often happens that many wells are found in digging up the foundations' (1688BAW)
- (2) *durch söllich emsig **lesung** guoter und zierlicher gedichten* 'through such eager reading of good and delightful poems' (1478WYL)
- (3) *weil ich in **durchlesung** dieser geringschätzigen Arbeit eines und das andre darbey zu erinnern vermeinet/* 'as I thought to remember the one or the other thing in/while reading this derogatory work' (NOBD-1650-ST-099)
- (4) *Wolte man aber zu **Auffführung** des Gebäues/ Brech= und probiern der Stein nicht so viel Zeit anwenden/* 'They didn't want to spend too much time on constructing the building, on breaking and testing the stones' (NOBD-1680-ST-neu)

Construal and Conceptualization

Prep + V-ung construction



Significant decrease in the GerManC newspaper corpus (Kendall's $\tau=-0.44$, $p<0.01$)

Thank you for your attention

Wikiwörterbuch

Wiktionary
[ˈvɪkʃə,nəri], n

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ein Wiki-basiertes
freies Wörterbuch

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Grundstücksverkehrsgenehmigungszuständigkeitsübertragungsverordnung

Grundstücksverkehrsgenehmigungszuständigkeitsübertragungsverordnung ([Deutsch](#)) [\[Bearbeiten\]](#)

... and thanks to Damaris Nübling, Till Bergmann, Kristin Kopf, and Michael Pleyer for helpful advice and discussions.