

Transitivization of verbs in Dutch

The role of particles and prefixes

Ann-Sophie Vrielynck (FNRS – University of Liège/Antwerp)

Overview

- Introduction
- Results of previous studies
- Case study of the prefix *be-* (in collaboration with Evie Coussé)

Introduction

PhD project

- Started in October 2023 at the ULiège/UAntwerp (Belgium)
 - “Diachrony of verb-particle constructions in Dutch”
- Supervisors: Julien Perrez (Liège) and Dirk Pijpops (Antwerp)
- October 2024: FNRS project (Fund for Scientific Research of Wallonia/Brussels)
- Title: “The case of the Dutch prefix *be-*: a multimethodological synchronic and diachronic approach to unravel alternation patterns”

Transitivizing markers in Dutch

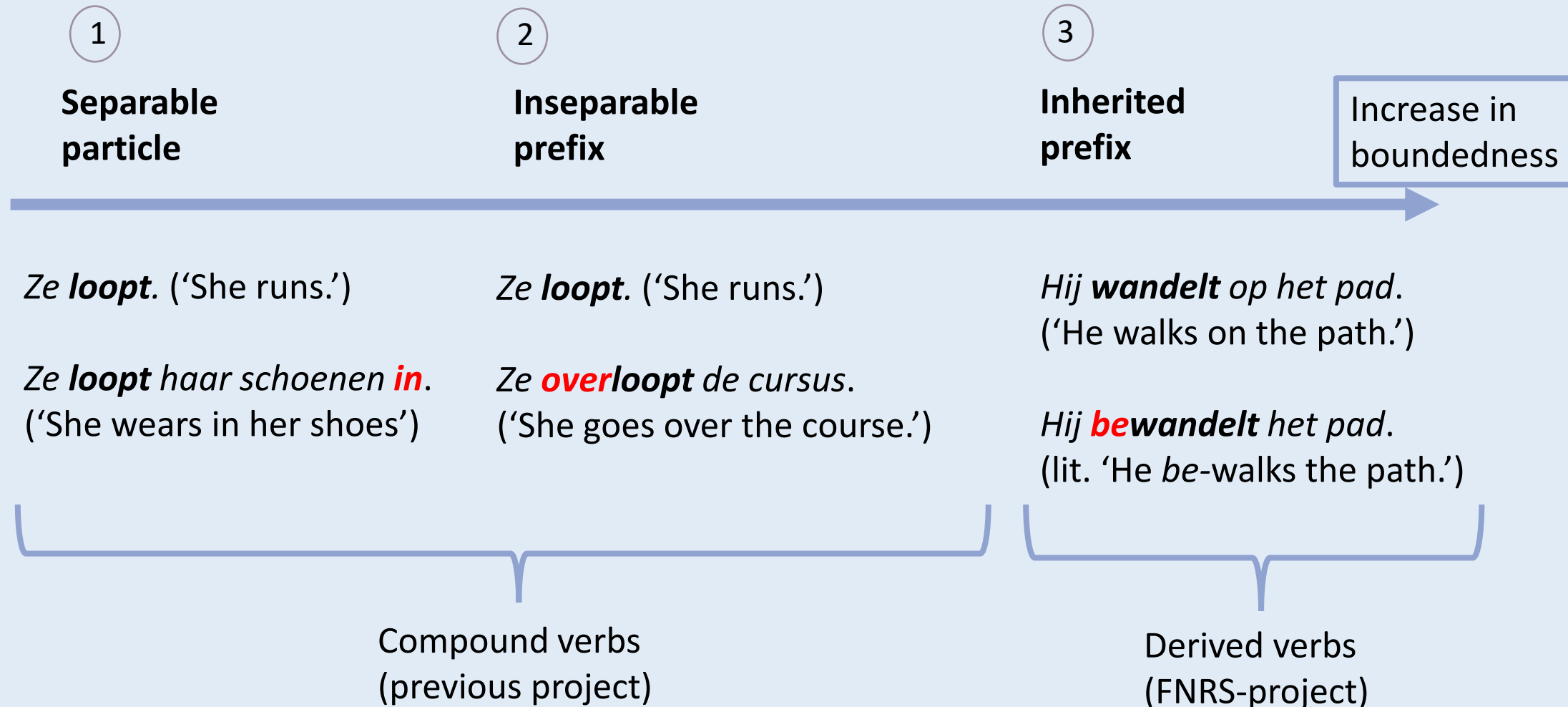
= **morpheme** that is added to a verb and that **increases the valency** of the verb
(Peterson 2007: 1; Zúñiga & Creissels 2024: 4)

e.g., *Hij ging [**naar** vele medische tests]* ‘He went [**to** many medical tests]’

→ *Hij **onder**-ging [vele medische tests]* ‘He **under**-went [many medical tests]’

- Dutch: 3 types of transitivizing markers

3 types of transitivizing markers



Compound verbs in Dutch

- Preverb also exists as an independent lexeme
- Preverb + base verb (e.g., **onder**-gaan ('go down; undergo'), **over**-lopen ('overflow; go through'))



Separable compound verbs (SCV)

e.g., Ze **loopt** haar schoenen in.

(‘She wears in her shoes’)

- Separated in certain constructions
- Stress on preverb

≈ English ‘phrasal verbs’ (e.g., *look up*, *make out*), Swedish (e.g., *se upp*, *komma över*)

Inseparable compound verbs (ICV)

e.g., Ze **overloopt** de cursus.

(‘She goes over the course’)

- Never separated
- Stress on base verb

≈ Swedish: *omkomma*, *utandas*

Derived verbs in Dutch

- Preverb does not exist as an independent lexeme
 - Preverb + base verb
 - e.g., *be-luisteren* (lit. *be*-listen, 'listen to'), *ont-dekken* ('discover'), *ver-geven* ('for-give')
 - some Swedish examples: *beskriva*, *betala*, *förstå*
- Semantics and diachrony → remain debated or understudied

Research questions and methodology

Research questions



Diachrony

- Did the inseparable prefixes develop from the separable particles or are these independent developments? ✓
- Is the *be*-construction historically stable? Or are there any constructional changes?

Semantics

- What is the meaning difference between a separable particle and an inseparable prefix? ✓
- What is the meaning difference between a *be*-verb and its corresponding base verb?

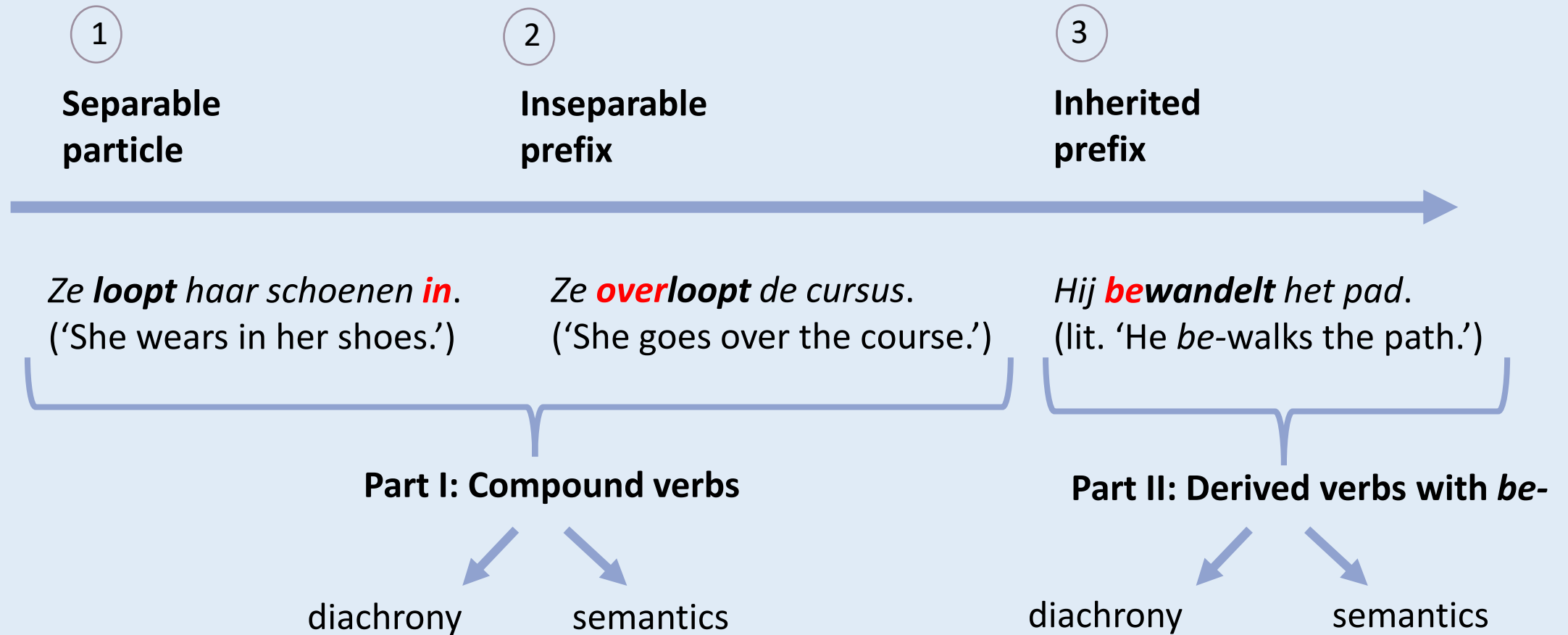
Methodology



→ Diachronic corpus studies

→ Synchronic corpus studies and experiment

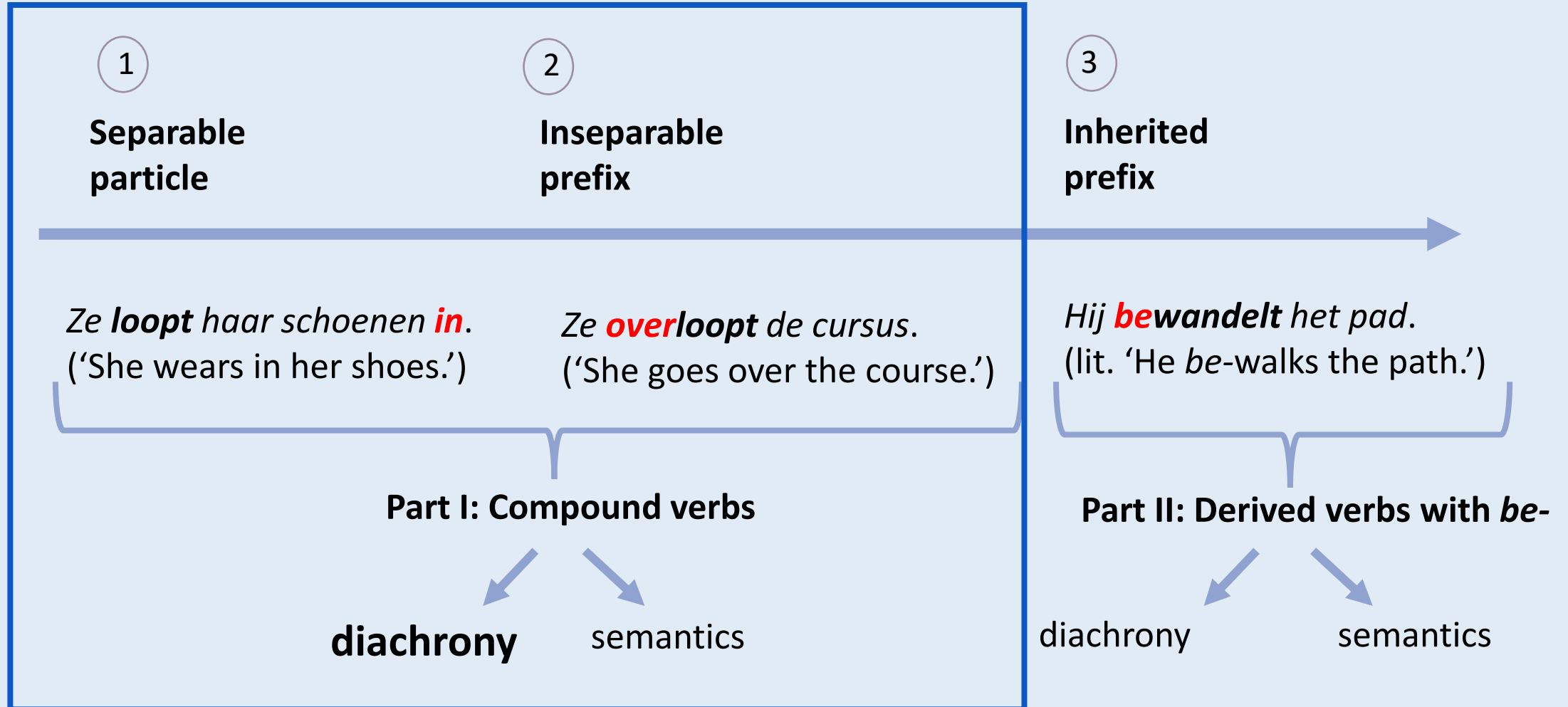
Main structure of thesis



Results of Part I

Compound verbs

Main structure of the thesis



Diachrony of compound verbs

1

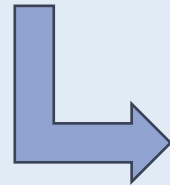
**Separable
particle**

*Ze **loopt** naar de vijand **over**.*
(‘She defects to the enemy.’)

2

**Inseparable
prefix**

*Ze **overloopt** de cursus.*
(‘She goes over the course.’)



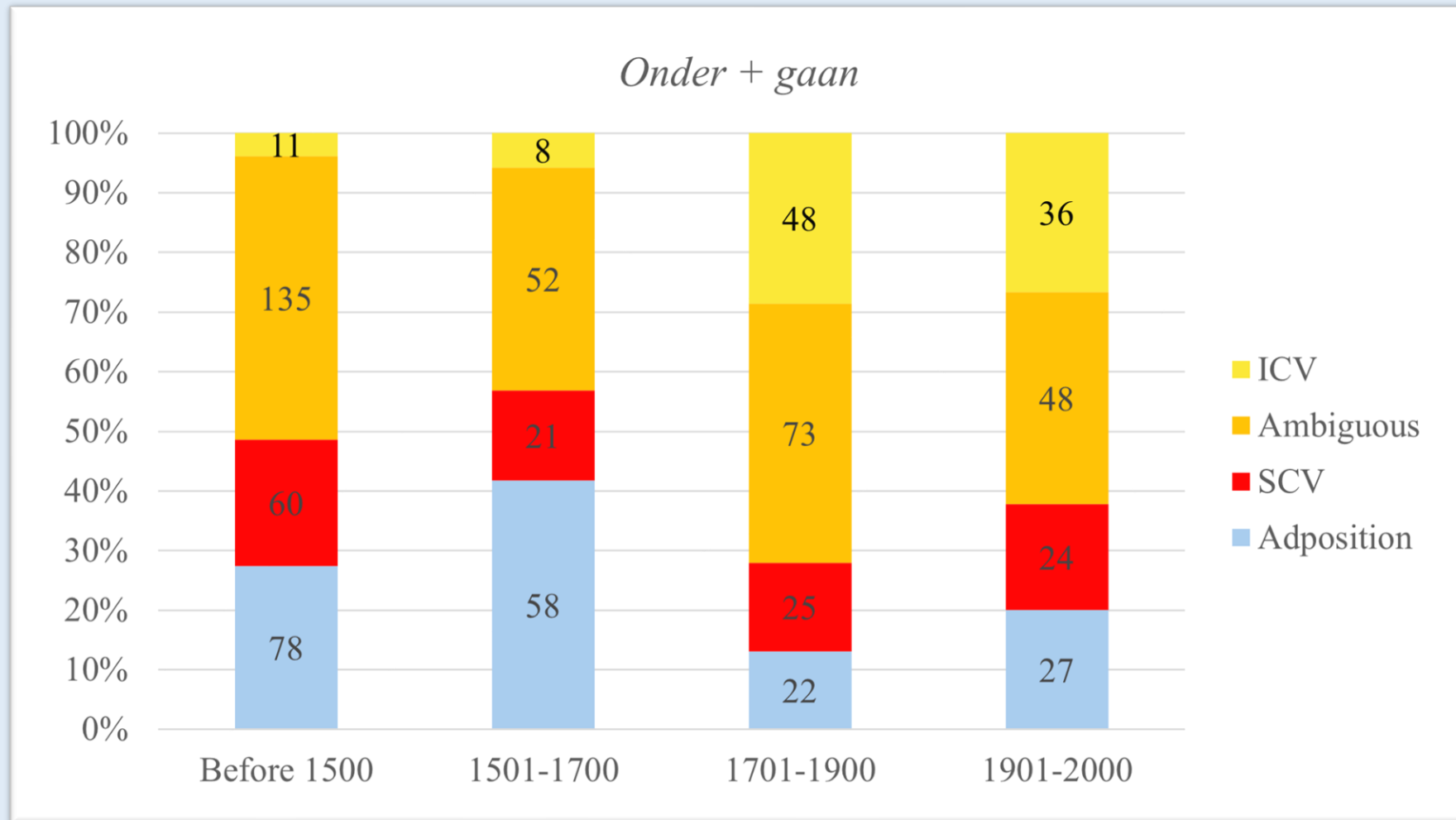
1) separable particle → inseparable prefix
(cf. Booij 2002; Blom 2004, 2005)

2) separable particle ~~→~~ inseparable prefix
(cf. Van der Horst 2008)

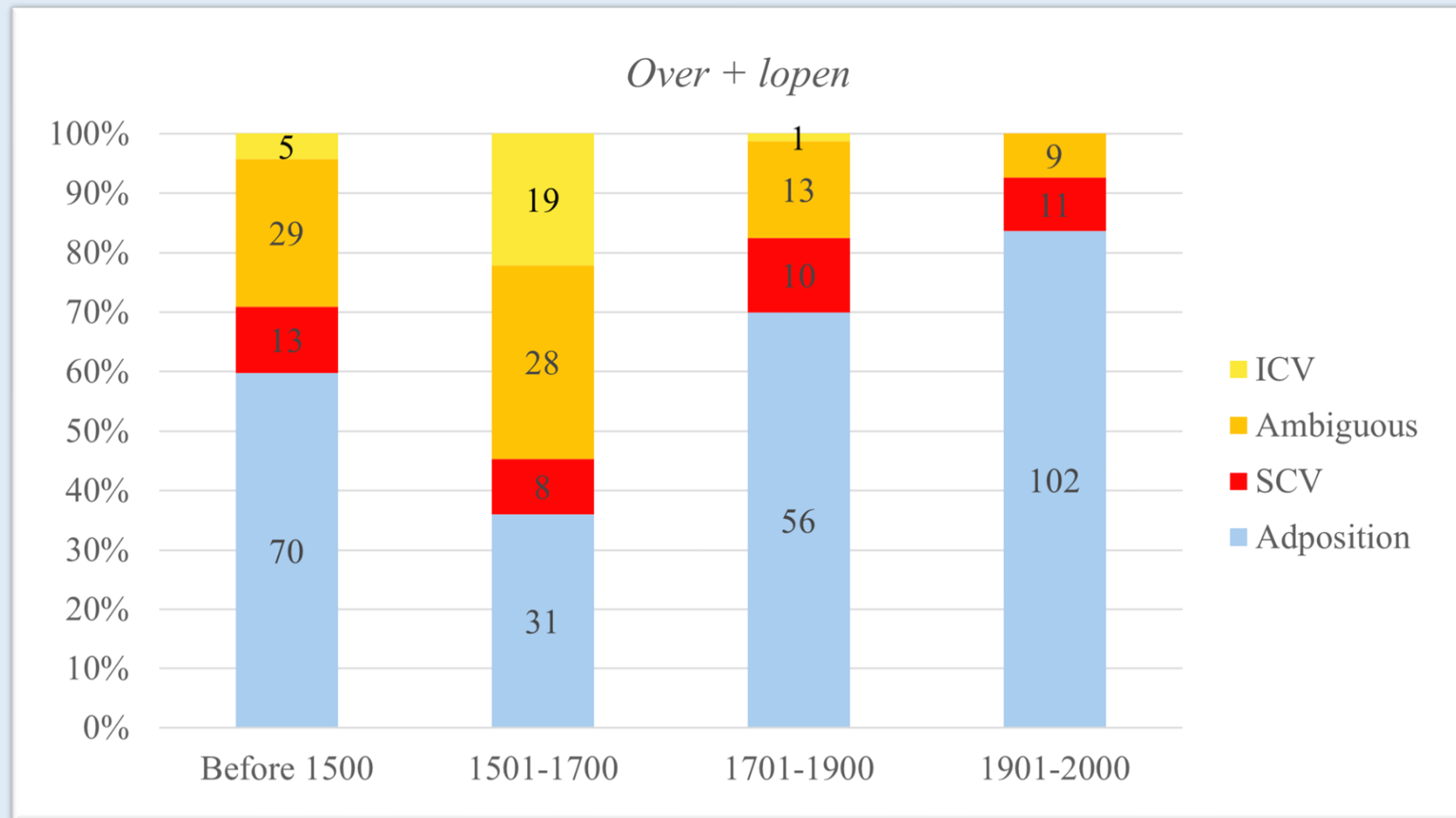
Diachronic corpus study

- Investigate two rivalling hypotheses
- Two compound verbs (both SCV and ICV) (lexeme-focused approach)
 - *Ondergaan* ('go down; undergo')
 - *Overlopen* ('overflow; go through')
- Two diachronic corpora (1300-1939): *Corpus of Middle Dutch*¹ & *dbnl*²
- Extracted all instances of *over/onder* and verb in same clause (+ part of the verb or argument/modifier of the verb) → 1,131 attestations
- Annotated for pattern: adposition, separable, inseparable, ambiguous, (also annotated for transitivity & semantics)

Results for *onder + gaan*



Results for *over + lopen*



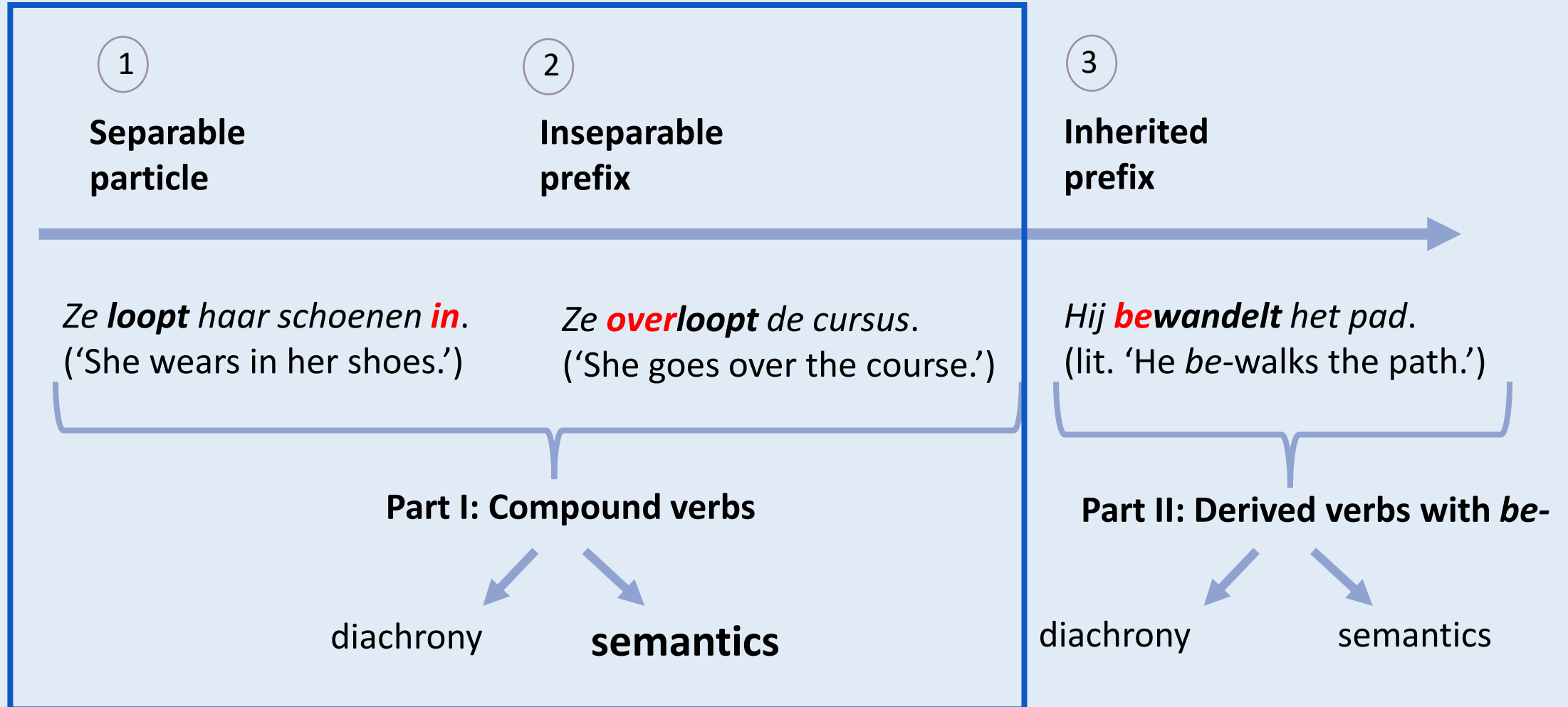
Conclusion diachronic study

- No clear formal transition from SCV to ICV
 - distinctions in meaning/transitivity: already in Middle Dutch
 - Historical support for hypothesis 2

RQ1: Did the inseparable prefixes develop from the separable particles or are these independent developments? 

- (probably) independent developments
- cf. multiple coexisting diachronic pathways for ICVs (Vrielynck et al. 2025)

Main structure of the thesis



Semantics of compound verbs

1

**Separable
particle**

Ze loopt het bos door.

(‘She walks through the forest.’)

2

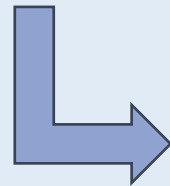
**Inseparable
prefix**

Ze doorloopt de cursus.

(‘She completes the course.’)

! Separable particle with non-spatial meaning (*informatie opzoeken* ‘look up information’)

! Inseparable prefixes with spatial meaning (*het huis doorzoeken* ‘search the house’) (cf. Blom 2004, 2005)



- 1) separable particle = spatial, concrete
inseparable prefix = non-spatial, abstract
(cf. Booij 2002)
- 2) Resultative meaning = always separable
non-resultative meaning = (in)separable
(cf. Blom 2004, 2005)

Resultativity?

= preverbal element expresses a result or change of state (cf. Haeseryn et al. 1997)

e.g., *Hij **gooit** de voetbal **op**.* ('He throws up the football.')

→ football = in the air (*op* = 'up')

e.g., *De zon **gaat onder**.* ('The sun sets.')

→ sun = *onder* = 'down'

Semantics of compound verbs

1

**Separable
particle**

*Ze loopt the bos **door**.*

(‘She walks through the forest.’)

2

**Inseparable
prefix**

*Ze **door**loopt de cursus.*

(‘She completes the course.’)

! Separable particle with non-spatial meaning (*informatie opzoeken* ‘look up information’)

! Inseparable prefixes with spatial meaning (*het huis doorzoeken* ‘search the house’) (cf. Blom 2004, 2005)

! Counterexamples
(5 resultative
inseparable verbs)

- 1) Separable particle = spatial, concrete
inseparable prefix = non-spatial, abstract
(cf. Booij 2002)
- 2) Resultative meaning = always separable
non-resultative meaning = (in)separable
(cf. Blom 2004, 2005)

Semantic (multimethodological) study

- Investigate two rivalling hypotheses (concreteness or resultativity?)
- Two-fold methodology: corpus study and experiment

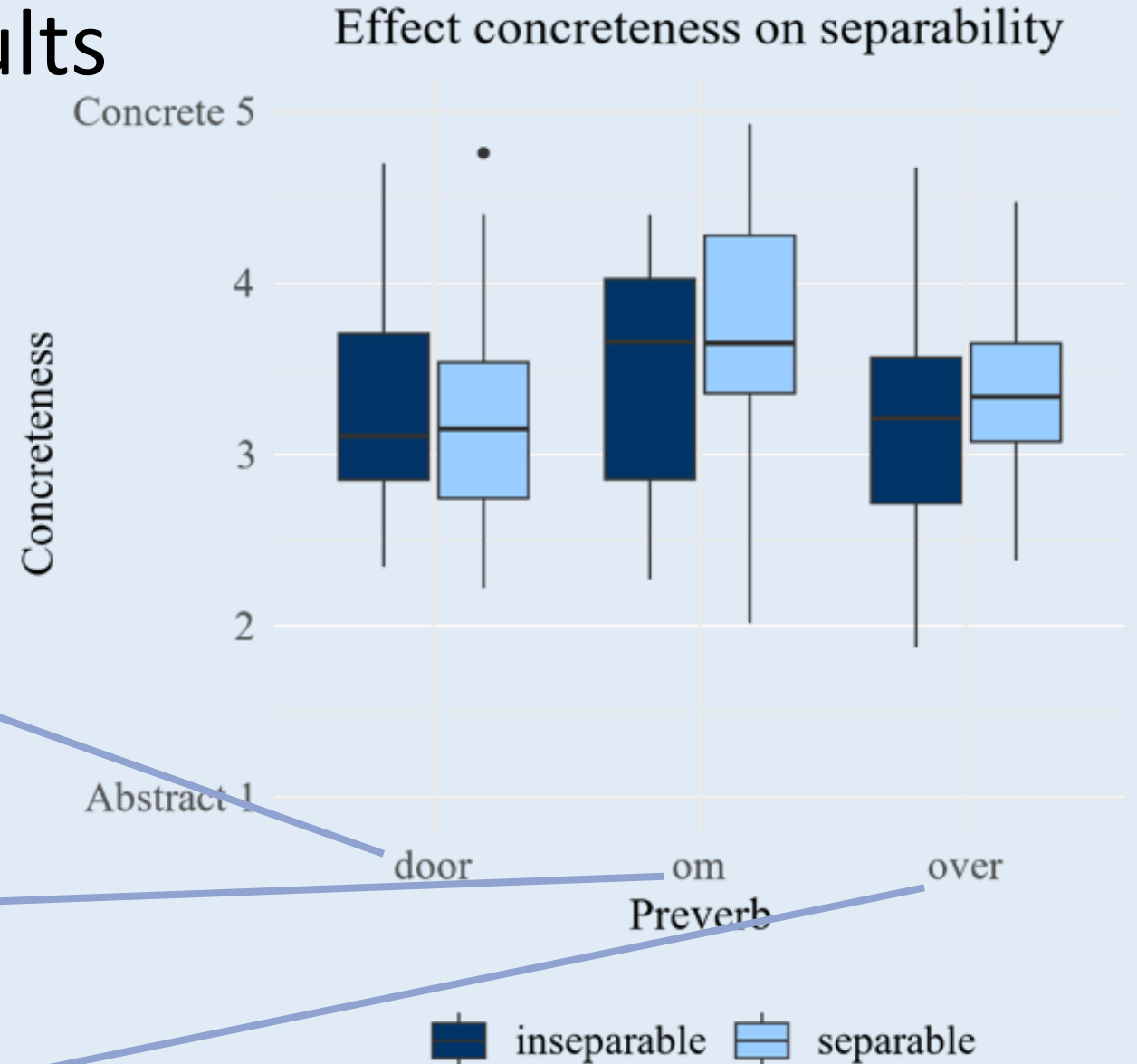
a) Corpus study

	SCV	ICV	Total
<i>Door-</i>	53 (67.95%)	25 (32.05%)	78 (100%)
<i>Om-</i>	47 (63.51%)	27 (36.49%)	74 (100%)
<i>Over-</i>	45 (44.55%)	56 (55.45%)	101 (100%)
Total	145 (57.31%)	108 (42.69%)	253 (100%)

- List with **all verbs with *door-*, *om-*, and *over-*** (Van Dale 2022 & Reference File Dutch (Van der Vliet 2007))
- **Corpus data** from NITenTen20 (SketchEngine) and SoNaR corpus (Oostijk et al. 2013) (only past participles)
- Automatically identified the **patiens** (= proxy for verb's meaning (cf. Frasinelli & Schulte im Walde 2019; Pijpops et al. 2021))
- Linked patiens to dataset Brysbaert et al. (2014): **concreteness** (1: abstract; 5: concrete)
- **Average concreteness** per verb → statistical analyses (binomial logistic regression)

a) Corpus study: results

- No significant results

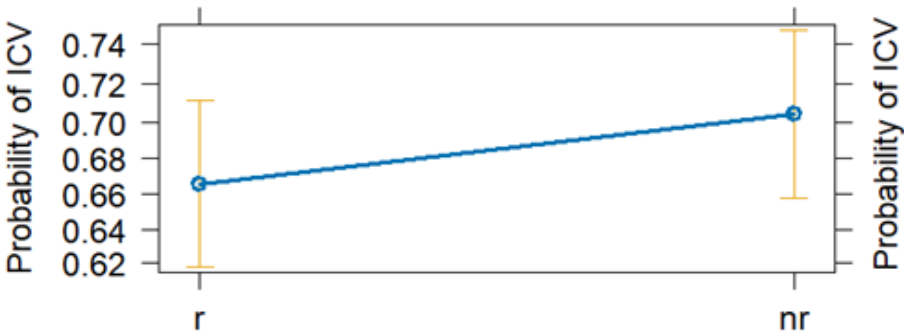


b) Experiment

- **Forced-choice task**
 - 72 fill-in-the-blank sentences with choice between SCV or ICV (ChatGPT) (manipulated for resultativity and concreteness)
 - But: 36 non-verbs with fictive meaning (*door-*, *om-*, and *over-*) (De Smet 2021; De Smet & Rosseel 2023; ChatGPT)
 - *door-driezen* (lit. 'through-driezen')
- Participants: 105 students between 18-25 years old with L1 = Dutch

b) Experiment: results

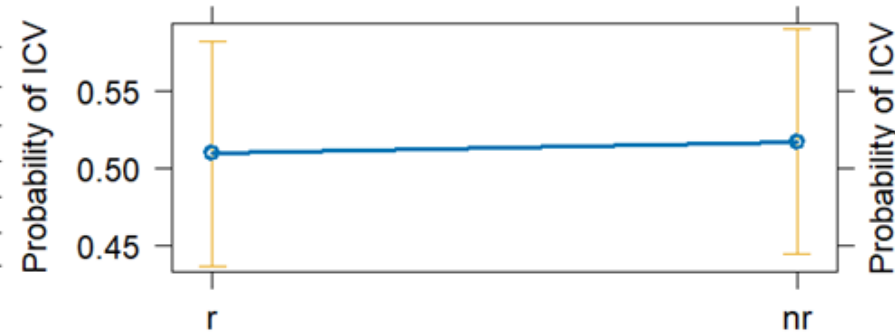
Resultativity - separability effect (door-)



Resultativity

$p = 0.055$

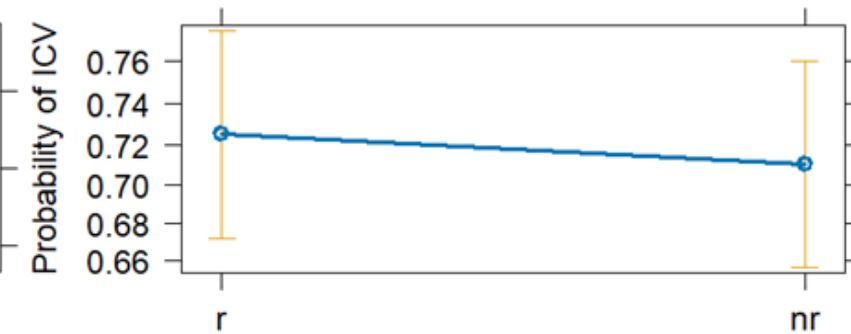
Resultativity - separability effect (om-)



Resultativity

$p = 0.727$

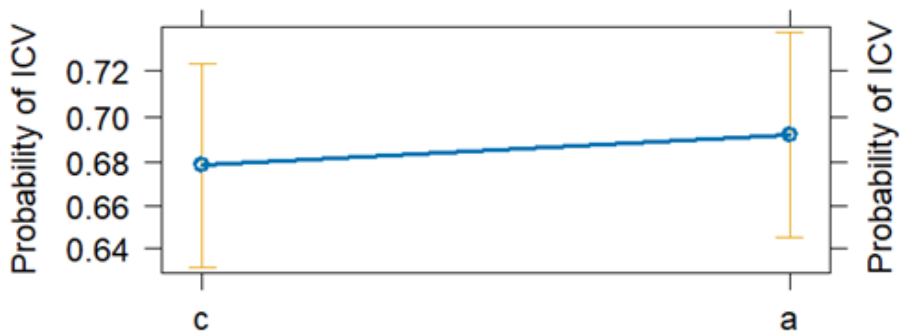
Resultativity - separability effect (over-)



Resultativity

$p = 0.435$

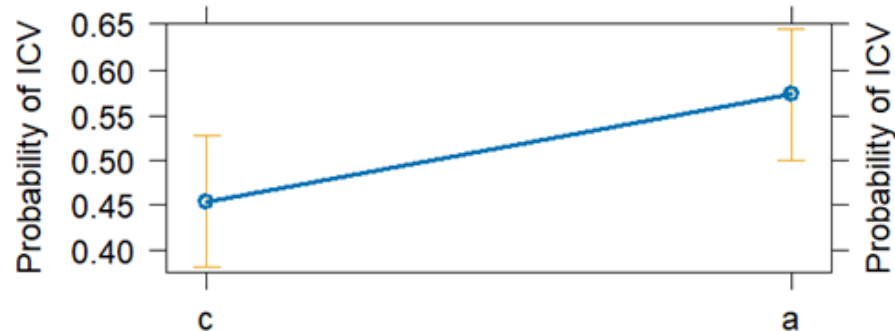
Concreteness - separability effect (door-)



Concreteness

$p = 0.498$

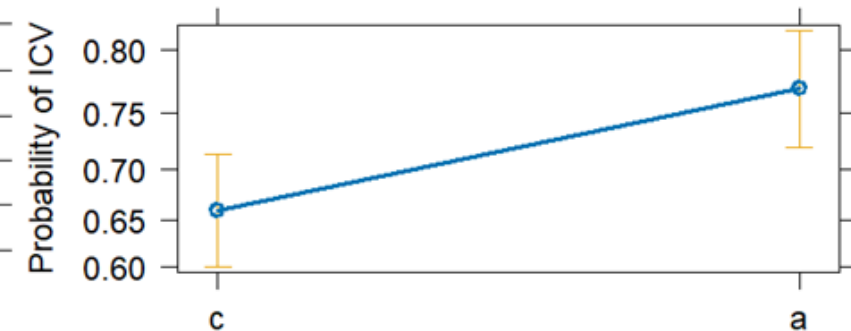
Concreteness - separability effect (om-)



Concreteness

$p = 4.35e-07^{***}$

Concreteness - separability effect (over-)



Concreteness

$p = 5.13e-07^{***}$

Conclusion semantic study

- Semantic differences between SCV and ICV
 - Significant influence of concreteness (*om-*, *over-*) → Booij 2002 
 - Tendency for resultativity (*door-*) → Blom 2004, 2005?
- However, not shown in our corpus study (but limitations!)

RQ2: What is the meaning difference between a separable particle and an inseparable prefix? 

- mostly concreteness, but differences between individual particles

Part II: The prefix *be-*

The prefix *be-*

- Exists in all Germanic languages ('inherited prefix')
- Prefix to derive new verbs: [*be-V*]_V
- (almost) always derives transitive verbs

e.g., *De dappere alpinisten **klommen** op de berg.* ('The brave alpinists **climb** up the mountain')

e.g., *De dappere alpinisten **beklimmen** de berg.* ('The brave alpinists **be-climb** the mountain')

≈ in Swedish: e.g., *Han **svarar** på frågan.* (lit. 'He answers to the question')

e.g., *Han **besvarar** frågan.* (lit. 'He *be*-answers the question.')

Meaning of *be*-

- For $[be-A]_v$ and $[be-N]_v$: quite clear
- But for $[be-V]_v$ debated: counterexamples, only tested for a subset of *be*-verbs
- ! Contrast with base construction

Meaning of *be-* (2)

Counterexamples
&
Different types

Affectedness

e.g., *Hij **plant** bloemen in zijn tuin.* ('He plants flowers in his garden.')

vs.

e.g., *Hij **beplant** zijn tuin met bloemen.* (lit. 'He *be-plants* his garden with flowers.')

→ **entire** garden is covered

! Very vague notion with methodological difficulties (Lenci 2012: 14; Dąbrowska 2017: 21-38; Pijpops 2019: 45-46) → too imprecise to capture differences between variants

Telicity

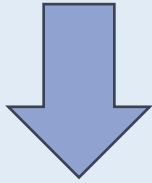
e.g., *Hij **klimt** op de berg.* ('He climbs up the mountain')

vs.

e.g., *Hij **beklimt** de berg.* ('He *be-climbs* the mountain')

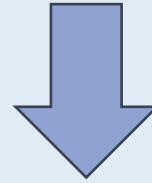
→ *be-klimmen* implies reaching an **endpoint** (e.g. the top of a mountain) (De Vries & te Winkel 1851)

Construction types



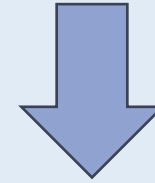
Transitive *be*-construction
vs.
Intransitive base
construction + **adjunct**

→ *be*-climb X vs. climb on X



Transitive *be*-construction
vs.
Intransitive base
construction +
prepositional object

→ *be*-listen X vs. listen to X



Transitive *be*-construction
vs.
Transitive base
construction
(**switch of objects**)

→ *be*-plant X with Y vs.
plant Y in X

Diachronic changes?

→ **historical (in)stability** of the factors (cf. dative alternation Dutch (Geleyn 2017)) → subtle diachronic changes in the effects

- Interesting: Middle Dutch's loss of case
 - Both transitivizing prefixes and prepositional constructions were “compensation strategies” (Van der Horst 2008: 461; Van de Velde 2004, 2014)
- Examine how these two compensation strategies evolved over time and to what extent their functions converged or diverged

Case study

- **Goal:** identify factors determining distribution between *be*-construction and base construction
 - **RQ1:** What factors determine the distribution between a *be*-construction and its corresponding base construction in contemporary Dutch?
 - **RQ2:** To what extent can we generalize across these factors? At which level of abstraction within the constructional network do the identified factors operate?
 - **RQ3:** Do the factors at play display diachronic stability or have they changed over time? If so, which changes have occurred?

Diachronic data

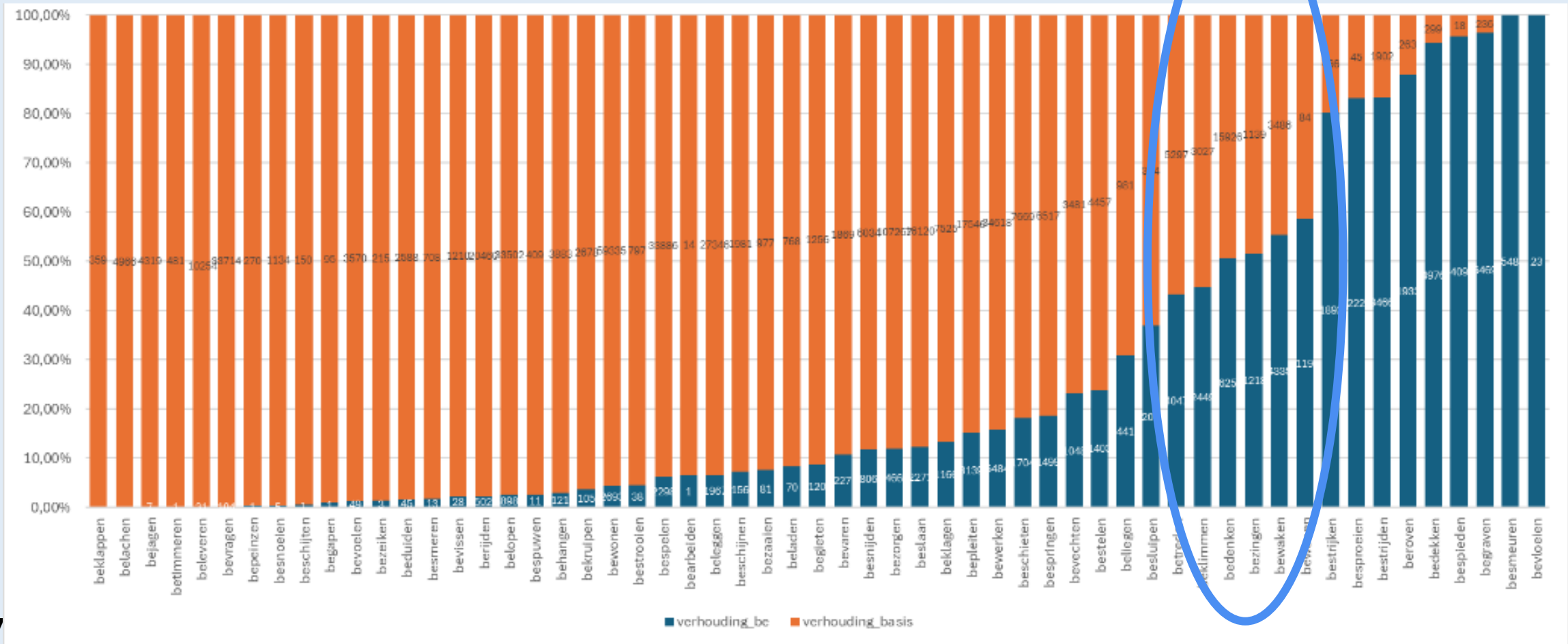
- Three diachronic corpora (conditions: big, lexical varied & relatively well dated)
 - 1) Corpus of Middle Dutch (Dutch Language Institute 2022)**
 - Poetry and prose
 - 1300-1550
 - 7,711,005 tokens
 - 2) EDGeS-corpus (Bouma et al. 2020)**
 - Bible translations
 - 1360-1939
 - 9,126,714 tokens
 - 3) Subset of DBNL (following Van Olmen 2019)**
 - Literary texts
 - 1500-2000
 - 9,766,040 tokens

Selection of verbs

- 1) List of all contemporary *be*-verbs (transitivizing, same core meaning) → 105 verb pairs
- 2) List of all verb pairs: both constructions present since Middle Dutch (cf. dictionary of Middle Dutch (INT)) → 59 verb pairs
- 3) Proportions: well balanced

Selection of verbs

be-climb X
vs.
climb on X



Synchronic pilot study of *beklimmen*-*klimmen*

- Extracted data from synchronic corpus of contemporary Dutch SoNaR (Oostdijk et al. 2013)
- Selected only *beklimmen* + direct object vs. *klimmen* + *op*-adjunct (Alpinoparses (Van Noord 2006))
 - 4584 attestations: 2341 *beklimmen* (51.07%) vs. 2243 *klimmen op* (48.93%)
 - randomly selected 100 attestations (same proportions)

Parameters

- Hypothesis: *be*-constructions correlate with higher degrees of transitivity

→ parameters of 'high transitivity' (cf. Hopper and Thompson 1980: 252)

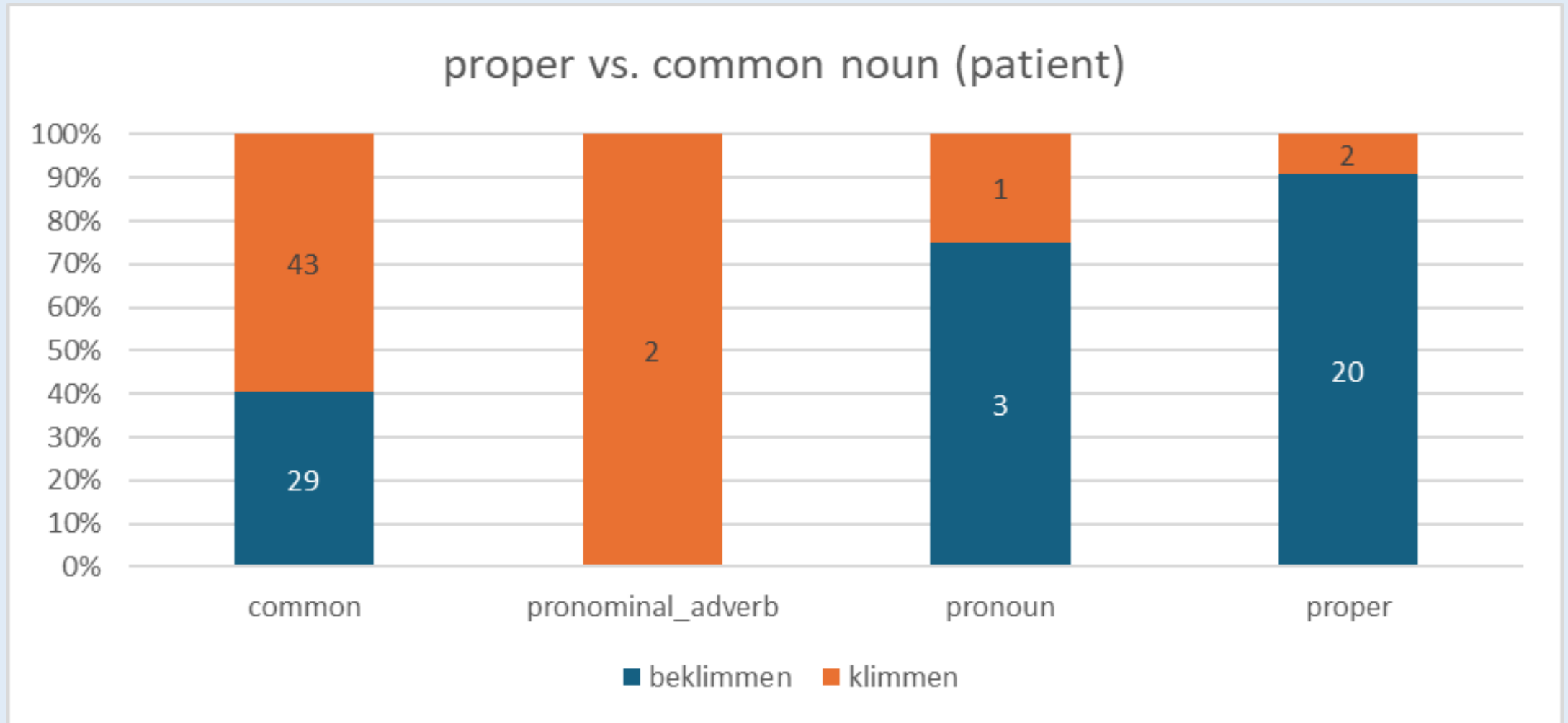
- Affirmation: **positive** vs. negative
- Mode: **realis** vs. irrealis
- **Agency** of agent & agency of patient: < animacy hierarchy (Silverstein 1976)
- Patient: **proper** vs. common noun, mass vs. **count** noun, **concrete** vs. abstract noun, number (sg. vs. pl.), **definite** vs. indefinite

→ Position of patient & length patient

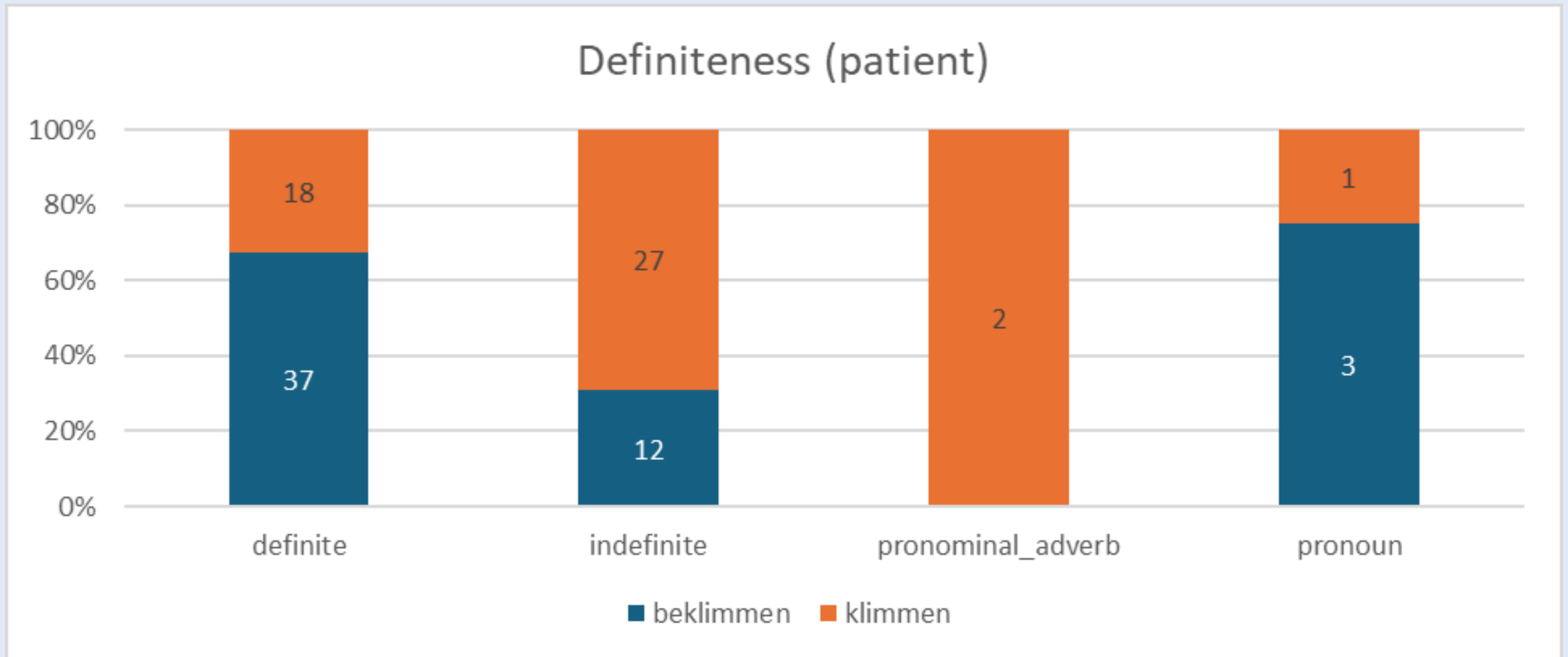
→ Verb tense (**present** = foregrounding → more often *be*-)

→ **main clause** vs. subordinate clause

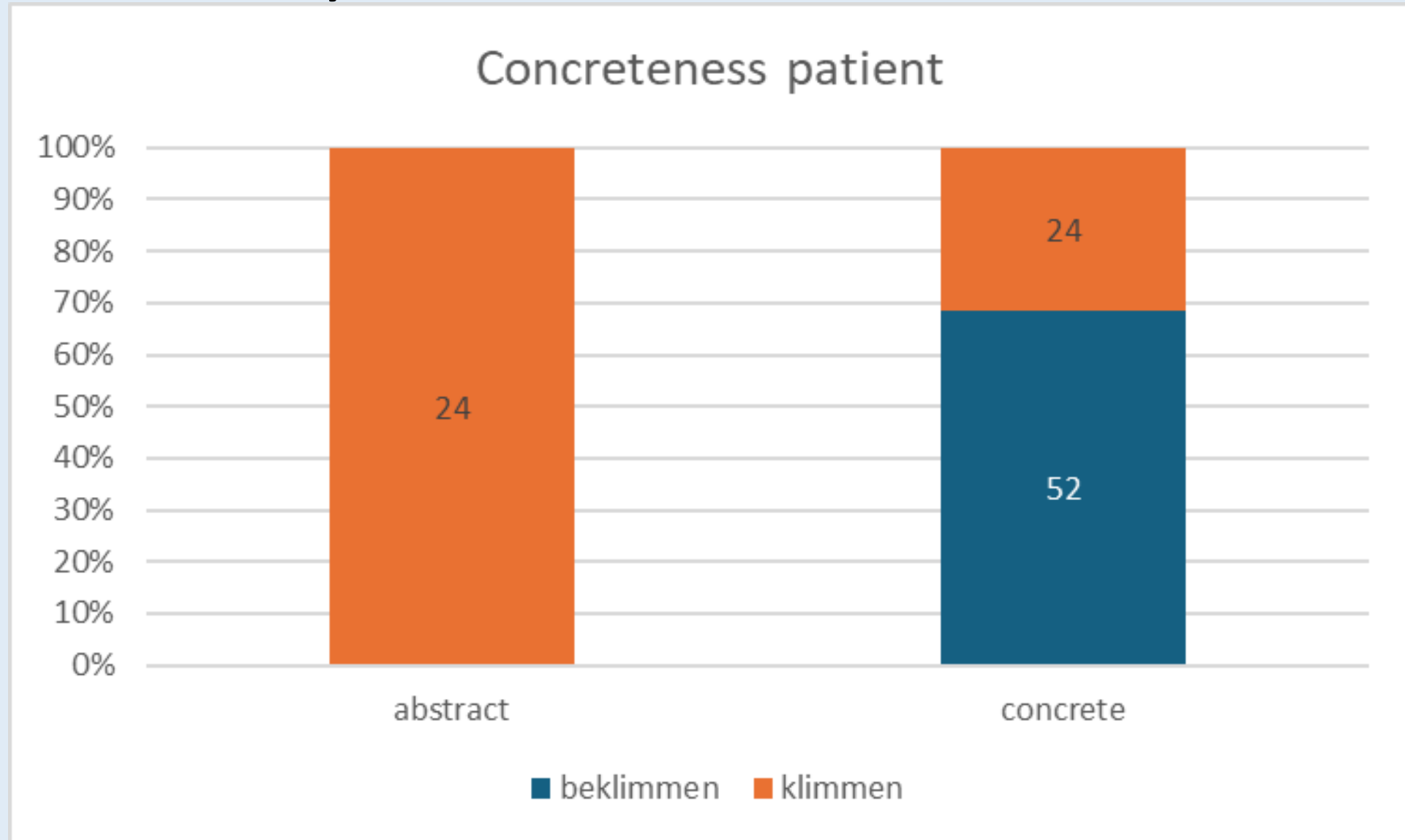
Preliminary results



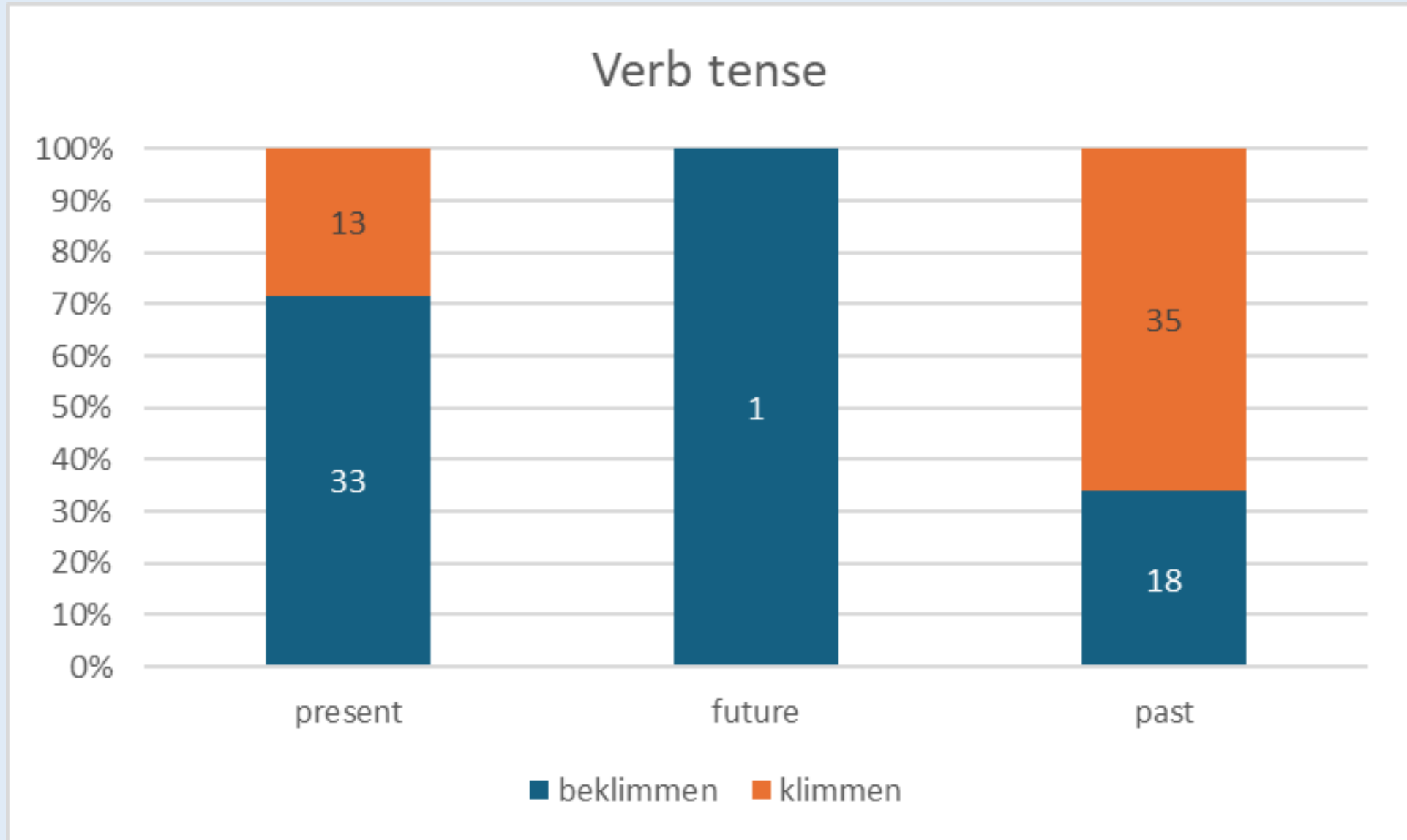
Preliminary results



Preliminary results

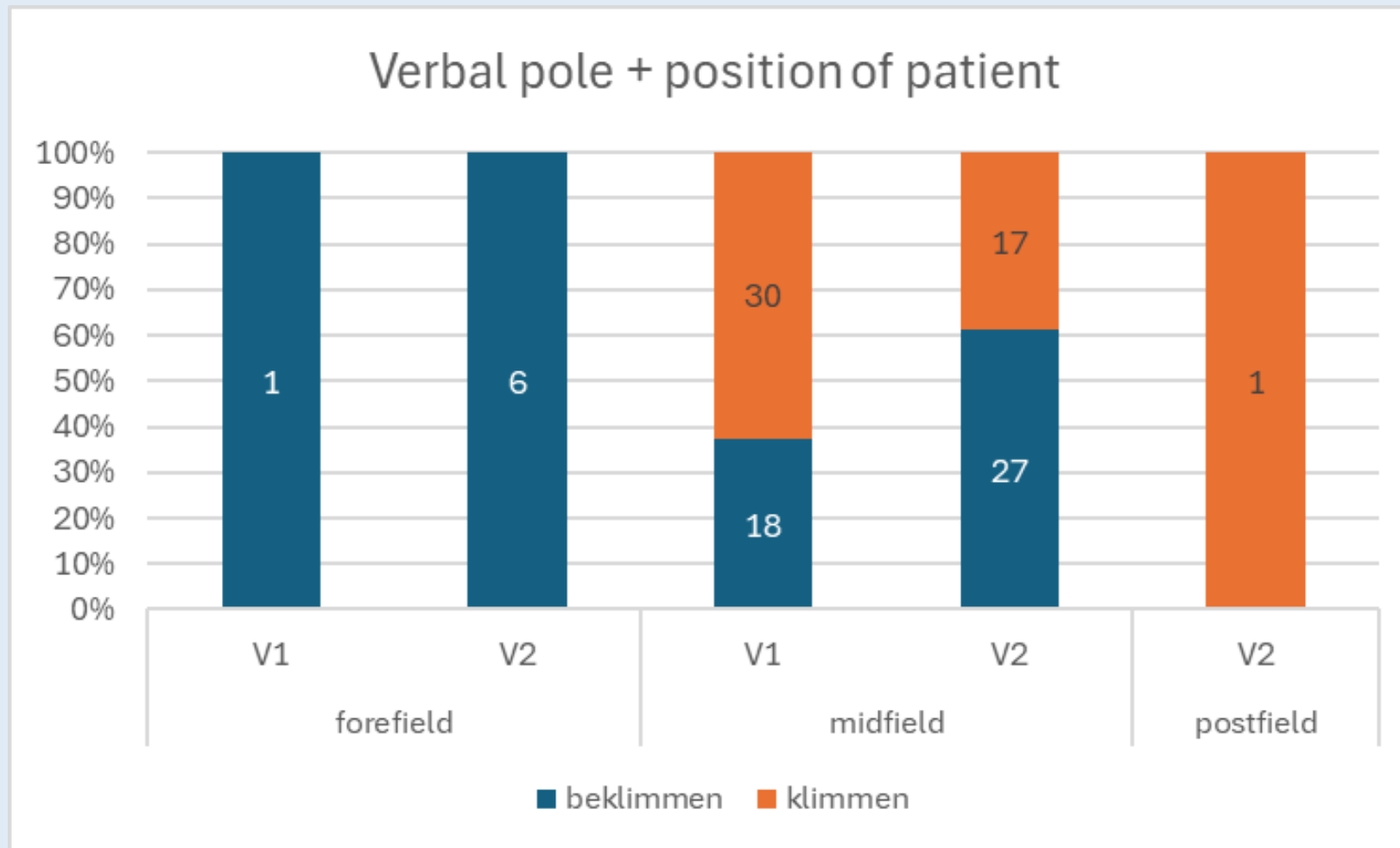


Preliminary results



Role of verbal pole?

- [*klim op X*] vs. [*X beklim*] as relatively fixed schemas?



Future work

- Analyse more data (statistical analyses)
- More verb pairs of different construction types
- Changes over time: from Middle Dutch until now

Thank you!

Questions?

ann-sophie.vrielynck@uliege.be

References

- Blom, Corrien. 2004. On the Diachrony of Complex Predicates in Dutch: Predicative and Nonpredicative Preverbs. *Journal of Germanic Linguistics* 16(1). 1–75. <https://doi.org/10.1017/S1470542704000352>.
- Blom, Corrien. 2005. *Complex predicates in Dutch: synchrony and diachrony* (LOT 111). Utrecht: LOT.
- Booij, Geert. 2002. *The morphology of Dutch*. Oxford: Oxford University Press.
- Bouma, Gerlof, Evie, Coussé, Trude, Dijkstra & Nicoline van der Sijs. 2020. The EDGeS diachronic Bible corpus. *Proceedings of the 12th Conference on Language Resources and Evaluation (LREC 2020)*, 5232–5239.
- De Smet, Isabeau. 2021. *De sterke werkwoorden in het Nederlands. Een diachroon, kwantitatief onderzoek*. Leuven: KU Leuven.
- De Smet, Isabeau & Laura, Rosseel. 2023. Who's afraid of homophones? A multimethodological approach to homophony avoidance. *Language and Cognition*. 1–24.
- Brysbaert, Marc, Stevens, Michaël, De Deyne, Simon, Voorspoels, Wouter & Gert Storms 2014. Norms of age of acquisition and concreteness for 30,000 Dutch words. *Acta Psychologica* 150. 80–84.
- Dąbrowska, Ewa. 2017. *Ten lectures on grammar in the mind*. Leiden/Boston: Brill.
- Van Dale groot woordenboek van de Nederlandse taal*. 2022. Utrecht: Van Dale Uitgevers.
- Frassinelli, Diego & Sabine Schulte im Walde. 2019. Distributional interaction of concreteness and abstractness in verb-noun subcategorisation. *Proceedings of the 13th International Conference on Computational Semantics – Short Papers*. 38–43.
- Geleyn, Tim. 2017. Syntactic variation and diachrony. The case of the Dutch dative alternation. *Corpus Linguistics and Linguistic Theory* 13(1), 65–96.
- Haeseryn, Walter, Kirsten, Romijn, Guido, Geert, Jaap de Rooij & Maarten, van den Toorn (eds.). 1997. 30.3.2.3. Resultatieve complementen. *Algemene Nederlandse Spraakkunst*. <https://e-ans.ivdnt.org/topics/pid/ans30030203lingtopic> (March 2, 2025)
- Hopper, Paul J. & Sandra A. Thompson. 1980. Transitivity in Grammar and Discourse. *Language* 56(2), 251–299.

References (2)

- Horst, Joop van der. 2008. *Geschiedenis van de Nederlandse syntaxis. 1*. Leuven: Universitaire Pers Leuven.
- instituut voor de Nederlandse taal. 2022. *Corpus Middelnederlands*. <https://ivdnt.org/corpora-lexica/corpus-middelnederlands/>. (15 November, 2025).
- Lenci, Alessandro. 2012. Argument alternations in Italian verbs: a computational study. In V. Bambini, I. Ricci & P.M. Bertinetto (eds.), *Linguaggio e cervello-Semantica. Atti del XLII Congresso Internazionale di Studi della Società di Linguistica Italiana*. Rome: Bulzoni, 1–26.
- [nlTenTen20] Corpus of the Dutch Web 2020, *Sketch Engine*. <https://www.sketchengine.eu/nltenten-dutch-corpus/> (31 mei, 2024)
- van Noord, Gertjan. 2006. At Last Parsing Is Now Operational. In Piet Mertens, Cédric Fairon, Anne Dister & Patrick Watrin (eds.), TALN 2006. *Verbum Ex Machina. Actes de la 13e conférence sur le traitement automatique des langues naturelles*. 20–42. Louvain-la-Neuve: Cential.
- Oostdijk, Nelleke, Reynaert, Martin, Hoste, Véronique & Ineke Schuurman. 2013. The Construction of a 500-Million-Word Reference Corpus of Contemporary Written Dutch. In Peter Spyns & Jan Odijk (eds.), *Essential Speech and Language Technology for Dutch, Theory and Applications of Natural Language Processing*. 219–247. Heidelberg: Springer.
- OpenAI. 2025. *ChatGPT* [Large language model]. chat.openai.com/chat. (Version of March 31, 2025)
- Peterson, David A. 2007. *Applicative constructions*. Oxford: Oxford University Press.
- Van Olmen, Daniël. 2019. A diachronic corpus study of prenominal *zo'n* ‘so a’ in Dutch: Pathways and (inter)subjectification. *Functions of Language* 26(2). 216–247. <https://doi.org/10.1075/fol.16017.van>.
- Pijpops, Dirk. 2019. *How, why and where does argument structure vary? A usage-based investigation into the Dutch transitive-prepositional alternation*. Doctoral dissertation KU Leuven.

References (3)

Pijpops, Dirk, Speelman, Dirk, Grondelaers, Stef & Freek Van de Velde. 2021. Incorporating the multi-level nature of the constructicon into hypothesis testing. *Cognitive Linguistics* 32(3). 487–528.

Silverstein, Michael. 1976. Hierarchy of features and ergativity. In Dixon (ed.), *Grammatical Categories in Australian Languages*. Canberra: Australian Institute of Aboriginal Studies, 112–171.

SoNaR-corpus (Version 1.2.1). 2015. [Data set]. Available at the Institute of the Dutch Language: <http://hdl.handle.net/10032/tm-a2-h5>

Van de Velde, Freek. 2014. De Middelnederlandse onpersoonlijke constructie en haar grammaticale concurrenten. *Nederlandse Taalkunde* 9, 48–76.

Van de Velde, Freek. 2014. Degeneracy: The maintenance of constructional networks. In R. Boogaart, T. Coleman & G. Rutten (eds.), *Extending the Scope of Construction Grammar*, Berlin/Boston: De Gruyter Mouton, 141–180.

van der Vliet, Hennie. 2007. The Referentiebestand Nederlands as a Multi-Purpose Lexical Database. *International Journal of Lexicography* 20(3). 239–257.

Vrielynck, A.-S., Perrez, J., & Pijpops, D. 2025. Diachroon corpusonderzoek naar complexe predicaten in het Nederlands: Een pilootstudie. *Nederlandse Taalkunde*, 30 (1/2), 196–224. doi:10.5117/NEDTAA2025.1-2.009.VRIE <https://hdl.handle.net/2268/334960>

De Vries, M. & L. Te Winkel. (1851–1998). *Woordenboek der Nederlandsche taal*. Consulted on March 15, 2024. <http://gtb.inl.nl>

- 49 Zúñiga, Fernando & Denis Creissels. 2024. Applicative constructions: An introductory overview. In Fernando Zuniga & Denis Creissels (eds.), *Applicative Constructions in the World's Languages*, 1–56. De Gruyter. <https://doi.org/10.1515/9783110730951-001>.