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Some Czech prefix and preposition voicing is reanalysis, not assimilation

Guy Tabachnick & Markéta Ziková

Faculty of Arts, Masaryk University

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Outline

Introduction

Background

Study 1: Prepositions

Study 2: Prefixes

Conclusion

Introduction

Standard Czech has two distinct prepositions and verbal prefixes *s(e)* and *z(e)*:

(1) se dv-ěma hrad-y
with two-INS castle-INS.PL
'with two castles'

(2) s díl-y
with part-INS.PL
'with parts'

(3) ze dv-ou hrad-ů
from two-GEN castle-GEN.PL
'from two castles'

(4) z díl-ů
from part-GEN.PL
'from parts'

(5) směnit
'exchange'

(6) stěžovat si
'complain'

(7) změnit
'change'

(8) ztěžovat si
'make difficult for oneself'

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Voicing assimilation sometimes neutralizes the distinction.

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Standard Czech has two distinct prepositions and verbal prefixes *s(e)* and *z(e)*:

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Voicing assimilation sometimes neutralizes the distinction.

Relevance

Prefixes and prepositions have been used to study voicing assimilation:

- within a word (regular process) vs. across words (variable process) (Palková, 2013)
- before obstruents (always trigger assimilation) vs. sonorants (only trigger assimilation across words) (Machač & Zíková, 2020; Ptak, 2020; Volin & Skarnitzl, 2006)
- in different dialects (pre-sonorant voicing more common in Moravia) (Šimáčková et al., 2012)

Such work typically assumes that orthography is a cue to underlying voicing (e.g. Hála, 1955, pp. 43–65; Palková, 1994, pp. 328–331; Hůrková, 1995, pp. 27–30).

Summary

In a pilot corpus study, we find some evidence that underlying /s(ɛ)/ is merging to /z(ɛ)/ in both prefix and preposition

- Corroborating attestations in Balhar et al. (2016)
- The next stage of an ongoing historical shift
- Concentrated in dialects that also have pre-sonorant voicing
- Lexicalized for the prefix, less so for the preposition

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Historical perspective

Czech used to have a second preposition *s(e)*

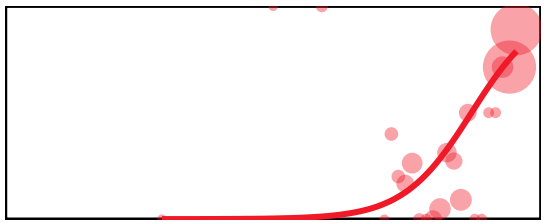
(9) sɛ stol-u
off table-GEN
'off the table'

Historical perspective

Czech used to have a second preposition *s(e)*, which has already merged with *z(e)*:

(9) zɛ stol-u
from table-GEN
'off the table'

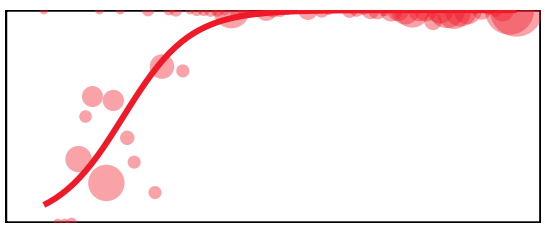
% ze stolu "off the table"



(Cvrček & Vondřička, 2011)

This mirrors a change of preposition (and prefix) *ot(e)* to *od(e)*, which did not involve a merger:

% ode mne/mě "from me"



(Cvrček & Vondřička, 2011)

Comparative perspective

Standardized versions of other West Slavic languages have greater use of prefix and preposition *z*:

	‘with me’	‘with a sister’	‘clench’
Czech	se mnou [sɛ mnow]	se sestrou [sɛ sɛstrow]	sevřít [sɛvr̝i:t]
Slovak	so mnou [so mnow]	so sestrou [zo sɛstrow]	zovrieť [zovrɪ̯ɛc]
Polish	ze mną [zɛ mnɔ̃w]	zɛ siostrą [zɛ ɕɔstrɔ̃w]	zewrzeć [zɛvʐɛtɕ]

The Slovak prescriptive codified norm (Kráľ, 1983/1996, pp. 117–8) seems to capture two intermediate stages of the shift.

Voicing assimilation

In Standard Czech, voicing assimilation is triggered by obstruents:

(10) ku**s** **p**apiːr-u
piece paper-GEN.SG
'piece of paper'

(11) ku**z** **d**r̪ɛva
piece wood-GEN.SG
'piece of wood'

(12) ku**s** **m**aːsl-a
piece butter-GEN.SG
'piece of butter'

(13) obra**s** **p**apiːr-u
picture paper-GEN.SG
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Voicing assimilation

In eastern (Moravia and Silesia) and southwestern (West Bohemia) dialects, sonorants (even vowels!) also trigger voicing across word boundaries (Balhar et al., 2016; Šimáčková et al., 2012):

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The distinction is not fully neutralized (e.g. NOM.PL [kusɪ]), but it is quite limited.

Previous work

Balhar et al. (2016): Preposition and prefix [z(ɛ)] attested, primarily in regions that also have pre-sonorant voicing

se sestrou [zɛ sɛstrow] ‘with a sister’

- Common throughout Moravia and Western Bohemia
- Most frequent with words beginning with [s] (possible voicing dissimilation)
- Prepositions *s(e)* and *z(e)* possibly merging in Moravia

*se**brat* [zɛbrat] ‘collect’

- Common in eastern regions only
- Prefixes *s(e)* and *z(e)* merging in Moravia due to similar meanings (cf. Šlosar, 1981, pp. 91–3)
- Possibly supported by voicing assimilation

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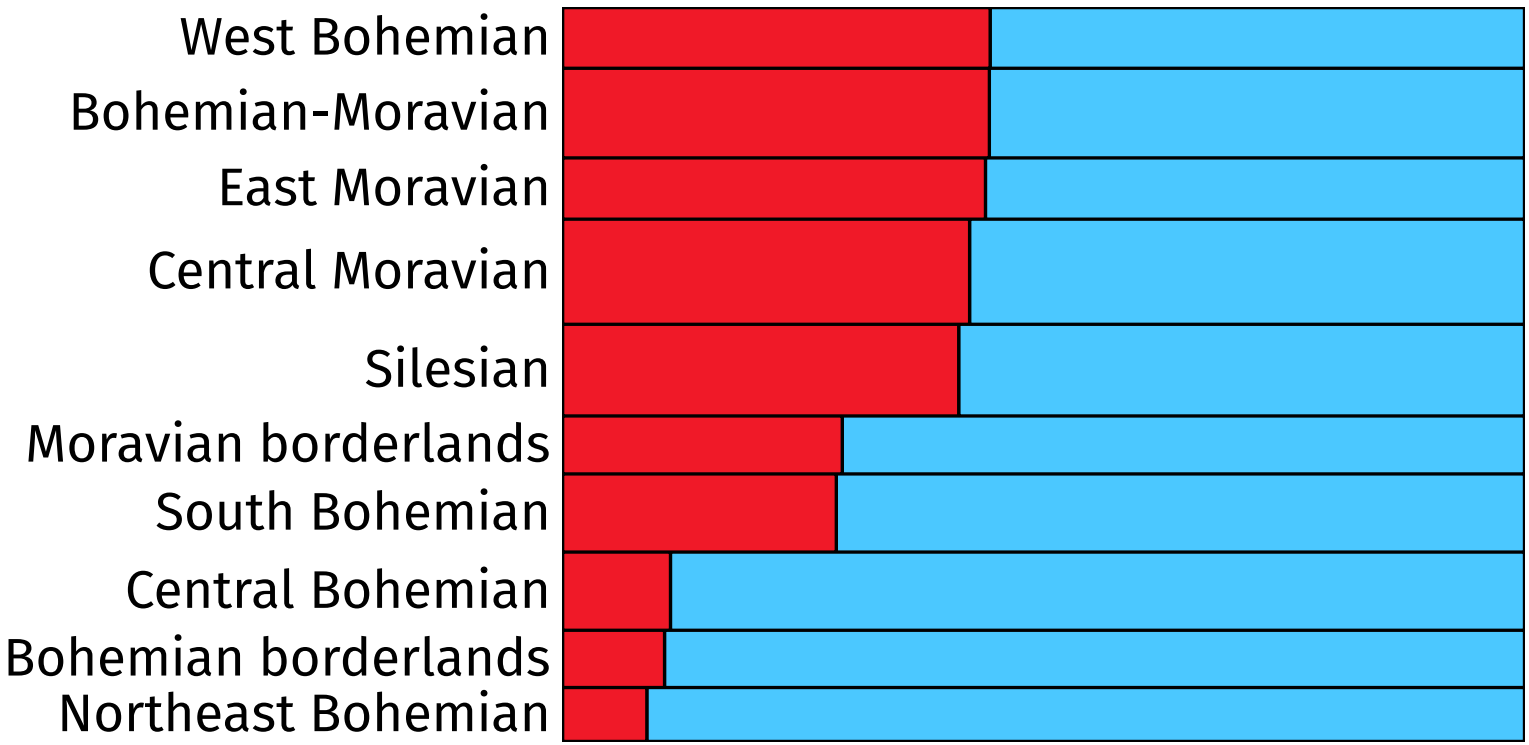
Conclusion

Design

- ORTOFON (Lukeš et al., 2021): ~3 million word corpus of spontaneous spoken Czech with phonetic transcriptions, lemmatization, demographic information, etc.
- Speakers grouped by the dialect region in which they have spent the most time
- Orthographic preposition *se* ‘with’ followed by a word with instrumental case (before sibilants and consonant clusters only)
- 1089 tokens (606 from the relevant regions)

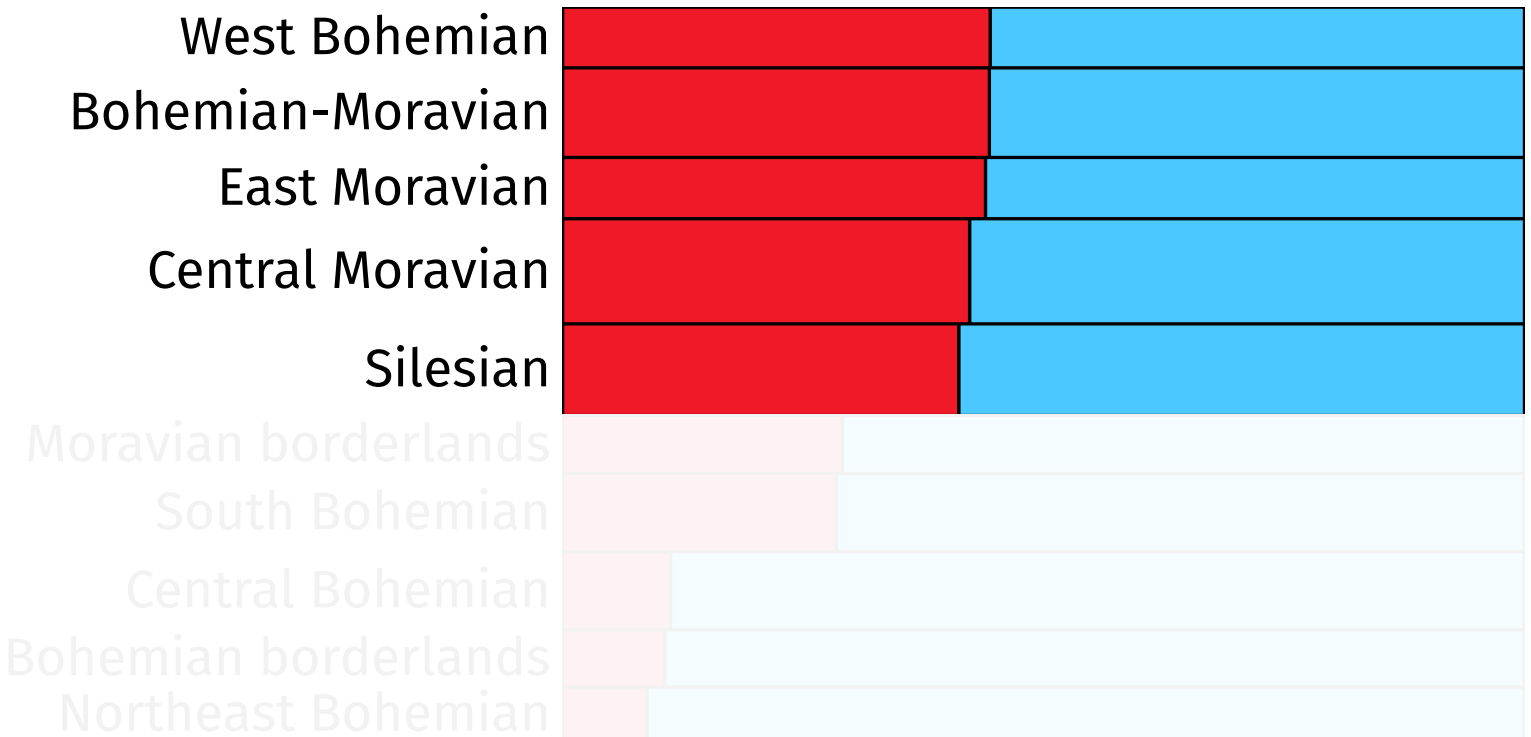
Geographical distribution

Attested throughout the country, but concentrated in the east and Western Bohemia, as previously reported



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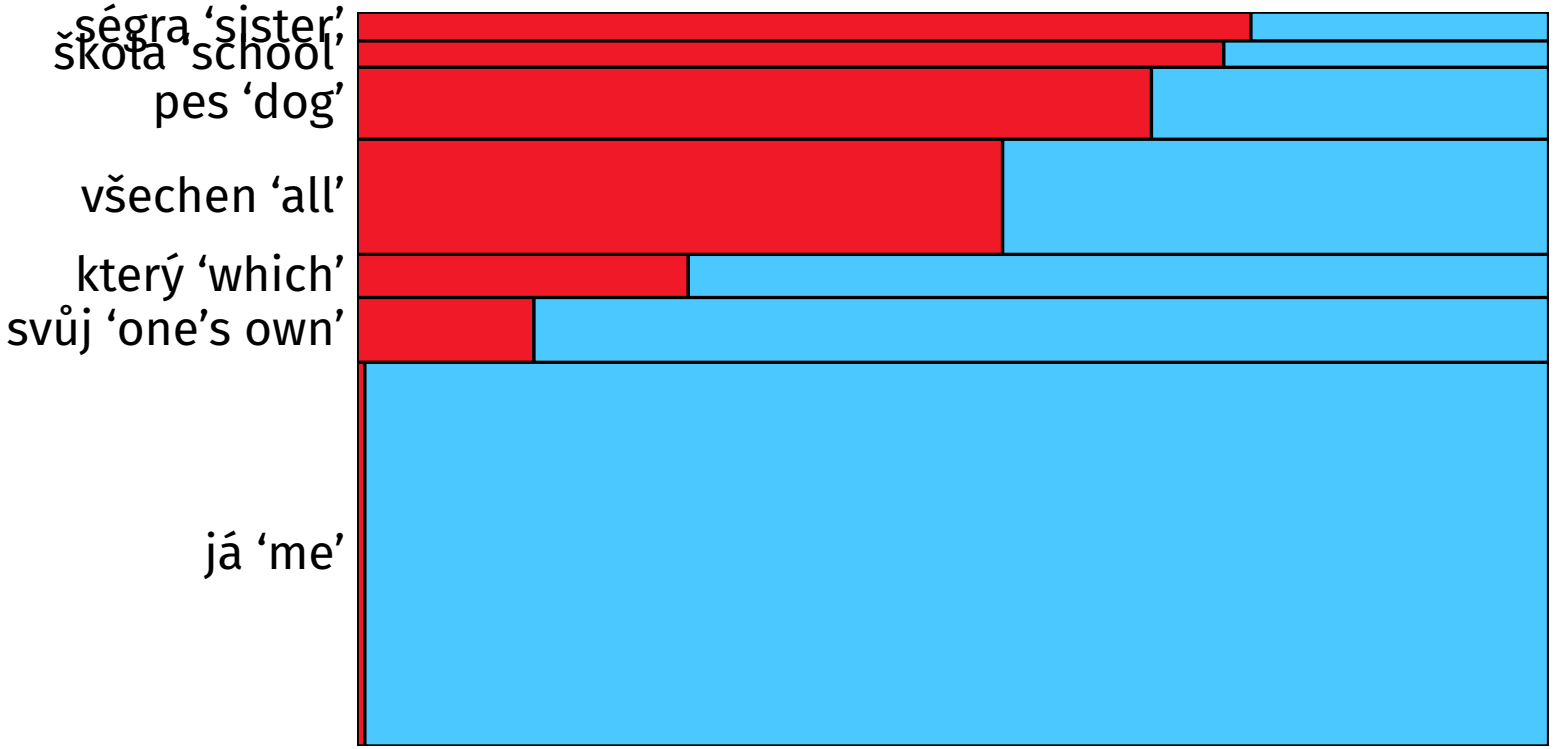
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Results reported from these regions.

Frequent words

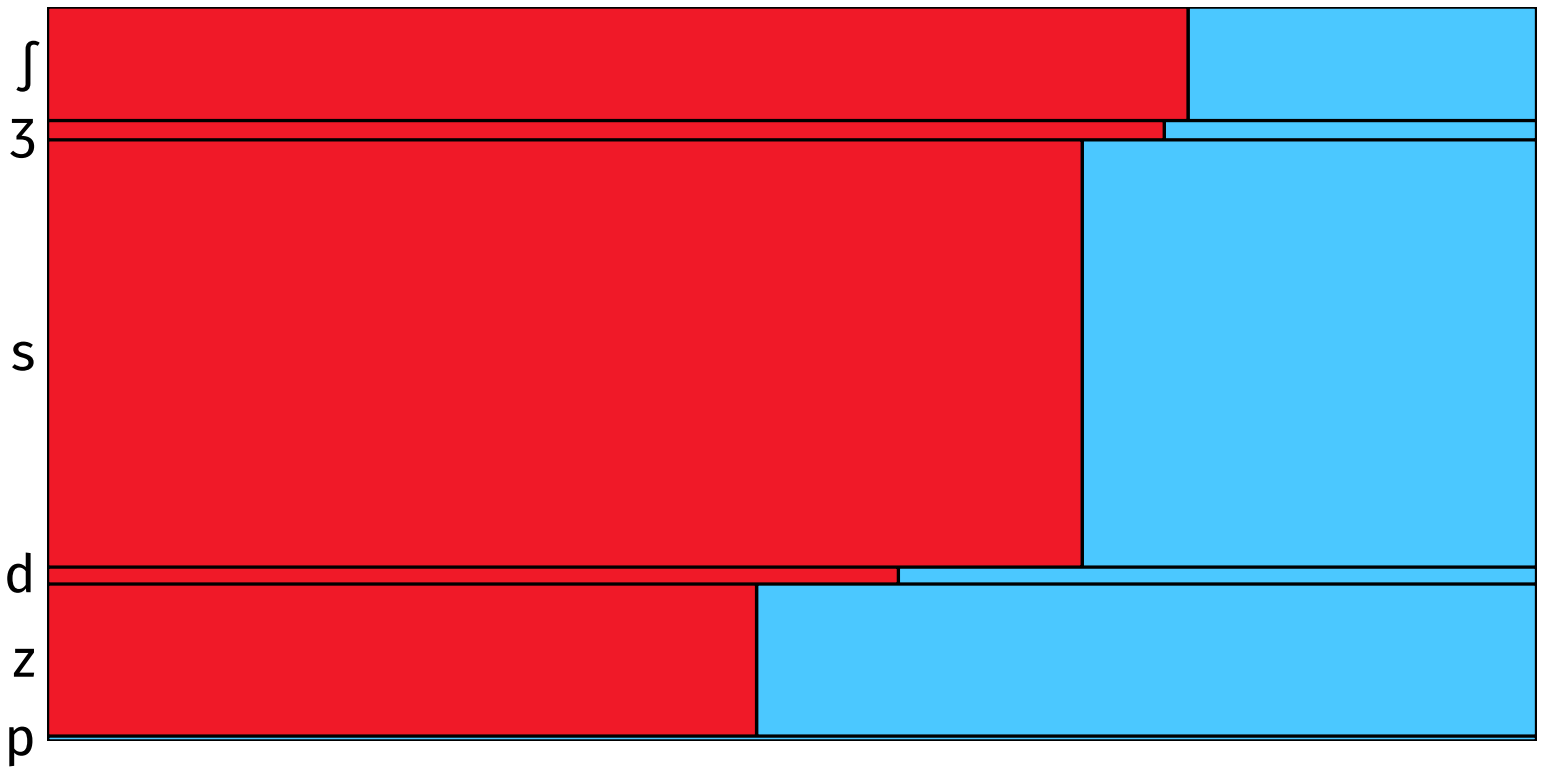
Among frequent words (≥10 tokens), pronouns have much lower rates of [zɛ] than nouns and adjectives:



In particular, we almost always have [sɛ mnow] ‘with me’, as in Slovak

Other words

If we only look at less frequent lexical nouns, the main factor is the *following consonant*:



Rate of [zɛ] before: [s ʃ] > [z]

Discussion

- Localized in regions that have presonorant voicing, as reported by Balhar et al. (2016)
- Very frequent pronouns have low rates of [ze] (especially [mnow] 'me.INS') – lexicalized
- Lexical words have higher rates of [ze] that varies based on their initial consonant – phonologized
- A phonological effect (previously reported) of dissimilation: [ze] is most common before voiceless sibilants and less common before voiced ones

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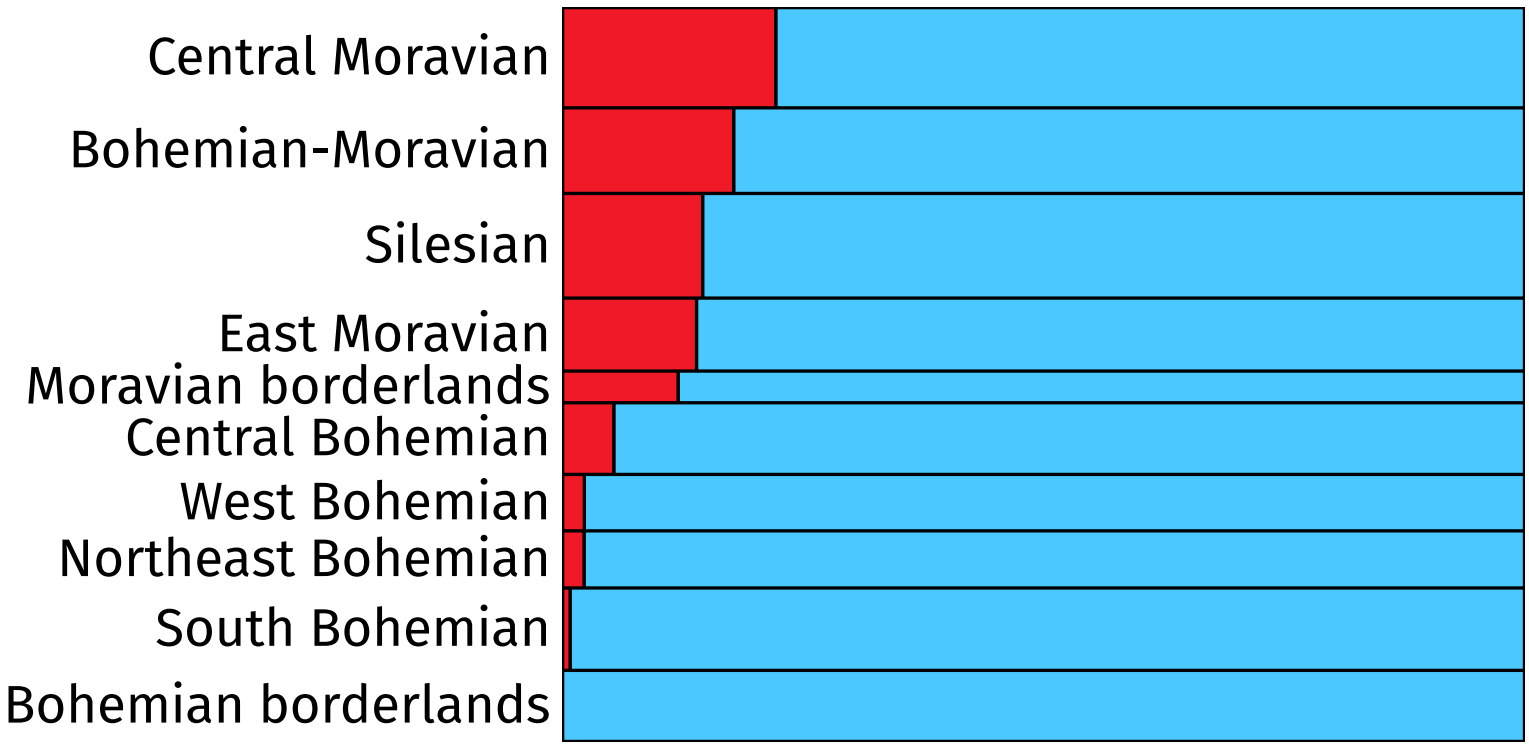
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Design

- Same corpus as before
- Words (mostly verbs) with orthographic prefix *se* (typically before sibilants and consonant clusters)
- 1157 tokens (623 from the eastern regions)

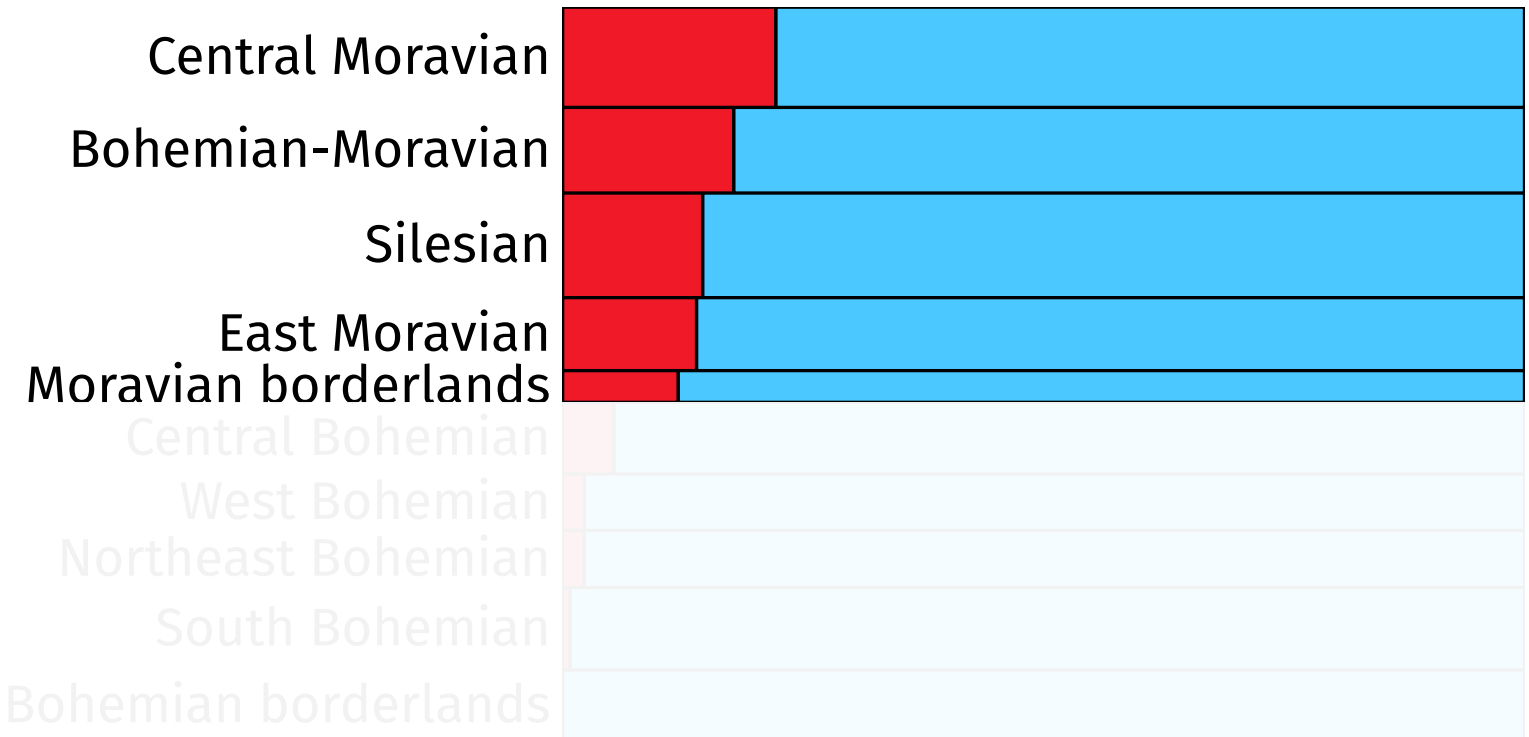
Geographical distribution

Quite uncommon overall, but concentrated in eastern regions, as expected and previously reported



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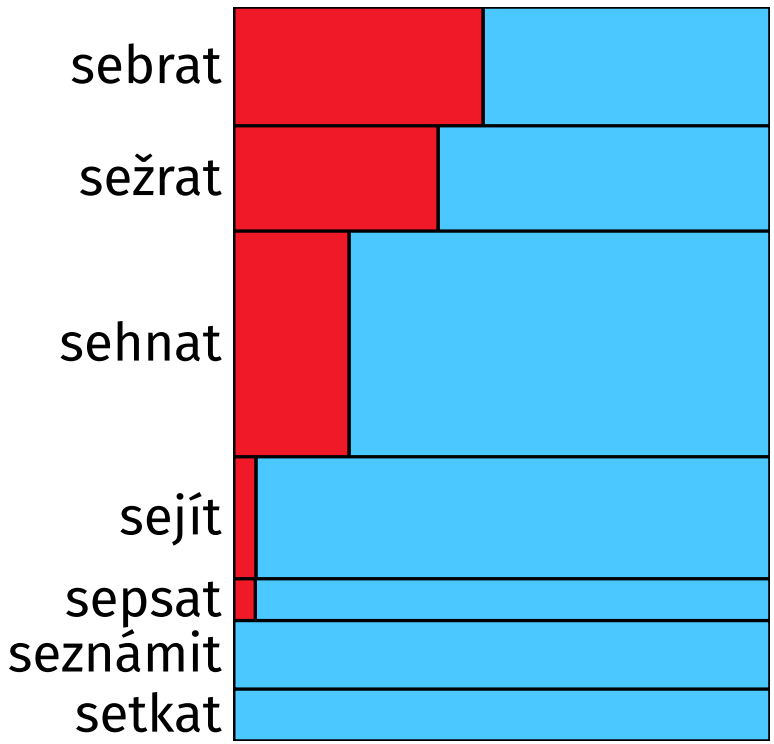
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Results reported from these regions.

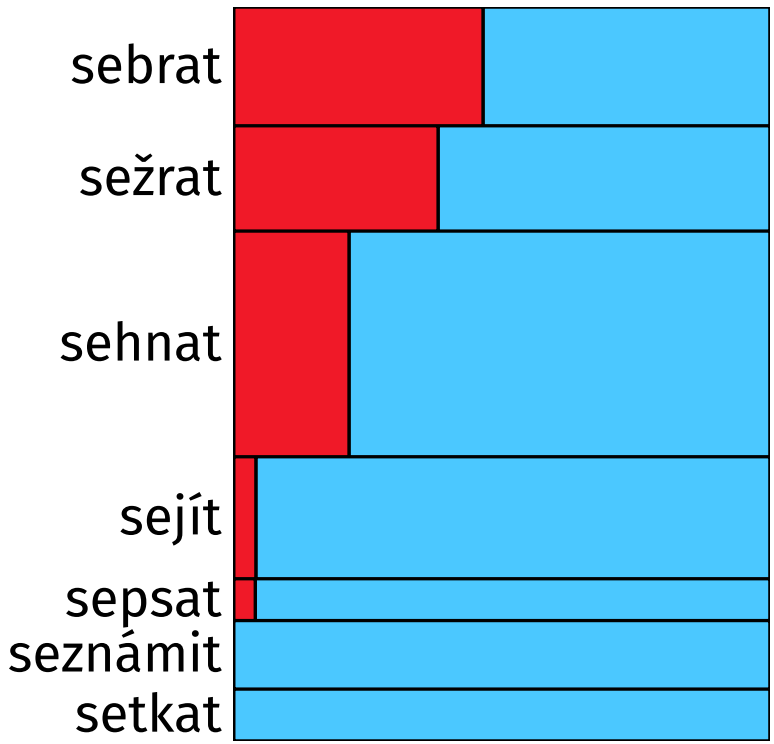
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Frequent verbs (≥10 tokens) show a range of rates of [zɛ]:



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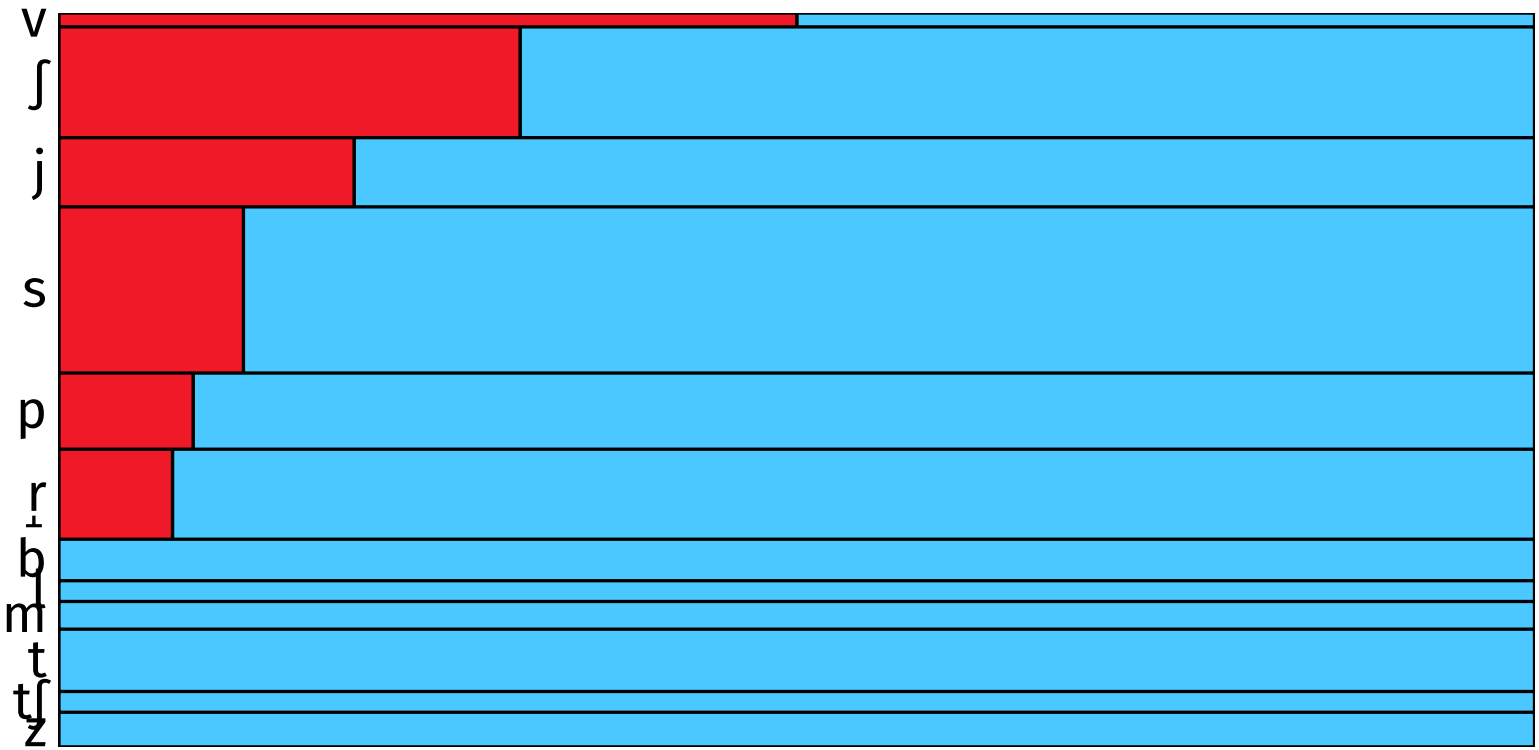
Speakers are more likely to use /z/ in the perfective when the *imperfective* has [z]:

	PERF	IMPF
‘collect’	sebrat	[zb]írat
‘eat up’	sežrat	[zʒ]írat
‘get’	sehnat	[zɦ]ánět [sx]ánět
‘meet up’	sejít	[sx]ázet
‘write up’	sepsat	[s(ɛ)p]isovat
‘acquaint’	seznámit	[sɛz]namovat
‘meet’	setkat	[sɛt]kávat

While the first consonant matters, its effect is indirect – the morphology is crucial.

Other words

For less frequent words, the signal of the final consonant isn't as clear:



The relatively high rate of [zɛ] before voiceless sibilants may show some influence of a pressure for dissimilation.

Discussion

- Localized in Moravia, as reported by Balhar et al. (2016)
- More frequent perfective verbs show moderate use of [ze] if their imperfectives obligatorily have [z] – lexicalized, phonology creates conditions for reanalysis
- A few less frequent verbs appear with [ze] as well, and the effect of phonology is unclear – likely also lexicalized
- The phonological effect of dissimilation may play a small role in driving the lexicalized shift to [ze] before voiceless sibilants

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- Standard Czech captures an intermediate point of a long-term West Slavic shift from underlying voiceless to voiced prefixes and prepositions
- For some individuals, especially in the east, the shift from *s* to *z* is more advanced
- A pilot corpus study confirms accounts of the shift from Balhar et al. (2016) in both prefix and preposition (the latter is more widespread and phonologized, the former is more lexicalized)
- Practical takeaway: study of voicing assimilation before sonorants, vowels, even across a prefix/preposition vowel require thorough checking of underlying voicing at the level of individuals and lexical items!

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