

Referential shifting in Slavic: The case of Czech d-pronouns

Paul Compensis & Tobias-Alexander Herrmann, University of Cologne (paul.compensis@uni-koeln.de, t.herrmann@uni-koeln.de)

Previous research

- Shorter referential expressions such as **zero (z-)** or **personal (p-)** pronouns typically indicate a **continuation of the most prominent referent** in discourse (Ariel 1990), whereas other types of pronouns such as **demonstrative (d-) pronouns** avoid the most prominent referent (Comrie 1997), **indicating referential shifting towards less prominent referents** (von Heusinger & Schumacher 2019).
- In Czech, the **z-pronoun** is traditionally argued to refer to the **topic** of the previous sentence, whereas **d-pronouns** select a referent from the **comment** and/or refer to the last mentioned (i.e. immediately preceding) NP of the previous sentence (Uhlířová 1992, Naughton 2005).
- Theoretically, the **p-pronoun** can resolve either of the contrasting NPs, but claims are made that there is an overall tendency also for the p-pronoun to resolve topics (Uhlířová 1992, Naughton 2005).

Present study

- In two web-based experiments, we tested the pronoun resolution of the three pronoun types depending on **two prominence cues**, namely **grammatical function** (subject vs. object) and **linear order** (1st position vs. 2nd position, as an indirect diagnostics of topic – comment structure)

Test items used in the experiments

- Context sentences are presented in SVO (1-a) and OVS (1-b) order, introducing two animate referents of the same gender:

- (1)a. *Hasič chce chlapce zachránit, protože dům hoří.*
fireman.NOM wants boy.AKK save because house burning
- b. *Chlapec chce hasič zachránit, protože dům hoří.*
boy.AKK wants fireman.NOM save because house burning
‘The fireman wants to save the boy because the house is on fire.’

- Potential continuations:

- (2)i. *Ale \emptyset je příliš rozrušený.*
‘But he_{zp} is too distraught.’
- ii. *Ale on je příliš rozrušený.*
‘But he_{pp} is too distraught.’
- iii. *Ale ten je příliš rozrušený.*
‘But he_{dp} is too distraught.’

- Selection task:
- (3) *Kdo je příliš rozrušený?*
‘Who is too distraught?’
- hasič chlapec*
fireman boy

Experiment 1

- Participants: 30 native speakers of Czech (13 women), mean age: 25.6 (*SD* = 7.98)
- Referent selection task (web): 48 context sentences (conditions 1-a/b) and continuations with **z-pronoun** (2-i) or **d-pronoun** (2-iii)

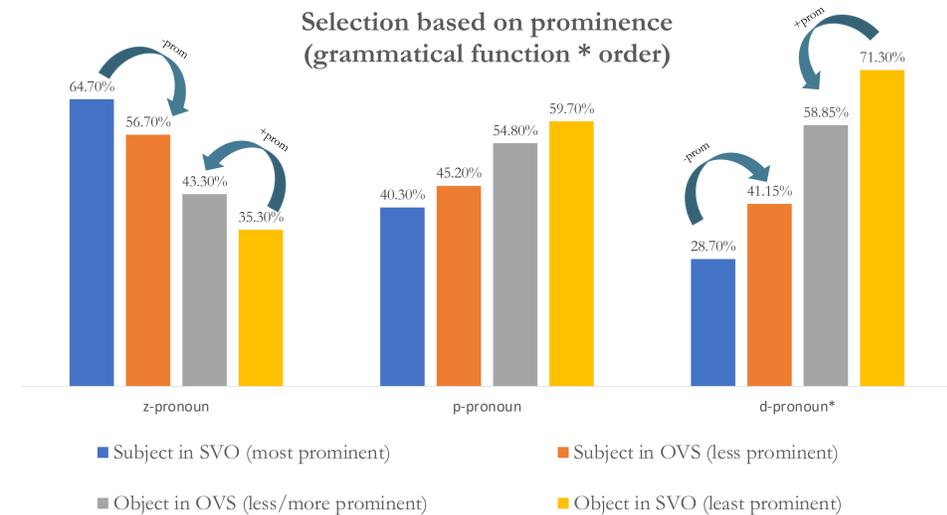
Condition		Selection of the 1 st NP (in %)		Reaction time to selection (in ms)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SVO	z-pronoun	64.7 %	0.48	1879	1085
	d-pronoun	28.6 %	0.45	1819	980
OVS	z-pronoun	43.3 %	0.50	2095	1118
	d-pronoun	57.8 %	0.49	2104	1173
Model					
order		$\chi^2(1) = 2.42,$ $p = .120$		$\chi^2(1) = 21.75,$ $p = .000***$	
pronoun		$\chi^2(1) = 18.77,$ $p = .000***$		$\chi^2(1) = 0.16,$ $p = .686$	
order*pronoun		$\chi^2(1) = 21.75,$ $p = .000***$		$\chi^2(1) = 0.62,$ $p = .430$	

Experiment 2

- Participants: 31 native speakers of Czech (13 women), mean age: 27.03 (*SD* = 6.18)
- Same set-up as in Experiment 1, continuations with **p-pronoun** (2-ii) or **d-pronoun** (2-iii)

Condition		Selection of the 1 st NP (in %)		Reaction time to selection (in ms)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SVO	p-pronoun	40.3 %	0.49	2019	1131
	d-pronoun	28.8 %	0.45	1787	1055
OVS	p-pronoun	54.8 %	0.50	2006	1097
	d-pronoun	59.9 %	0.49	1967	1135
Model					
order		$\chi^2(1) = 84.57,$ $p = .000***$		$\chi^2(1) = 4.66,$ $p < .050*$	
pronoun		$\chi^2(1) = 1.70,$ $p = .192$		$\chi^2(1) = 7.83,$ $p < .010**$	
order*pronoun		$\chi^2(1) = 11.48,$ $p < .001***$		$\chi^2(1) = 1.73,$ $p = .188$	

Results combined



- z-pronouns** prefer the **most prominent referent** (i.e. subject in 1st position)
- d-pronouns** prefer the **least prominent referent** (i.e. object in 2nd position) referent, indicating a shift in reference
- p-pronouns align with d-pronouns** but show slightly weaker effects, suggesting a more flexible interaction with prominence
- Grammatical function is a stronger prominence cue than order

Discussion

- Pronoun resolution in Czech is sensitive to differing discourse prominence levels as computations of different cues (among others, grammatical function and order) and does not depend on a single grammatical feature
- Lower sensitivity to order challenges claims with respect to a pure position-based or topicality-oriented explanation
- Functional differences between p-pronouns and d-pronouns require additional research, elaborating on their shifting potential towards less prominent referents

References

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