

Information Structure, Prosody and Word-Order in West Slavic Languages

Phonetik und Phonologie Slavischer Sprachen

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EXPRESSION OF INFORMATION STRUCTURE IN WEST SLAVIC: MODELING THE IMPACT OF PROSODIC AND WORD-ORDER FACTORS

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What is the connection between
Information Structure, word order and
prosody in west slavic languages?

Overview

1. Theoretical background
2. Hypotheses
3. Methodology
4. Results
5. Conclusions

Key Concepts

Information structure:

How linguistic elements are structured to convey what is given, new or in focus

Key Concepts

Givenness:

Information that is known or inferable.

Key Concepts

Givenness:

Information that is known or inferable.

Example:

A: Did you see the dog outside?

B: Yeah, the dog was barking really loudly.

Key Concepts

Focus:

“What is the most important piece of information?”

Key Concepts

Focus:

“What is the most important piece of information?”

Example:

A: Who won the race?

B: Sarah won the race.

Key Concepts

Topic:

What the sentence is “about”

Key Concepts

Topic:

What the sentence is “about”

Example:

A: What do you think about the weather today?

B: The weather is perfect for a picnic.

Two Hypotheses

Word-Order Hypothesis

Word order alterations reflect
information structure

Given elements should come before
new ones

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Prosodic Hypothesis

Avoid stress on given elements

Still allows for word order alterations

Why Czech, Slovak and Polish?

Free word order

Well-documented prosodic
systems

Same canonical word order: SVO

Default sentence stress on last
constituent

Methodology

Participants

40 participants for each language

Students with high proficiency in their respective languages

General Procedure

Participants listened to short dialogues.

Rated the acceptability of the responses

All-New Experiment

All-New Experiment

Goal

Establish a baseline for sentences with no given elements

Test the impact of canonical word order - the default syntactic structure (SVO)

Setup

All parts of the response sentences were new and in focus

Response sentences varied in word order

Given–Object Experiment

Goal

Analyze how the object being given affects word order preferences

Setup

Direct object of the response sentences were given

Subjects were either given or new

Varied word order

Default stress placement

Stress-Shift Experiment

Goal

Investigate the impact of non-default stress placement

How stress interacts with both word order and givenness

Setup

Response sentences varied in word order and stress placement

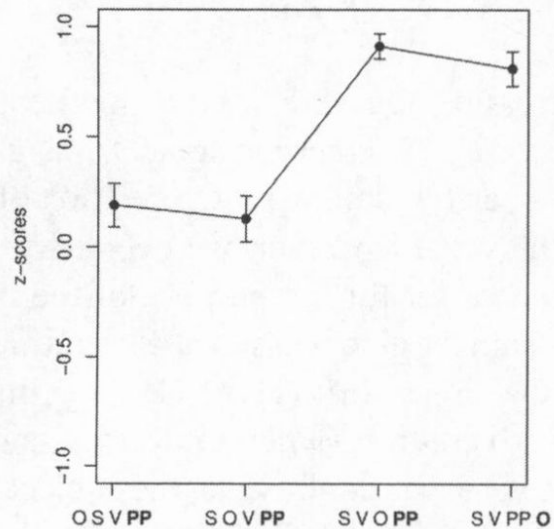
Givenness of constituents in the response sentences was manipulated

Multiple Regression Models

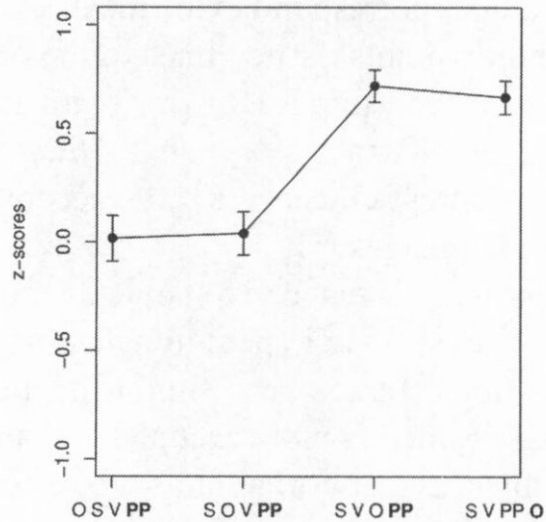
Examine how multiple independent variables (word order and stress placement) influence a dependent variable (acceptability ratings)

Don't just identify whether violations of the constraints mattered, but also how much

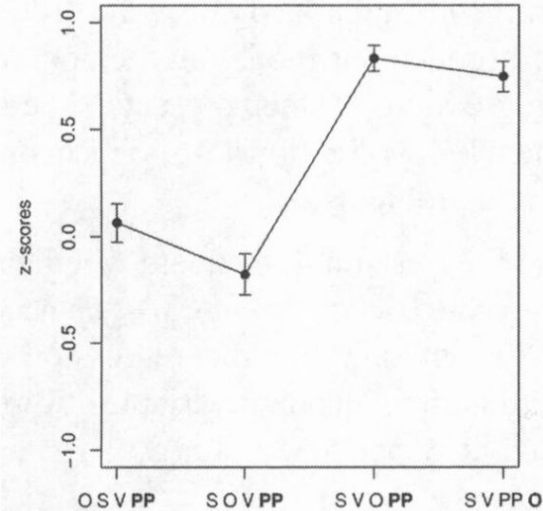
All-New Experiment Results



a. Experiment all-new, Czech.

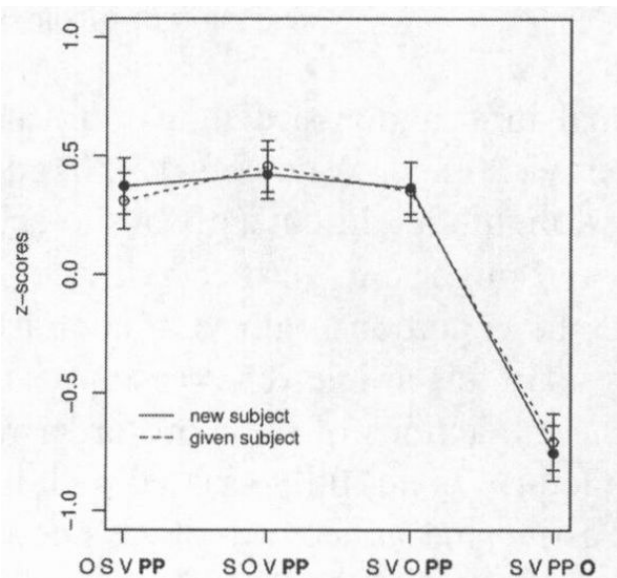


a. Experiment all-new, Slovak.

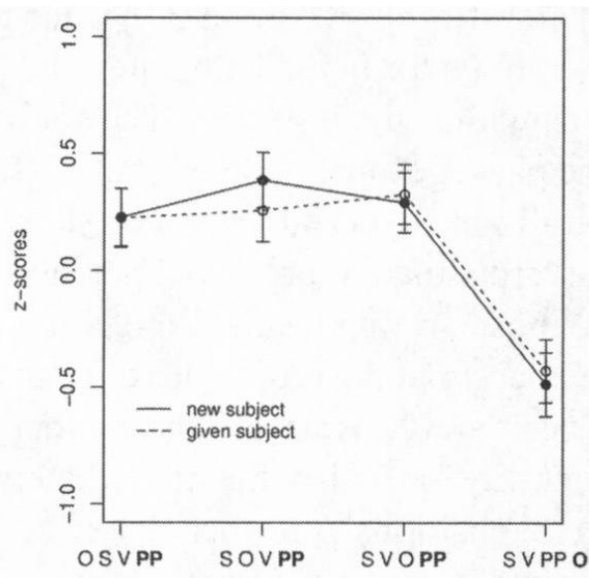


a. Experiment all-new, Polish.

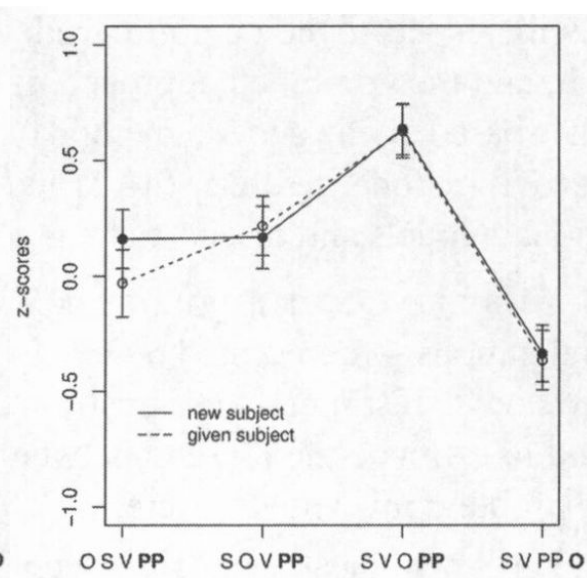
Given-Object Experiment Results



b. Experiment given-object, Czech.

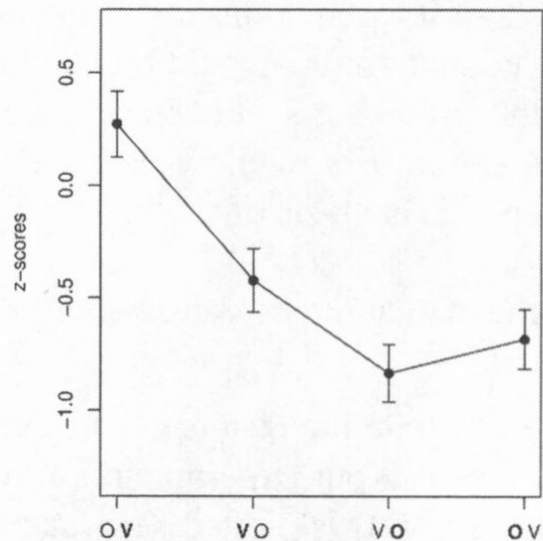


b. Experiment given-object, Slovak.

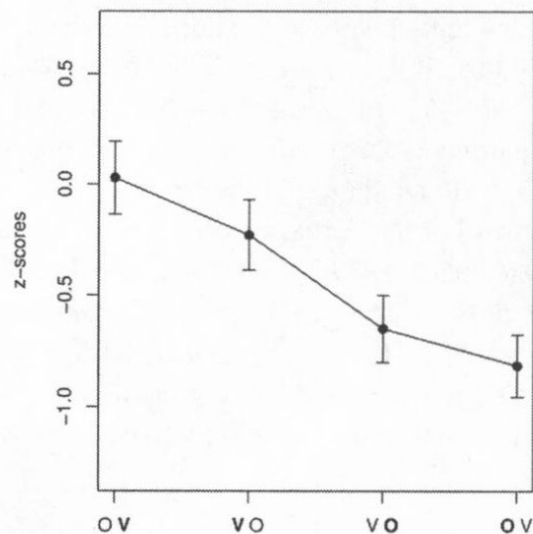


b. Experiment given-object, Polish.

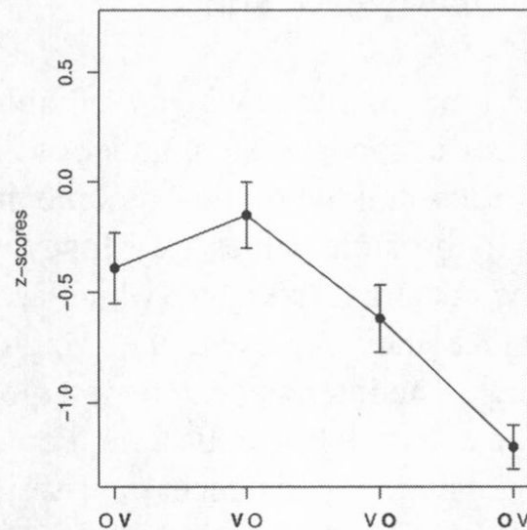
Stress-Shift Experiment Results



c. Experiment stress-shift (given-O), Czech.

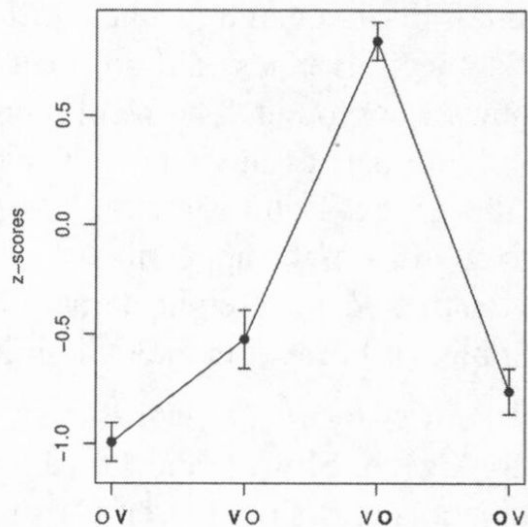


c. Experiment stress-shift (given-O), Slovak.

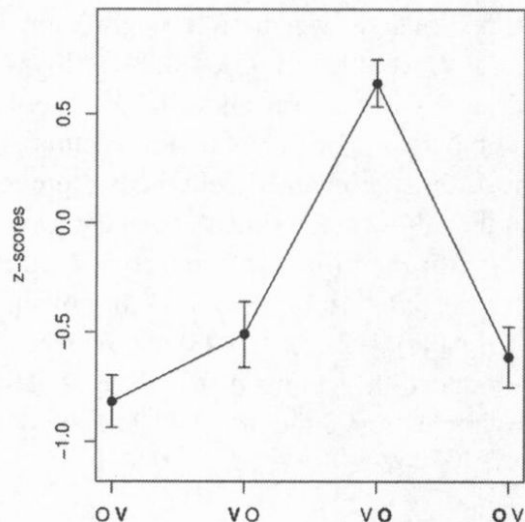


c. Experiment stress-shift (given-O), Polish.

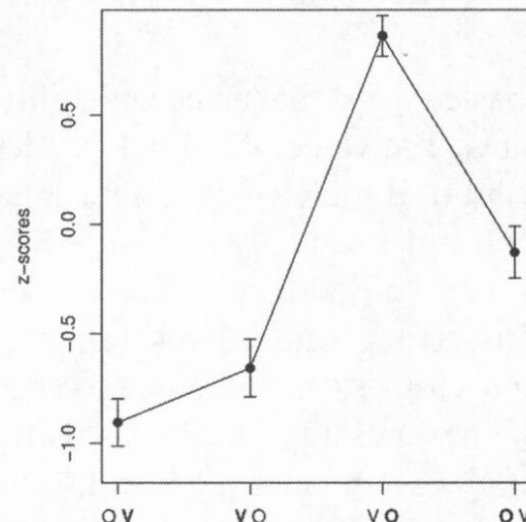
Stress-Shift Experiment Results



d. Experiment stress-shift (focused-O), Czech.

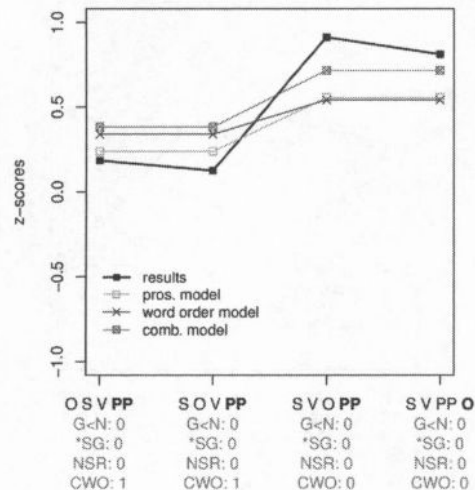


d. Experiment stress-shift (focused-O), Slovak.

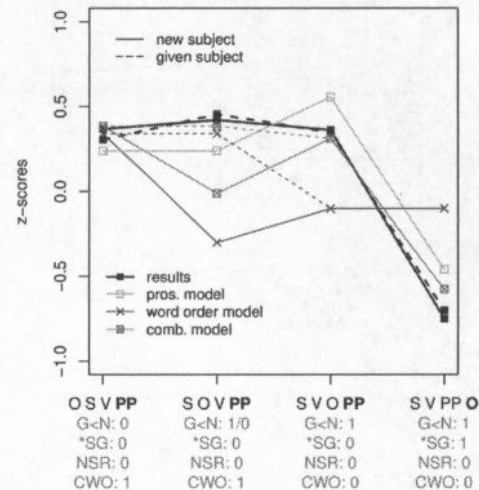
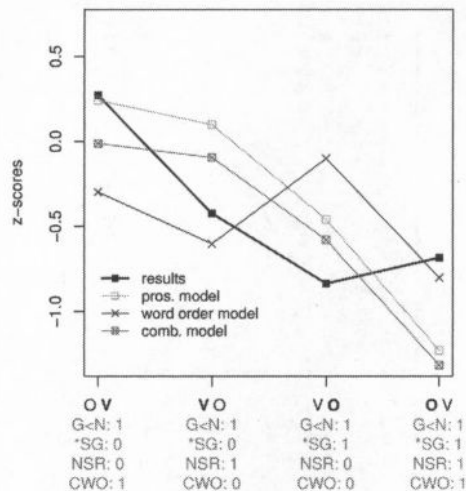


d. Experiment stress-shift (focused-O), Polish.

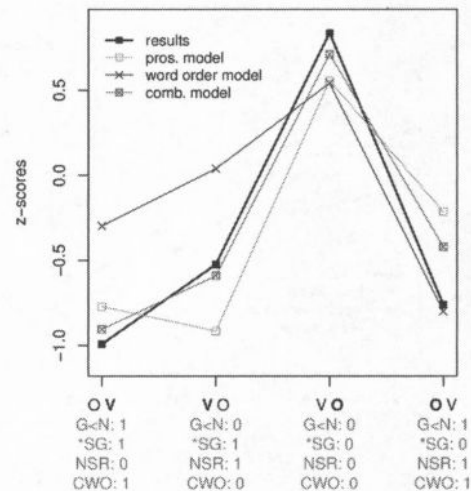
Regression Models Comparison



a. Experiment all-new, Czech.



b. Experiment given-object, Czech.



Regression Models Comparison

Model Quality

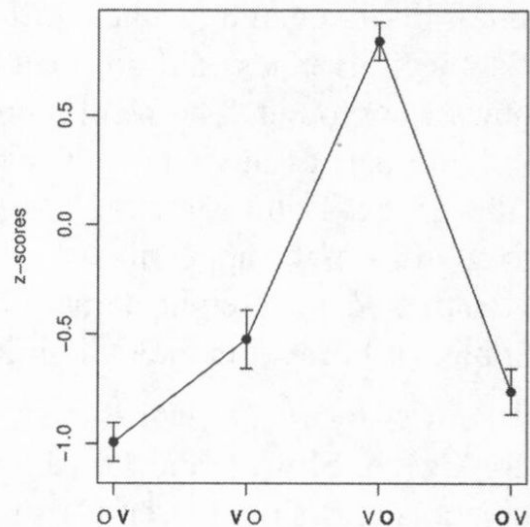
| | | Model Quality | |
|--------|------------|----------------|-------|
| | | R ² | BIC |
| Czech | Prosodic | 0,28 | 9,117 |
| | Word Order | 0,19 | 9,616 |
| | Combined | 0,34 | 8,968 |
| Slovak | Prosodic | 0,20 | 9,638 |
| | Word Order | 0,12 | 9,985 |
| | Combined | 0,23 | 9,582 |
| Polish | Prosodic | 0,29 | 9,076 |
| | Word Order | 0,14 | 9,766 |
| | Combined | 0,31 | 9,057 |

Why?

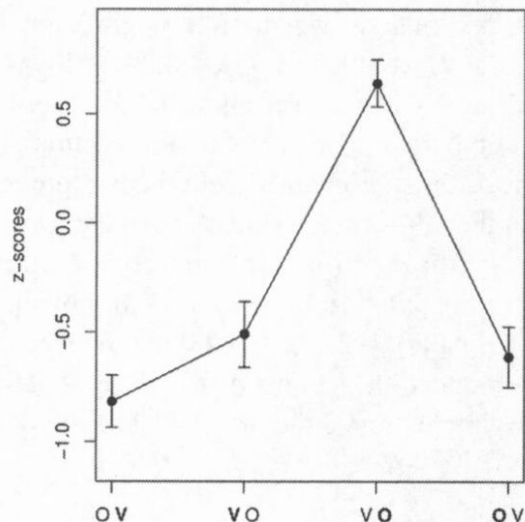
Prosody dominates

But: word order contributes significantly in contexts where the prosodic hypothesis alone does not explain linguistic preferences

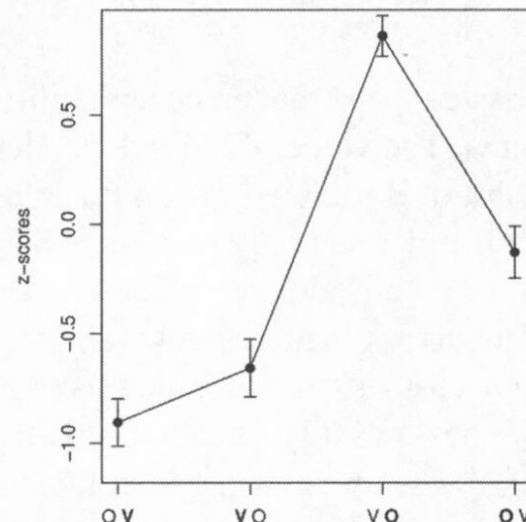
Stress-Shift Experiment (Focused Object)



d. Experiment stress-shift (focused-O), Czech.



d. Experiment stress-shift (focused-O), Slovak.



d. Experiment stress-shift (focused-O), Polish.

Conclusion

- Avoiding stress on given elements: important in all three languages
- Stress placement more influential than word order
- Czech and Slovak gladly adjust word order to resolve prosodic conflicts, Polish showed more resistance
- A combined model best explains the data

Thank You For Listening

Main Source:

R. Šimík and M. Wierzba (2017). Expression of information structure in West Slavic: Modeling the impact of prosodic and word order factors. *Language* 93(3): 671-709

Additional Sources:

S. Baumann and A. Riester (2012). Referential and Lexical Givenness: Semantic, prosodic and cognitive aspects.

T. A. van Dijk (1977). Sentence Topic and Discourse Topic. *Papers in Slavic Philology*, 1, 49-61.

K. Lambrecht (1994). *Information structure and sentence form*. Cambridge: Cambridge University Press.

Questions?

