

# INTERDISCIPLINARY APPROACHES TO LANGUAGE AND ITS USE

## **Experimental evidence: Šimík and Wierzba 2017**

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# FORMAL REFLEXES OF GIVENNESS

Slavic languages apparently exhibit two strategies for encoding givenness, what we could call a word order-based strategy (**scrambling**: VO → OV) and a prosodic strategy (**stress shift**: VO → V<sub>0</sub>).

## (1) Czech

A Dal jsem do polívky trochu MRKVE.  
gave AUX to soup a.bit carrot  
'I put some carrots in the soup.'

B<sub>1</sub> Ach jo, já mrkev<sub>given</sub> NESNÁŠÍM.  
EMPH.PRT I carrot hate  
'Oh, I hate carrots.'

SCRAMBLING

B<sub>2</sub> Ach jo, já NESNÁŠÍM mrkev<sub>given</sub>.  
EMPH.PRT I hate carrot  
'Oh, I hate carrots.'

STRESS SHIFT

# RESEARCH QUESTIONS

- Are scrambling and stress shift equally available in their expression of givenness?
- Or is one of them more basic, with the other one being a mere consequence of the former?

# TWO HYPOTHESES ABOUT SCRAMBLING

## Word order (direct) hypothesis

Scrambling reflects the need to conform with the given before new maxim.

## Prosodic (indirect) hypothesis

Scrambling reflects the need to conform with two prosodic requirements:

(2) NUCLEAR STRESS RULE (NSR)

Place sentence stress on the rightmost element.

Daneš 1957; Chomsky & Halle 1968

(3) DO NOT STRESS GIVEN (\*SG)

Do not place sentence stress on given elements.

Féry & Samek-Lodovici 2006

# SCRAMBLING UNDER THE PROSODIC HYPOTHESIS

Scrambling (B<sub>3</sub> below) is the optimal solution to satisfying both prosodic requirements: placing stress rightmost (NSR) and not stressing given (\*SG).

(4) A I made carrot soup.

B<sub>1</sub> Já nejím MRKEV. ✗\*SG ✓NSR  
I NEG.eat.1SG carrot  
'I don't eat carrots.'

B<sub>2</sub> Já NEJÍM mrkev. ✓\*SG ✗NSR

B<sub>3</sub> Já mrkev NEJÍM. ✓\*SG ✓NSR

But why should B<sub>2</sub> be more acceptable than B<sub>1</sub> if each violates one constraint?

Assumption: The requirement that given expressions not be stressed is stricter than that stress is placed on the right.

SMALL CAPS = stress; underline = given

# EXPERIMENTS (ŠIMÍK & WIERZBA 2017)

**Predictions** of the word order (given before new!) and prosodic (no stress on given!) hypotheses:

	form	PROSODIC	WORD ORDER
1	<u>Q</u> SV <b>PP</b>	✓	✓
2	S <u>Q</u> V <b>PP</b>	✓	✗
3	SV <u>O</u> <b>PP</b>	✓	✗
4	SV <b>PP</b> <u>O</u>	✗	✗

Table: Exp. 1: Word order manipulation

	form	PROSODIC	WORD ORDER
1	V <u>O</u>	✗	✗
2	<b>V</b> <u>O</u>	✓	✗
3	<u>O</u> <b>V</b>	✓	✓
4	<b>O</b> <u>V</u>	✗	✓

Table: Exp. 2: Word order and prosody manipulation

s = subject, v = verb, o = object, PP = adverbial; underline = given, **boldface** = sentence stress, ✓ = acceptable, ✗ = not acceptable

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3	<b>S</b> <u>V</u> <b>O</b> <b>P</b> <b>P</b>	✓	✗
4	<b>S</b> <b>V</b> <b>P</b> <b>P</b> <u>O</u>	✗	✗

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# EXPERIMENT 1: WORD ORDER MANIPULATION

**Word order hypothesis:** The only acceptable order is the one where the given element (the object) precedes all other new constituents (only 1).

**Prosodic hypothesis:** Any order where the given object is sentence stressed (here: rightmost) is acceptable (1–3).

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3	SV <u>O</u> <b>PP</b>	✓	✗
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	form	PROSODIC	WORD ORDER
1	OSV <b>PP</b>	✓	✓
2	<u>SO</u> V <b>PP</b>	✓	<b>X</b>
3	S <u>V</u> O <b>PP</b>	✓	<b>X</b>
4	SV <u>PP</u> <b>O</b>	<b>X</b>	<b>X</b>

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# EXPERIMENT 1: RESULTS

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Word order h. **not borne out**: There is no need for the given object to precede all new constituents.

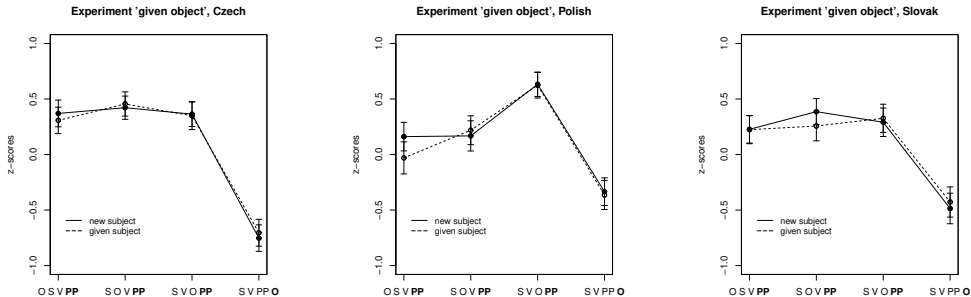


Figure: Results of the given object experiment (acceptability ratings transformed to z-scores; the lower the score the lower the acceptability) (Šimík & Wierzba 2017: 690–691)

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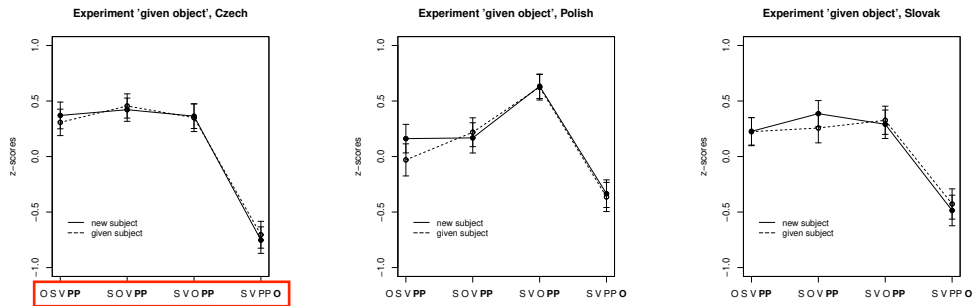


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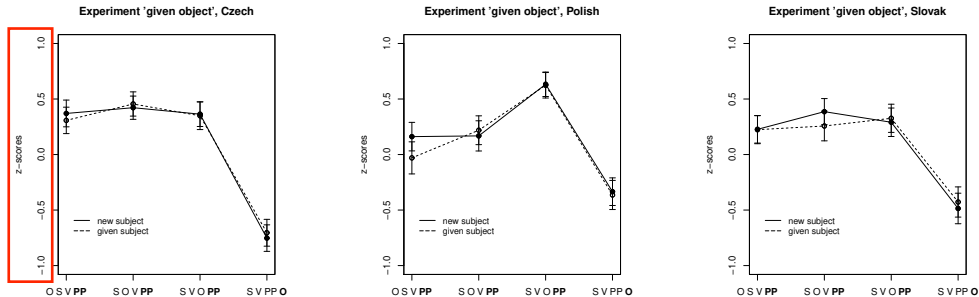


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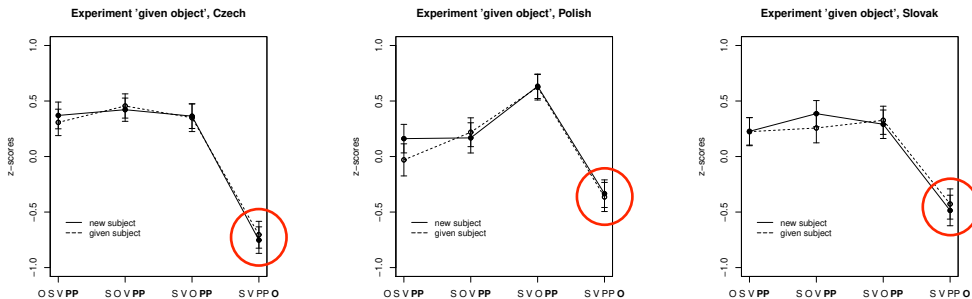


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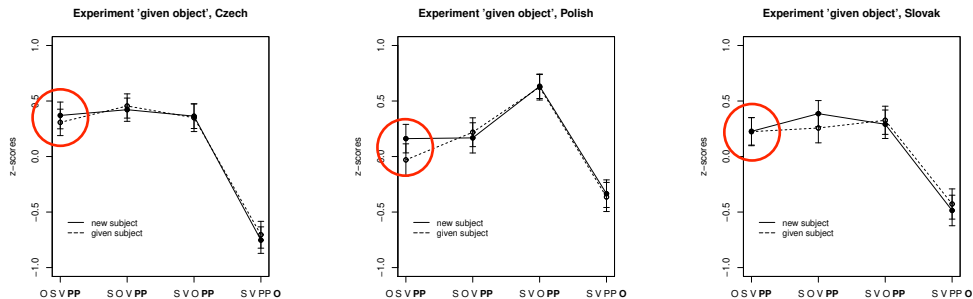


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**Word order hypothesis:** The acceptable orders are those where the given element (the object) precedes the new verb (3, 4).

**Prosodic hypothesis:** The acceptable forms are those where the given object is not stressed (2, 3).

	order	PROSODIC	WORD ORDER
1	V <u>O</u>	X	X
2	<b>V</b> <u>O</u>	✓	X
3	<u>O</u> <b>V</b>	✓	✓
4	<u>O</u> <b>V</b>	X	✓

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	order	PROSODIC	WORD ORDER
1	V <u>O</u>	X	X
2	<b>VO</b>	✓	X
3	<u>OV</u>	✓	✓
4	<b>OV</b>	X	✓

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## EXPERIMENT 2: RESULTS

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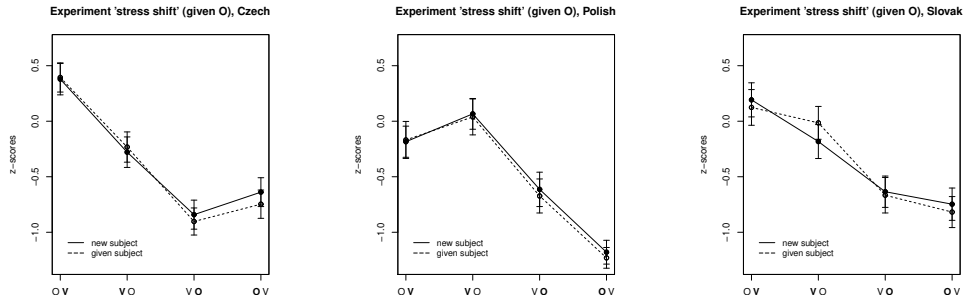


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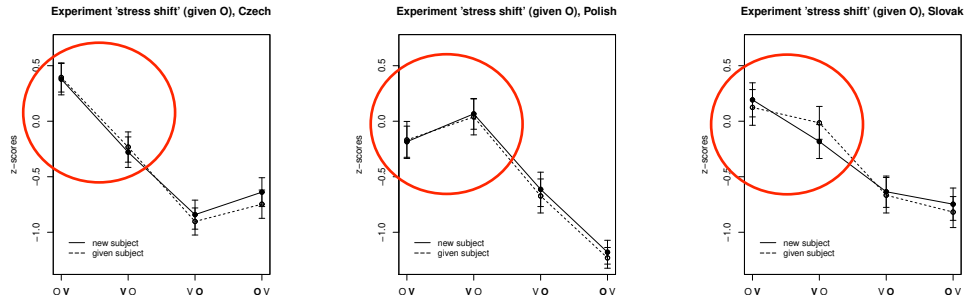


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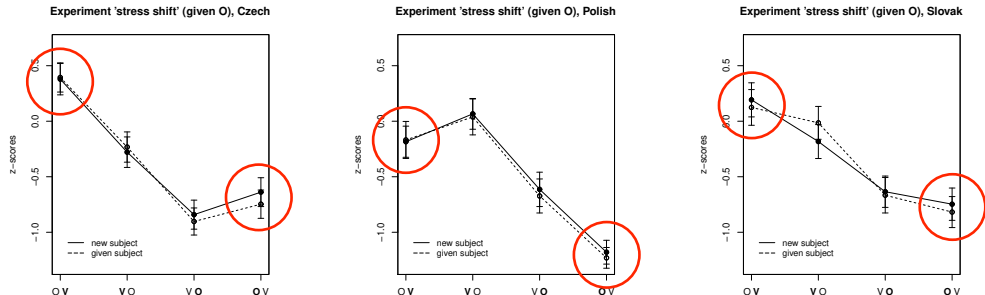


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## DISCUSSION

- The requirement for given objects not to be stressed are clearly observable in the data.
  - Givenness is encoded by (the lack of) stress in Czech, Slovak, and Polish.
- The requirement for given objects to precede new constituents is not consistently observable in the data.
  - Givenness is not encoded by word order in Czech, Slovak, and Polish.
- In Experiment 2 (stress shift), the best condition is **ov**, namely one that combines stress on a non-given constituent (reflecting \*SG) with rightmost stress (NSR).
  - This is in line with the prosodic hypothesis.
- Languages differ in how they satisfy \*SG:
  - Czech and Slovak prefer change the canonical word order (scrambling) in order to satisfy the canonical stress pattern.
  - Polish prefers to change the stress pattern (stress shift) in order to satisfy the canonical word order (svo).

## SUMMARY OF THIS LECTURE BLOCK

- What concepts are needed for the understanding of information structuring of utterances?
  - given–new
  - focus–background
  - (contrastive) topic–comment
- How are these pragmatic categories realized linguistically?
  - word order (e.g. given before new)
  - prosody (no stress on given, stress on focus)
  - particles
- Is information structure realized primarily syntactically (by means of word order) or prosodically (by means of sentence stress)?
  - Experimental evidence suggests that even “free word order” languages such as the Slavic ones primarily rely on prosody (sentence stress) than word order in the expression of givenness.



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