FUNCTIONAL SENTENCE PERSPECTIVE • INFORMATION STRUCTURE • COGNITIVE BIAS

# Cognitive Biases in Processing Information Structure Among Native and L2 English Speakers

How native English speakers and Czech and Slovak learners perceive communicative dynamism

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# Structural Tension: Fixed SVO vs. End-Focus

## Word Order Clash

**English SVO Syntax:** Fixed grammatical order often places new subjects sentence-initially.

**Principle of End-Focus:** Most dynamic, new information naturally gravitates toward the end.

**Czech & Slovak Linearity:** Flexible word order consistently places the communicative peak last.

## Research Gap & Aim

**Empirical Gap:** Classic frameworks (Firbas, Halliday, Chafe) lack empirical reader data.

**Core Question:** How do readers react when the Rheme Proper stands non-finally?

**Study Aim:** Identify cognitive and semantic traps in L1 and L2 reading comprehension.

# Communicative Dynamism (Jan Firbas 1992)

LOWEST DEGREE OF CD

**Theme**

Context-dependent foundation

→

INTERMEDIATE CD

**Transition**

Verb linking Theme to Rheme

→

COMMUNICATIVE PEAK

**Rheme Proper (RhPr)**

New context-independent peak

1. **Context:** Retrievable from immediate text
2. **Semantics:** Dynamic semantic roles in clause
3. **Linear Modification:** End-focus progression

# Communicative Dynamism (Jan Firbas 1992)



# Halliday, Chafe, and Svoboda's Subfields

### Halliday (Position)

Clause-initial point of departure.

### Chafe (Cognition)

Low mental activation cost.

### Svoboda (Hierarchy)

Sub-clauses form internal subfields.

# Quality Scale vs. Presentation Scale (Adam 2013)

QUALITY SCALE (STANDARD END-FOCUS)

**Known Bearer → Action → New Specification**

**Natural Alignment:** Matches both English SVO syntax and FSP end-focus.

**Example:** *The old house* (Theme) *was* (Transition) **"creepy" (RhPr)**.

PRESENTATION SCALE (PREVERBAL SUBJECT)

**New Phenomenon → Presentation Verb → Setting**

**End-Focus Violation:** English SVO pushes the brand-new Phenomenon to the front.

**Semantic Bond:** In ***ivy*** *spreading unchecked over its face*, the verb's biological bond introduces the subject.

# Survey Design & Participant Cohorts

**151**

**Native English Speakers (L1)**

**154**

**Czech & Slovak Learners (L2)**

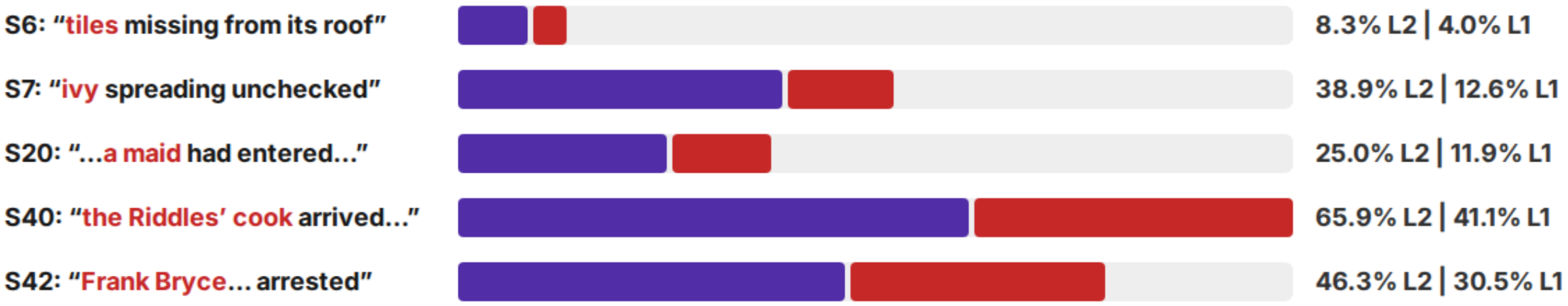
**42**

**Evaluated Clauses**

**Source Text:** Opening passage of *Harry Potter and the Goblet of Fire* (“The Riddle House”). First-year L2 students had no prior training in FSP theory.

**Task Prompt:** ***“In each sentence or clause, please choose the language unit that you think is the most important and most relevant for the development of the whole story.”***

# Correct Identification of Non-Final Phenomena




Key Pattern: ■ **L2 Learners (CZ/SK)** consistently outperform ■ **Native Speakers (L1)** on preverbal Phenomena.

# When Dynamic Verbs Help vs. Mislead Readers

VERB AS TRUE RHEME PROPER (SENTENCE 39)

**"They were rewarded for leaving their firesides"**

**High Convergence:** 76.8% L2 & 82.1% L1 correctly chose *were rewarded*.

**Contextual Demotion:** Leaving home for the pub is already known, shifting the peak backwards to the verb.

THE VERB TRAP (SENTENCES 6 & 42)

**"tiles missing from its roof" / "Frank Bryce had just been arrested"**

**Action Bias:** 88.7% L1 & 83.3% L2 chose *missing*; 69.5% L1 & 53.7% L2 chose *had just been arrested*.

**Semantic Pull:** Readers prioritize dramatic actions over newly introduced subjects.

# Stage-Laying & Chafe's Activation Cost Paradox

**63.6%**

**L1 Chose Opening Setting (50% L2)**

**"Fifty years before, at daybreak on a fine summer's morning, a maid (RhPr) had entered the drawing room"**

**Phenomenon Overlooked:** Only 25.0% L2 and 11.9% L1 selected the true communicative peak *a maid*.

**Chafe's Paradox:** Familiarity with the *Harry Potter* universe lowers activation cost, causing readers to confuse psychological recognition with new information.

**Hallidayan Effect:** Front-loaded temporal shift mistaken for the communicative peak.

# Descriptive Weight of Thematic Subjects

| Clause | Heavily Modified Subject (Theme) | Chose Subject (Trap) | True Rheme Proper | Chose RhPr |
|---|---|---|---|---|
| **Sentence 13** | *...something that the older inhabitants of the village still* | 16.7% L2 \| 29.8% L1 | ***liked to discuss*** | **51.4% L2 \| 47.7% L1** |
| **Sentence 19** | *Every version of the tale, however, started* | **34.7% L2 \| 57.0% L1** | ***in the same place:*** | **62.5% L2 \| 30.5% L1** |
| **Sentence 36** | *The Hanged Man, the village pub, did* | **35.4% L2 \| 39.7% L1** | ***a roaring trade*** | **59.8% L2 \| 58.3% L1** |

**Descriptive Distraction:** Quantifiers (S19) and appositions (S36) add semantic weight, leading 57% of native speakers in S19 to mistake the thematic Bearer for the Rheme Proper.

4.5 & 4.6 RESULTS: CONTEXT VS. LINEARITY

# Contrastive Focus Override vs. End-Focus Bias

### 4.5 CONTRASTIVE FOCUS (SENTENCE 18)

**"...nobody was quite sure what the truth (RhPr) was anymore"**

**Near-Universal Success:** 87.5% L2 & 90.7% L1 selected *the truth*.
**Contrastive Peak:** Direct contrast with an *embroidered, picked-over story* overrides retrievability and turns *was* into a Presentation verb.

### 4.6 END-FOCUS BIAS (SENTENCE 38)

**"the whole village seemed to have turned out to discuss (RhPr) the murders."**

**Linearity Trap:** 57.3% L2 & 58.3% L1 falsely selected sentence-final *the murders*.
**Ignored Context:** Readers automatically equate sentence-final position with new information, ignoring that *the murders* are already known.

4.7 & 4.8 RESULTS: MULTIPLE RHEMES & COMPLEX SYNTAX

# Secondary Rheme Trap vs. Syntactic Hierarchy

### 4.7 THE SECONDARY RHEME TRAP (S22 & S7)

**"The maid had run screaming down the hill into the village (RhPr)"**

**Stopping Early:** 63.6% L1 & 46.3% L2 chose the secondary Rheme *screaming* (and 72.8% L1 chose *unchecked* over *ivy* in S7).

**Cognitive Shortcut:** Readers spot the first vivid new detail and stop evaluating the rest of the clause.

### 4.8 DISTRIBUTIONAL SUBFIELDS (S34 & S41)

**Over 85% Accuracy on Complex Clauses**

**High Mastery:** 86.6% L2 / 85.4% L1 succeeded in S34; 90.2% L2 / 85.4% L1 succeeded in S41.

**Crucial Finding:** Syntactic complexity does not obstruct comprehension; semantic distraction does.

# How Verb Semantics Controls Subject Recognition

| Presentation Sentence | Preverbal Subject (RhPr) | Presentation Verb | Chose Subject (Correct) | Chose Verb (Trap) |
|---|---|---|---|---|
| **Sentence 27** (Passive / Weak Verb) | ***The police*** | *were summoned* | **86.6% L2 \| 86.1% L1** | 13.4% L2 \| 13.9% L1 |
| **Sentence 40** (Dynamic / Active Verb) | ***the Riddles' cook*** | *arrived dramatically* | **65.9% L2 \| 41.1% L1** | **34.1% L2 \| 58.3% L1** |

**Theoretical & Translation Insight:** Readers easily identify a front-loaded Rheme Proper when paired with a passive, semantically weak verb (*were summoned*), but fail when the verb is dramatic (*arrived dramatically*).

5. DISCUSSION & IMPLICATIONS

# Cognition, Translation, L2 Paradox & Pedagogy

### Energetic Verb Bias

Passive voice preserves Presentation scales.

### The L2 Paradox

L1 FSP habits aid Czech/Slovak learners.

### Discourse Pedagogy

Teach information flow beyond notional grammar.

KEY REFERENCES: FIRBAS (1992) • HALLIDAY (1994) • CHAFE (1994) • SVOBODA (1968) • ADAM (2013) • MACWHINNEY (2005)

# Thank You for Your Attention!

I am happy to address any questions

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