LD subject extraction in German: 'good enough' processing and COMP-trace effects

Ankelien Schippers, Margreet Vogelzang & David Öwerdieck
Corresponding author: ankelien.schippers@uol.de

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http://www.ankelienschippers.com/site/assets/files/1104/ep_comp_trace.pdf

Introduction

- Self-paced reading + comprehension task investigating long-distance (LD) subject and object questions in German.

- LD subject questions incur a COMP-trace violations in German -> how are such questions comprehended and processed?

- How can differences in sensitivity to COMP-trace violations between English and German be explained?

Comp-trace: German vs. English

1. Which author do you think (that) the publisher appreciated?
2. Which author do you think *(that) appreciated the publisher?

3. Welch-en Schrifsteller denkst du, dass der   Verleger   geschätzt   hat?
    which-ACC author   think   you that the.NOM publisher appreciated has
4. Welch-er   Schriftsteller denkst du, dass den   Verleger   geschätzt   hat?
    which-NOM author   think   you that the.ACC publisher appreciated has

Opposing views w.r.t. COMP-trace in German:

- no subject/object asymmetry (Müller & Sabel 1989; Haider, 2010).
- asymmetry does exist -> experimental judgement data confirms this (Featherston 2005; Kiziak 2010).

- Comp-trace (subject/object asymmetry) also present in German, but LD subject movement is not ruled out altogether.

1. [Wer wohl meint er [dass __ ihm seine Arbeit hier bezahlen werde]]?
   'Who did he perhaps assume would pay for his work here?'
2. Alles [was ich dachte [dass __ mich aufheitern würde]]
   'Everything that I thought would cheer me up'

   (Examples from Paul 1919: 321, cited in Haider 2010)

- English and German differ in the severity of COMP-trace violations:

  → What causes this?

  → Which implications does this have for the analysis of the COMP-trace effect?

Previous explanations on the difference between German and English

- German circumvents COMP-trace violations because subjects are extracted from a low, VP-internal position (Haider 2010).

→ If so, why doesn't the subject/object asymmetry disappear altogether?

- Bayer (2005): objects can be scrambled over subject: another potential work-around

→ Conceivable that COMP-trace violations are sometimes "repaired" this way.

Processing related explanation

- Kiziak (2010): lower sensitivity of German to COMP-trace due to processing factors related to word order and case-marking.

    1. Welch-en Schrifsteller denkst du, dass der   Verleger   geschätzt   hat? → DP V
       which-ACC author   think   you that the.NOM publisher appreciated has

    2. Welch-er   Schriftsteller denkst du, dass den Verleger   geschätzt   hat? → DP V
       which-NOM author   think   you that the.ACC publisher appreciated has
       … Case-marking, not word order differentiates subject from object questions.

    3. Which author do you think [the publisher appreciated ___?] → DP V
    4. Which author do you think [___ appreciated the publisher?] → V DP
       …… word order differentiates between subject and object extraction

Role of case-marking

Kiziak: asymmetry becomes smaller with case-ambiguous embedded DPs:

1. Welch-en Schrifsteller denkst du, dass die Verleger-in geschätzt hat?
   which-ACC author think you that the.? publisher-FEM appreciated has

2. Welch-er Schriftsteller denkst du, dass die Verleger-in geschätzt hat?
   Which-NOM author think you that the.? publisher-FEM appreciated has

Explanation: Good enough processing (Ferreira & Patson 2007) – embedded DP (*die Verlegerin*) is interpreted as the subject.

-> in (2), leads to an (incorrect) object wh-reading.

Good-enough processing

- Comprehenders use simple heuristics, rather than complete and accurate semantic and syntactic representations when interpreting sentences.

- They sometimes construct local interpretations that interfere with global ones.

- This explains why comprehenders sometimes pursue object readings for subject questions.

Intermediate summary

- German has COMP-trace effect, but a violation is more difficult to detect.

- Word order in German does not distinguish between subject and object gaps.

- Comprehenders have to rely on morphosyntactic cues (case-marking, agreement).

- (Partial) absence of such cues makes it more difficult to signal embedded subject gaps and thus a COMP-trace violation.

Research questions

- RQ1: Is there online processing evidence for the problematic status of embedded subject gaps?

  → can we find behavioral evidence for COMP-trace in German?

- RQ2: is there 'good enough' processing in LD questions?

  → are LD subject questions misinterpreted as object questions?

Method

- Self-paced reading followed by comprehension questions
- Sentence was followed by a comprehension statement corresponding to either a subject or an object reading of the wh-phrase
- Participants had to select the correct reading by pressing a button.

Examples

Unambiguous subject

Welch**er** Schriftsteller denkst du, dass **den** Verleger geschätzt hat?

which-NOM author think you that the.ACC publisher appreciated has

Unambiguous object

Welch-**en** Schrifsteller denkst du, dass **der** Verleger geschätzt hat?

which-ACC author think you that the.NOM publisher appreciated has

DP ambiguous subject

Welch-**er** Schriftsteller denkst du, dass **die** Verleger-in geschätzt hat?

which-NOM author think you that the.? publisher-FEM appreciated has

DP ambiguous object

Welch-**en** Schriftsteller denkst du, dass **die** Verleger-in geschätzt hat?

which-ACC author think you that the.? publisher-FEM appreciated has

Design

- 2 factors: **DP ambiguity (unambiguous vs. ambiguous**) and **argument (subject vs. object),** resulting in 4 conditions (+ 2 conditions not discussed here).

- Ambiguity was manipulated by contrasting case-unambiguous masculine DPs to case-ambiguous feminine DPs (*Verleger* vs *Verlegerin*).

- 48 filler items (LD wh-questions without *dass*).

Example

Question

Welcher	Schriftsteller	denkst	du	dass	**die**	Verlegerin	geschätzt	hat?
which-nom	author	think	you	that	the.?	publisher-fem	appreciated	has

'Which author do you think respected the publisher?'

Comprehension statement

(A) Ich denke, dass der britische Schriftsteller die Verlegerin geschätzt hat   Correct
     'I think that the British author appreciated the publisher-fem'

(B) Ich denke, dass die Verlegerin den britischen Schriftsteller geschätzt hat   Incorrect
     'I think that the publisher-fem appreciated the British author'
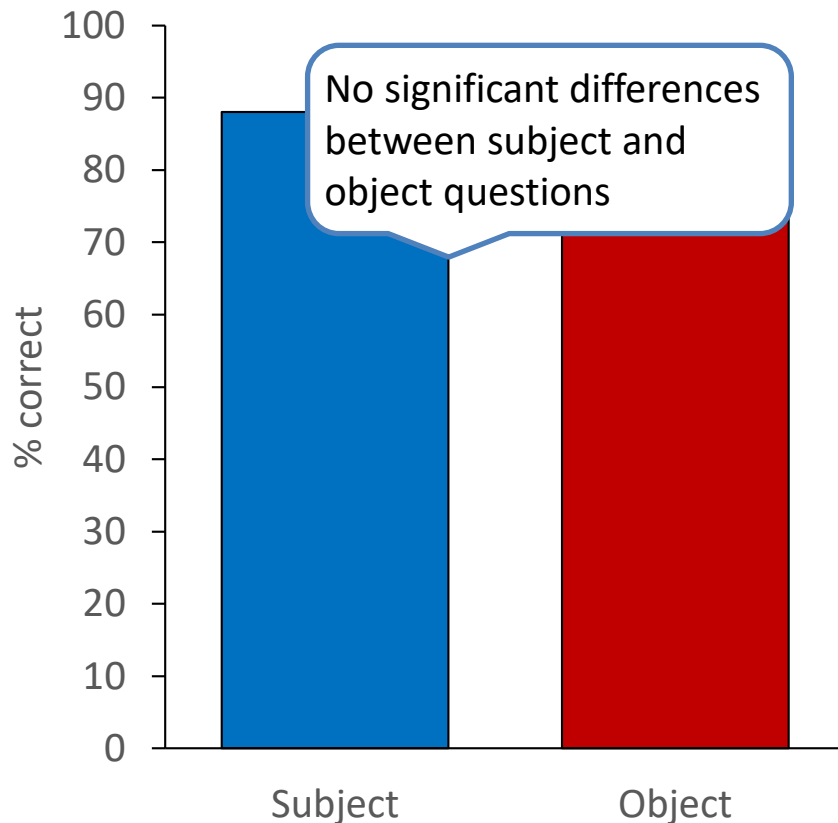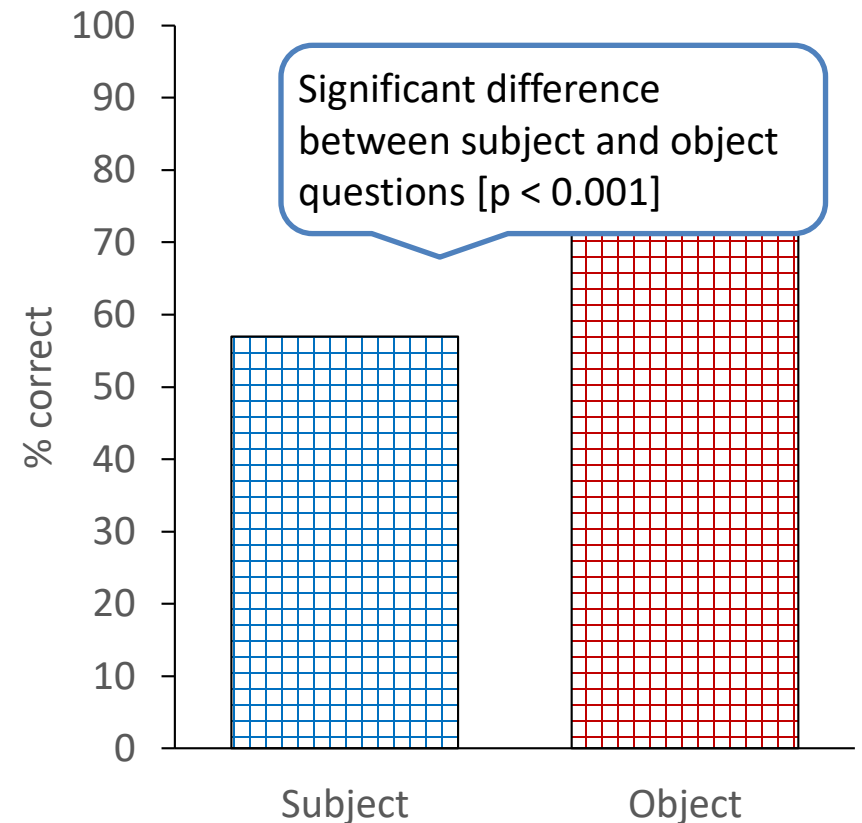
Graph 3: Reading times
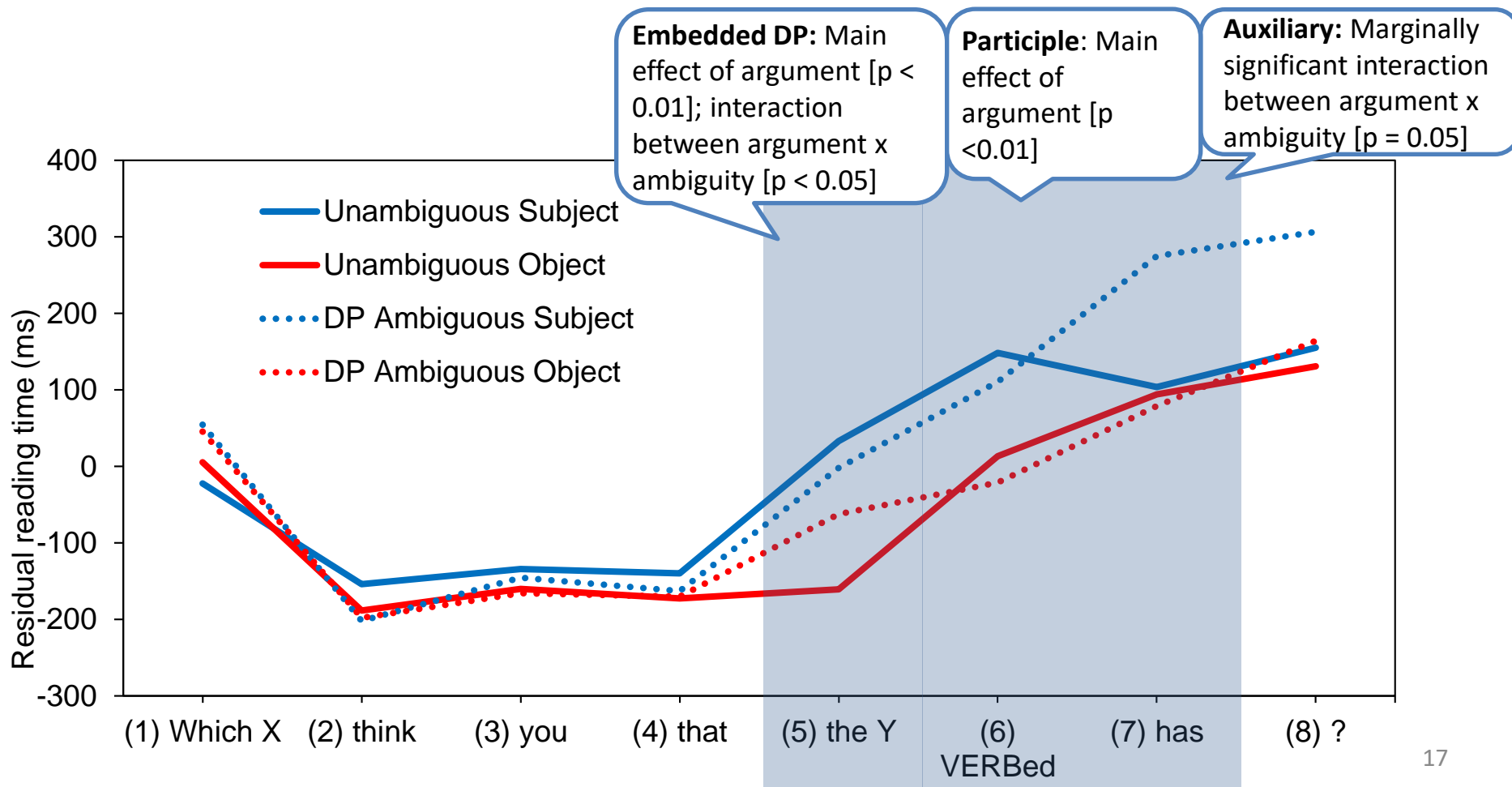
Discussion

- RQ 1: unambiguous conditions showed a slowdown in reading times at the embedded subject gap -> behavioral evidence for the COMP-trace effect
    - Accuracy data showed this did not hamper comprehension
- RQ 2: locally ambiguous condition strongly garden-pathed participants towards object readings for subject questions -> evidence for good enough processing

On crosslinguistic variation

- Reduced COMP-trace effect in German solely due to the fact that violations are more difficult to detect?

- Cannot be the whole story, in unambiguous conditions, subject gaps are clearly detected.

- Still, does not appear to lead to outright ungrammaticality.

- Interim conclusion: COMP-trace is a violable constraint.

- Hypotheses:

    →COMP-trace is a matter of accessibility

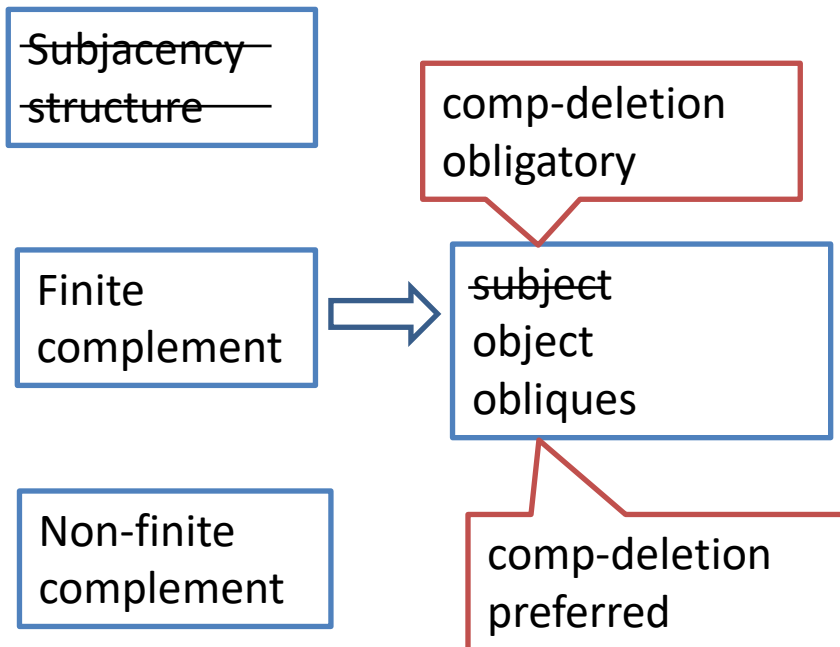   →Acceptability judgements are influenced by availability of functional competitors.

COMP-trace and accessibility

- **Clause embedding hierarchy for gaps (Hawkins 2014)**: infinitival complement > finite complement > subjacency structure.

- **Hierarchy for embedded gaps (McDaniel et al. 2018)**: oblique > object > subject
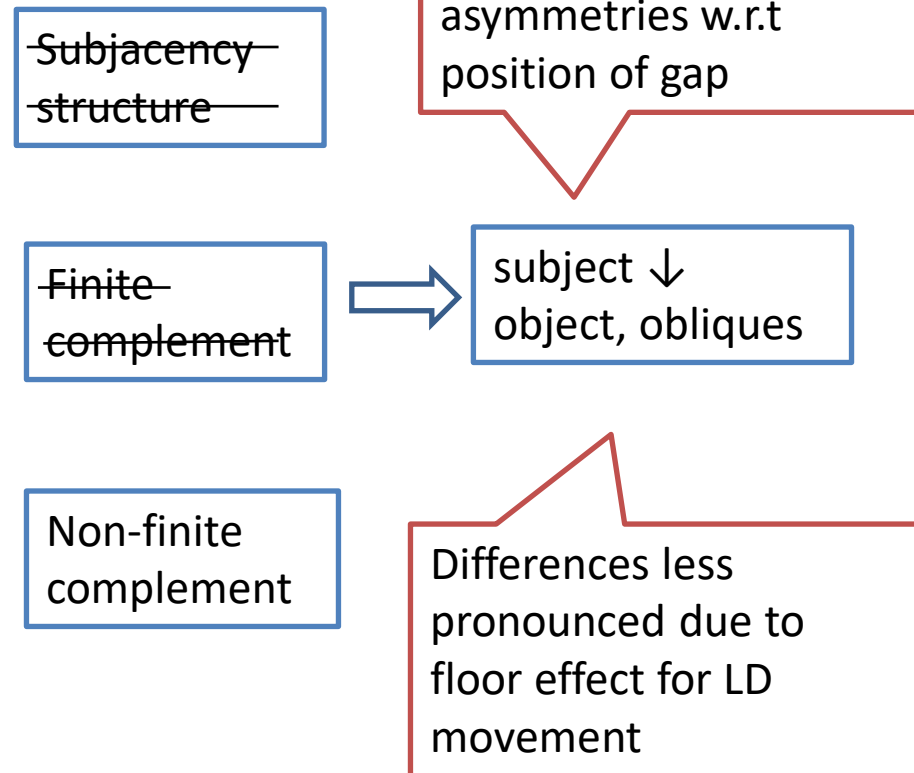
Explanation:

- German and English have different cut-off points
- Acceptability judgements are influenced by availability of functional competitors.

English

Subjacency structure ~~Subjacency structure~~

Finite complement →

comp-deletion obligatory

~~subject~~
object
obliques

comp-deletion preferred

Non-finite complement

German

~~Subjacency structure~~

~~Finite complement~~ →

subject ↓
object, obliques

ld-movement, when available, shows asymmetries w.r.t position of gap

Non-finite complement

Differences less pronounced due to floor effect for LD movement

Functional competitors extraction out of finite clauses in German

- Various alternatives:
    1. partial wh-movement:

        Was denkst du, welcher Schriftsteller den Verleger geschätzt hat?

    2. parenthetical questions/ "embedded V2"

        Welcher Schriftsteller denkst du, hat den Verleger geschätzt?

    3. resumptive prolepsis

        Von welchem Schriftsteller meinst du, dass er den Verleger inspiriert hat?

- Alternatives available to all speakers, LD-movement only to a subset (Salzmann 2006).

- Alternatives have by-and-large replaced LD-movement (Schippers 2012).

Conclusions

- COMP-trace in German is real: our data supports the unacceptability of embedded subject gaps.

- However: acceptability contrast between LD subject/object movement is decreased due to:
  - Floor effects for LD movement constructions
  - Subject gaps more difficult to detect due to SOV word order
  - Difficulty is increased when case-marking cues are (partly) missing

- Subject extraction from embedded clauses not categorically excluded: COMP-trace = a matter of accessibility.

Acknowledgements

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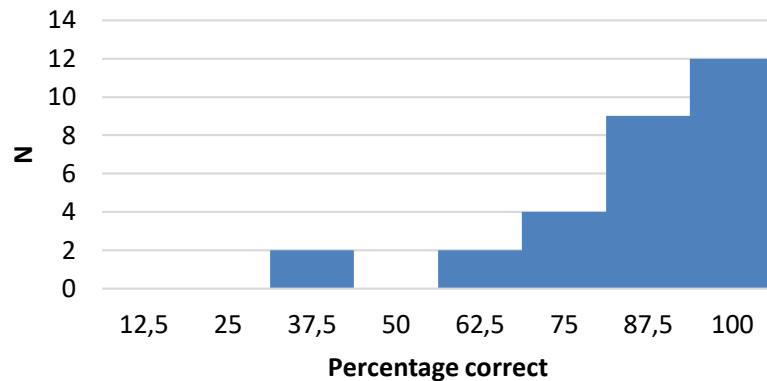# Graph 4: Reading times correct responses
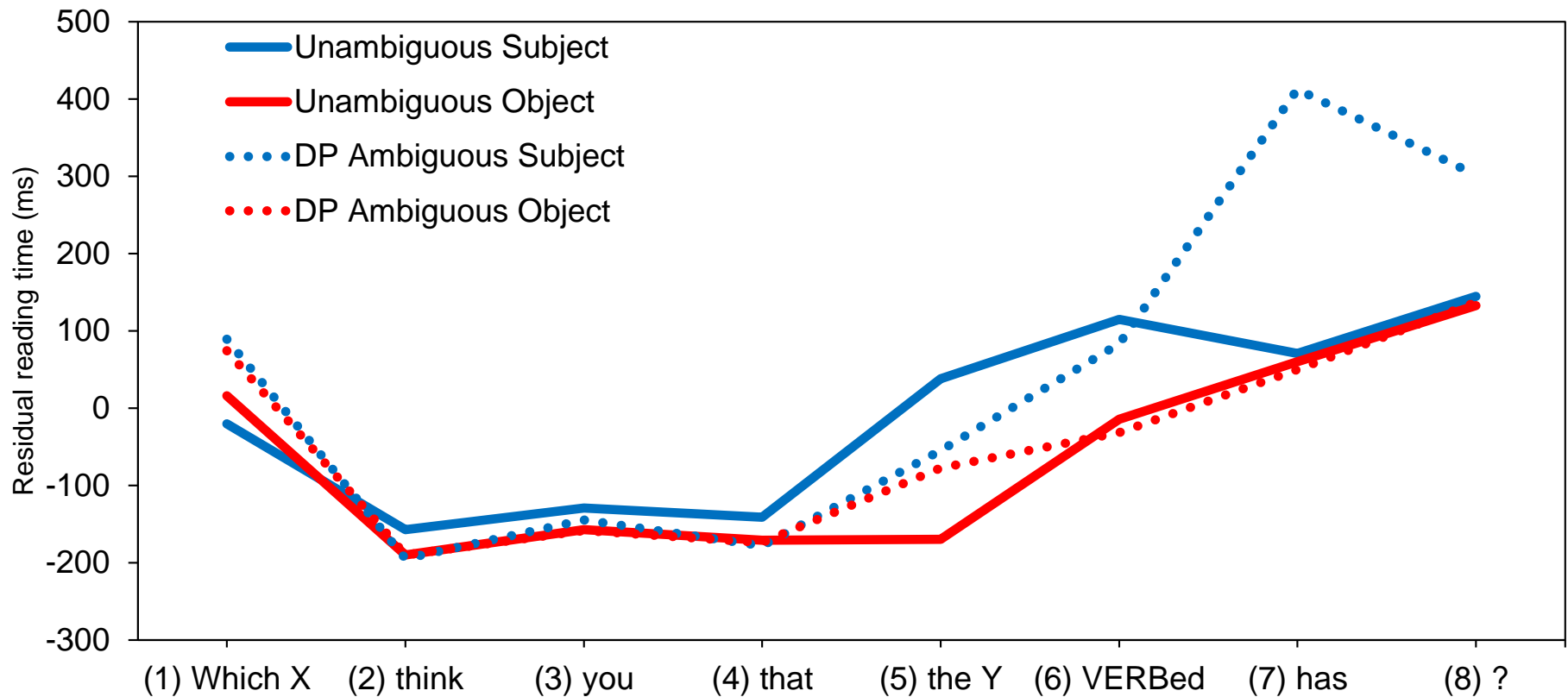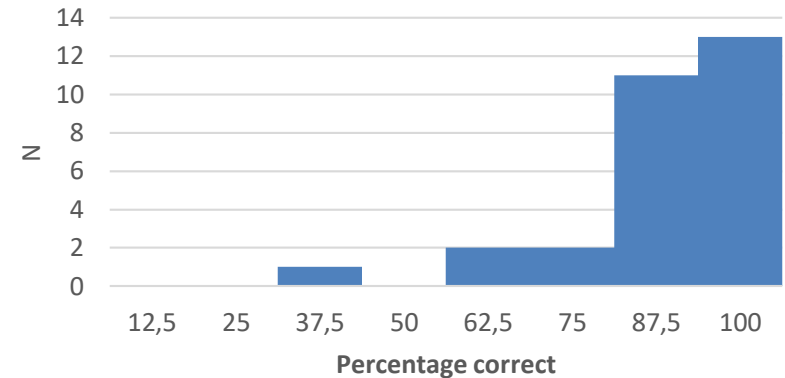
Graph 5: Reading times incorrect responses
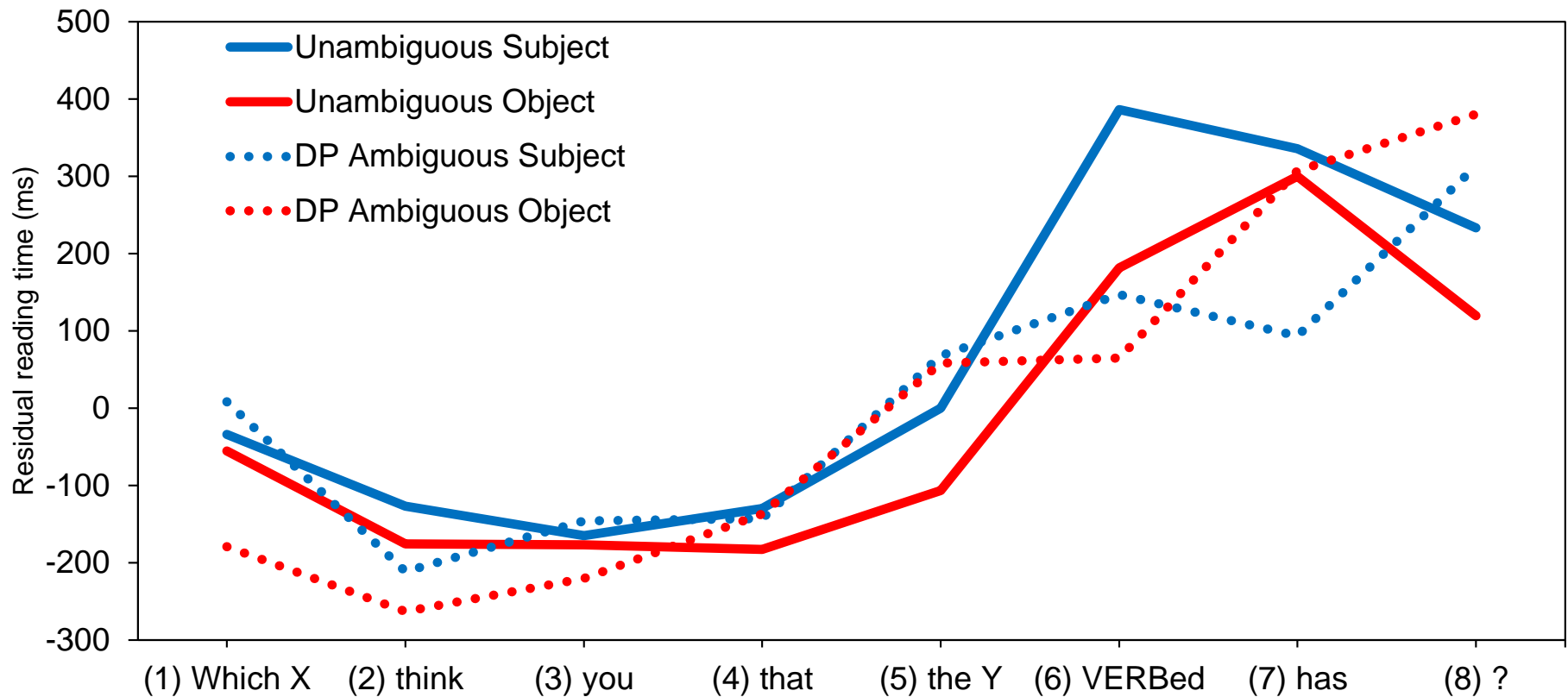
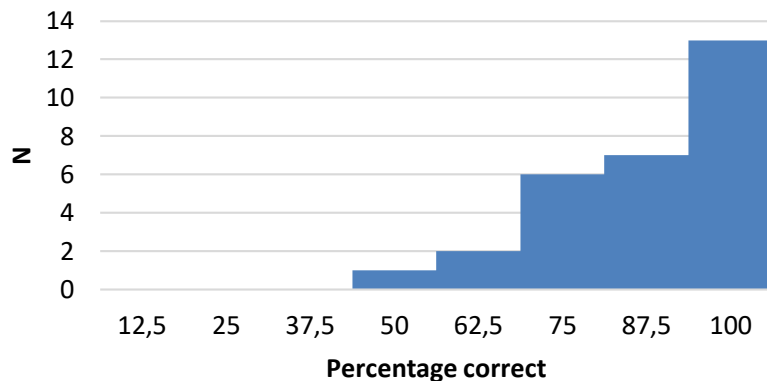# Histogram correct responses per condition