

LOGICAL METONYMY

DISENTANGLING OBJECT TYPE AND THEMATIC FIT

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A LEXICAL HYPOTHESIS FOR LOGICAL METONYMY

Jack Kerouac began his journey across America
Jack Kerouac began the book around 1949 ⇨ *writing the book*

The Lexical Hypothesis (the Generative Lexicon, Pustejovsky 1995):

- * **The Trigger Question:** When do covert events arise?
 - ⇨ **type**-mismatch (event-selecting verb + entity-denoting object)
 - ⇨ longer RTs (e.g. McElree et al. 2001)
- * **The Range Question:** Where do covert events come from?
 - ⇨ qualia structure in the lexicon (book: reading OR writing)

Kerouac was an amateur wrestler. He always enjoyed a good fight ⇨ *fighting the fight*
Kerouac was a wrestling fan. He always enjoyed a good fight ⇨ *watching the fight*

- ✓ preserves compositionality and the generative power of the lexicon
- ✗ limited to artifacts, underestimates the range of covert events
- ✗ rigid, not suitable to modeling effects of context and discourse
- ✗ Logical metonymy seen as an “anomalous” case

A THEMATIC-FIT HYPOTHESIS FOR LOGICAL METONYMY

The baker finished the icing ⇨ *spreading / eating*
The child finished the icing ⇨ *spreading / eating*

The Thematic-Fit Hypothesis (Zarcone & Padó 2011):

- * **The Range Question:** Where do covert events come from?
 - ⇨ knowledge of typical events / participants used to build expectations about upcoming input (McRae & Matsuki 2009, Elman 2001)
 - ⇨ thematic fit determines the covert event (Zarcone & Padó 2011)

- * **The Trigger Question:** When do covert events arise?
 - ⇨ low **thematic fit** (expectation for an event-denoting object)
 - ⇨ computational models of thematic fit (no type, Zarcone et al. 2013)
 - ⇨ psycholinguistic evidence?

- ✓ More flexible (but still constrained) lexical representations
- ✓ Context- and discourse-sensitive
- ✓ Early, dynamic generation of lexical expectations
- ✓ Logical metonymy as a “normal” instance of communication

EXPERIMENT: DISENTANGLING OBJECT TYPE AND THEMATIC FIT

- * **Motivation:** What is the trigger of the logical metonymy (type vs. thematic fit)?
- * **Design:** 2x2 (ENtity vs EVent obj., high vs low thematic fit)
- * **Task:** self-paced reading with Yes/No comprehension questions

Novelty:

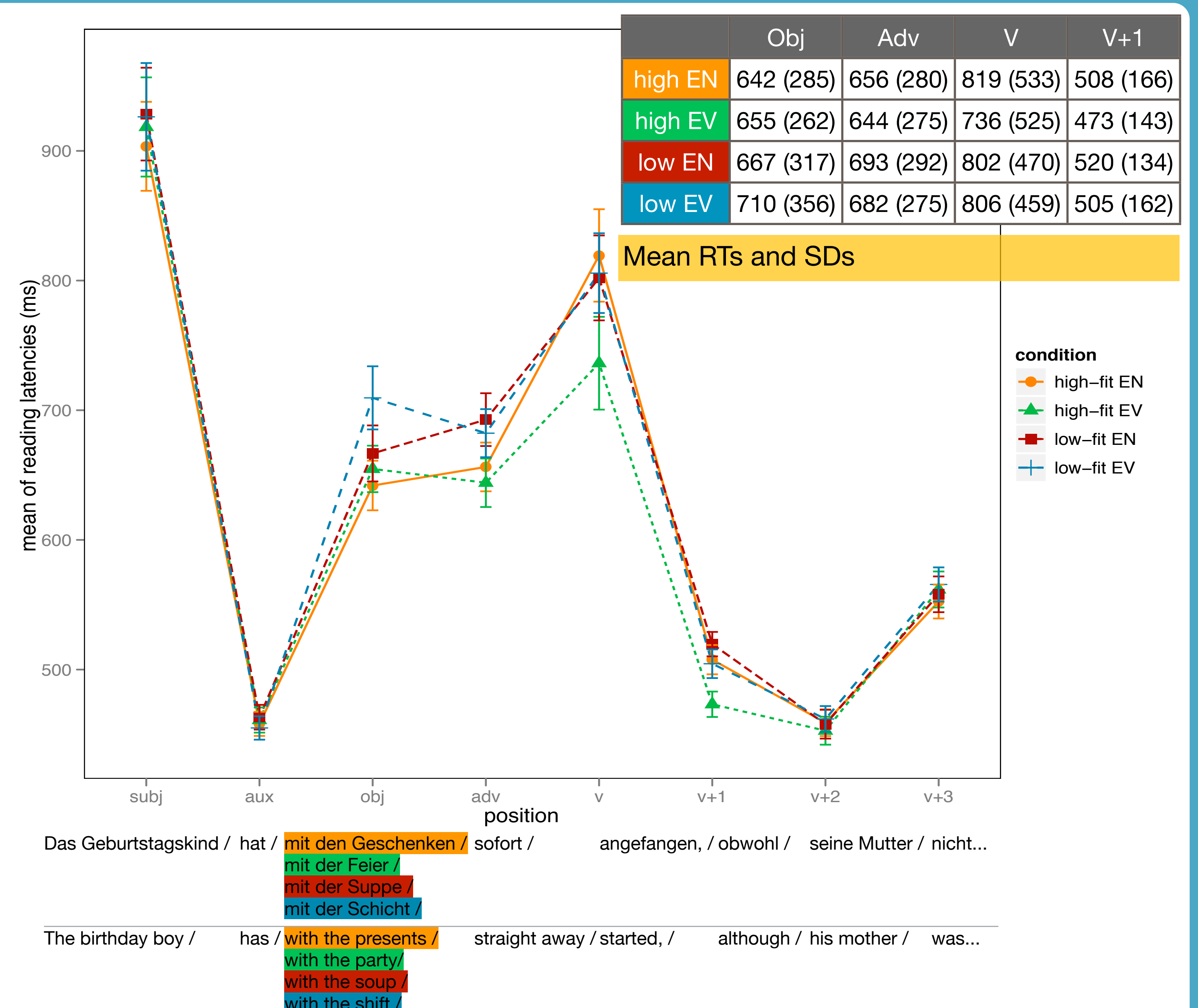
- * participle-final word order in German, metonymic verb measured in all four conditions (as opposite to Traxler et al. 2002)
- * manipulating BOTH thematic fit and type

Results:

- * Obj.: longer RTs for EV objects (*) and for low-thematic fit objects (*)
- * Adv.: longer RTs for low-thematic fit objects (*)
- * V: longer RTs for EN objects (*), interaction with thematic fit (*)
- * V+1: effect of object type (**) and thematic fit (**)

Interpretation:

- * **quickest condition:** EV obj. + high thematic fit (matches expectations)
- * **thematic fit matters:** long RTs also for low-thematic fit EV objects (no type clash)
- * **type matters too:** long RTs for EN objects, although they can be modulated by varying the thematic fit
- * “double signature”: early effect of thematic fit, late effect of type



DISCUSSION AND CONCLUSIONS

- * **Lexical Hypothesis:** can not account for the effect of thematic fit ⇨ too rigid, not context- and discourse-sensitive enough
- * **Thematic Fit Hypothesis:**
 - ✓ towards a more dynamic model of lexical access in context (expectations based on contextual cues: word-as-cues paradigm, Elman 2011)
 - ✓ thematic fit provides a valuable (context- and discourse-sensitive, dynamic) extension for the qualia structure (Zarcone & Padó 2011)
 - ✗ thematic fit is not a sufficient answer for the trigger question
 - ✗ we need to account for type AND figure out **how type and thematic fit interact**, cognitively and computationally

Open questions: the place of type

- * Do we need a two-level model to account for the type and thematic fit interaction?
- * Is type sensitive to thematic fit?
- * The emptiness of the lexicon:
 - strong lexicalist approaches vs. pragmatic approaches:
 - ⇨ if type belongs to the lexicon, does rich event knowledge (informing selectional preferences) also belong there? (Elman 2011)

“Double signature” parallel to figurative language:

- * Early effects reduced by context support
- * Late effects even in presence of a supporting context
 - ⇨ metaphor and metonymy (Bambini & Resta, 2012; Schumacher & Weiland, 2011)
 - ⇨ late effects in logical metonymy not explainable with surprisal effects (Delogu et al. 2013)

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