

Logical metonymy resolution beyond qualia roles.

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Sentences like *The baker began the cake* (\rightarrow *baking*), where an event-subcategorizing verb combines with an entity-denoting object, have been often referred to as **logical metonymies**: “Logical” because of the systematicity of the phenomenon, “metonymies” because the entity-event type clash is assumed to trigger an extension of the meaning of the entity to a related event which is not overtly realized in the sentence (Pustejovsky 1995, Vespoor 1997). The Generative Lexicon account convincingly explains logical metonymy interpretation with complex lexical entries containing event information (**qualia roles**, *cake* \rightarrow **agentive quale**, the event bringing about the object: *eating*; **telic quale**, its purpose: *baking*). Nevertheless, this account lacks a predictive mechanism to select one or the other event given a specific agent (*baker*, *cake* \rightarrow *baking*; *child*, *cake* \rightarrow *eating*). Vast experimental literature supports the activation of covert events (Pylkkänen and McElree 2006), but these studies make little commitment about what cognitive resources are involved in retrieving the non-realized event, if lexical or extra-lexical (Frisson et al. 2005, Frisson and McElree 2008).

We propose an account of covert event recovery based on a generalized event knowledge framework (McRae and Matsuki 2009). We present two experiments manipulating agent typicality: a typical agent (*baker*) provides rich cues to generate expectations for a covert event (*icing*, *spread*).

- (1) (high-typicality) *Der Konditor begann, die Glasur aufzutragen.*
The baker began the icing to spread.
(low-typicality) *Das Kind begann, die Glasur aufzutragen.*
The child began the icing to spread.

Note that the cued event can coincide with the qualia roles, but cover a broader range of events (materials were build through elicitation tasks). Also, our account makes a specific prediction on how context cues determine what event is recovered in a given context, namely not from the lexicon but by online access to our event knowledge, acquired from first and second hand experience and stored in memory.

Experiment 1 is a self-paced reading study exploiting the verb-final word order in German subordinate phrases. Faster reading times were found at the subordinate verb position for high-typicality agents compared to low-typicality ones ($F_1(1, 29) = 4.65, p = 0.039$; $F_2(1, 47) = 4.15, p = 0.047$). Since test sentences in Experiment 1 were not real metonymies, because the event was made explicit, the aim of Experiment 2 is to support these results with a probe recognition task where probes are covert events presented after logical metonymies where the event is not overtly realized (*Das Kind begann die Glasur - ESSEN*). Participants were asked if the probe was present in the sentence: as expected, decision latencies were longer in the high-typicality condition ($F_1(1, 23) = 8.41, p = 0.08$; $F_2(1, 47) = 4.62, p = 0.033$), where participants integrate typical event knowledge and take longer to realize this knowledge was not explicit.

Our results support the idea that covert events are rapidly understood online, relying on rich knowledge of how events unfold in our experience.

References

- Frisson, S., McElree, B., & Typarampil, P. (2005) Coercion without type-shifting: The role of the subject in enriched interpretations. Talk at AmLaP 2005.
- Frisson, S., & McElree, B. (2008). Complement coercion is not modulated by competition: Evidence from eye movement. *JEP: LMC*, 34, 1–11.
- McRae, K., & Matsuki, K. (2009). People use their knowledge of common events to understand language, and do so as quickly as possible. *Language and Linguistics Compass*, 3/6, 1417–1429.
- Pustejovsky, J. (1995). *The generative lexicon*. MIT Press.
- Pylkkänen, L., & McElree, B. (2006). The syntax-semantic interface: On-line composition of sentence meaning. In *Handbook of Psycholinguistics* (p. 537-577). Elsevier.
- Vespoor, C. M. (1997). *Contextually-Dependent Lexical Semantics*. Phd-thesis, University of Edinburgh.