

Logical metonymy: Disentangling object type and thematic fit

Alessandra Zarcone¹, Sebastian Padó²

¹alessandra.zarcone@ims.uni-stuttgart.de, ²pado@ims.uni-stuttgart.de

^{1,2}Institut für Maschinelle Sprachverarbeitung, Stuttgart, Germany

Many studies (e.g., Traxler et al. 2002) have compared reading times of entity- and event-denoting objects after metonymic verbs and found extra processing costs for metonymic combinations (*start + puzzle*) compared to nonmetonymic ones (*start + fight*), generally ascribed to type coercion (→ *solving the puzzle*). Recent work on German logical metonymy (Zarcone et al. 2012) suggests that thematic fit (*kid starts icing* → *eating* vs. *baker starts icing* → *spreading*) also significantly impacts reading times.

We want to separate the effects of thematic fit and type clash to evaluate whether the coercion cost triggered by type (mis)matches can be modulated by varying the thematic fit of the objects. We designed a self-paced reading study on German subordinate clauses with the sequence subject – auxiliary – object – adverb – metonymic verb. We cross the object type (entity / event) with its thematic fit with the subject (high / low):

Das Geburtstagskind hat **mit den Geschenken / der Suppe / der Feier / der Schicht** sofort angefangen, obwohl seine Mutter nicht da war.

The birthday child has **with the presents / the soup / the party / the shift** immediately started, although its mother was not there.

Traditional accounts predict a dominant effect of object, whereas a thematic fit-based account predicts an effect of thematic fit, regardless of type.

We found longer reading times at the object region for events (*)¹ and for low thematic fit objects (*). The effect of thematic fit (*) lingered at the adverb. At the verb, we found shorter reading times for events (*) as well as an interaction with thematic fit (*). At the V+1 region, where the coercion effect was traditionally found, we found an effect of type (**) and thematic fit (**), with the lowest processing costs for high thematic fit events.

In sum, contrary to the predictions of pure type-driven accounts, we find that coercion cost is modulated by the interaction between type and thematic fit: event objects with low thematic fit lead to extra processing costs despite the absence of a type clash.

Traxler, M. J., M. J. Pickering, and B. McElree (2002). Coercion in sentence processing: evidence from eye-movements and self-paced reading. *JML* 47, 530–547.

Zarcone, A., Padó, S., & Lenci, A. (2012). Inferring covert events in logical metonymies: a probe recognition experiment. *CogSci* 2012.

¹ ***: p<0.001; **: p<0.01; *: p<0.05