

Mass-count coercion in Icelandic: An ERP study Patrick Kelley

A recent ERP study (Whelpton et al., 2014) found no effect for mass-count coercion in Icelandic. It is unlikely that the process is too subtle to be detected because comparably subtle processes were reported in ERP studies of both complement and aspectual coercion (Baggio et al., 2009, Kuperberg et al., 2010, Paczynski et al., 2014).

To understand why mass-count coercion in Icelandic should have failed to elicit an ERP response, we looked at an eye-tracking study of English mass-count coercion (Frisson & Frazier, 2008). They found that an effect for coercion vanished when the noun was preceded by a numeral and argued that this alerted the parser to expect the imminent arrival of something countable, reducing the costs of coercion.

For mass-count coercion to occur in Icelandic, a mass noun is coerced to a countable sorts reading if it agrees in gender with the determiner *another*. *Annan kaffi* (another_{neut} coffee_{neut}) is interpreted as a different sort of coffee (Wiese & Maling, 2005). In Whelpton et al., *another* may have warned the parser to expect a countable object.

We sought to reduce the effects of predicting a count noun by inserting adverb-adjective modifiers between *another* and the to-be-coerced mass noun:

- (1) Viðskipta vinurinn heimtaði aðra ágætlega holla súpu í matinn
Business friend-the demanded another fine healthy soup for dinner
'The customer demanded another fine healthy soup for dinner'

This was contrasted with a 'neutral' transparently compositional condition in which the mass noun was replaced with a count noun.

It was expected that as the parser focuses on incorporating the incoming modifiers into a parse tree (cf., Lau et al., 2006), this would deflect its anticipation of a countable object. In Experiment 1, without modifiers, we replicated Whelpton et al.'s null result. In Experiment 2, with modifiers, we found an anterior negativity on the coerced noun between 450-750 ms, echoing the finding of Paczynski et al. for aspectual coercion. We explore the consequences of this finding for models of prediction in parsing.

Baggio, G., Choma, T., van Lambalgen, M., & Hagoort, P. (2009). Coercion and compositionality. *Journal of Cognitive Neuroscience*, 22, 2131-2140.

Frisson, S., & Frazier, L. (2005). Carving up word meaning: Portioning and grinding. *Journal of Memory and Language*, 53, 277-291.

Kuperberg, G.R., Choi, A., Cohn, N., Paczynski, M., & Jackendoff, R. (2010). Electrophysiological correlates of complement coercion. *Journal of Cognitive Neuroscience*, 22, 2685-2701.

Lau, E., Stroud, C., Plesch, S., & Phillips, C. (2006). The role of structural prediction in rapid syntactic analysis. *Brain and Language*, 98, 74-88.

Paczynski, M., Jackendoff, R., & Kuperberg, G. (2014). When events change their nature: The neurocognitive mechanisms underlying aspectual coercion. *Journal of Cognitive Neuroscience*, 26, 1905-1917.

Whelpton, M., Trotter, D., Guðmundsdóttir Beck, Þ., Anderson, C., Maling, J., Durvasula, K., & Beretta, A. (2014). Portions and sorts in Icelandic: an ERP study. *Brain and Language*, 136, 44-57.

Wiese, H., & Maling, J. (2005). *Biers, Kaffi, and Schnaps*: Different grammatical options for restaurant talk coercions in three Germanic languages. *Journal of Germanic Linguistics*, 17, 1-38.