



Anticipating animacy? An event-related potentials study on Polish sentence reading

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The idea that the brain actively predicts information in an unfolding sentence, basing on the preceding discourse hasn't been popular in most of the prevailing models of language processing (van Berkum, Brown, Zwitserlood, Kooijman, & Hagoort, 2005). The present study tests for this possibility. In an event-related potentials (ERP) experiment Polish subjects read stories that in the story-final sentence supported prediction of a direct-object that is either animate or inanimate (tested by a cloze-test). All the critical direct objects were masculine and consisted of an adjective, followed by a noun. To probe whether animacy/inanimacy of the direct object noun has been predicted at the preceding adjective, stories were continued with a gender-marked adjective that mismatched the upcoming noun's syntactic gender (that is, for contexts suggesting an animate direct object, adjectives with inanimate-masculine gender were presented, and vice-versa). This manipulation exploited a property of Polish, where in certain situations semantic animacy is reflected in the grammar (and this for example happens for masculine nouns expressed in accusative, the default case for direct object position). Adjectives with suffix inconsistent with the predicted animacy elicited an N400-like component, suggesting that the subjects indeed did predict properties of upcoming words in the discourse. This effect seemed to be carried only by these stories, which strongly supported prediction of a specific noun.

References:

- van Berkum, J. J., Brown, C. M., Zwitserlood, P., Kooijman, V., & Hagoort, P. (2005). Anticipating upcoming words in discourse: evidence from ERPs and reading times. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 31(3), 443-467.