

The Effect of Complexity on the Choice of a Complement Structure in a Subject Position. A Corpus-Based Study

Iverina Ivanova

In this talk, I will report the results from my current study, in which I investigated the Complexity Principle (CP), which posits that there is a correlation between syntactic explicitness and cognitive complexity, with the aim to determine whether complexity plays a role for the choice between finite (*that-cl*) and non-finite (*to-inf.*) complement clauses in a subject position (Rohdenburg 1996, p.151). To test the CP, I investigated which syntactic complexity predictors increase the probability of the syntactically more transparent clause (*that-cl*) and estimated their individual strength effect, as well as their interaction effect by using Bayesian regression models (Bürkner 2020). The analyzed complexity predictors include: *negation, passivization, modal verbs, noun modification, adverbial adjuncts, quantifiers, supplements, and the presence of embedded complement or adverbial clauses*. For all these predictors, there is empirical evidence showing that their presence makes the clause not only longer, but also more difficult to process due to the increased memory demand and interpretation effort (e.g., Dudschig & Kaup 2020; Mack et al. 2013; Tsiamtsiouris & Cairns 2013). The results from the present study not only provide corpus-based evidence to Rohdenburg's claim (1995) that the internal structural complexity is an inherent characteristic of finite complement structures, but they can also be used to fine-tune a small generative language model (SLM) on the strongest predictors of *that-clauses*, with the aim to improve the functional knowledge of a generative LM by augmenting it with the complexity factors which proved to have the strongest effects on the choice of a complement structure. In this talk, I will focus only on the results from the corpus-based study.

References:

- Bürkner**, Paul-Christian. 2020. brms. Bayesian Regression Models using 'Stan'. R-package version 2.12.0. Available at: <https://cran.r-project.org/web/packages/brms/index.html>.
- Dudschig**, C., & Kaup, B. 2020. Can we prepare to negate? Negation as a reversal operator. *Journal of Cognition*, 3(1), Article 32. <https://doi.org/10.5334/joc.119>
- Mack** JE, Meltzer-Asscher A, Barbieri E, Thompson CK. Neural correlates of processing passive sentences. *Brain Sci.* 2013 Aug 2;3(3):1198-214. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4061884/>
- Mondorf**, Britta. 2009. *More support for More-Support: The role of processing constraints on the choice between synthetic and analytic comparative forms*. Amsterdam & Philadelphia: Benjamins.
- Rohdenburg**, Günter. 1995. On the replacement of finite complement clauses by infinitives in English. *English Studies* 76(4). 367–388.
- Rohdenburg**, Günter. 1996. Cognitive complexity and increased grammatical explicitness in English. *Cognitive Linguistics* 7 (2). 149–182.

Romasanta, Raquel P. 2022. Negation as a predictor of clausal complement choice in World Englishes. *English Language and Linguistics* 26(2). 307–329.

Tsiamtsiouris, Jim & Helen Smith Cairns. 2013. Effects of sentence-structure complexity on speech initiation time and disfluency, *Journal of Fluency Disorders*, Volume 38, Issue 1, pp. 30-44.
<https://doi.org/10.1016/j.jfludis.2012.12.002>