

**ENTRENCHMENT VS. TRANSPARENCY. MODELLING THE
DUTCH STRONG-WEAK PAST TENSE COMPETITION IN AN
AGENT-BASED SIMULATION.**

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Typically, Germanic verb inflection falls apart into two main classes: strong and weak verb inflections. At present, the strong verb inflection system has lost most of its original transparencies and disintegrated into an intricate patchwork of distinct classes and irregularities (Haeseryn et al., 1997, pp. 87-94; Lieberman et al., 2007; Mailhammer, 2007). Yet, although the alternative “weak” inflection system – which also developed quite early - is much more transparent and highly productive, the strong verb inflection continues to show itself remarkably resilient. Not only has it resisted the strong regularization pressure of the weak verbs relatively well, it incidentally even shows some signs of expansion (Salverda, 2006, pp. 170-179).

In order to investigate how such an untransparent system can survive and even incidentally expand in a population, we have constructed an agent-based model of the competition between the strong and weak verb forms in Dutch. In our current model, the agents are embedded in a world of events, which they need to communicate to one another in a language game (Steels, 1995). These events are typically expressed by strong verbs in Dutch and their frequency correlates with the frequency of the verbs describing them in the Corpus of Spoken Dutch (CGN, cf. Van Eerten, 2007). The more often an agent

hears the strong or weak form of a particular verb, the more likely he is to use this form in a future game. While the agents start with an outspoken preference for the strong forms – corresponding to the current situation in Dutch – the weak forms benefit from being more transparent. That is, while the use of a strong form only affects its direct counterpart in the lexicon of the hearer, the use of a weak form also slightly raises the probability of all other weak forms in the hearer's lexicon due to the transparency of weak inflectional endings.

Although the current state of our model is too simple to accurately model the historical competition, it is our aim to ultimately compose a truly realistic model. To achieve this, we mean to go as far as possible in incorporating the vast body of knowledge already available on the strong-weak verb competition.

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