

Redesigning the Exploration of Semantic Dynamics – SSD Account in the Light of Regression Design

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The Semantic Settling Dynamics model (Armstrong & Plaut, 2016) postulated that the seemingly inconsistent effects of lexical ambiguity are in fact a systematic manifestation of the specific dynamics that arise as a consequence of the amount of time spent in processing. The model has thus far been tested by prolonging lexical decision and comparing homonymous, polysemous and unambiguous words in a factorial design. Here, we kept the strategy of task manipulation, but tested the model by using continuous measures as indices of the level of lexical ambiguity and their slopes as indices of the effect size. We expressed the size of the polysemy effect as the slope of the effect of entropy of sense probability distribution and the size of the homonymy effect as the redundancy of sense probability distribution. Comparing lexical decision tasks with the shorter and longer time spent in processing, we observed the predicted decrease in the effect of the polysemy level as well as the predicted increase in the effect of homonymy level.