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## Exploration mechanisms intrinsic to semantic networks and the nuanced appraisal of lexical repetition occurrences

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Semantic memory is responsible for storing knowledge of concepts or meanings in the long term. Based on the semantic network from the study by Goñi et al. (2011), we study the efficiency and performance of the network using the switching random walker model for different transition biases between nodes. Diffusion in the network is described by Markov chains, a process that allows the calculation of descriptive random variables such as average first-pass time and entropy rate. The MFPT and the entropy rate are very useful measures because they provide information about how reachable a node is on average from any other node, and the rate at which information can spread through the network. In addition, we designed a fluency test simulation model based on the changing random walker (SRW) where the relationship between short-term memory (STM), the number of repetitions and the flexibility of change is analyzed. STM was found to play an important role in verbal fluency performance, at least as it relates to verbal fluency tests.

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