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How word learning affects word representation

This project investigates a claim that information about the quality and stability of contexts is encoded in the mental representation of a word in the long-term lexical memory. In one experiment, we evaluated the influence of average concreteness, valence (positivity) and arousal of the contexts in which a word occurs on response times in the lexical decision task, age of acquisition of the word, and word recognition memory performance. Using large corpora and norming mega-studies we quantified semantics of contexts for thousands of words and demonstrated that contextual factors were predictive of lexical representation and processing above and beyond the influence shown by concreteness, valence and arousal of the word itself. Our findings indicate that lexical representations are influenced not only by how diverse the word's contexts are, but also by the embodied experiences they elicit. Another experiment presented readers with correctly spelled words that had more or less frequent homophones misspelled counterparts in a corpus of unedited English (e.g., commit vs. comit). In an eye-tracking sentence reading study, we demonstrated that correctly spelled words are identified with a greater effort if they have more frequent orthographic alternatives. We explain these findings from the standpoint of theories of learning, i.e. the presence of an alternative spelling weakens associations between the meaning and the correct spelling. Our minds store the history of word learning, and are influenced by the contexts in which it occurs and both successful and unsuccessful cases of word identification.