

Progressive demasking and typing time as indices of morphological and semantic effects during
English compound processing

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Despite the centrality of morphology and semantics to language processing, psycholinguistic research has not yet revealed precisely how language users make use of morphological structure, nor has it revealed the exact impact of semantic transparency on the processing of multi-morphemic words. A key empirical and theoretical question has centered on the extent to which various representations of the constituents are accessed during the processing of multi-morphemic words. Compound words (e.g., *doghouse*) offer an ideal test case for addressing this ongoing debate because the constituents of compounds are themselves words which have their own lexical and semantic representations, and because compounds vary in terms of semantic transparency (i.e., the extent to which the constituent's meaning contribute to the meaning of the compound). Furthermore, compound words are particularly useful in investigating these issues because compound interpretation necessarily involves the coordination of lexical, morphological, and conceptual information.

The stimuli in our experiments vary in terms of semantic transparency and were presented in a Progressive Demasking paradigm in which the stimuli is initially obscured then gradually becomes more visible. The dependent variable was the time to identify the word. After recognizing the word, participants typed the word as we recorded the inter-letter typing speed. If participants are sensitive to a word's morphological structure, then we should observe elevated typing times at the morpheme boundary (see Libben 2011). To illustrate, the typing time for the letter *h* in the word *doghouse* should be longer than for the preceding letters because it is the start of the second morpheme. To further evaluate the role of semantics, we briefly presented a prime word that was either semantically related or unrelated to the first constituent of the compound prior to the presentation of the compound. Our results indicate that Progressive Demasking recognition time and typing time reflect different aspects of compound structure: Recognition time is more strongly affected by semantic properties of the compound, whereas typing time is more strongly affected by morphology.