The effect of morphological structure on semantic transparency ratings

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Semantic transparency deals with the interface between lexical semantics and morphology. It is an important linguistic phenomenon in Chinese in the context of prediction of meanings of compounds from their constituents. Given prominence of compounding in Chinese morpho-lexical processes, to date there is no semantic transparency dataset available to support verifiable and replicable quantitative analysis of semantic transparency in Mandarin Chinese. In addition, the relation between semantic transparency and morphological structure has not been systematically examined. This paper reports a crowdsourcing-based experiment designed for the construction of a large semantic transparency dataset of Chinese compounds which includes semantic transparency ratings of both the compound and each constituent root of the compound. We also present an analysis of the effects of morphological structure on semantic transparency using the constructed dataset. Our study found that in a transparent modifier-head compound, the head tends to get greater semantic transparency rating than the modifier. Interestingly, no such effect is observed in coordinative compounds. This result suggests that compounds of different morphological structures are processed differently and that the concept of head plays an important role in the word-formation process of compounding. We advocate that crowdsourcing can be a highly instrumental method to collect linguistic judgments and to construct language resources in Chinese language studies. In addition, the proposed methodology of comparing constituent transparency and word transparency sheds light on the relation between morpho-lexical structure and cognitive processing of lexical meanings.

Keywords: Mandarin Chinese, constituent semantic transparency, compound word-formation, headedness, crowdsourcing