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論文題目(中文)：中文動詞之語意韻律處理：事件相關腦電位研究

論文題目(英文)：Semantic Prosody in the Processing of Mandarin-Chinese Verbs:
An ERP Study

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論文摘要

The meaning of a word is often denoted down as a firm explanation in a dictionary, with not much indication on its realistic use in an authentic language context. However, words tend to express more than the surface meanings, since words usually go hand in hand with some habitual close surrounds, and together they form a phrase-like constituent to imply a package of information. Such tendency in word patterning prompts the current study to approach the issue of word meaning through a phraseological analysis, which also leans towards *the idiom principle* (Sinclair, 1991). As *the idiom principle* puts it, meaning should arise from word patterns, not from word in isolation. An evidence for this hypothesis is the notion of *semantic prosody*, which states a transfer of semantic features onto the meaning of a word from that word's habitual collocates, yielding an epistemic or pragmatic reading imposed on the word.

In an effort to clarify how such “habitually co-occurring” relation may affect our semantic processing of word, this study aimed to examine the nature of semantic prosody from a cognitive neuroscience perspective, with an expectation to capture its online computation in word processing using the event-related brain potentials (ERP) technique. With two-character Mandarin transitive verbs as our stimuli, we anchored on the emotion aspect of semantic prosody, and employed a 3 x 2 factorial design based on two main factors: (1) Valence of target verbs (*Negative, Neutral, Positive*), and (2) Polarization of emotion in target verbs' habitual nominal collocates (*Highly emotion-polarized, Low emotion-polarized*). A set of target verbs from all six experimental conditions were: (a) 釀成 (negative-high), (b) 破壞 (negative-low), (c) 減輕 (neutral-high), (d) 配戴 (neutral-low), (e) 創造 (positive-high), and (f) 安撫 (positive-low). Note that we only presented the target verbs with the nominal collocates being invisible for our manipulation on “semantic prosody (i.e. valence-high)” and “absence of semantic prosody (i.e. valence-low)” conditions under each valence. The subjects' task was to judge the emotion valence of the verbs.

For the emotion processing in words, we found emotion effects in the N400 (300~450 ms) and the LPC (500~800 ms) time windows. First, smaller N400 amplitudes for the positive verbs compared to those of the neutral and negative ones were found, demonstrating easier semantic processing with words carrying positive

emotions. It also suggested the uniqueness of positive verbs, which may point to a general bias towards positivity in human (Kissler et al. 2006). In addition, enhanced LPC effects for the emotional (especially the positive) verbs were found, which may suggest that vivid mental images were activated, reflecting more active cognitive analysis on words with distinct negative and positive emotions. Furthermore, we also found stronger LPC responses in the right hemisphere, indicating right-hemisphere involvement in processing the affective content of words. As for the effects of semantic prosody, our experiment failed to find its online computation because no clear polarization effect (from the invisible collocates) on the processing of emotion was found. However, we did observe that the valence of the verbs may come from the valence of the high-frequency collocates. Thus, we argue that semantic prosody might have been gradually formed during the process when a speaker learns and uses the combination of the verb and its collocates, and is directly associated with the verb once it is consolidated.

In sum, our experiment revealed that, a Mandarin transitive verb bears emotion, and that this emotive information may come from the valence of its high-frequency collocates. It is hoped that the findings can help us improve the lexicography, or the way dictionary-writers denote Mandarin-Chinese words. Also it is highly anticipated that this study can give implications for language learning. We can suggest teachers, especially those who give lectures to Mandarin learners, the pedagogy of semantic prosody as one important section during the introduction of a Mandarin-Chinese word. In addition, that meaning of a word is not just a matter of all smaller semantic constituents being added together. Instead, since how a word is intended to mean will involve collocational factors and its habitual contexts (i.e. the phraseology principle of language), the epistemic or pragmatic knowledge is equally important in our correct conception of a word's meaning.