

### Abstract

This dissertation reports 9 eye-monitoring experiments investigating the time course of semantic activation in reading Chinese two-character words. Part I of this dissertation reports four experiments examining the relative time course of phonological and semantic activation in four eye-monitoring experiments (Experiments 1 to 4) with Chinese texts as stimuli. The basic manipulation was to change a critical character in a short passage to be its homophone, its synonym, or an unrelated control. Patterns of disruption caused by these contextually inappropriate characters were compared in order to reveal semantic and phonological activation from individual characters during reading for comprehension. The critical character was the first characters of a Chinese two-character word in Experiments 1 and 2 and was the second characters in Experiments 3 and 4. The results showed that regardless of whether the contextual appropriate character was restored when readers fixated on it (Experiments 2 and 4) or not (Experiments 1 and 3), there was no evidence of early phonological effects. In contrast, early semantic effects were found, especially when the critical character was the second character. These results suggest that semantic activation is earlier than phonological activation in reading Chinese two-character words. Part II of this dissertation reports five experiments examining the time course of lexical ambiguity resolution of constituted characters in the recognition of Chinese two-character words in five eye-monitoring experiments (Experiments 5-9). Experiment 5 found that fixation times for the second characters of words having polysemy first characters (e.g., 教會) were longer than fixation times for the second characters of words having monosemy first characters (e.g., 馬會). Experiment 6 found that the differences found in Experiment 5 disappeared when the second characters were substituted by pseudo-characters (e.g., 教襪 and 馬襪). Experiment 7

demonstrated that when only the character not being fixated was masked, there were more regressions to the first characters for reading words having polysemy first characters than for reading words having monosemy first characters. Experiments 8 and 9 found that fixation times for the second characters of words having polysemy second characters (e.g., 助教) were longer than fixation times for the second characters of words having monosemy second characters (e.g., 佛教), regardless of whether the character not being fixated was visible (Experiment 8) or masked (Experiment 9). These results are generally consistent with models that assume the dominant meaning of polysemy characters is accessed and used for integration before the complete access of the subordinate meaning. The role of phonology in semantic access of Chinese words, lexical ambiguity resolution in reading Chinese words, and the nature of Chinese language processing are discussed based on the results of this dissertation.