Eye Movement Evidence for the Effects of Word Boundary Cue When Reading Chinese

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The insertion or omission of inter-word spaces is used to investigate the role of word boundaries on reading performance. It has been argued that inter-word spaces in reading alphabetic languages improves reading performance by reducing the lateral inhibitory effects of the first and last letters of a word; inter-word spaces also provide word length information making words salient as the saccade targets. For language scripts without spaces, it has been shown that the insertion of inter-word spaces does not cause a significant disruption in reading performance. Bai, Yan, Liversedge, Zang, and Rayner (2008) suggested a mutual-offset hypothesis to explain the indifferences between reading spaced and unspaced Chinese sentences. That is, when inserting spaces between words, word processing is enhanced, but the unfamiliar spaced text causes certain interference. The effects cancel each other and result in the lack of differences between two conditions. However, the insertion of whole character spaces in their study might affect the quality of preview processing and increase the amount of oculomotor errors. The present study used frames to provide segmentation cues for the string of characters into four types of perceptual grouping (word, non-word, character, and full line) without changing the spatial layout of characters. The goals of this study are: 1. to investigate whether word or character is the meaning unit during reading Chinese; and 2. to examine the mutual-offset hypothesis. The results showed that words were the main process units during reading Chinese but characters may play a role at the early visual processing. Moreover, the analyses of the lag and successor effects examined the mutual-offset hypothesis and shed some light on the possible sources of interferences and benefits for providing word segmentation cues in reading Chinese.

Keywords: *Chinese word segmentation, word boundary, reading processing unit*