Beyond Phonology Matters in Character Recognition

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The structure of Chinese characters is quite different from that of the alphabetic system. This rendered for decades whether phonology plays a role in character recognition. This article reviewed previous studies over the past forty years on issues related to character recognition, including the lateralization effect in reading, phonological recoding, sub-lexical processing, and frequency effect. We then argued that only researches concerning frequency effect are beneficial for advancing further studies. Based on previous explorations of word frequency, European researchers in alphabetic languages have recently started to elaborate on the possible role of other statistic properties of linguistics in word recognition. Compared with China, Hong Kong and Singapore, Taiwan is equipped with a longer research history and has cultivated the most diversified linguistic corpus systems for the research on traditional Chinese language processing. Based on computations from available data base systems, it is obvious that character frequency covariates with the number of different words embedding that character. A character with higher frequency tends to combine with other characters to constitute more multi-character words. Furthermore, previous studies on character recognition have pointed out that occurrence frequency is the most important factor, with an effect size even larger than that of word recognition from studies on alphabetic languages. Hence, the present study focused on whether the frequency effect of a character confounds with or consists of its combinability with other characters to constitute different words. If the combinability of a character affects the recognition of that character, then we can infer that a structure of network knowledge about the inter-connection between characters and words plays a role in the recognition of characters and words. From this angle, many previous studies concerning neighborhood effect or sub-lexical character processing in Chinese word recognition would need to be re-evaluated. Some preliminary results were also provided to elucidate the authors' proposition.

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