Chinese Character Processing in the Brain

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In languages using an alphabetic writing system, the mapping between orthography and phonology is relatively transparent. That is, the readers are allowed to spell or "assemble" correct pronunciation for most words by the grapheme-to-phoneme rules. In contrast, in a logographic writing system such as Chinese, the pronunciation of a character is largely opaque. Although there are clues to pronunciation in most characters, they are unreliable at the beginning of learning to read. Thus, the pronunciation of each character must be learned individually, making the processing route from orthography to phonology to be different from that for alphabetic languages. Reading of visually complex writing systems such as Chinese has been proposed to rely on areas outside the classical left-hemisphere network for alphabetic reading. Here, however, we show that, once potential confounds in cross-cultural comparisons are controlled for by presenting handwritten stimuli to both Chinese and French readers, the underlying network for visual word recognition may be more universal than previously suspected. University and specificity of Chinese character processing will be discussed.