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# Looking downward to the future: Chinese minds eye in time space

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## Abstract

Westerners are reported to more often direct their eyes upward when thinking about the future and downward when conceptualizing the past. It is unknown whether this vertical space-time mapping is universally true. We studied Mandarin speakers gaze positions when they mentally displaced themselves for one minute into the past or future. Unlike westerners, Chinese directed their eyes more downward when conceptualizing the future than the past; such effects were not due to differences in emotion or thinking difficulty between the past and future. Another study of Chinese peoples eyes during sentence comprehension showed that participants had higher gazing positions when processing past-related sentences than when processing future-related sentences. These eye-gaze related correlates of a vertical mental timeline appeared earlier when processing sentences with space-time metaphors than with neutral time expressions. The differences between Chinese and westerners show that language and culture can shape peoples eye movements when processing time.