

Language and spatial frames of reference: The effect of verbal interference

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Abstract: People think about spatial frames of reference (FoRs) in accord with the spatial system of their native language. It has been claimed that this correlation reflects a causal influence of language on thought. We tested this claim. Earlier studies have shown that whereas English speakers favor an egocentric FoR, there is a pre-linguistic predisposition favoring a geocentric FoR. We reasoned that if language plays a central on-line role in spatial cognition, verbal interference should disrupt egocentric responding and reveal the underlying geocentric bias. We conducted a standard spatial rotation task on English speakers, with and without verbal interference. Under verbal interference, compared with no interference, we found less egocentric responding, as predicted, and an increase in error. However, in contrast with prediction, the amount of geocentric responding did not differ across the two conditions. These results suggest that language does not play an on-line role in overriding a geocentric bias.