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Does Language Comprehension Affect Visual Motion Perception?

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Abstract: What kinds of representations do people generate in the course of normal language processing? One possibility is that people invoke imagery in service of language comprehension. If so, might there be overlap between representations brought about by language and those brought about by perception itself? To examine this possibility, we compare the effects of viewing real visual motion to the effects of listening to stories depicting visual motion on the same subsequent perceptual task. Participants either view an upward or downward moving grating or listen to a story describing upward or downward visual motion. Following each motion stimulus, participants are asked to judge the direction of a field of moving dots. Viewing actual visual motion produces adaptation, making subjects more likely to see an ambiguously moving dot display as moving in the direction opposite the adapting motion. We investigated whether processing linguistic motion descriptions also affects subsequent perceptual motion judgments.