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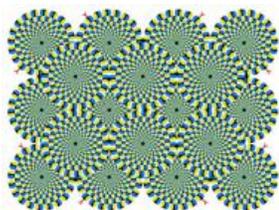
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Snakes swirl in blink (and jump) of an eye

Illusion emerges after tiny ocular movements

By Laura Sanders

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ENLARGE

Blinking and short, jumpy eye movements explain why stationary snakes appear to move in the Rotating Snakes illusion.

Akiyoshi Kitaoka

Tiny eye movements and blinking can make perfectly frozen snakes appear to dance, a new study shows. The results help explain the mystery of how the Rotating Snakes illusion tricks the brain.

Earlier studies have suggested that the perception of motion is triggered by the eyes drifting slowly away from a central target when viewing the illusion. But by tracking eye movements in eight volunteers, vision neuroscientists at the Barrow Neurological Institute in Phoenix found a different explanation.

Participants held down a button when the snakes seemed to swirl and lifted the button when the snakes appeared still. Right before the snakes started to move, participants began blinking more and making short jumpy eye movements called microsaccades, Jorge Otero-Millan, Stephen Macknik and Susana Martinez-Conde report in the April 25 *Journal of Neuroscience*. When volunteers' rates of microsaccades slowed down, the visual illusion faded and the snakes were more likely to stop moving.

The results join a growing number of studies that use magic tricks and illusions to reveal people's perceptual mistakes, such as seeing motion where there is none. Studying the mismatch between perception and reality may lead to a deeper understanding of the mind.

SUGGESTED READING :

L. Sanders. Specialis Revelio! Science News, Vol. 175, April 25, 2009, p. 22. Available online: http://www.sciencenews.org/view/feature/id/42623/title/Specialis_Revelio%21

CITATIONS & REFERENCES :

J. Otero-Millan et al. Microsaccades and blinks trigger illusory rotation in the "Rotating Snakes" illusion. *Journal of Neuroscience*, Vol. 32, April 25, 2012. doi: 10.1523/JNEUROSCI.5823-11.2012.