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The World's Best Illusion: The Secret of the Curve Ball

Devin Powell  
 Inside Science News Service  
 May 13, 2009

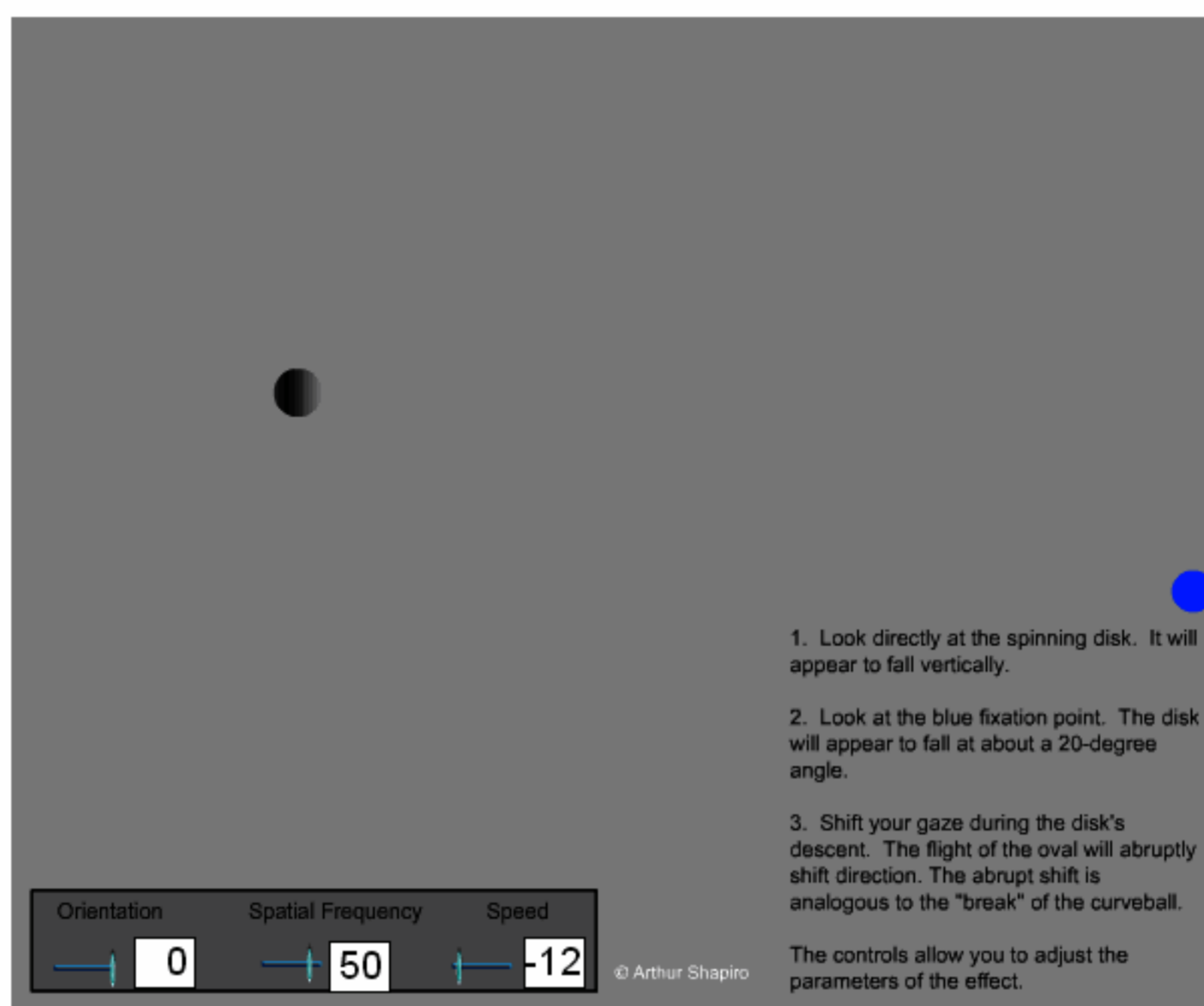
WASHINGTON, D.C. (ISNS) -- The three best visual illusions in the world weekend of neuroscientists and psychologists at the Naples Philharmoni

The winning entry, from a Bucknell University professor, may help explain why curve balls are so tricky to hit.

A properly thrown curve ball spins in a way that makes the air on one side move faster than the other. This causes the ball to move along a gradual curve. From the pitcher's perspective, curve balls seem to "break," or move suddenly in a particular direction.

This year's winning illusion, created by Arthur Shapiro of Bucknell University, helps explain this phenomena. His animation shows a spinning ball that, when viewed from the side, moves in a straight line. When seen out of the corner of the eye, however, the spin causes the ball to appear to be curving.

So as a baseball flies towards home plate, the moment when it passes from the pitcher's view to the batter's could exaggerate the movement of the ball, causing its gradual curve to appear as a sudden break.



In second place was an illusion of ghostly colors. Stare at a waterfall for 30 seconds. Then look at the still world around you will appear to flow. The effect is called an "aftereffect."

Scientists in Israel created a drawing of a sky with clouds that flashes red and green. When a dove flying across the sky seems to turn red seconds after the flash, showing how colors can linger in our vision and bleed into empty spaces.



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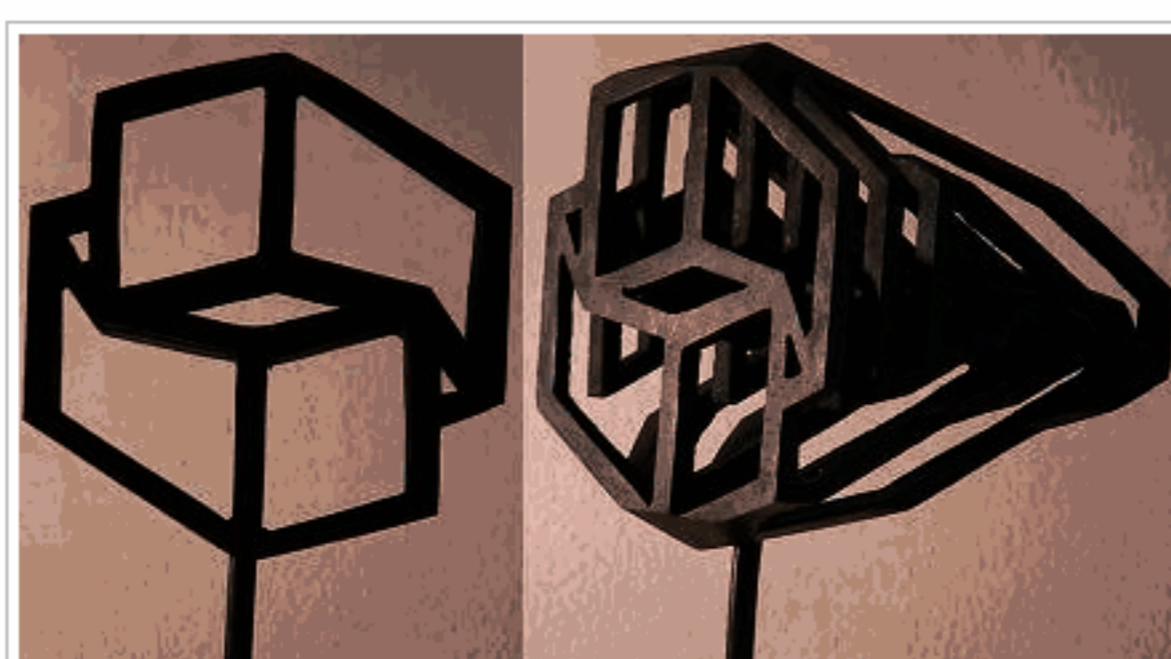


The third place award went to the pair of photographs below. One appears to be a male face, the other a female. Both faces actually belong to the same person, digitally altered by Richard Sengco at the University of Arizona. The dark parts of the photograph are a little darker and light parts are a little lighter. The subtle changes suggest that one way our brain decides if a face is male or female is by how strong the contrast is between features.



"Visual illusions show us where physical reality and our perceptions don't match. The brain is actually doing," says contest organizer Stephen MacKnik of the University of Arizona in Phoenix.

Shapiro's trophy, a sculpture created by Italian artist Guido Moretti, is a cube that changes shape depending on what angle it is viewed from.



The full illusions and the other finalists from the competition can be seen at <http://illusioncontest.neuralcorrelate.com/>

SOURCE: <http://www.aip.org/isns/reports/2009/051309visualillusion>