



“There's evidence that religion is losing its power in the U.S., as it has in other developed countries.”

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How your brain makes sense of your senses.

by Faith Brynie

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"Best Visual Illusion of the Year" Contest

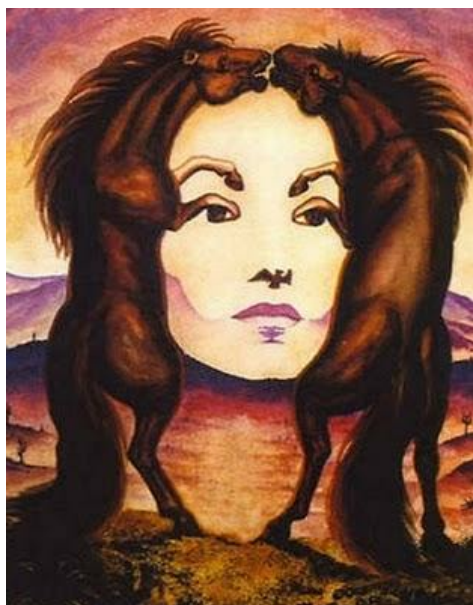
Visual Illusions teach us a lot about how the brain works.

Published on May 14, 2012 by Faith Brynie, Ph.D. in Brain Sense

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Faith Brynie, Ph.D. is a scientific and medical writer. She is the author of *Brain Sense* (Amacom, 2009). [more...](#)



Susana Martinez-Conde is director of the Laboratory of Visual Neuroscience at the Barrow Neurological Institute in Phoenix, Arizona. She studies visual illusions to gain a better understanding of how the brain constructs our visual experience. "A lot of people have the misconception that the visual system works like a camera," she says, "that it takes a picture or a film of what is actually happening. But what we perceive is actually very different from what's 'out there.' We process only a tiny amount of the information that enters our eyes, and even that is distorted [by our] memory, expectations, [and] assumptions."

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Susana Martinez-Conde.

Martinez-Conde says that many of the visual illusions that she has studied have come not from scientists but from artists. Consider a realistic painting. There is no depth to the two-dimensional image on the canvas, but the artist uses perspective, shadow, relative sizes, and other clues to make the brain perceive a three-dimensional scene.

"These principles work in art because they are the same principles that the brain follows in constructing our experience," says Martinez-Conde.

She has conducted experiments using a visual illusion created by Victor Vasarely, the founder of the op art movement. He painted squares one inside another, each varying in shades of gray from black to white. The illusion occurs at the corners, which appear brighter than the rest of the image, although in truth they are not.

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Martinez-Conde developed variations of this illusion using different shapes and corner angles. Then she asked volunteers to look at the different pictures and tell her where they saw light and dark. She also captured images of their brains at work on this task, using fMRI (functional magnetic resonance imaging). She found out that the brain's visual system responds more strongly to corners than it does to edges. The angle of the corner makes a difference, too. The sharper the corner, the more of the brain's visual attention it commands. (To see how Martinez-Conde investigated the nested squares illusion, click [here](#).) This illusion is more than a curiosity. It reveals a fundamental principle of vision that affects everything we perceive about shape and brightness. "It affects the whole way that we see," says Martinez-Conde.

To prove her point, Martinez-Conde organizes an annual "Best Illusion of the Year" competition. This year's contest happens today, May 14. This evening, over a thousand vision scientists and visual artists will join with the general public in the Naples Philharmonic Hall in Naples, FL. The audience will choose the top three winners from a preselected group of ten finalists, chosen by an international committee of impartial judges. Illusion researchers and artists from all over the world have submitted their latest creations: dozens of stunning visual illusions. The winners will take home a trophy designed by the acclaimed Italian sculptor Guido Moretti: the trophies are visual illusions themselves.

Today's event will be the eighth annual edition of the "Best Illusion of the Year" award program. Previous editions drew numerous accolades from attendees as well as international media coverage (*Wired*, *Forbes*, *Wall Street Journal*, etc). The contest's website receives more than 5 million hits a year. The event is hosted by the Neural Correlate Society, a nonprofit organization whose mission is to promote public awareness of neuroscience research and discovery.

For More Information:

Slights of Mind: What the Neuroscience of Magic Reveals about Our Everyday Deceptions, by Stephen L. Macknik and Susana Martinez-Conde with Sandra Blakeslee (Henry Holt, 2010).

[Illusion of the Year website](#).

Click [here](#) to see a slide show of 10 great illusions.

Click [here](#) for more information on today's events and to see 2011's winners.

Photo Credit: Horse-lady illusion from [visualillusionpictures.com](#).



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


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