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Magic Trick Sheds Light on Neuroscience with 'Cup and Balls' Experiment

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Catherine Griffin First Posted: Feb 12, 2013 12:24 PMEST




(Photo : Flickr/Ed Schipul) A magic trick may help shed a bit of light on human attention and visual systems, according to neuroscientists.


A magic trick may help shed a bit of light on human attention and visual systems, according to neuroscientists. A new study examined an old magic trick in order to better understand how people keep track of their surroundings.


Teaming up with Teller of Penn and Teller, researchers at the Barrow Neurological Institute


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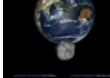
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teaming up with Teller or Penne and Teller, researchers at the Barrow Neurological Institute examined the magician's "cup and balls" routine, a trick that dates back thousands of years. The routine involves balls appearing and disappearing under the cover of cups. Their ultimate goal, of course, was to find out what exactly distracts a person while the illusion is being performed.

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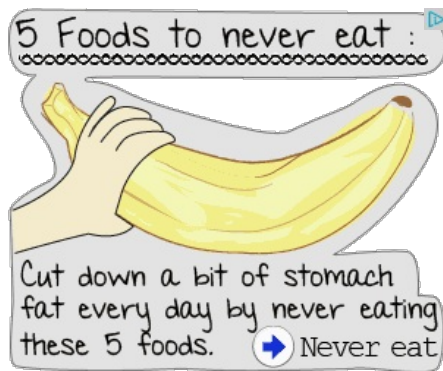
The researchers used seven volunteers and tracked their eye movements as they watched a tape of Teller performing his illusion. They were then given a remote and told to press one button every time the ball was removed from the cup and another button when the ball was replaced. In all, the viewers watched the magician perform the trick in 48 different ways--sometimes the cups would be clear instead of solid and other times the ball would be dropped or stuck to the cup, or not in the cup at all.

After the experiments were performed, the researchers examined the results. They found that the common belief held by magicians that facial cues

direct attention was wrong. Covering the face of the magician, for example, had no effect on where participants thought the ball actually was. And eye movements didn't accurately track what people were actually paying attention to, either.

So what does this mean for scientists? It allows them to learn how people pay attention to others and objects by means of eye-gazing, pointing or other verbal and non-verbal signals. In fact, it could allow neuroscientists to better understand people with conditions such as autism that have problems with maintaining this kind of attention.

The study was published in the inaugural issue of the journal [PeerJ](#).



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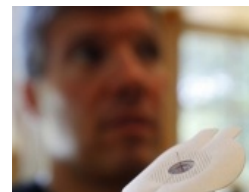


Asteroid Mining Company Will Help to Detect and Deflect Them



Tracking and Surveillance System-Demonstrator satellite in low earth orbit in this artist's rendering.

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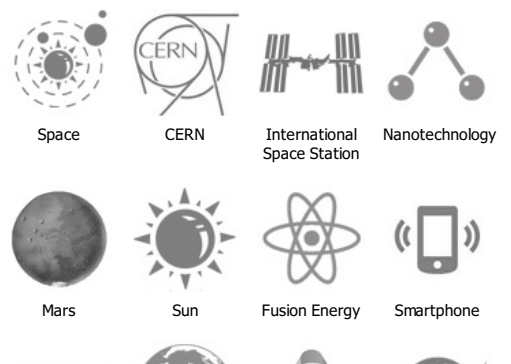


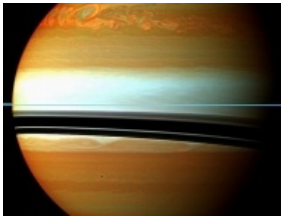
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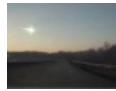
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The mystery behind Saturn's moonlets has finally been unlocked, according to scientists.



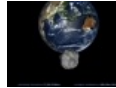
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Asteroid to Come Within Record Distance From Earth Friday

The asteroid 2012 DA14 is set to pass Earth Friday at a recording-breaking distance of roughly 17 miles – lower than most communication and television satellites.

Health & Medicine News



FDA Approves Device that Offers Vision to Blind

The blind may be able to see again with a device approved by the FDA.



Birth: 99 Percent of Sexually Active Women in U.S. Prefer Condoms as Birth Control Method

When choosing a birth control method, condoms still take the cake for number one usage in America according to reports.



Neutering Makes Dogs Vulnerable to Cancer and Joint Disease

According to a latest study by researchers at the University of Davis, the age at which the dog is neutered is important, as it may increase the risk of developing cancers and joint disease.



Broken Heart Syndrome: Stress Cardiomyopathy Can Cause Death

On Valentine's Day, the last thing you want to be doing is suffering from the loss of a loved one or a recent break up.



Counterfeit Avastin: FDA Warns Of New Batch Of Fake Cancer Drug

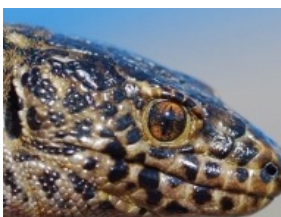
The Food and Drug Administration is warning doctors about another counterfeit version of the cancer drug Avastin distributed in the U.S., the third case involving the best-selling Roche drug in the past year.



V-Day: Kegel Exercises Help Create More Valentine's Day Friction (VIDEO)

If you're hoping to get some action going in the bedroom this Valentine's Day with your partner, don't worry about a low libido.

Environment News



A Fifth of World's



Meteor Shower Causes Havoc, Injures Hundreds of People

Russia has been hit by a meteor shower triggering sharp explosions and injuring more than 400 people, reports USA Today.



Neutering Makes Dogs Vulnerable to Cancer and Joint Disease

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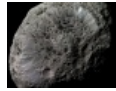
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and joint disease.



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Climate Change Creates Massive Financial Risks for Government: GAO

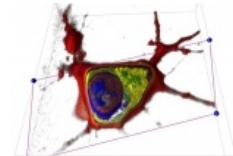
Climate change may create massive financial risks for the federal government, according to a new report.

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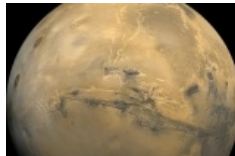
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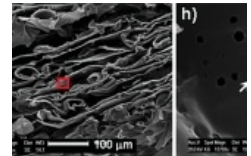
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