CultureLab

Where books, arts and science collide

Magic and the brain

15:46 22 November 2010

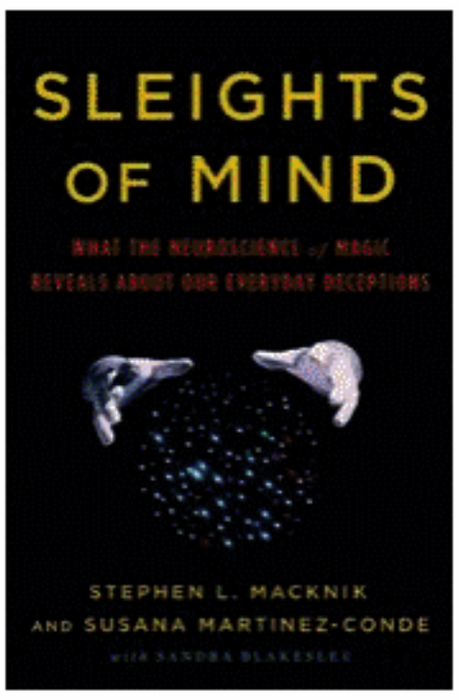
Books

(Image: Nickola Muray/Getty)

Sleights of Mind is a fascinating look at a new branch of cognitive research: "neuromagic"

MAGIC, it mystifies and captivates us. We shake our heads in disbelief as coins are conjured out of thin air, as cards are mysteriously summoned from a pack, and as the magician's assistant vanishes before our eyes. Of course, there is no such thing as "magic", so how does magic work? It's a question that neuroscientists like Stephen Macknik and Susana Martinez-Conde are trying to answer. In the process they have conjured up a new branch of cognitive research called neuromagic.

From misdirection and the magical practice of "forcing", to mirror neurons and synaptic plasticity, *Sleights of Mind* is a spellbinding mix of magic and science. The authors invite us to sip this heady potion as they show us how understanding the myriad ways in which the brain is deceived by magic may solve some of the mysteries surrounding how it works.



"Magic tricks fool us because humans have hard-wired processes of attention and awareness that are hackable," say the authors. Magicians use your mind's intrinsic properties against you. In a magical feat of their own, the authors persuaded magicians such as James Randi and Teller from the Las Vegas headline act Penn and Teller to deconstruct tricks so that Macknik and Martinez-Conde could later attempt to reconstruct what is going on inside your head "as you are suckered".

Magic, say the neuroscientists, could reveal how the brain functions in everyday situations such as shopping. However, it is a stretch to believe, as the authors do, that if you've bought an expensive item you never intended to buy, then you were probably a victim of the "illusion of choice", a technique magicians use to rob their dupes of genuine choice.

The magician toys with us when he appears to put a coin into his right hand, closes it, waves his left over it, and then opens the right. The coin, which we feel must still be there, has "vanished". He makes us experience the impossible by disrupting the expected relationship between a cause and its effect.

What we see, hear and feel is based on what we expect to see, hear and feel due to our experiences and memories. When these expectations are violated the brain takes more time to process data or our attention focuses on the violation. Success or failure for magicians relies on their skill in diverting our attention away from the method and towards the magical effect.

Great magicians, through countless hours of practice, manipulate our attention, memory and causal inferences, using a bewildering combination of visual, auditory and tactile methods. The greatest magic show on earth, though, is the one happening in your brain.

Our other blogs

Short Sharp Science
CultureLab
New Scientist TV
The S Word
Big Wide World

Bookmark&share

Categories

Art
Books
Competitions
Dance
Events
Exhibitions
Film
Games
Housekeeping
Interviews
Music
Storytelling 2.0
Television
Theatre

follow us

Twitter updates

Short Sharp Science: Today on New Scientist: 30 November 2010 http://bit.ly/gIlQUL about 4 hours ago

Flash fictioneers! Huge response to our contest means it's taking a bit longer than planned to draw up shortlist - nearly done now though about 4 hours ago

Papal advisers urge support for genetically modified crops http://bit.ly/f8gPAG #GMpope about 5 hours ago