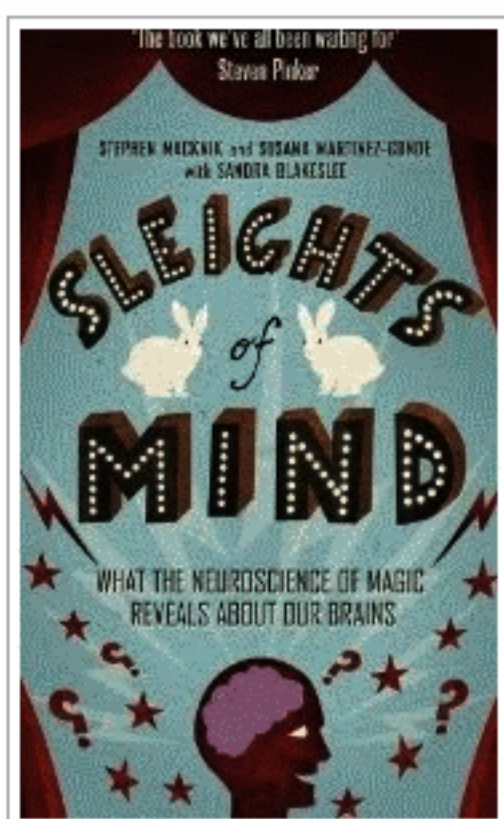


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➤ Sleights of Mind



A fascinating look at a new branch of cognitive research: "neuromagic"

Sleights of Mind: What the neuroscience of magic reveals about our everyday deceptions by Stephen L Macnik, Susana Martinez-Conde and Sandra Blakeslee

New Scientist, 20 November 2010

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 that 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 the magician relies on his 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.



ABIT ABOUT ME...

Manjit Kumar
For a while I published and edited a journal called Prometheus that covered the arts and sciences. I am the co-author of Science and the Retreat from Reason, which introduced key areas of modern science while defending notions of social progress and scientific advance. Published in 1995, it was critically acclaimed as a 'corrective to the hype', 'thought-provoking', and 'undoubtedly one of the best introductions one can find to the crisis of confidence within science itself'. I wrote Quantum: Einstein, Bohr and the Great Debate about the Nature of Reality. Published in the UK by Icon Books, it was in 2009 shortlisted for the BBC Samuel Johnson Prize for Nonfiction and longlisted for the Royal Society Science Book Prize. Published in the USA by Norton it has also been translated into a number of different languages. You can find out more about Quantum via link below. With the odd exception, this site is an archive of articles and book reviews that I have written since July 2010. Note that copyright belongs to the publications in which the articles and reviews originally appeared.

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