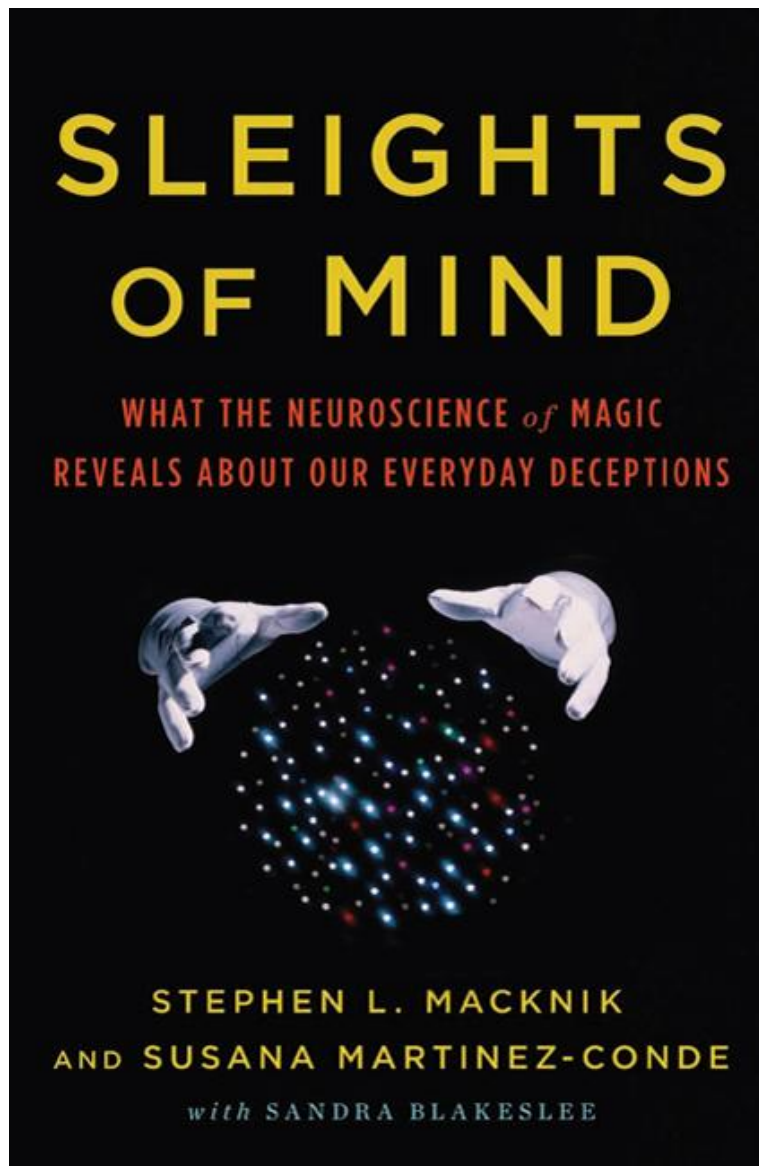


The Crossroads of Magic and Science

Review: *Sleights of Mind: What the Neuroscience of Magic Reveals About Our
Everyday Deceptions*

By Rob Teszka



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I performed magic for tables at gala dinners when I was in high school, but I quit when I went to university. I studied psychology and cognitive science and found that my background in magic informed my interest in the failings of the cognitive system and the illusions it can experience. This area of crossover must also have inspired authors Stephen L. Macknik and Susana Martinez-Conde when they saw magicians performing in Las Vegas.

Sleights of Mind begins with an anecdote about these two authors watching magic shows and realizing that magicians are the ultimate experimental psychologists. From there, the book describes a magician's performance, then discusses important concepts and findings of cognitive psychology. Along the way, we learn the methodology behind several magic tricks (in carefully labeled spoiler sections, to keep within the magician's code of never unwittingly giving away a secret) and go off on a few entertaining tangents, including the authors' audition for the prestigious Magic Castle magicians club in Los Angeles.

The book is a grand tour of the basics of cognitive psychology and the strange world of the magician. Macknik, Martinez-Conde, and Sandra Blakeslee begin by discussing visual illusions, where what you think you see is not what is actually there. They discuss why the Mona Lisa's smile is so enigmatic and reveal how self-proclaimed telepath Uri Geller bends spoons with his mind—and how magician and skeptic James Randi has exposed Geller as a charlatan. Throughout, they describe performances with such a “gee-whiz!” attitude that you can't help but share their enchantment and glee.

They go on to the material that I find the most interesting: cognitive illusions. The charming pickpocket Apollo Robbins cleans out a mark's pockets; the madman magician Juan Tamariz holds a coin in the palm of his hand right in front of you and it may as well be invisible. It's the ability to manipulate and hold attention that really makes sleight-of-hand magic possible (or should I say impossible?). When you focus on my face, I can put your card beneath the wineglass right under your nose, for later surprise discovery. That scenario holds a lot of information: Why do you look at me when I look at you? The phenomenon of joint attention is holding your gaze. Why don't you see the card or the wineglass move? The spotlight of attention

is limited—like Daniel Simons’ famous experiment shows, if you’re counting the passes between basketball players, [a gorilla](#) could walk right in front of you and you wouldn’t notice. There are many more questions: Does the magician's patter make a difference? Are some people more susceptible to misdirection than others, and if so, why? Can we use magic as a tool to design studies that investigate phenomena previously thought impossible to control, such as what information a participant has visual access to? The ability to mold attention is a particularly rich vein to be mined.

Those aren’t the only aspects of magic that grab the imagination. The authors describe James Randi’s successful prediction of a word secretly chosen out of a magazine by an audience member before the show —and the lengths to which Randi goes to avoid reconstruction of the method afterwards. Elsewhere, in an amazing study, experimenters who forced a particular choice on participants found that people still believed they made the decisions themselves.

An entertaining story about magician and comedian Mac King dropping a giant rock out of his shoe leads into a discussion of how our assumptions and expectations can be wrong, and manipulated. Here I found that the connections between magic and research weren't very clear. Few of the cited studies focused on the specific behavior in the trick; the researchers investigated a similar or related behavior. The authors describe the research with the same enthusiasm as they describe the magic, but otherwise the connections are tricky.

The writers chose an extremely informal style for the text. It’s conversational and filled with colloquialisms and humorous asides. This goes well with the anecdotal narrative that strings the chapters together, but it is very jarring when they switch to more academically minded language. In one chapter they say that our saccades—quick, constant eye movements—are “darting around the world like a hummingbird on meth.” Just a few sentences later, they note that “when conditions remain static, your neurons adapt by slowing their firing rate.” Boxes that demonstrate magic tricks or tell more anecdotes about the authors’ personal experiences are interesting but sometimes interrupt at odd points in the text. All these things combine to make for

a fairly disjointed narrative that sometimes feels like it's lurching from one topic to the next as it fancies—just like that hummingbird.

Notice that I keep mentioning cognitive psychology rather than the neuroscience that is specified in the subtitle of the book: “*What the Neuroscience of Magic Reveals About Our Everyday Deceptions.*” Throughout, there's not much of what I would normally call neuroscience: relating people's behavior or cognition to what's going on in the brain. The authors claim that they are marking out the new discipline of “neuromagic” and that they are making neuroscience accessible. The authors do briefly discuss mirror neurons in the context of how we perceive and understand other people's actions, and there are smatterings of edge detection in the visual system and of neurons adapting to constant, unchanging input. But even though the authors say they are using research in cognitive neuroscience, the vast majority of the research covered was behavioral. There's nothing wrong with that—I think it's the right way to go—but one could say that the book is misleading in claiming that it links magic to neuroscience.

I very much enjoyed reading *Sleights of Mind*. The authors' personal anecdotes reminded me of my introduction to these topics via magic, and their descriptions of magicians and their methods were fascinating. However, too often the link between magic and research was entirely anecdotal; the reader can be left wondering how tricks and concepts are related. The book is most interesting as a look behind the scenes into magicians and their methods, and I suspect that readers who stay until the end will be interested more in magic than in neuroscience.

Rob Teszka has a B.Sc. in cognitive systems from the University of British Columbia in Vancouver, Canada. After working for a year at the university's Brain and Attention Research Lab and co-hosting Radio Freethinker on radio station [CiTR](#), he moved to England to pursue an M.Sc. in cognitive and decision sciences at University College London. Teszka is a former magician, vocal skeptic, and science promoter who blogs at [Mind Factory](#) and tweets [@RobMagus](#).