Sleights of Mind: What the Neuroscience of Magic Reveals about Our Everyday Deceptions

Stephen Macknik, Susana Martinez-Conde, Sandra Blakeslee
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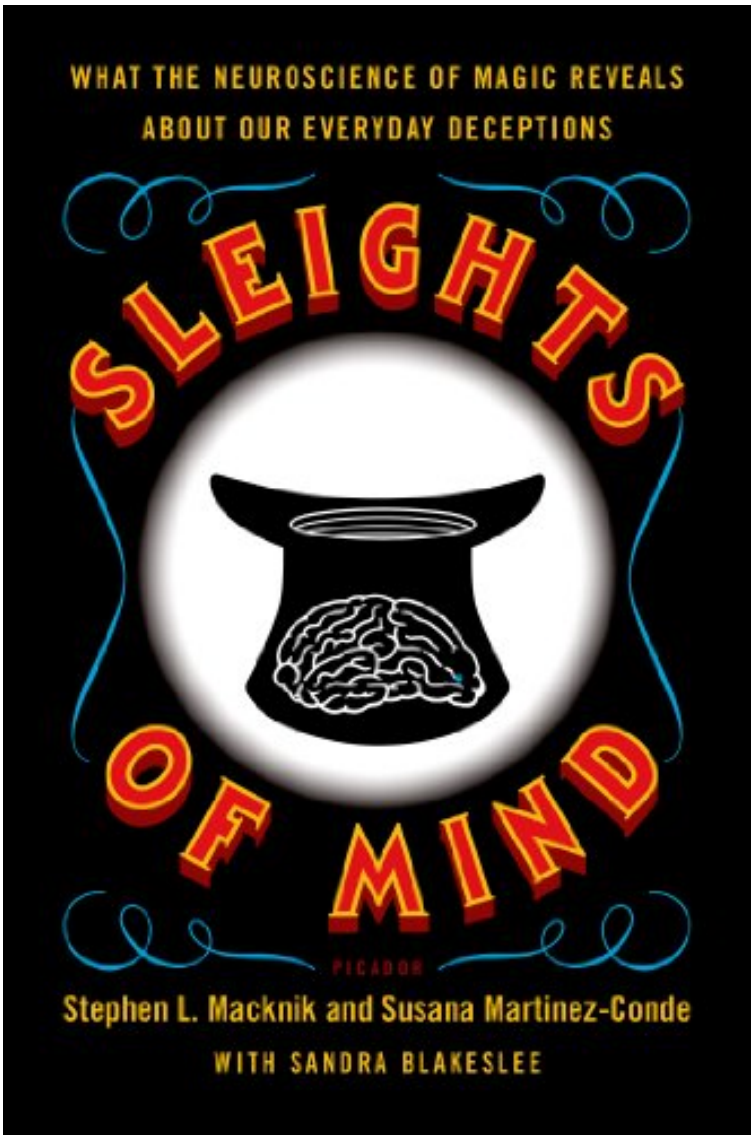

#90460 in Books Macknik Stephen L 2011-11-22 2011-11-22Original language:EnglishPDF # 1 9.32 x .83 x 6.16l, .84 #File Name: 0312611676291 pagesSleights of Mind | File size: 27.Mb

Stephen Macknik, Susana Martinez-Conde, Sandra Blakeslee : Sleights of Mind: What the Neuroscience of Magic Reveals about Our Everyday Deceptions before purchasing it in order to gage whether or not it would be worth my time, and all praised Sleights of Mind: What the Neuroscience of Magic Reveals about Our Everyday Deceptions:

13 of 13 people found the following review helpful. Will Alter Your Sense of How You Perceive the WorldBy Osmun

R. LatrobeIf you are the type who is interested in how the mind perceives its world, this is an essential book. It was written by two psychologists who venture to find out how magic works from a neurological point of view. Through the explanation of several artful magic illusions, it describes how our brains process our sensory information, and how those senses can be deceived by very simple artifices. As one who both professionally and personally has great interest in our ability to properly perceive what is going on around us, I was fascinated. If epistimology is your interest, then this book is a Must Have.It was as paradigm changing as Umberto Ecco's Foucault's Pendulum, albeit in a more direct and to the point fashion.i4 of 4 people found the following review helpful. Magic explained from a social scientific perspectiveBy JaysonI'm about halfway through the book right now, so you can take my review for what it's worth. Overall, the writing is clear and interesting--not over the heads of non-scientist types, but not so elementary as to gloss over the nuances that scientific discovery have brought to light. The book necessarily spoils some of the secrets of many tricks in order to illustrate how the magicians' efforts align with neuroscientific and psychological concepts and principles. To be sure, the authors provide fair warning to readers with "spoiler alerts" each time they reveal a trick's secret, and they offer the reader the chance to skip these parts. However, to skip these parts is to skip reading two-thirds of the book's content, and this might not be acceptable to readers who are interested in getting their money's worth from the books they purchase. So long as the reader is okay with learning some magic secrets and some very well-documented research that explains how these secrets make the tricks so effective, then by all means give it a read. The authors are highly acclaimed neuroscientists who have solid grounding in neuro- and social scientific research. Moreover, the authors are magic enthusiasts themselves, and in the course of preparing the book they have rubbed elbows with many of the world's finest magicians (who happily lend the authors perspective and instruction). Audiences who would enjoy this book include social scientists, anyone interested in persuasion and compliance gaining (especially learning how others can exploit the brain's natural tendencies for entertainment and/or personal gain), and, of course, anyone interested in magic.0 of 0 people found the following review helpful. Deep Science, Broadly EntertainingBy S. TemkinWell-written and understandable lowdown of how magicians hack the human brain's fallibility in areas of attention, memory, vision, and inability to multitask efficiently, and reveals some usually well-guarded magic performance secrets in a way that does not ruin the tricks for laymen, but instead increases respect for the discipline these performers bring to their art.

Stephen Macknik and Susana Martinez-Conde, the founders of the exciting new discipline of neuromagic, have convinced some of the world's greatest magicians to allow scientists to study their techniques for tricking the brain. The implications of neuromagic go beyond illuminating our behavior; early research points to new approaches for everything from the diagnosis of autism to marketing techniques and education. Fun and accessible, Sleights of Mind is "a tour through consciousness, attention, and deception via the marriage of professional magic and cognitive neuroscience" (Vanessa Schipani, The Scientist).

Sleights of Mind makes brain science so much fun, you'll swear the authors are as clever as Houdini. Scientific American Book ClubMagic is the place where our senses and beliefs fail us in magnificent ways. In this exciting book Stephen, Susana, and Sandra explore what magic and illusions can teach us about our fallible human nature--coming up with novel and fascinating observations. Dan Ariely, author of Predictability IrrationalSteve and Susana are two of the most innovative scientists I know. They aren't content to just conduct elegant experiments (although they do plenty of those, too). Instead, they're determined to explore those places where neuroscience intersects the mysterious and the magical, from visual illusions to Vegas card tricks. This book doesn't just change the way you think about sleight of hand and David Copperfield - it will also change the way you think about the mind. Jonah Lehrer, author of How We Decide and Proust Was A Neuroscientist.I've long wished that there was a book that explained the art of magic from the point of view of cognitive neuroscience. Magic is a goldmine of information about the brain, as well as a source of fascination to laypeople. This is the book we've all been waiting for. Steven Pinker PhD, author of The Stuff of ThoughtThis is a highly original book. Science and magic have much in common. They both take seemingly inexplicable events and provide elegantly simple answers that enthrall the observer. The authors have done an admirable job in exploring this idea and also suggest ways in which the two disciplines can cross fertilize each other. VS Ramachandran MD PhD, author of Phantoms in the BrainStephen Macknik and Susana Martinez-Conde's Sleights of Mind gives non-magicians a real up-close look at the true secrets of magic. They are revealing the real knowledge jealously guarded by all great performers...I know my fellow magicians are all going to be as jazzed as I am to read about how sophisticated magical techniques and state-of-the-art brain science combine. Mac King, headliner, Harrah's Las VegasIn Sleights of Mind, authors Stephen Macknik and Susana Martinez-Conde persistently remind us that the human mind is a bad data-taking device. And it's this fact that enables the science of magic to exist at all. Neil deGrasse Tyson, author of The Pluto FilesThe authors make easily comprehensible the effects of neural adaptation, afterimages, occlusion, perspective, saccades, inattentional blindness, expectations and the pliability of memory...Entertaining. KirkusIn their illuminating book, brain experts Martinez-Conde and Macknik make their case that magicians are some of the most skilled neuroscientists around...By tricking readers into having fun learning

neuroscience, the authors bring the newly minted field of "neuromagic" to center stage. Laura Sanders, Science NewsThis book offers 'a revolutionary look a the science behind magic--what leads the mind to believe tricks are real and how magicians actually use the brain's own logic to acheive this.' Phillip Manning, Science Book NewsIf you want to learn more about "neuromagic," take a peek at Macknik and Martinez-Conde's most recent book. It explains how they've investigated the tricks of some of the world's greatest magicians to find out how the brain works in everyday situations. It's a great read whether you're passionate about brain science, magic, or both! Odyssey Magazine (Editor's Choice)About the AuthorStephen L. Macknik, Ph.D., is Director of the Laboratory of Behavioral Neurophysiology at the Barrow Neurological Institute in Phoenix, Arizona. Susana Martinez-Conde, Ph.D., is Director of the Laboratory of Visual Neuroscience at BNI. Sandra Blakeslee is a regular contributor to "Science Times" at The New York Times who specializes in the brain sciences, and the author of several books.Excerpt. Reprinted by permission. All rights reserved.INTRODUCTIONCLARKE'S THIRD LAW: "Any sufficiently advanced technology is indistinguishable from magic."NIVEN'S LAW: "Any sufficiently advanced magic is indistinguishable from technology."AGATHA HETERODYNE ("GIRL GENIUS") PARAPHRASE OF NIVEN'S LAW: "Any sufficiently analyzed magic is indistinguishable from science!"Have you ever wondered how magic effects work? Coins materialize out of thin air. Cards move through a deck as if pulled by an invisible force. Beautiful women are cut in half. Spoons bend. Fish, elephants, even the Statue of Liberty disappear before your eyes. How does a mentalist actually read your mind? How can you not see the gorilla in the room? Really, how can someone catch a bullet in his teeth? How do they do it?Don't bother to ask a conjurer. When joining an organization of professional magicians, the initiate may be asked to take an oath: "As a magician I promise never to reveal the secret of any illusion to a nonmagician, unless that person also swears to uphold the magicians' oath. I promise never to perform any illusion for any nonmagician without first practicing the effect until I can do it well enough to maintain the illusion of magic." It is a code. A brotherhood. The magician who breaks this code risks being blackballed by his fellow magicians.So what are we, a couple of muggles, doing writing a book on magic? Zipped lips aside, hasn't most everything about magic been revealed? Enter "magic" in the Books search box and 75,000 results pop up. Log in to YouTube and you can see just about every magic trick ever devisedoften demonstrated by darling seven-year-olds in their bedrooms with Mom or Dad wielding the videocam. Visit Craigslist and choose from myriad charming descriptions of local amateur magicians. What's left to say?Actually, plenty. This is the first book ever written on the neuroscience of magic, or, if you will, neuromagic, a term we coined as we began our travels in the world of magic.[1] Much has been said about the history of magic, tricks of the trade, the latest props, and psychological responses to magical effects. But neuroscience probes more deeply. We want to pop the hood on your brain as you are suckered in by sleights of hand. We want to explain at a fundamental level why you are so thoroughly vulnerable to sleights of mind. We want you to see how deception is part and parcel of being human. That we deceive each other all the time. And that we survive better and use fewer brain resources while doing so because of the way our brains produce attention.Like so much that happens in science, we fell into magic by accident. We are neuroscientists at the Barrow Neurological Institute in Phoenix, Arizona. The BNI is the oldest stand-alone neurological institute in the United States and currently the largest neurosurgical service in North America, performing more than six thousand craniotomies per year. Each of us runs a research laboratory in the institute. Stephen is director of the laboratory of behavioral neurophysiology. Susana is director of the laboratory of visual neuroscience. Incidentally, we are married. Both of us are primarily interested in how the brain, as a device that is made up of individual cells called neurons, can produce awareness, the feeling of our first-person experience.[2] Somehow, when neurons are hooked up to each other in specific circuits, awareness is achieved. It's the ultimate scientific question, and neuroscience is on the verge of answering it.Our foray into illusions began a decade ago when, as young scientists seeking to make a name for ourselves, we tried to rustle up some public enthusiasm for our specialty of visual neuroscience. In 2005, after accepting faculty appointments at BNI, we organized the annual meeting of the European Conference on Visual Perception, which was held in Susana's hometown of A Corua, Spain. We wanted to showcase visual science in a new way that would intrigue the public and the media. We were fascinated with how science can explain something about the visual artsfor example, Margaret Livingstone's work on why the Mona Lisa's smile is so ineffably enigmatic. We also knew that visual illusions are fundamentally important to understanding how the brain turns raw visual information into perception.The idea we came up with was simple: we would create the Best Illusion of the Year contest. We asked the scientific and artistic communities to contribute new visual illusions and received more than seventy entries. The audience (a mixture of scientists, artists, and the public) viewed the ten best illusions and then chose the top three. The contest, now in its seventh year, has been a huge success. Our Internet audience doubles every year, and our Web site (http://illusionoftheyear.com) currently has about 5 million page views each year.Because of our success with the illusion contest, the Association for the Scientific Study of Consciousness asked us to chair its 2007 annual conference. The ASSC is a society of neuroscientists, psychologists, and philosophers united in the aim to understand how conscious experience emerges from the interactions of mindless, individually nonconscious brain cells.As our opening move, we proposed holding the conference in our hometown of Phoenix, but the association's board nixed that right away because the city is an inferno midyear. Instead, they suggested . . . Las Vegas. Hmmm. Las Vegas is every

bit as blisteringly hot in June as Phoenix, and if you take the lap dancing, gambling, and showgirls into account it is probably several degrees hotter due to friction. So apparently our colleagues in consciousness studies were looking for a bit of real excitement to spice up their thought experiments.So Vegas it was. We flew there in October 2005 to do some scouting. On the flight over we asked ourselves: How could we raise the visibility of consciousness research to the public? We didn't want to do another contest. The answer began to germinate the moment our plane dipped its wings on approach to the Las Vegas airport. Out the window we could see, all at once, the Statue of Liberty, the Eiffel Tower, an erupting volcano, the Space Needle, the Sphinx, Camelot, and the Great Pyramid. Soon we were driving up and down the Strip, checking out hotels for our meeting space. We passed Aladdin's castle, the Grand Canal of Venice, and Treasure Island. It seemed too strange to be real. Then, bingo: the theme for our conference appeared. Festooned on billboards, taxicabs, and buses were huge images of magicians: Penn Teller, Criss Angel, Mac King, Lance Burton, David Copperfield. They stared out at us with mischievous eyes and beguiling smiles. And then it hit us that these tricksters were like scientists from Bizarro Worlddoppelgngers who had outpaced us real scientists in their understanding of attention and awareness and had flippantly applied it to the arts of entertainment, pickpocketing, mentalism, and bamboozlement (as well as to unique and unsettling patterns of facial hair).We knew as vision scientists that artists have made important discoveries about the visual system for hundreds of years, and visual neuroscience has gained a great deal of knowledge about the brain by studying their techniques and ideas about perception. It was painters rather than scientists who first worked out the rules of visual perspective and occlusion, in order to make pigments on a flat canvas seem like a beautiful landscape rich in depth. We realized now that magicians were just a different kind of artist: instead of form and color, they manipulated attention and cognition.Magicians basically do cognitive science experiments for audiences all night long, and they may be even more effective than we scientists are in the lab. Now, before our in-boxes fill up with flames from angry colleagues, let us explain. Cognitive neuroscience experiments are strongly susceptible to the state of the observer. If the experimental subject knows what the experiment is about, or is able to guess it, or sometimes even if she incorrectly thinks she has figured it out, the data are often corrupted or impossible to analyze. Such experiments are fragile and clunky. Extraordinary control measures must be put in place to keep the experimental data pure.Now compare this with magic shows. Magic tricks test many of the same cognitive processes we study, but they are incredibly robust. It doesn't matter in the slightest that the entire audience knows it is being tricked; it falls for each trick every time it is performed, show after show, night after night, generation after generation. We thought, if only we could be that deft and clever in the lab! If only we were half so skilled at manipulating attention and awareness, what advances we could make!The idea rapidly took shape: we would bring scientists and magicians together so scientists could learn the magicians' techniques and harness their powers.But there was just one problem: we were clueless about magic. We didn't know any magicians. Neither of us had ever even seen a real magic show. Fortunately, our colleague Daniel Dennett got us our big break. Dennett is a fellow scientist and philosopher who also happens to be a good friend of James the Amaz!ng Randi, a famous magician and skeptic who has spent decades debunking claims of the paranormal. Randi wrote back, enthusiastically endorsing our idea. He told us that he knew three more magicians who would be perfect for our purposes: Teller (from the magic duo Penn Teller), Mac King, and Johnny Thompson. All of them lived in Las Vegas and all were personally interested in cognitive science. Apollo Robbins, "the Gentleman Thief," a friend of Teller, joined our group a few months later. Much of this book is based on our interactions with these talented magicians.Thus began our journey of discovery about the neural underpinnings of magic. We have spent the last few years traveling the world, me...