



SCIENCEBLIND

Why Our Intuitive Theories About the World Are So Often Wrong

By Andrew Shtulman

311 pp. Basic Books. \$30.



You've probably heard that we only use 10 percent of our brains. You might also know that this is a famous or even infamous scientific myth — no more than a scientific

urban legend. But why do so many people believe it when the experts don't? It's one of many instances in which people resist scientific understandings in favor of imprecise, inaccurate, or just plain wrong theories about how nature works.

The problem — as Shtulman, a developmental psychologist, cogently explains — is that new knowledge doesn't erase old misconceptions the way a software upgrade deletes the previous code. Instead, different theories coexist within our minds, and compete to explain the world. We may have been taught about plate tectonics and biological evolution, but we still sometimes act as though the earth and its occupants have always been the way they are now, and thus will stay that way in the future.

The only thing I really disliked was Shtulman's suggestion that the 10 percent myth is just a "typo of the mind," akin to a trivial factual error that does not betray a scientific misconception. I'm not so sure. Some of these typos are so easy to miss, and so easy to pass on from person to person, that they must reflect a deeper bias in the way we understand ourselves.

THE SECRET LIFE OF THE MIND

How Your Brain Thinks, Feels, and Decides

By Mariano Sigman

277 pp. Little, Brown. \$27.



Sigman's book is as much about the workings of the brain as it is about the mind. His idiosyncratic tour — "a summary of neuroscience from the perspective of my own experience" — starts

with the mind of the child, then moves to the brain circuits involved in decision making and alights on consciousness, before ending with learning and formal education. One interesting section describes what researchers can now do with brain imaging technology to make better guesses about what pictures people are watching, memories they are recalling, or even what dreams they are having. This is not just a neuroscientist's parlor trick: It's an essential way of figuring out the codes the brain uses to represent information and knowledge.

Sigman is one of many professors to become popularizers of their own fields, rather than leave the explanation and interpretation to science writers. His book is peppered with brief stories and artistic allusions, and it moves quickly from idea to idea, study to study. But I found myself wishing he more deeply described the experiments he mentions and some of the nuances about their proper interpretation. Readers of science books are interested in the concrete details of how it all gets done as well as what it really means.

STRANGE CONTAGION

Inside the Surprising Science of Infectious Behaviors and Viral Emotions and What They Tell Us About Ourselves

By Lee Daniel Kravetz

267 pp. Harper Wave. \$26.99.



In 2009, five students at the same high school in Palo Alto, Calif., killed themselves within a six-month period, all by walking in front of commuter trains. In 2014, three more students killed themselves in a similar way. Suicide is a puzzle for our intuitive theories of human psychology: Why would we be designed, by natural selection or any other force, to be capable of deliberately ending our own existence? Kravetz argues that "social contagion" is the explanation for this series of disturbing events.

Research by sociologists, economists and psychologists has established that imitation and other mechanisms of social transmission cause norms, behaviors and moods to spread from person to person, without those people necessarily being aware of how they had been influenced or by whom. We are so susceptible to contagion that it must serve some positive purpose, but in our world many negative behaviors can also spread, such as eating disorders and cigarette smoking.

This is a fast-moving field full of interesting questions. Unfortunately, Kravetz attempts to weave the science into a poorly written narrative of his own reaction to the suicides, leaving the ideas and studies too vaguely rendered for readers to appreciate them.

THE INFLUENTIAL MIND

What the Brain Reveals About Our Power to Change Others

By Tali Sharot

242 pp. Henry Holt. \$28.



Social contagion fascinates us because its power seems out of proportion to its subtlety: We are so often unaware when it is happening to us. But it is just one of the ways people influence the

behavior of others. Sharot, a London neuroscientist, covers the topic more fully and more authoritatively in a book whose title gives appropriately equal billing to thought, behavior and neurons.

Sharot writes, for example, about the remarkable fact that only 39 percent of hospital workers wash their hands properly. A study found that putting them under webcam surveillance didn't improve things, but adding a continuous digital display of the number of people following the rules brought compliance up to 90 percent. This dramatic improvement combines new technology with old psychology: Positive reinforcement (the reward of being told you are doing your job well) can often change behavior more than punishment. Sharot suggests that it also gives people a greater sense of control, which is more motivating than a sense of restriction.

Her book is a witty survey of techniques to influence and guide human behavior. But there is still a lot more to be learned about how to best apply cognitive science to our everyday problems. We can't all be monitored by webcam-compliance-centers and be motivated only by digital leaderboards.