THE SCAN
Science Events: Magic Illusions and the Music of Particles

Comming events and reading matter at the intersection of science and culture.

CONTEST
Iron Science Teacher Competition
Exploratorium, Pier 15, San Francisco. June 28 and July 12 at noon. Included with museum admission ($25 adult, $19 students/teachers). (Live webcast.)

In the cult Japanese television show “Iron Chef,” frantic cooks have an hour to whip up a meal around a secret ingredient like river eel or asparagus. At this competition at the San Francisco Exploratorium, science teachers will face a similar trial. Before a live audience, and with running commentary, they must transform everyday items into eye-popping science lessons. Past years’ ingredients have included paper clips, light bulbs, chalk, leaves and eggs. “It makes science more approachable to see it in everyday objects,” said Linda Shore, who directs the museum’s Teacher Institute, which hosts the competition. When money is scarce, cheap demonstrations also allow instructors to, as one teacher put it, “teach the $10 million state science standards on a $10 budget.”

SOUND
Collide@CERN. Public lecture by Bill Fontana. Globe of Science and Innovation, CERN, Switzerland. July 4 at 7 p.m. (Live webcast.)
For 30 years the sound sculptor Bill Fontana has transformed structures like the Golden Gate Bridge and the Eiffel Tower into enormous sound installations. What could he do with the world’s largest particle accelerator? We’re about to find out as Mr. Fontana begins his residency at CERN, the European physics lab that runs the Large Hadron Collider. At a lecture on the first anniversary of the announcement of a particle believed to be the Higgs boson, Mr. Fontana will play recordings he gathered last winter of particle-accelerating machines. (This summer, with the accelerator turned off, he will echo these sounds through the 17-mile tunnel.) The young cosmologist Subodh Patil, chosen as Mr. Fontana’s “inspiration partner,” will also speak. “The cosmic microwave background can be thought of as the echo of the Big Bang that we’re still ‘hearing,’” Dr. Patil wrote in an e-mail. “My recent work has focused on understanding how variations in the speed of sound during inflation imprints distinct overtones on the echo.”

**BOOK**

*Touching a Nerve: The Self as Brain*, by Patricia S. Churchland. Norton. 304 pages. $26.95. (Read an excerpt.)

“You cannot understand the mind without understanding how the brain works,” writes the philosopher Patricia S. Churchland in this marvelous book, which uses recent findings from neuroscience and evolution to illuminate deep questions about human nature. After early chapters debunking the soul and afterlife, Dr. Churchland gives a nuanced account of sex, violence and morality, working up gently but ambitiously from brain chemicals to ethical norms. She predicts that consciousness, which she believes may be shared in some form by all mammals and birds, will eventually be understood by the convergence of “a million little important results,” not by a miraculous discovery. Throughout the book Dr. Churchland draws on episodes from her early life on a Canadian farm to illustrate her arguments. A trustworthy guide, she gives comfort not by simplifying the research but by asking the right questions.

**MUSEUM**

A good magician exploits the flaws and biases of your nervous system. A new show at the Science Gallery in Dublin, curated by the psychologist Richard Wiseman, asks what the illusions might reveal about how our brains work. The show will feature a variety of deceptive artworks, many involving mirrors. In a reflective trick popular in the Victorian era, glowing letters will seem to fly from a glass bottle. In a high-tech illusion, viewers’ expressions are mimicked by an animal’s head overlaid on their own in a digitally enhanced mirror. There will also be some good old-fashioned tricks, with a pair of neuroscientists — Stephen Macknik and Susana Martinez-Conde, co-authors of “Sleights of Mind” — on hand to explain their cognitive underpinnings. “Illusions allow us to study how and why the brain fills in missing or ambiguous information,” said Paul Gleeson, a researcher for the show who is also a magician.