

## An Artist's Intuition

By Anthony Aveni

"THERE ARE NO QUALITIES which are so occult . . . that [their] reason cannot be given" by the principles of the mechanical philosophy. So wrote French philosopher

René Descartes. Three centuries later, his dictum crumbled in the quake of a scientific revolution. Max Planck dissolved the billiard balls thought to make up the atom into probability smears whose positions and orbits could never to be pinpointed with certainty. Einstein changed the meaning of the words "here" and "now" by warping deeply ingrained concepts of space and time. Darwin hurled the monkey wrench of long-term randomness into the teleological view of life. And Freud violated the limits of our cognitive experience by asserting that conscious thought is but the tip of the human mind.

But this early-20th-century revolution was not strictly an ivory tower affair, argues Jonah Lehrer, whose collection of pithy essays shows how eight artists, writers, poets, musicians—even a French chef—anticipated science's discoveries about the workings of the human brain. Those earlier discoveries, richer if less precise, broader if less explicit than those that scientists subsequently homed in on, seem more relevant to life's everyday meaning.

Take Marcel Proust (1871–1922), a devout disciple of metaphysician Henri Bergson's anti-mechanistic view of the universe. Lehrer explores the sentimental aspects of our senses of taste and smell via the French novelist's celebrated encounter with the madeleine and what he wrote about the vivid memories that accompanied successive visitations with that cookie. Lehrer shows how Proustian prose about deceptive memories reflects the "molecular truth" that every memory depends on subtle neuronal connections inhabited by prions, curious proteins that, like our larger selves, are unpredictable and unstable.

Musical dissonance was born on the eve of the Russian Revolution, when Igor Stravinsky's *Rite*

### PROUST WAS A NEUROSCIENTIST.

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*of Spring* premiered and sent the audience into a screaming riot. Like Jackson Pollock's fractal pourings, the genius of Stravinsky (1882–1971) lay in the controlled violation of form. There *was* pattern—the audience just wasn't ready to apprehend it. Then why today do we flock to the concert hall to listen to it? Neuroscience's belated answer lies in the brain's corticofugal network, Lehrer explains. Noises repeatedly heard are memorized. Feedback from higher regions of the brain reorganize the auditory cortex so that hidden patterns are easier to recognize in the future.

You literally change with the music.

Lehrer's account of Auguste Escoffier's (1846–1935) insight into the sense of taste, as it is understood today, transports us from the complexity of a good veal stock to the mysterious essence of *umami*, the Japanese "sixth sense" of deliciousness. Lehrer dissects the mystery by tracing the pathway from tongue receptor to DNA. (His service in the kitchen of Le Cirque and in the lab of a Nobel Prize-winning neuroscientist serves him well in this cross-disciplinary endeavor.)

Young Lehrer's book (he is 26!) is a welcome antidote to science trade texts that bash the humanities and debunk worldviews that fail to incorporate scientific method and theory. His final chapter challenges attempts by icons E. O. Wilson and Steven Pinker to explain science to the public. Such works, he contends, are largely uninformed efforts to reduce the humanistic disciplines to mere symptoms of science. But the postmodernist retort, which reckons science as just another set of descriptions of reality amidst an infinite sea of equally valid ways of knowing, serves no better purpose, Lehrer says.

Having taught and written about science for 45 years, I think I know why public understand-

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ing of our sphere is so deplorable. Too few of us make any attempt to connect our ideas and subject matter to the rest of human experience and inquiry. Lehrer makes no claim to having found the secret bridge that might link the sciences and humanities, but he does suggest that my students might benefit by paying more attention to what Virginia Woolf penned about the emergent self and what Walt Whitman wrote about the body electric. He's right! We will never reduce feeling to physics, nor consciousness to chemistry—not so long as the voice of the artist remains alive.

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CONTEMPORARY AFFAIRS

## The Poverty Myth

By Walter Reich

THE BELIEF THAT POVERTY is a root cause of Islamist terrorism has been thoroughly discredited. Numerous studies of terrorism have debunked the notion. Islamist terrorists themselves, as well as those who live among them and know them well, have repeatedly attributed Islamist terrorism primarily to religious and ideological motivations and to the logic that—against America and the West—terrorism is used because it works. As Abdel Aziz Rantisi—a Hamas leader until he was assassinated by the Israelis—said of suicide bombing, “It is the most effective strategy for us. For us it is the same as their F-16.”

Somehow, though, the idea that poverty is the culprit refuses to die. Journalists, academics, opinion makers, terrorism experts, and Nobel Prize winners (including those recognized for economics and peace) repeat it, as have U.S. presidents Bill Clinton and George W. Bush and British prime minister Tony Blair. Imbued with this belief, leaders are inclined to launch or sup-

port antipoverty policies that do little or nothing to stop terrorism.

Fortunately, in one small book, Alan B. Krueger, a Princeton economist, has collected much of the evidence that demolishes this argument. In *What Makes a Terrorist*, he performs a much-needed act of intellectual hygiene. Some of the evidence Krueger cites is based on examinations of the biographies of terrorists, as well as public polls and sophisticated economic analyses. A number of studies were carried out by Krueger and his colleagues.

It turns out that members of Islamist terrorist groups—Al Qaeda, Hezbollah, Hamas, etc.—tend to be from relatively privileged backgrounds. “As a group,” Krueger notes, “terrorists are better educated and from wealthier families than the typical person in the same age group of the societies from which they originate.” For example, one study compared 48 Palestinian suicide bombers from Hamas and the Palestinian Islamic Jihad with 18,803 fellow Palestinians in the West Bank and Gaza and found that the bombers were less than half as likely as the general population to come from families below the poverty line, and that “almost 60 percent of the suicide bombers had more than a high school degree, compared to less than 15 percent of the general population.”

The same general pattern holds for terrorism's most avid supporters. Opinion polls, Krueger notes, show that “the best-educated members of society and those in higher-paying occupations are often more radicalized and supportive of terrorism than the most disadvantaged. The illiterate, underemployed population is often unwilling to express an opinion about policy issues, probably because they have more pressing matters on their minds.” If anything, it has been the lack of civil liberties in their societies, rather than excessive poverty, that has helped foster terrorism.

Krueger concedes the possibility that well-to-do terrorists are motivated by the poverty and deprivation that bedevil their societies. But he is skeptical: “A range of socioeconomic indicators—

**WHAT MAKES A TERRORIST:**

Economics and the Roots of Terrorism.

By Alan B. Krueger.  
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