pose? If Ritalin and the Kaplan SAT review each "can boost SAT scores by, say, 120 points," observes Michael Gazzaniga, a neuroscientist at Dartmouth College, "I think it's immaterial which way it's done."

"Fukuyama and other critics," concludes Bailey, "have not made a strong case for why *individuals*, in consultation with their doctors, should not be allowed to take advantage of new neuroscientific breakthroughs to enhance the functioning of their brains. And it is those individuals that the critics will have to convince if they seriously expect to restrict this research."

Cardiology in Crisis

"When Doctors Slam the Door" by Sandeep Jauhar, M.D., in *The New York Times Magazine* (Mar. 16, 2003), 229 W. 43rd St., New York, N.Y. 10036.

It must have seemed an obviously good thing to do more than a decade ago when the federal Health Care Financing Administration and several states began monitoring the performance of heart surgeons and other medical professionals. In the early 1990s, New York and Pennsylvania began publishing "report cards" for public consumption. The idea behind all these efforts, notes Jauhar, a New York City cardiology fellow, was "to improve the quality of cardiac surgery by pointing out deficiencies in hospitals and surgeons," channeling patients toward the good ones and forcing the deficient others to heal themselves. The worst surgeons might lose their hospital operating privileges.

At first, there seemed to be amazing improvements. In New York State, for example, "mortality rates for coronary bypass surgery declined a whopping 41 percent." (Nationwide, surgeons perform some 500,000 bypasses annually.) But skeptics feared that surgeons intent on boosting their scores might be declining to treat their sickest patients. "In a survey a few years ago," Jauhar reports, "63 percent of cardiac surgeons in New York State said that because of report cards, they were accepting only relatively healthy patients for coronary bypass surgery." Now there's hard evidence, too. Researchers at Northwestern and Stanford Universities who compared 1990–93 data from New York and Pennsylvania with data from states with no such report cards found something striking: Patient health-care expenditures over the year *before* coronary bypass surgery dropped by seven percent in the two states while staying about the same elsewhere. That's evidence that healthier patients were being "cherry picked" for surgery. The decline in expenditures in New York and Pennsylvania "was matched by a drop in the number of operations for sicker patients. They experienced 'dramatically worsened health outcomes' as a result, including more congestive heart failure and recurrent heart attacks," notes Juahar.

He sees "a kind of spiritual crisis in the field of cardiac surgery. Heart surgeons, among the most highly trained and fearless of specialists, are shrinking from taking on the toughest cases because of statistics."

The pity of it is that they're the wrong statistics. Some 98,000 Americans die every year because of medical errors, but seldom is an individual surgeon—or nurse, or technician, or anesthesiologist—solely responsible. "Health care is too complex; outcomes depend on many variables," Juahar believes. To ensure real accountability, we must focus not on individuals but on the systems that deliver our health care.

The Hottest Century?

"Reconstructing Climatic and Environmental Changes of the Past 1,000 Years: A Reappraisal" by Willie Soon et al., in *Energy & Environment* (Mar. 2003), 5 Wates Way, Brentwood Essex CM15 9TB, United Kingdom.

The world has just put a long, hot century behind it, and now the question of where the era stands in the history of the world's climate has become an item in the debate over global warming. One influential recent study of global temperature

changes over the past millennium found that, for the Northern Hemisphere at least, the 20th century was the warmest century, the 1990s the warmest decade, and 1998 the warmest year. These conclusions lend more weight to the argument that anthropogenic (human-generated) greenhouse gases have produced anomalously high temperatures. (Many other, though narrower, studies point toward this reading of climate history.) Soon, a physicist at the Harvard-Smithsonian Center for Astrophysics, in Cambridge, Massachusetts, and his colleagues, taking a different approach, have concluded that the 20th century was probably "*not* the warmest" of the millennium.

In the earlier study, Michael E. Mann, an environmental scientist at the University of Virginia, and his colleagues attempted an ambitious mathematical reconstruction of global temperature changes over the past thousand years based on various "proxy" data, such as ice core samples. Besides selecting winners (or losers) in the "warmest" category, they dismissed the conventional wisdom among climatologists that there were two previous periods of great divergence from the climate norm: the so-called Little Ice Age (1300–1900) and the Medieval Warm Period (800–1300). The elimination of those two epochs would cast the 20th century as even more of an anomaly.

Soon and his coauthors, taking "a nonquantitative and very 'low-tech'" approach to the problem, examined a multitude of research results obtained from local and regional climate indicators, such as coral and tree ring growth, lake fossils, ice cores, glaciers, and seafloor sediments. The results cannot be combined into a simple

EXCERPT

The Case Against Caution

If you debate the new genetics in Europe and America these days you get asked the same question in two different ways. The average European says, with dread: "How do we stop people doing x?" The average American says with excitement: "When will I be able to do x?" For x, read "test myself for future dementia risk," "change my unborn children's genes," or even "fill my blood vessels with nano-robots to enable me to live to 150."

To the jaded European palate, the American attitude seems silly and irresponsible. Caution should be the watchword for all new technology. I beg to differ. I think the American optimism is necessary and responsible. It is the European pessimists who are in danger of causing real harm. Caution has risks, too.

My techno-optimism is deeply unfashionable in Europe, where Jeremiah is treated as a serious, cautious, and—let's face it—cool guy, but Pollyanna is a silly twit.

We discuss the potential drawbacks of genetic testing or genetic modification of crops. We do not discuss the suffering and environmental damage that will be caused by holding back innovation.

I am not arguing that all new technologies are risk free. Reproductive cloning, for example, carries a 30 percent risk of producing a bodily deformity, 15 times the normal rate. To use this technology on human beings is wrong precisely because it is unsafe.

I am arguing that the debate is unbalanced here because it is complacent about the imperfect present. As James Watson, an unabashed proponent of more genetic testing, has said: "If there is a paramount ethical issue attending the vast new genetic knowledge created by the Human Genome Project, in my view it is the slow pace at which what we know now is being deployed to diminish human suffering."

—Matt Ridley, author of *Nature via Nurture: Genes, Experience and What Makes Us Human* (2003) and other books, in Britain's *Guardian* (Apr. 3, 2003)

hemispheric or global numerical composite, the authors say, but still are revealing. "The picture emerges from many localities" that the Little Ice Age and the Medieval Warm Period were indeed "widespread" phenomena, even if not "precisely timed or synchronous."

As for the rising thermometer readings of the 20th century, say Soon and his colleagues, they appear in historical perspective "neither unusual nor unprecedented." Tree ring chronologies in one study "show that the Medieval Warm Period [was] as warm as, or possibly even warmer than, the 20th century," at least for a region of the Northern Hemisphere.

The authors agree that human activity has had a significant impact on some local environments, but just how big a role humans have played in heating the atmosphere in recent decades remains up in the air.

Arts & Letters

A Cinderella Story

"For Whom the Shoe Fits: Cinderella in the Hands of Victorian Illustrators and Writers" by Bonnie Cullen, in *The Lion and the Unicorn* (Jan. 2003), Johns Hopkins Univ. Press, Journals Division, 2715 N. Charles St., Baltimore, Md. 21218–4363.

As if Cinderella didn't have enough hardships in her storied life, it now appears that she's also been a combatant in a centuries-long culture war. The Cinderella we know from the 1950 Disney movie and kindred print versions of the tale is not at all the girl she once was, writes Cullen, an art historian studying at the University of London.

Over the centuries, more than 300 Cinderella-type stories—with "an abused child, rescue through some reincarnation of the dead mother [such as a fairy godmother], recognition, and marriage"—appeared in Europe and Asia, Cullen notes. The earliest known version is from ninth-century China.

Cinderella stands submissively to the side in a classic 1882 depiction of the tale by Thomas Seccombe.