## Digital Depression

Scientists have come up with what they claim is the first physiological marker for depression in men: ring fingers that are longer than index fingers.

The prenatal development of fingers and gonads is controlled by the same genes; in men, relatively long fingers appear to be linked to high fetal testosterone levels. Because there is evidence that high prenatal testosterone may be involved in a variety of psychological impairments, biologist John Manning and his colleagues at the University of Liverpool in the U.K. measured finger lengths and administered the Beck Depression Inventory to 52 men and 50 women. Men average a score of 5 on the test, which goes from 0 (no depression) to 63. The 10 male subjects with the shortest ring fingers had a mean score of 1.56, while the 10 longest fingered averaged 8.5. (The depressed range starts at 10.)

**Robert Louis Stevenson was said to be moody, as befits the long ring fingers portrayed in this portrait by John Singer Sargent.**

The scientists conclude in the latest issue of the journal *Evolution and Human Behavior* that "high fetal testosterone concentrations may predispose males to depression in later life." They found no finger effect in women. "Our data therefore point to a different etiology for depression in men and women," they write.

Evolutionary biologist Robert Trivers of Rutgers University in New Brunswick, New Jersey, likes the result. Measuring male finger length ratios has become a hot research area, he says: Other studies have shown more left-handedness and higher fertility rates among those with long fourth fingers. Manning says his team is also finding a correlation with musical ability (because prenatal testosterone promotes right-hemisphere growth) and a lower risk of heart attacks.

## Study Linking Falling Crime Rates to Abortions Creates Stir

A pair of crime researchers kicked up some dust last week when newspapers reported their study arguing that the legalization of abortion has had a large role in the sudden drop in crime in the United States in the '90s. Stanford law professor John Donohue and University of Chicago economist Steven Levitt have concluded that ripples from the Supreme Court's landmark 1973 decision in *Roe* v. *Wade* are discernible decades later in lower crime rates among young males. Other commonly cited factors—including improved policing, the abating of the crack epidemic, and higher employment—do not fully explain the timing and distribution of changing crime patterns, say the authors, who estimate that legalized abortion may be responsible for half the per capita drop in violent and property crimes between 1991 and 1997. Abortion, they claim, reduces births among uneducated, teenaged, and single mothers, whose offspring are most "at risk" for criminal activity, and improves circumstances for the living children of such mothers.

The authors say their strongest evidence comes from the fact that crime rates have dropped the most in states with the highest abortion rates. Levitt says the numbers might be influenced by such factors as better prenatal care in the high-abortion states, but data on the effects of social programs make it unlikely that "relatively small changes in social programs could have had a major impact."

The authors, who have presented their unpublished findings at several scholarly meetings, have been accused of favoring "eugenics" both by antiabortionists and by some African Americans, who are three times as likely as whites to have abortions. Some experts are not convinced by Levitt and Donohue's thesis. Daniel Nagin, a professor of public policy at Carnegie Mellon University in Pittsburgh, says it's an "interesting contention," but he finds this no more convincing than any other explanation for the crime drop. But psychiatrist Fred Goodwin, head of the Center on Neuroscience, Medical Progress and Society at George Washington University in Washington, D.C., thinks abortion rates could well be a factor. Most abortions, he says, are sought by single young women, and "the absence of fathers is the biggest single predictor of antisocial behavior."

## Tunguska Revisited

Hoping to solve a mystery that has persisted for more than 90 years, an Italian-Russian team last month scoured the bottom of a Siberian lake for clues to the cause of a titanic explosion that flattened and charred trees over hundreds of square kilometers.

On 30 June 1908, witnesses saw a fireball hurtle through the dawn sky over eastern Siberia before exploding with a force of 1000 Hiroshima bombs in a remote region called Tunguska. What hit has been a mystery despite Russian expeditions to the site over the years.

Eight years ago, a group led by physicists Giuseppe Longo and Menotti Galli of the University of Bologna in Italy culled microscopic particles of heavy metals, which appeared to have been forged at high temperatures, from 90-year-old tree resin at the site. Western researchers tend to think the particles came from a meteorite, while many Russians say they could have been in a chunk of cometary debris.

Now Longo and Nikolai Vasiliev, deputy director of the Tunguska Nature Reserve, have returned to Siberia to look for more definitive evidence. Braving mosquitoes, horseflies, and sweltering heat, the scientists took two dozen core samples at the bottom of a lake 8 km from the epicenter, where, they figure, any fragments should be preserved in the sediment. Longo's group will analyze the cores in Italy, hoping for pieces that might solve the puzzle (www-th.bo.infn.it/tunguska).

CREDITS: (TOP) UNIVERSITY OF BOLOGNA, DEPARTMENT OF PHYSICS; (BOTTOM) BEQUEST OF CHARLES PHELPS AND ANNA SINTON TAFT. THE TAFT MUSEUM, CINCINNATI, OHIO