Smoking Genes

In a dramatic example of how changing social mores may amplify the expression of certain genetic propensities, researchers have found that the role of genes in female use of tobacco rose precipitantly after World War II.

Previous studies have found that heritability for smoking in men is about 0.6—meaning that almost two-thirds of the statistical variance in who becomes a regular tobacco user can be attributed to genes. Now psychiatrist Kenneth Kendler of the Medical College of Virginia in Richmond and colleagues have found that genes played an equivalent role in Swedish women who came of age after it became socially acceptable for women to take a puff.

Marlene Dietrich following her natural proclivities.

The scientists analyzed the self-reported smoking habits of 778 pairs of same-sex twins born between 1890 and 1958 from the Swedish Twin Registry. The population included both fraternal and identical twins, and half the pairs had been raised apart, thus eliminating the effect of a common environment.

They report in the September *Archives of General Psychiatry* that although the heritability of "regular tobacco use" for Swedish men was 0.61, the data indicated a much stronger environmental influence for women. But when researchers broke the sample down by age cohort another picture emerged: a "dramatic" increase in heritability, from 0 in women born before 1924 (when hardly any smoked) to 0.63 for those born after 1940 (52% of whom were regular tobacco users). "Presumably what Kendler is seeing is the liberalization of attitudes—and affordability—in smoking, allowing addiction-prone genotypes to attain their desired environment," says Nick Martin, a twin researcher at the Queensland Institute for Medical Research in Brisbane, Australia. Such twin samples are gold mines for researchers looking for genes involved in nicotine addiction, he notes.

Company Gets Funds to Clone Baby

Clonaid is still at it: A little over a year after announcing controversial plans to produce the first human clone (*Science*, 25 June 1999, p. 2083), the company says a U.S. couple has pledged up to $500,000 for its first project: cloning their dead infant.

Clonaid was founded by a French car-racing aficionado who calls himself Raël, creator of a religion that contends Jesus was cloned by extraterrestrials. Last week, Raël and scientific director Brigitte Boisselier held a press conference in Montreal to introduce the project's five "first surrogate mothers," lined up to carry cloned embryos.

Boisselier, a Ph.D. chemist and a Raëlian, says the company has recruited several scientists for the effort—but not Richard Seed, the retired physicist who stirred up a clamor 2 years ago by announcing plans to set up a cloning clinic. Seed had joined forces with Clonaid but is no longer on board, says Boisselier. She adds that work is expected to begin next month at a lab being built "in a place where it's legal" to clone humans.

The parents of the dead child, who succumbed from an infection at the age of 10 months, have other children and are not infertile, Boisselier says: They just want to give this particular genome another chance. She claims that Clonaid has a lot of potential customers clamoring at the gates and has lined up surrogate mothers in the United States, Europe, Africa, and Asia.

Natural History Lament

"[C]lose, scrupulous observation of nature has a long and illustrious history, but it is now sliding into oblivion. ... Even the field trip, long a staple of science education ... has become increasingly uncommon. ... The current push to connect every classroom in America to the Internet demonstrates how quickly elected leaders and the public can be galvanized to address ... a critical educational need. Meanwhile, the demise of natural history goes unnoticed, increasing the likelihood that future generations of schoolchildren will spend even more time indoors, clicking away on their plastic mice, happily viewing images of the very plants and animals they could be finding in the woods, streams, and meadows they no longer visit."

—From an essay on "The Impending Extinction of Natural History" by ecologists Thomas Eisner of Cornell University and David S. Wilcove of Environmental Defense in the 15 September *Chronicle of Higher Education*. (For a different view, see p. 2306.)

Epic Engineering

How do they do it? "Building Big," a five-part series on public television, explores modern wonders of the world—bridges, tunnels, domes, dams, and skyscrapers—as colossal projects and feats of engineering ingenuity. The first episode, on 3 October, tells the story of the Brooklyn Bridge, the first steel suspension bridge, completed in 1883 (above), as well as Japan's Akashi-Kaikyo bridge near Kobe, the world's longest. The series is hosted by David Macaulay, author of *The New Way Things Work*.