Chimp Handedness

Researchers say they have produced the first good evidence that genes play a significant role in chimp handedness, just as they are believed to in humans. They also say that—as in humans—left-handedness often goes with developmental anomalies.

William D. Hopkins and colleagues at the Yerkes Regional Primate Research Center in Atlanta determined handedness by watching chimps scoop peanut butter out of a tube. They then measured similarity in hand preferences between mothers and offspring in 134 family pairs.

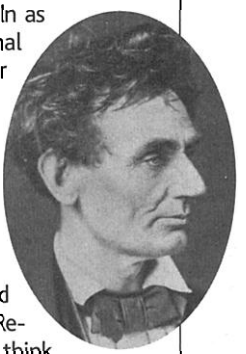
The researchers report in the 4 July issue of *Psychological Science* that birth order had a major effect on handedness in this group, as well as in 155 pairs of maternal half-siblings (sibs who share the same mother). They classified first-born chimps or those born sixth or later as being at high risk for "developmental instability"—a term for various prenatal perturbations such as hormonal irregularities. They found that just 46% of chimps in high-risk birth positions shared right-handedness with their mothers; the proportion was 86% for low-risk offspring.

Digging for peanut butter.

It appears, says Hopkins, that "right-handedness is the 'norm,'" and that "at least some left-handedness may be due to pathological events" around or before birth. Understanding chimp handedness "may provide insights into ... allegedly unique human psychological functions," the researchers write.

But at least one researcher, Greg Westergaard, who runs a monkey colony at LABS of Virginia in Yemassee, South Carolina, believes the findings raise the opposite question: "Given the relatively recent split between humans and apes, why are humans so much different?" he asks. Only 10% of humans are left-handed, compared to one-third of Yerkes chimps and even more of those in the wild—which suggests that there is very little brain hemispheric specialization in chimpanzees.

Lincoln's Blues



Abraham Lincoln as solemn national leader is a far cry from the Lincoln of earlier years—when he was prone to mood swings, rage outbursts, insomnia, and forgetfulness. Researchers now think Lincoln for years was poisoned by mercury-laden pills he took for depression.

Norbert Hirschhorn, a retired physician and medical historian in New York City, says his interest was piqued in 1993 when he read that Lincoln "ate blue mass." Blue mass was a common drug prescribed for "hypochondriasis." It contained mercury, believed to benefit the liver by countering the buildup of "black bile." Hirschhorn says Lincoln may have started taking the pills in 1841, at the age of 32, when he became deeply depressed after his broken engagement with Mary Todd.

To see just how toxic blue mass was, Hirschhorn and colleagues recreated the pills, using an old-fashioned mortar and pestle, from an old recipe calling for mercury, liquorice root, rose water, honey, sugar, and dead rose petals. They report in the summer issue of *Perspectives in Biology and Medicine* that Lincoln was probably ingesting about 9000 times the safe level of mercury.

Lincoln stopped taking the pills early in his presidency, observing that they "made him cross." His behavior changed and with it, perhaps, the course of history, says Hirschhorn. Says Lincoln historian Robert Johannsen of the University of Illinois, Urbana-Champaign: "What this may mean to an evaluation of Lincoln's achievements ... is mind-boggling."

Genes Come to the Fore in New Cancer Analysis

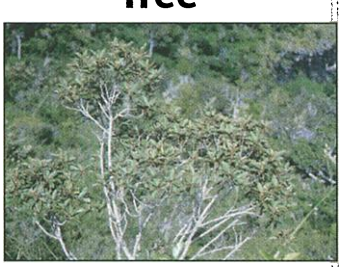
Last summer, scientists in Sweden and Finland got a lot of publicity when they published a paper, based on data from mammoth Scandinavian twin studies, concluding that inherited factors make a "minor contribution" to most cancers. But they were using the wrong methodology, says genetic epidemiologist Neil Risch of Stanford University. Risch has done an analysis that comes to the opposite conclusion: Genes play a strong role in who gets cancer.

Risch looked at the same data as in the earlier study, headed by Paul Lichtenstein of Sweden's Karolinska Institute. In the model Lichtenstein used to extract estimates of the relative contributions of genes and environment to cancer liability, environment nearly always won out. But Risch says that was the wrong model—one problem with it is that there aren't enough people with rare cancers to produce meaningful calculations. Risch instead looked at people in twin and family studies who had developed cancer and then estimated the likelihood that a first-degree family member would develop the same cancer. He found that in "the great majority of cancers," a family member was about twice as likely as the average person to develop the cancer. If anything—contrary to Lichtenstein's conclusions—the genetic risk was higher for rarer cancers, Risch reports in the July issue of *Cancer Epidemiology Biomarkers & Prevention*. Prostate, colorectal, and breast cancers are usually seen as having the strongest genetic components. But the top three on Risch's list are thyroid and testicular cancers and multiple myeloma.

The exercise means that "we should be looking for susceptibility genes for all cancers," says Risch. Lichtenstein was on vacation and unavailable for comment. But cancer epidemiologist Sholom Wacholder of the National Cancer Institute in Bethesda, Maryland, says Risch's work is "a reminder of the need to be cautious about interpreting studies that attempt to distinguish genetic and environmental factors."

Reappearing Tree

Scientists have discovered another presumed-extinct organism: a flowering tree, *Trochetia parviflora*, not seen in the wild since 1863, clinging to a rocky slope in Mauritius. "We could not believe we had found the species; it seemed too good to be true," says Vincent Florens of the Mauritius Herbarium. A search since the April sighting has turned up 73 additional specimens.



CREDITS: (TOP) CORBIS; (MIDDLE) YERKES; (BOTTOM) VINCENT FLORENS