RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Probing Nature's Hairy Secrets

People with hair all over their faces and upper bodies, known by various labels including "human werewolves," have been described several times over the centuries. But the condition is exceedingly rare: There have been reports of only about 50 such individuals since the Middle Ages.

Now a team led by geneticist Pragna I. Patel of Baylor College of Medicine in Houston has examined DNA from a Mexican family with this condition and closed in on what they speculate is a rare "atavistic" gene that's responsible. Known as congenital generalized hypertrichosis, or CGH, the pattern of inheritance of the disorder in five generations of this family indicated that the relevant gene(s) was on the X chromosome. Afflicted males show dense hair growth on their faces and upper bodies, while females, because of selective inactivation of one of their X chromosomes, show it in more patchy form.

Atavistic trait? Six-year-old boy with hypertrichosis.

The family was first described in 1984 by clinical geneticist Jose Cantú of the University of Guadalajara. Luis Figuera, a postdoc in Patel's lab, recently collected DNA samples from 16 members and followed the inheritance of CGH along with that of X chromosome DNA markers. The analysis, reported in the June issue of *Nature Genetics*, narrows the search to about 10% of the X chromosome.

The hypothesis, first made by Cantú, is that the gene is not a random mutation but one that "has been silenced during evolution," says Patel. That would rank it with other traits that nature has deemed no longer adaptive, such as toes on horses.

Stanford University geneticist Uta Francke says this case is unique—"There have been some reports of inherited forms" of hypertrichosis, she says, but they have not been X-linked. Markers on the X chromosome developed by the Human Genome Project made it possible to home in on the likely region of the mutation with only a single family to work with. "To be able to map something with that level of precision would not have been possible 2 to 3 years ago," says Francke.

"It's rare families like this that give us a handle on genes important for development, in this case hair growth," says Patel. Once identified and cloned, she adds, the gene may one day aid in treating hair loss as well as hirsutism.

Photo courtesy *Human Genetics*, "A new form of hypertrichosis inherited as an X-linked dominant trait," M.A. Macias-Flores *et al.*, vol. 66, p. 67, fig. 2, 1984, Copyright Springer-Verlag.

Ecology Blooms in Santa Barbara

Some ecologists say a "critical mass" of individuals must colonize a new habitat before the population will flourish. They'll be able to test that theory on themselves this August, with the launch of the new National Center for Ecological Analysis and Synthesis at the University of California, Santa Barbara (UCSB).

The interim director of the center, UCSB ecologist William Murdoch, says it will act as a clearinghouse for the dissemination of ecological data and give theorists, naturalists, and experimentalists a meeting place to study the implications of global environmental change. Residential fellowships at the center "will make it possible for people to collaborate who otherwise would not be able to do so," says Murdoch.

There are still some who question whether togetherness is all it's cracked up to be. Ecologist Robert Paine of the University of Washington, for instance, says he doubts a grand massing of ecologists and technology will "automatically" foster creative breakthroughs. But such skepticism doesn't extend to the National Science Foundation, which chose UCSB over 19 competitors to host the center and will provide $10 million to fund its first 5 years. The California government has pledged another $2.5 million.

Lean and Mean Contract for Argonne

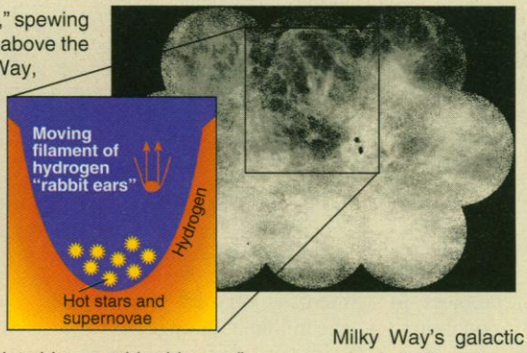
As Congress, hungry for budget cuts, contemplates eliminating the Department of Energy (DOE), the agency is racing to put in place its own money-saving reforms. Last week, the University of Chicago signed a novel "performance-based" contract to manage Argonne National Laboratory for DOE—an arrangement designed to trim $77 million from the lab's personnel costs over the next 5 years.

The contract "allows us to administrate the way a normal organization does," says Arthur Sussman, a vice president for the administration of Argonne at the University of Chicago. He says previous contracts gave DOE veto power over every aspect of employee compensation, which made it difficult to rein in salary increases for researchers who were not performing. Changing this policy will be a primary source of savings. At the same time, says the leader of DOE's "Contract Reform Team," Deputy Secretary William H. White, "the stars [will] get paid more," which will presumably have a positive effect on the quality of science as well as the budget. The agreement is also supposed to produce savings by allowing the university to put some of the lab's functions up for competitive bidding to outside companies and research groups.

Of course, if radical Congressional budget-cutters have their way, the university may find itself free from any DOE interference whatsoever.

Chimney in the Milky Way

A cosmic "chimney," spewing hydrogen gas high above the disk of the Milky Way, has recently been espied in one of our galaxy's spiral arms. At its bottom, astronomers think, is a region of intensive star formation, and supernova explosions there "put out so much energy, there's enough to blow out this chimney," says University of Mexico astronomer Neb Duric. The image, obtained by Magdalen Normandeau of the University of Calgary, shows an upward-moving "V" of dense hydrogen in the chimney. The discovery was spotted as part of an international project to map the Milky Way in radio frequencies, led by Russ Taylor of the University of Calgary, at the Dominion Radio Astrophysical Observatory in British Columbia. Duric says the existence of the chimney suggests that matter can be exchanged between the Milky Way's galactic disk and the halo that surrounds it. The observation could help theorists determine how the Milky Way evolved—whether the halo and disk formed together, or whether the halo formed later by pulling material from the disk.



NORMANDEAU, TAYLOR, AND DEWDNEY/UNIV. OF CALGARY/DRAO