RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Arbiter Rejects Plea of Stanford Psychiatrist

In a case that has raised uncomfortable questions about just what tenure is, a hearing officer has ruled against a schizophrenia researcher in his long-running battle with Stanford University.

Psychiatrist Adolf Pfefferbaum, a tenured Stanford professor who spent 20 years at the Palo Alto Veterans Administration Hospital, resigned his VA post in 1996, claiming that the former chief of staff had made his situation "intolerable" by actions that included demoting him, curtailing his research staff, and taking away research space (*Science*, 3 October 1997, p. 27). Stanford told Pfefferbaum that resigning from the VA post meant he had also resigned from the university. Pfefferbaum disagreed and sued. A year ago, a court ordered him reinstated, pending an investigation by the university's highest decision-making body, the Academic Council's advisory board.

Acting as an arbiter, lawyer Richard Marcus, of the University of California's Hastings College of Law in San Francisco, concluded last month that Pfefferbaum failed to offer convincing evidence that he had suffered from a "hostile environment" at the VA. Marcus produced detailed calculations, for example, which he said showed that Pfefferbaum had lost only 1.5% of his research space.

Pfefferbaum, now director of neuropsychiatry at SRI International in Menlo Park, California, says the proceeding avoided "the main issues," such as tenure and academic freedom, and argues that his contract never specified that his employment at Stanford was contingent on working at the VA. At least one Stanford colleague, molecular biologist Oleg Jardetzky, finds the upshot of the case "profoundly disturbing." Many professors' jobs would be on the line, Jardetzky says, "if tenure and academic duties were as narrowly defined as they have been for purposes of this case."

A Stanford official says, however, that "this case is not about academic freedom. What it's about is Pfefferbaum didn't do his assigned duties." He points out that Marcus "expressly rejected Pfefferbaum's contention that there were factors that justified his failure to do those duties."

The Advisory Board is slated to make a final ruling on 18 May.

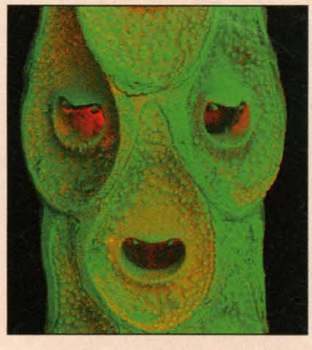
Supercool Fingers

Near absolute zero, matter behaves in odd ways. Metals such as aluminum no longer resist the flow of electrons, while helium becomes a superfluid that can climb up and out of a glass. Now, Dutch scientists have observed a new supercool phenomenon with helium: the formation of liquid fingers within a solid.

A team of low-temperature physicists, led by Giorgio Frossati at the Kamerlingh Onnes Laboratory at Leiden University, cooled liquid helium-3 to a hair above absolute zero and made it crystallize by squeezing it. Next, they put the crystals in a magnetic field and lowered the pressure to induce melting. Ordinarily, helium crystals melt the way ice melts, layer by layer. But the researchers found that helium-3 melts very differently in a magnetic field, carving fluid fingers, or dendrites, in the solid. Team member Reyer Jochemsen says this is the first time scientists have witnessed this phenomenon, which was predicted a decade ago by Laurent Puech and coworkers at Grenoble University in France.

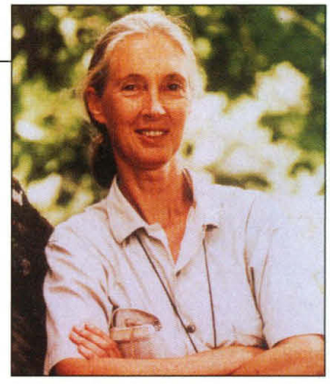
Puech explains that the liquid dendrites form because the helium-3 nucleus contains an odd number of particles, enabling it to act like a tiny magnet. In a magnetic field, helium atoms orient themselves randomly either with the field ("up") or opposite it ("down"). The most common form of helium (helium-4) does not do this. Liquid helium-3 atoms with a down-spin are the first to melt—that is, detach themselves from the crystalline structure—because they contain less energy than do those with up-spin. As melting progresses, the concentration of up-spinners increases in the solid and the selective melting of down-spin atoms creates liquid dendrites.

"We never were certain [this phenomenon] existed," says Puech. Indeed, the number of elements that have been seen to accomplish this feat can be counted with one finger.



R. JOCHEMSON

Colorizing the microworld. Polynesian mask? No, it's several bryozoans, millimeter-long aquatic invertebrates that live in colonies. This picture was made by combining a scanning electron microscope (SEM) image—which would ordinarily be black and white—with a new digital colorizing method developed by a government-industry collaboration in Australia. SEM images can show two kinds of contrasts—topographic contrast and that between light and heavy elements, explains John Ward of CSIRO, Australia's main research organization. Color can be manipulated to give more information on either dimension than could be supplied by grays alone.



KEN REGAN

Science for the heart. Goodall.

NSF Board Lauds Goodall, NOVA

Chimpanzee researcher Jane Goodall and public television's *NOVA* science series have been selected by the National Science Board, the governing body of the National Science Foundation, for the first of its newly established annual Public Service Awards. In announcing the prizes last week, board chair Richard Zare applauded the winners' efforts to "reach the hearts and minds of everyday Americans."

Goodall, 64, is known for landmark studies of chimpanzees in Tanzania's Gombe Stream National Park and, nowadays, for her ardent championship of animal rights, environmental education, and conservation. *NOVA* has proved to be TV's hardiest science perennial, cranking out nearly 500 1-hour documentaries since its 1974 debut.

"If the motivation is to improve the image of science at a time when the public is more fascinated with kooks and cults, then it would have been hard to make better selections," says science board member Albert Cotton, a chemist at Texas A&M University in College Station. But Washington, D.C., journalist Dan Greenberg, a longtime commentator on science politics, says the prize looks to him like a symptom of a persistent "delusion": that pumping up public enthusiasm for science will translate into more money for scientists. "There is in fact no relationship between public support and appropriations," Greenberg says.