Briefings

edited by CONSTANCE HOLDEN

Anti-Panic Campaign

If you tend to panic, don't panic: The National Institute of Mental Health (NIMH) wants you to know that you suffer from a disorder that is treatable. On the heels of a consensus development conference held at the National Institutes of Health last September, NIMH has launched a campaign to provide hope to people who suffer panic attacks—onslaughts of terror accompanied by heart palpitations, feelings of suffocation, dizziness, and sweating. Panic disorder, which afflicts about 3 million Americans, is defined as experiencing at least four panic attacks in a month, or having only one but living in constant fear of getting another.

Most people head for a physician when they have a panic attack, since they usually assume they are suffering a heart attack or stroke, health officials said at a press conference held this month in Washington, D.C. And physicians often don't disabuse them of the notion. Many panic patients spend years getting expensive workups before getting a correct diagnosis. In fact, according to psychiatrist Fred Goodwin, head of the Alcohol, Drug Abuse, and Mental Health Administration, panic sufferers account for up to half of all negative angiographies.

Now NIMH wants both doctors and patients to know that panic disorder runs in families, and is strongly associated with drug and alcohol abuse, depression, and suicide attempts. And it can be brought to heel with antidepressants, anti-anxiety medication, cognitive therapy, and behavioral therapy aimed at desensitizing people to conditions that trigger attacks.

The panic initiative is NIMH's second major public information campaign, the first being one on depression launched in 1987. Both disorders affect females twice as often as males. Goodwin said researchers speculate that "the same neurological mechanisms" may underlie both.

Polio Vaccine Ruling

A U.S. District Court judge has ruled the government liable for injuries caused over several decades by oral polio vaccine, asserting that the federal Division of Biologics Standards (DBS)—now known as the Office of Biologics Research and Review—violated its own regulatory standards. Lawyers for the seven plaintiffs believe the decision could end up costing the government more than $30 million. The government is appealing the ruling.

This case is only the latest in almost two decades of court battles over Albert Sabin's vaccine. In his 20 September opinion, Maryland Judge J. Frederick Motz wrote that the regulatory violations were "unreasonable and a breach of the duty of care....DBS officials arrogated to themselves the power to define what constituted an acceptable risk, thereby undermining the rule of law and threatening long-term public confidence in the regulatory system itself." He said the DBS did not follow its own neurovirulence standards and also allowed attenuated vaccine viruses to be put through more tissue cultures than the regulations allowed during manufacture. He further found a causal link between the violations and two of the plantiffs' injuries. "The government," concluded Motz, "cannot simply now rewrite history to retell events as it wishes they had unfolded."

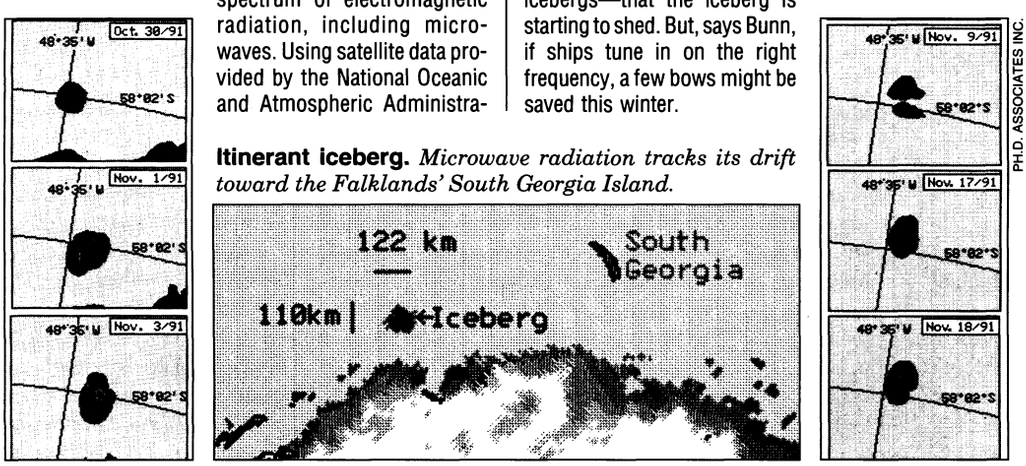
Marc Moller, an attorney for the plaintiffs, says the ruling is important for polio vaccine history: Sabin's oral vaccine was said to be superior to the killed virus vaccine developed by Jonas Salk. But, other than a 1955 industrial accident, Salk's has harmed no one, while Sabin's has harmed several hundred. Moller says the case also highlights serious problems in the drug regulatory system. "But for our piece of litigation," says Moller, "the government's willingness to play footloose with the law whenever it was comfortable to do so would not have been exposed."

Keeping Tabs on a Big Berg

Sometime in August, an iceberg the size of Connecticut (about 5000 square miles) detached itself from the winter ice sheet covering Antarctica's Weddell sea and started drifting northeast. The route of this unusually large chunk of ice may cross the shipping lanes running between Antarctica and Argentina. There, it could endanger research ships and commercial vessels plying the South Atlantic, especially at night or in fog. But thanks to researchers at three Ontario-based research organizations—the Canadian Center for Remote Sensing, the Institute for Space and Terrestrial Sciences, and a consulting firm, Ph.D. Associates Inc.—the frozen phenom is being tracked by microwave radiation.

Like other objects, icebergs emit a characteristic spectrum of electromagnetic radiation, including microwaves. Using satellite data provided by the National Oceanic and Atmospheric Administration, the Canadian team is for the first time mapping an iceberg's progress by using mathematical algorithms to translate electromagnetic emissions into a map of ice concentration, says Ph.D. Associates environmental scientist Susan A. Stubbs. In this way, the researchers can generate a new map every day to plot the iceberg's 9 miles-a-day northeast drift.

The mammoth berg, which apparently broke in half last week, is still hundreds of miles from the shipping lanes, says Stubbs' colleague Frank E. Bunn. But he says that if it doesn't soon beach itself on South Georgia Island, it "could become one of the most dangerous hazards in recent times for South Atlantic shipping." There's also a hazard presented by the growlers—mini-icebergs—that the iceberg is starting to shed. But, says Bunn, if ships tune in on the right frequency, a few bows might be saved this winter.

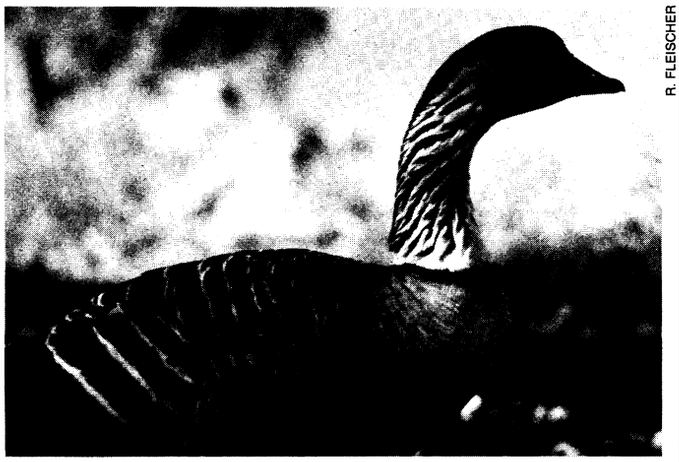


Itinerant iceberg. *Microwave radiation tracks its drift toward the Falklands' South Georgia Island.*

Beating Those Vibration Blues

Take a close look at tennis pro Andre Agassi's racket and you'll see a rubber band snaking around the bottom ends of its main vertical strings. The elastic is a low-tech technique for damping vibrations that can tire players and hamper their ability to control shots. But Agassi could have taken a more scientific route to vibrationless ground strokes, had he only consulted with Ahid Nashif. The Cincinnati-based Anatrol Corporation's mechanical engineer would have suggested Agassi

Genes at the Zoo



R. FLEISCHER

Nene. *Rare Hawaiian goose (pronounced "naynay").*

Showcasing animals is only part of what a world-class zoo does these days; research and conservation are all the rage. And the Smithsonian Institution's National Zoo in Washington, D.C., has put itself at the cutting edge: This month it opened a new laboratory for molecular genetics. The lab's director Robert Fleischer says he knows of only two other (and smaller) zoo-based genetics labs: at San Diego and at Chicago's Brookfield Zoo.

A primary focus of the new $320,000 facility is to learn more about and help propagate endangered species. For example, Fleischer, a research zoologist recruited last spring from the University of North Dakota, says one project is to determine whether warbler couples are monogamous by examining the DNA of warbler chicks. Fleischer —an expert in the Hawaiian goose—is himself pursuing avenues to prevent extinction, such as looking for genes present in wild geese that aren't found in the captive ones. Such analyses can help optimize the mating choices of endangered species to ensure the production of healthy, non-inbred offspring. Evolutionary biology is another thrust of the lab. Researchers will look for new clues about the rate of evolution of particular species, as well as the loss of genetic diversity, by comparing DNA-bearing tissue from museum specimens of extinct animals with today's animals.

trade in his rubber band for an ensemble of three tungsten pegs pushed through holes in several inch-long rubber strips attached to the strings. Engineers rigged up some rackets this way, pursuing a concept that underlies noise and vibration control on aircraft and other vehicles: the vibrations of one component cancel out those of another. Thus equipped, a racket gives a nearly vibrationless thud when struck, while an ordinary one trembles noticeably.

Anatrol cares about more than suffering tennis pros. Another of its innovations quells vibrations in the aluminum bats used these days by little league baseball players. "It's so painful for some kids, they drop the bat," Ahid explained at a recent meeting on "smart materials" held by the American Defense Preparedness Association in Alexandria, Virginia. So, in a joint project with the California-based Easton Aluminum Inc., Anatrol stepped up to the plate by implanting in bats a metal weight flanked by a pair of rubbery damping cushions.

The sports equipment market is only one arena that gives Ahid good vibes about the future of his line of work. "People have grown accustomed to saying that sound and vibration [in consumer and mechanical products] are bad," he says. What's bad for them might be good for Anatrol.

Machines Who Think

Sample exchange from a recent gathering in Cambridge, Massachusetts:

A: "I just got wonderful news from my real estate agent in Florida—they found property on my land."

B: "Wonderful!"

A: "I wonder what it means to be human."

A '60s nostalgia party, complete with drugs? No, the first-ever Turing test. That test, you may remember, was the brainchild of the late, brilliant British mathematician Alan Turing. In 1950 he predicted that by 2000, computers could be programmed so that after 5 minutes of questioning, the average interrogator would not have more than a 70% chance of telling whether he was talking to a machine or a person.

This month, six computer programs were put to a limited version of Turing's test. The event, staged by Boston's Computer Museum and the Cambridge Center for Behavioral Studies, featured 10 human judges who conversed via keyboard with either a person or a computer program—each of which was restricted to a single topic. After each 14-minute "conversation," the judges had to guess the nature of their interlocutor.

Even with the limitation on subject matter, artificial intelligence experts weren't expecting much. So most were surprised when the winning entry—a version of the program PC Therapist by software entrepreneur Joseph Weinstein of Woodside, New York—was not only voted the most human-like but actually convinced five of the judges that they were conversing with a human when they weren't.

Not everyone was blown over by the result. "This test will show how near we are to where we started—how little we've progressed in the past 25 years," commented MIT computer scientist Joseph Weizenbaum, who almost 30 years ago created ELIZA, one of the first conversational computer programs.

Weinstein won $1500 in the contest, which was financed by businessman and philanthropist Hugh Loebner. Loebner is now offering $100,000 to the program that can win an unrestricted Turing test. When might that happen? "Certainly not in this century," said museum board member Edward Belove.

Online Journals

When the AAAS and OCLC Online Computer Library Center announced the scheduled debut next year of their new journal—*The Online Journal of Current Clinical Trials*—they said it would be the world's first peer-reviewed, online science journal (*Science*, 27 September, p. 1480). Since then, two other such journals have made their presence known to *Science*. They are *Solstice: An Electronic Journal of Geography and Mathematics*, published by Sandra Lach Arlinghaus of the Institute of Mathematical Geography in Ann Arbor, Michigan, and *Flora Online*, published by Richard H. Zander, curator of botany at the Buffalo Museum of Science. Both have been around for about 2 years and are available free over several popular research computer networks.

Engineering First

Martha E. Sloan, professor of electrical engineering at Michigan Technological University in Houghton, has become the first woman be be elected president of the Institute of Electrical and Electronics Engineers (IEEE). A petition candidate, she beat out three men nominated by the IEEE board. She will take office on 1 January 1993.