

## A Long Way From Croaking

While most of the world worries about losing its amphibians, the Hawaiian islands have a glut on their hands. Over the past decade, two tiny Caribbean frogs have invaded most of the islands, infuriating residents and real estate agents. Government scientists are scrambling to find environmentally benign tools to curb the problem.

Hawaii was free of amphibians until a handful of coqui and greenhouse frogs rode in aboard imported plants. Now people are complaining that their noise detracts from the quality of life and housing sales. Ornamental plant growers also say that frogs nestled in their wares are damaging Hawaii's lucrative plant export trade.

A recent 1-year trial with a spray containing caffeine looked promising, but it was not extended because of fears that it would contaminate groundwater. State officials now hope that residents will get behind a campaign to deploy ascorbic acid. More toxic weapons would have to go through the Environmental Protection Agency's time-consuming approval process.

It's not clear how bad the frogs are for the ecology. Some worry that they will rob birds of their insect supply; others see the frogs as attractive prey for undesirables such as brown tree snakes. But Margaret Stewart, a herpetologist at the State University of New York, Albany, thinks that the real problem is simply that



Tiny noisemaker.

Hawaiians aren't used to frogs. "I find their call—'co-kee'—melodic. I love to hear them," she says.

## Teaching the Tongue to See

The tongue is "a terrific portal to the brain," with untapped capabilities, says Paul Bach-y-Rita. Now scientists in France are using a concept developed by the University of Wisconsin neuroscientist to devise a system to aid surgeons by means of signals sent to their tongues.

Surgeon Yohan Payan and grad student José Vazquez-Buenosaires of the University of Grenoble, France, are experimenting with a Tongue Display Unit (TDU) that can relay guidance on the use of surgical tools through signals from an array of tiny electrical stimulators.

In a simple operation, such as cryosurgical removal of a tumor, a 3D image is made and the tumor's coordinates, along with the optimal trajectory for a scalpel, are fed into a computer that is hooked up with both the scalpel and the TDU, which

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gives signals to indicate when the scalpel is off course.

Payan says seven volunteers quickly learned to stay close to the trajectory, feeling the tongue pricks as "real 3D guidance

rather than a 2D tactile stimulation." Bach-y-Rita adds that the tongue can perceive stimuli at a much finer resolution than the face or even the fingertips.

Payan says the next step is to develop a wireless version that can be worn like a dental retainer.



## Chickens on Patrol

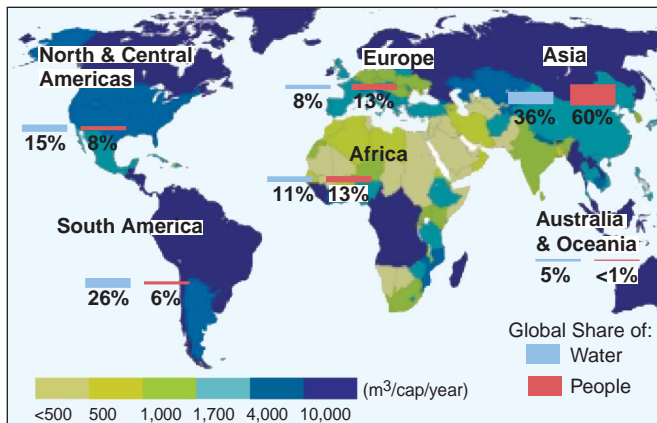
Some U.S. Marine units in Kuwait have been bringing chickens along on their expeditionary forays as low-tech sensors to complement other technology for sniffing out possible chemical and biological agents. The story has the international press all aflutter, although a spokesperson at the media operations center in Kuwait says it's no big deal.

"They have a lower tolerance for certain substances that could be in the air," he says, adding that soldiers took chickens along with them 12 years ago during the Gulf War to provide "an added level of assurance."

But, he admits, "chickens are not a very durable animal, so I don't think they're doing too well." Indeed, Brig. Gen. Steve Reeves, Army program officer for chemical and biological defense, said at a 3 March media briefing that "it actually takes ... 10 times more [nerve agent] to kill a small animal than it does a human. So we've suggested this may not be such a good idea." What's more, feathers "may actually provide some protection" against liquid nerve agents. In any case, he said, chickens aren't great biosensors, because they are "spectacularly nervous."

## Global Water Dilemma

Although proper water management "lies at the heart of our survival and that of planet Earth," a new report from the United Nations finds that 25 years of international conferences have produced "hardly any" solutions. The report, to be presented next week at the Third World Water Forum in Kyoto, Japan, says that 20% of the world's people lack good drinking water and 40% lack sanitation. Global per capita water supplies decreased by one-third between 1970 and 1990 and are likely to drop by a third over the next 20 years unless countries overcome their "inertia at the leadership level."

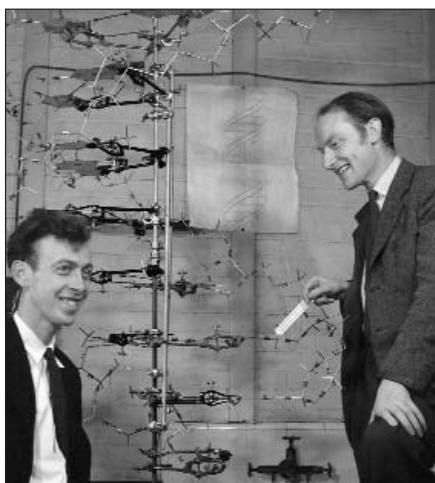


## Photo for the Ages

This May 1953 photo of James Watson and Francis Crick gazing at their model of DNA has become an icon of molecular biology. It's so popular that the 19th International Congress of Genetics is auctioning off an art-quality print—signed by the Nobelists—to help bring 50 or more scientists from developing nations to this summer's meeting in Melbourne, Australia ([geneticscongress2003.com](http://geneticscongress2003.com)). The highest bid so far is \$3800.

Apart from its charity work, the photograph is finally providing a significant income for its rightful owner, Antony Barrington Brown. "It wasn't until a decade ago that I realized it was being given out freely to anybody who asked," says Barrington Brown, 75, who shot the picture when he was a freelance photographer in Cambridge, U.K. The situation improved when he signed with the London-based Science Photo Gallery, which is also selling 1100 numbered copies of the photo for \$650 each.

Retired and living in western England after a second career as a furniture maker, Barrington Brown is expecting the 50th anniversary of the discovery to be a banner year for his photograph, one of eight he shot for an assignment from *Time* magazine, which killed the story. Upon his death, the rights will pass to his alma mater, Cambridge's Gonville and Caius College, "because I couldn't figure out how to split the royalties among my seven children."



Watson (left) and Crick spiraling to fame.

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PEOPLE

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made him an offer that he says is tempting because unlike MIT, it has a rich collection of expertise in fields of psychology and evolution. MIT is fighting back with what he calls "generous and creative" terms that would allow for visiting scholars in those areas. "It's a hard choice," says Pinker, who has been at MIT for 21 years.

**Resettled.** Molecular biologist Arnold Levine has a new job as a professor of pediatrics at the University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School in New Brunswick. Levine, best known for his role in the discovery of the *p53* tumor suppressor gene, resigned as president of Rockefeller University in February 2002 after an incident involving a graduate student (*Science*, 15 February 2002, p. 1209).

### IN THE COURTS

**Heart notes sought.** A medical anthropologist at the University of Pennsylvania in Philadelphia is battling attempts by lawyers to gain access to her research notes on a heart transplant trial.

The field notes of Sheldon Zink of the Center for Bioethics have been subpoenaed by lawyers in connection with a suit by the family of a man

who died last year after receiving an artificial heart. Zink observed the operation as part of her ethnographic research on ethics and

transplant policy, and she's prepared to go to jail if necessary. "As anthropological researchers, under no circumstances should we be forced to give up our notes," she says.

Zink has won backing from anthropology departments around the country, and her supporters have set up a Web

site ([freesheldon.org](http://freesheldon.org)). The American Anthropological Association says it does not take a stand in disputes involving individual members, but the sanctity of field notes is on the agenda of the May board meeting.

### JOBS

**The Nobel seat.** Look for Stanford University physicist Douglas Osheroff to make his mark on the blue-ribbon panel investigating the space shuttle Columbia disaster. The newly appointed Osheroff is already being compared to another physics Nobel, Richard Feynman, who in 1986 famously dropped an o-ring into a glass of cold water to demonstrate why the shuttle Challenger blew up.

"I'm not in the same league as Feynman," says Osheroff, who won a Nobel Prize in 1996 for his work on how materials behave at low temperatures. "But I think I have something to contribute. Everybody wants to know why debris keeps

falling off the external fuel tank. Well, that's a low-temperature physics problem. And I'm a pretty good experimentalist."

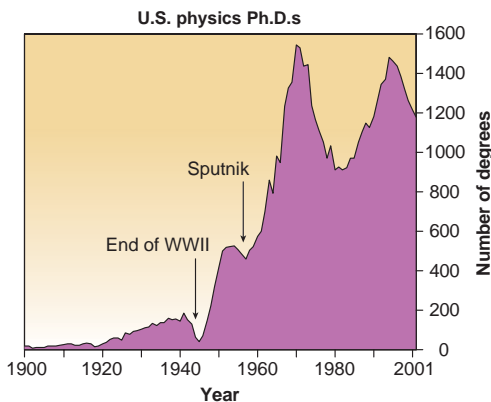
**Battle of titans.** Harvard and MIT are jockeying for the possession of famous cognitive scientist Steven Pinker. Harvard's

### DATA POINTS

**Silver lining.** "We need a new Sputnik event to inspire U.S. citizens into the physical sciences and engineering. We have one: 9/11." That's the word from chemistry Nobelist Richard Smalley, speaking last week to the President's Council of Advisors on Science and Technology (PCAST).

The alarm raised by the Soviet Union's launch of Sputnik in 1957 inspired thousands of young Americans to become engineers, physicists, and chemists, he says (see graph). "We ought to take the angst that has built up as a result of 9/11 and channel it" into eliminating the root causes of terrorism, including poverty, hunger, and a shortage of water.

Marye Ann Fox, a PCAST member and chancellor of North Carolina State University in Raleigh, would like to see that happen, too. "9/11 has captured the patriotic spirit of Americans," she says.



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