RANDOM SAMPLES

edited by CONSTANCE HOLDEN

New CF Drug Goes Pro Bono

The biotech giant Genentech has set up a not-for-profit endowment, worth more than $10 million, that will help cystic fibrosis patients obtain its new drug Pulmozyme. Treatment with Pulmozyme costs $10,000 a year—plus $2,000 for a nebulizer to get it into the lungs.

Accused of price gouging in the past, biotech companies now set up "safety net" programs that enable doctors to provide drugs cheap or even free to indigent patients. Genentech's program is different because the company doesn't control the money. The endowment funds will instead be administered by The Lash Group, health care consultants based in Charlotte, North Carolina. The program will offer help to patients who either have inadequate insurance or who can't afford copayments for Pulmozyme therapy. Administrator Peyton Howell says the group will not just procure drugs but will also advise clients, via a toll-free number (1-800-297-5557), on how to "exploit some of the insurance options that they already have."

Everyone seems to admire the new arrangement, including the National Cystic Fibrosis Foundation, which helped design it. Industry analysts credit Genentech with a savvy program that, they say, may be the way to go in making expensive new bioengineered drugs more widely available. "It's the wave of the future," says Carl Feldbaum, president of the Biotechnology Industry Organization. "If other companies don't follow the model, they may have to answer, 'Why not?'"

Journal Quails Over Oiled Turtles

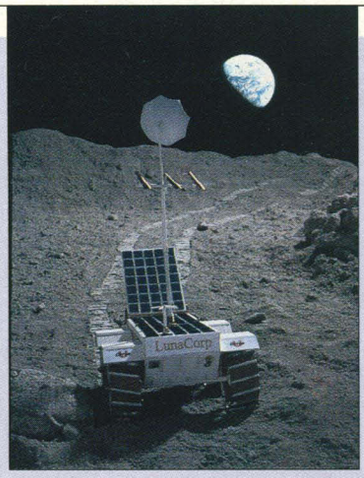
When it comes to assessing what environmental toxins do to animals, scientists face a dilemma: How do you get good data without violating, if not animal research regulations, at least today's heightened sensitivities?

That's a problem for some marine researchers who can't get a study on the effect of oil spills on marine turtles published because it involved deliberately dirtying up the turtles. Molly Lutcavage, a comparative marine physiologist at the New England Aquarium, told *Science* that in 1983 she participated in the experiment, funded by the Interior Department and run by Peter Lutz at the University of Miami Marine Laboratory. It involved keeping nine juvenile loggerheads for 48 hours in tanks filled with Biscayne Bay seawater topped with a slick of weathered Louisiana crude. Lutcavage says, "We went through the proper channels at the time," which included getting a permit from the Commerce Department's National Marine Fisheries Service. The scientists submitted their findings—the turtles had inflammatory responses but appeared to suffer no lasting effects—to the government, but did not seek to publish the paper until after Congress passed the Oil Pollution Act of 1990, which requires companies to do contingency planning for oil spills.

The paper was submitted early last year to the American editor of the Britain-based *Marine Pollution Bulletin*. It was approved by reviewers and sent on to chief editor Charles Sheppard. But Sheppard vetoed it, saying that he didn't accept "LC 50" studies—those involving a concentration sufficient to kill 50% of the study population. Lutcavage says it was "in no shape or form an 'LC 50' study." Last month, another British journal, *Fisheries Research*, also reacted negatively: Editor Alasdair McIntyre observed that the experiment "would require a special vivisection licence" in the U.K., "and I am not at all sure that it would be granted."

In the United States, the situation is less clear. Barbara Rich of the National Association for Biomedical Research says decisions on this type of research have to be made on a case-by-case basis, since the Animal Welfare Act does not cover cold-blooded vertebrates. But some U.S. scientists, too, are leery of such a study—especially since sea turtles are regarded as threatened species.

Lutcavage is "dismayed" over the situation. She says "the lack of published information on the effects of oil on sea turtles means that they will be overlooked in contingency planning, and will continue to be threatened by neglect."



On the moon. Rover phones home.

A Lunar Idea

Racing cars are plastered with ads for their commercial sponsors, so why not adopt the same principle for a lunar rover—letting corporate contributors make commercial hay and foot the bill? That's how a corporation formed by some ex-government officials and others thinks space exploration may shape up in this era of tight budgets. The Arlington, Virginia-based LunarCorp., formed in 1989, is out to prove that space exploration can generate its own financing just the way sporting and cultural events do, says its president, former publisher David Gump.

The group is starting with an interactive lunar exploration project in collaboration with robot whiz William "Red" Whitaker of Carnegie Mellon University. The National Aeronautics and Space Administration is funding the development of a lunar rover that can be driven from Earth, but since it can't afford any moon visits these days it's allowed Whitaker to find commercial sponsors. LunarCorp. wants to get the rover on the moon by late 1997, putting it down near the Apollo 11 landing site and sending it on a nostalgic 1000-mile tour, "MoonTrack 97," to visit the Apollo 17 site and find the grave of the lost Soviet rover Lunakhod. The rover will beam back stereoscopic TV images, and ordinary folks will be able to pilot the rover "telepresently" at interactive facilities. "Space exploration has been reserved for government employees for too long," declares Gump.

LunarCorp. says the mission will cost less than $120 million, thanks to a group of San Diego entrepreneurs who have contracted with the former Soviet space program for cutrate launch services. The company aims to raise other funds by selling TV broadcast rights and setting up virtual reality "walking on the moon" attractions at theme parks and elsewhere. Gump says, "We also have a couple of car companies checking us out....It's a great tie-in: We'll let you test drive the lunar rover if you test drive our latest model."

First Satellite of an Asteroid Discovered

The sun has its planets, the planets their moons, so shouldn't the minor planets—asteroids—have their own attendants as well? In theory the answer is yes, but during the 1980s a long string of failed searches suggested otherwise.

But now the Galileo spacecraft has happened upon a moon orbiting the 52-kilometer-long asteroid Ida, confirming theoreticians' belief that even some of the solar system's smallest bodies can have moons despite the fact that their feeble gravity makes it difficult for them to hang on to satellites.

The discovery is a lucky one as Galileo wasn't even looking for

satellites last August when it flew by Ida en route to a 1995 encounter with Jupiter. Because the spacecraft's communications system was crippled, it was storing far more images than could ever be returned. Team members got one shot of Ida last September (*Science*, 1 October 1993, p. 33), though, and began searching last month for others by beaming down three out of every 30 lines of data that make up the images. Anything as large as Ida could not slip through such a net. But "one frame had something other than Ida in it," says project scientist Torrence Johnson of the Jet Propulsion Laboratory. An object also turned up in the same location on an image from Galileo's near-infrared mapping spectrometer, so team members are fairly confident that additional data will prove that Ida is not alone.

Lefty Longevity: Another Study

Do left-handed people have shorter lifespans? Studies have come up with conflicting results. Now a soon-to-be-published study of baseball players—using the largest study population yet examined—takes the middle ground, suggesting that lefties die earlier, but only by a year.

In 1991, psychologists Diane Halpern of California State University and Stanley Coren, of the University of British Columbia, reported that left-handers, perhaps because of accidents and weakened immune systems, die on average 9 years earlier than right-handers (*Science*, 17 May 1991, p. 251). Then several studies said that was bosh (*Science*, 19 February 1993, p. 1118).

Now there's a new analysis* from Peter Rogerson, chair of the geography department at SUNY-Buffalo, who looked at 4448 baseball players born before 1920. As other studies have done, Rogerson included only players who threw and batted with the same hand. However, unlike other studies, instead of focusing only on deaths, he included the living: 19% of the righties were still alive as were 16.4% of the lefties. Survival rates of the two groups were the same for players between 25 and 65, but after 65 southpaws passed on one year sooner, on average. Rogerson included people who had not yet died because it might have been "that relatively more lefties compared to righties are still alive."

Coren says he believes Rogerson's result but adds that "when the dust settles, I would bet that the true difference is somewhere between 2 and 4 years." Marcel Silave and Jack Grualnik of the National Institute on Aging, who did a study showing no survival difference, disagree on several points. They point out that baseball players are a select group that favors lefties and that baseball encyclopedia statistics are not particularly accurate. More important, they dispute Rogerson's statistical analysis.

Southpaws wanting an answer will just have to wait for the next hand to be played.

**Social Biology*, in press.

Soviet-Style Conundrums for U.S. Youth

A few select students at the Massachusetts Institute of Technology (MIT) are using a tool that has helped the former Soviet Union cultivate its scientific talent: the math and physics problems used on entrance exams at Moscow's elite universities. These brain twisters, a new crop of which used to be created every year, will soon be available to students across the United States, if two MIT professors get their way. In January, materials scientist Robert Rose and emigre physicist Yuri Chernyak began using the problems in a course entitled "From Russia, With Love." They say many of their students have gotten so hooked on them that they often work on them through the night.

The problems range from easy ones accessible to high school seniors to ones that "could be solved by only one in five thousand students," says Chernyak. A simple one goes as follows: Place one solid ball on on a table, and suspend an identical one on a string. Which ball requires more energy to heat 1 degree Celsius? Chernyak explains that the center of gravity of the balls changes due to thermal expansion, with the ball on the table expanding upwards and the other expanding downwards. The former ball would take more energy to heat because it would be fighting gravity. Another easy one takes a historical case: In 1946, Soviets armed their first jet fighters with rockets to be shot backward from the tail. But when the first rocket was launched, it made a U turn and hit the plane. Why? Because as the rocket starts moving backward it is still in reality moving forward with the jet. When it emerges, therefore, it finds itself in a strong tailwind. Its fins, designed to keep it moving forward, make it flip over and head into the jet's airflow, eventually colliding with the plane.

The professors have a grant from the MIT class of 1951 to adapt a set of problems for American students, and are seeking money from the National Science Foundation to do more. They plan to test problems on students in informal visits to other schools, and hope eventually to produce a textbook.

From Russia, with love. Chernyak *(left)* and Rose say their students are avid fans of Russian brain teasers.

U.K. Research Council Gets Oxford Head

With Britain's reshuffled system of research councils due to be launched in 2 weeks, the chief executive for the largest one, the Engineering and Physical Sciences Research Council (EPSRC), has been found: Richard Brook, head of the department of materials at Oxford University.

The councils support most government-sponsored academic research and graduate training. EPSRC is a scaled-down version of the old Science and Engineering Research Council—minus particle physics, astronomy, and biology, which are being transferred to other councils. Brook, who takes office on 1 April, applauds the loss of "big science" from his council. "Now there will be more chance that proposals can be compared like against like," he says, and ceramic car engines, for example, won't be competing for support with a new telescope.

Brook fits in the pattern set by other council appointments: Academics are taking the full-time executive posts, while part-time chairmanships are going to industrialists. Brook's chairman is Alan Rudge, managing director of development and procurement at British Telecom. Some academics fear that industry may be getting too much clout, but Brook insists that he wants his council's priority areas to be chosen on the basis of scientific impact rather than commercial appeal.