RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Overdrawn at the Brain Bank

The Canadian Brain Tissue Bank in Toronto is suffering from insufficient funds. One of three such repositories in North America, the bank lost its government funding last year in a Canadian science budget crunch. Now its hopes for survival rest on its utility for studying environmental toxicants.

The bank, founded in 1981, includes samples from people with degenerative neurological disorders and psychiatric ailments, as well as reference samples from normal brains. Tissue is made available to any researcher doing a peer-reviewed project. Schizophrenia researcher Philip Seeman of the University of Toronto points out that human brain tissues are in growing demand by researchers, as no animal model can replicate a human behavioral disorder.

The bank was funded, at something less than a quarter of a million Canadian dollars a year, by two government sources—the Medical Research Council and the Ontario Mental Health Foundation—as well as a charitable group, the Canadian Neurological Diseases Coalition. With two thirds of its support gone, it now has only two full-time employees overseeing its collection of tissue from some 1340 brains.

Annette Dukszta, the bank's administrator, says she hopes the Great Lakes Health Effects Program—established in 1989 to assess the effects of industrial pollutants—will provide an "escape route." Budget allocations won't be decided before the end of March, but "they have us as a priority," she says. According to toxicologist Moe Hussain of the health effects program, studies up to now have focused on gauging peoples' intake of poisons, mainly through fish consumption. But researchers also want to examine a variety of human tissues to gauge toxic exposure, and many of the brains in the bank are from people who lived in the Great Lakes basin.

Brain tissue is valuable in the study of cumulative poisons such as heavy metals, says Seeman, because there is no cell turnover. He says the Great Lakes project could also help fill out the picture of how environmental toxicants conspire with genes to bring about Parkinson's and other degenerative diseases.

LONG ISLAND UNIVERSITY

Crossing the bar in style. Egyptologist Bob Brier *(right)* and Webb Institute senior Stu Greene with replica of pharaoh's boat.

The Boat in the Tomb

In 1954 the pieces of a 170-foot-long cedar boat were discovered in the Great Pyramid of Giza, tomb of King Cheops. Could the 4000-year-old boat serve as a practical vessel in this world, or was it built only for use in the next? Long Island University Egyptologist Bob Brier wanted to find out. On 23 February, researchers put a 7-foot model of the boat to the test and found it seaworthy. The boat, says Brier, is an "elegant, beautifully designed craft."

Brier relates that he and colleagues from the university's C. W. Post Campus in Brookville, New York, drew a blueprint from the original vessel, which is housed in a museum at Giza. Professional model carvers based the pine-and-glue model—including 12 little oars—on these plans. Then the scientists tested the craft in a 93-foot-long tank at the Webb Institute, a marine engineering college in Glen Cove, New York. "We pulled it through the water several hundred times under different conditions," says Brier. They concluded that the low-riding craft was a river boat because in the ocean it would have been swamped. And it was not designed for cargo because there is no hold. "It may have only gone on one voyage, crossing a river to take the pharaoh's body for burial," says Brier. Nonetheless, he says, it has "wonderful properties in the water" and left no wake, causing observing naval architects to gape with wonder.

Marsha Hill of New York's Metropolitan Museum of Art says that there has long been speculation about whether such funerary vessels were navigable. Brier's experiment confirms the current prevailing belief that the craft was navigable, she says—"but not for very far" because the lashings (it was bound together by ropes) were not secure enough for serious boating.

Portrait of a Killing

Two years ago Venezuelan biologist Aldomero Romero, campaigning against commercial fishing practices that were destroying dolphins, filmed a dolphin being slaughtered. Now his government, embarrassed by the furor Romero's film has provoked, has accused him of orchestrating the killing and has moved to extradite him from the United States, where he has sought refuge. Romero, an adjunct professor at the University of Miami, says in a complaint filed with the Federal Bureau of Investigation (FBI) last week that Venezuelan authorities have threatened to kidnap him.

The strange saga began in February 1993 when Romero and another biologist shot a video allegedly showing Venezuelan fishermen butchering a dolphin for use as shark bait. Romero, then director of the Venezuelan Foundation for the Conservation of Biological Diversity, says he gave a copy of the video and a report to Venezuela's Attorney General in May 1993, but it failed to elicit action. After Romero gave the footage to CNN, however, the cable network broadcast an edited version in November 1993 that spurred thousands of viewers to send angry letters to Venezuelan diplomats in the United States.

That outpouring apparently irked certain Venezuelans, who Romero says began calling his house in Caracas with death threats. Romero fled to Miami with his family in February 1994. A few months later, a provincial prosecutor in Venezuela charged him with killing the dolphin in the film. Romero denies the charge and says he filmed the slaughter to expose the illegal killing. But last month, Venezuela's Supreme Court approved an extradition request from the province.

Few observers believe the U.S. State Department will honor it. "I think it's most unlikely that State would act on a request from a province rather than the government," says Bruce Winick, a University of Miami law professor. But Romero still expects more trouble. "The Venezuelan authorities will take illegal forceful action to take me back to Venezuela," his FBI complaint states. The Venezuelan embassy failed to return calls from *Science*. As for Romero, he says, "I feel like I'm in a Hitchcock movie. I'm afraid for my life."

Public Health Threats

For emerging health threats, 1993 appears to have been a vintage year, with the surge to prominence of three new diseases: cryptosporidiosis, in which a parasite in Milwaukee's drinking water sickened thousands of people; hantavirus disease, a mouse-borne respiratory illness that killed a dozen people; and hemolytic uremic syndrome, caused by foodborne bacteria that, among other things, made a score of people ill from Jack-in-the-Box hamburgers.

These scourges, along with four others, have been added to the list of some 50 communicable diseases that are reported by states to the U.S. Centers for Disease Control and Prevention in Atlanta, Georgia. During the past 2 decades, such new illnesses as Legionnaires disease, Lyme disease, and AIDS have joined the list. But last month the Atlanta-based Council of State and Territorial Epidemiologists voted on additional changes following a meeting in November—the first major reassessment of the list since the 1950s.

"What we're seeing is the constant evolution" of the list, matching the changes in diseases and the conditions that nourish them, says epidemiologist Ed Thompson, Mississippi's state health officer. A strain of *Escherichia coli*, for example, which causes hemolytic uremic syndrome, appears to have mutated from an innocuous bacterium to a killer bug in the '80s. The hantavirus multiplied as damp weather provided food conditions favorable for the disease-carrying mice.

The additions may not be welcomed by state and local health officials who are coping with a growing caseload of infections—AIDS and drug-resistant tuberculosis in particular—despite stagnant budgets and staffing. On the upside, several diseases, such as rheumatic fever, which has been dramatically reduced, are expected to be removed from the list. And officials are trying to streamline surveillance for some diseases such as influenza by sampling the caseloads of "sentinal" physicians rather than trying to tally every case.

Attacking Corruption In Academe

The campaign to clean up the *concorsi*, Italy's system for picking professors, is gaining speed, pushed along by a new research minister who replaced an avowedly reluctant reformer, the unpopular Stefano Podestà, in January.

The *concorsi*, national competitions that should be held every 2 years, have been criticized for furthering the careers of weak candidates, many of whom are collaborators or even relatives of members of the judging panels (*Science*, 11 November 1994, p. 965). Frustration is high, too: The last round for associate professors was held in 1990 and for professors in 1992. This latter round is still not closed, as investigations into corruption are in progress.

Now the new minister, Giorgio Salvini, a physicist and technocrat, wants to change the way business is done. He and many academics favor drawing up national lists of selected *concorsi* candidates from which universities could choose. Other proposals may be forthcoming from a newly formed academic research and culture association whose aim is to raise standards throughout Italian academia.

Given the widespread criticism of the old system, new legislation must pass parliament before any new *concorsi* are held. Salvini wants his proposals approved before he opens new rounds of *concorsi* this spring and summer.

There are already signs of change. Medical faculty at Padua have just approved more stringent requirements for scientists serving on panels that define criteria for university positions. The courts are also getting involved. A medical panel chair recently received a 1-year suspended sentence for abuse of power in assigning university chairs, and the Roman public prosecutor has initiated criminal investigations of a dozen professors for similar offenses.

Discovering Women in Science

Human face of physics. Harvard's Melissa Franklin.

Six U.S. women scientists will be featured in a six-part documentary series to be aired by the Public Broadcasting System starting on 29 March. The series, produced by WGBH in Boston, is designed to attract more women, who now make up 16% of the scientific work force, says spokesperson Judy Matthews. And, she says, it wants to demonstrate that you don't have to be an eccentric genius but can become a scientist with "human-level" intelligence.

Harvard University high-energy physicist Melissa Franklin says she thinks this series will indeed help make science seem like an option for more people. She recently gave a talk to some high school students in Worcester, Massachusetts, who seemed gratified that she appeared normal. "A lot of students said they always thought scientists were more nerdy and weirder," she says. The other five scientists are biochemist Lynda Jordan of North Carolina A&T State University; geophysicist Marcia McNutt of the Massachusetts Institute of Technology; Washington University archaeologist Patty Jo Watson; computational neuroscientist Misha Mahowald, a postdoc at Oxford University; and Harvard molecular biologist Lydia Villa-Komaroff.

Producer Judith Vecchione says an accompanying outreach program called "Seek Out Science" for middle-schoolers encourages them to create research projects around women scientists which will then be displayed in several museums around the country. The project, "Discovering Women," is being sponsored by the Intel Foundation with support from the Sloan Foundation and the National Science Foundation.

Message in a Bottle

The Republicans may want their Contract with America, but what America really needs is "a contract with nature." So spoke Cornell biologist Thomas Eisner at a gathering in Washington, D.C., held to announce the formation of the "medicine bottle crusade." The crusade is a campaign to salvage the Endangered Species Act by flooding legislators with old prescription containers.

The message is that plants hold a wealth of beneficial yet undiscovered chemicals, and extinction will rob humanity of these treasures. Eisner passed around one of the most recent examples, a type of mint, discovered on the grounds of the Archbold Biological Station in Florida in 1962, that has been found to harbor both a new kind of insect repellent and a new anti-fungal compound.

The campaign, sponsored by a group of organizations calling themselves the Endangered Species Coalition, is designed to influence legislators as they contemplate some major changes to the Endangered Species Act, which comes up for reauthorization in September (*Science*, 3 March, p. 1256). The House has already, on 23 February, voted to suspend further listings of critical habitats until after the law is reauthorized. Coalition chair Randall Snodgrass said the Republicans are also keen to cut the National Institutes of Health's Office of Alternative Medicine, which funds research on botanical drugs.