RANDOM SAMPLES

edited by Constance Holden

Reach for the Stars

A 14-meter Mylar sheet draped the lobby of building number 10 at the Rockefeller Center in New York City last week. One-hundredth the thickness of a plastic garbage bag, the golden pane is a model of one of the eight petals in a solar sail that will power the $4 million Cosmos 1 space explorer. The one-of-a-kind craft aims to prove that a space module can be propelled by light, potentially vastly extending the range of human interplanetary travel.

The project is the baby of Cosmos Studios, established in 2000 to forward the visions of the late Carl Sagan, and run by his widow and collaborator Ann Druyan. Druyan says a Russian intercontinental ballistic missile was reconfigured to carry "our little, beautiful and delicate spacecraft," to be launched in late fall from a Russian submarine in the Barents Sea. Settled into an 800-kilometer Earth orbit, the pod will blossom into a "giant reflective flower" to surf the solar wind. Druyan says the technology may ultimately bring the nearest star, Proxima Centauri, which is now 20,000 years away with current technology, close enough for a 2000-year trip.

'Mozart Effect' Revisted

Studying a musical instrument may bolster children's ability to remember lists of words, according to a new study from Hong Kong.

In the past 25 years, researchers have found correlations between music training and improvements in verbal memory and spatial reasoning skill. In 1998, clinical neuropsychologist Agnes Chan of the Chinese University of Hong Kong and colleagues reported that adults who had been taking music lessons for more than 6 years had better memory for words—but not for shapes—than a comparable group without music training. The scientists subsequently tested 90 students aged 5 to 15, half of whom had had 1 to 5 years of music lessons, on their ability to recall lists of words, recognize shapes, and draw shapes from memory. The groups were matched for verbal IQ. As with the adults, the music students were better at recalling words.

The team followed up a year later by retesting 24 music students who had continued training, nine who had since quit, and 17 who had recently started music lessons. The quitters' word recall scores remained the same on average, the researchers reported in *Neuropsychology* last month. But verbal memory improved in those who'd stuck with their lessons and improved even more dramatically in those who'd recently started.

The study "provides compelling evidence" that formal music training is responsible for long-term improvements in verbal memory, says neuropsychologist Lorna Jakobson of

In the Eye of the Storm

It has been a hot summer for Hans von Storch. In June the German meteorologist was promoted to editor-in-chief of *Climate Research* and asked to douse the controversy from the journal's publication in January of a paper skeptical about global warming. But by the end of July he had thrown in the towel and resigned.

The paper that led to his rise and fall claimed that the 20th century was in fact cooler than a period in the late Middle Ages. Authored by Willie Soon and Sallie Baliunas of the Harvard-Smithsonian Center for Astrophysics, it was based on a study partly funded by the American Petroleum Institute and widely quoted by politicians skeptical of global warming. The Bush Administration even referenced it in a recent report by the Environmental Protection Agency that critics said was altered to hew more closely to the party line.

But other climate researchers say the authors' data was too limited to support their claims. "They could not draw those conclusions from the methods they used," says Von Storch.

Von Storch wrote an editorial outlining new procedures that "would prevent such a review failure from recurring." But after publisher Otto Kinne said he wanted the entire editorial board to approve the copy, Von Storch resigned in protest on 28 July along with fellow editors Clare Goodess and Mitsuru Ando. A week later, *CR* published an online statement by Kinne regretting the resignations and admitting that the journal should have requested revisions before publishing the paper.

Climate modeler Lennart Bengtsson of the Max Planck Institute for Meteorology says he respects Von Storch's decision. "It is extremely unfortunate when science gets politically influenced," he says. "I probably would have done the same."

JOBS

Enough of that. Reproductive biologist Alan Trounson has stepped down as chief executive officer of the National Stem Cell Center (NSCC), the Melbourne-based facility that he founded last year with a controversial $28 million grant from the Australian government. Trounson, who was influential in getting the Australian parliament to approve the limited use of embryos in medical research, will return to Monash University to lead a stem cell research group. But he'll continue to serve the center as its global science strategic adviser.

Trounson spent a rough 18 months at the helm. Last year, he was accused of misleading Parliament by showing them a video of a crippled rat being healed by a treatment using embryonic stem cells. He later clarified that the cells had actually been harvested from aborted fetuses. Trounson also was cleared of allegations that the center had received preferential treatment from the chair of the granting agency.

Trounson was unavailable for comment, but Nick Saunders, dean of medicine at Monash, says that Trounson "was keen to return to his science after getting the center up and running."

DEATHS

End of an era. Nobelist Frederick C. Robbins, whose work on culturing viruses in the lab led to the development of the polio vaccine, died last week in Cleveland, Ohio. He was 86.

Beginning in the late 1940s, Robbins teamed

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the University of Manitoba in Winnipeg, Canada. Previous studies have found that the part of the brain responsible for verbal memory is larger in musicians, and Jakobson and Chan agree that future studies should investigate whether music training boosts development of the region.

Vesuvius' One-Two Punch

Hiding at home saved these skeletons' owners only briefly.

When Mount Vesuvius began to erupt in A.D. 79, most inhabitants of Pompei fled the city. But some hid at home, and new geological evidence shows that many survived the first harrowing pumice storms only to perish in a second onslaught hours later.

The research, by volcanologists and archaeologists at the Universitá Federico II in Napoli and Pompei's archaeological authority, provides "a painfully detailed reconstruction of the various causes of death," says Cynthia Damon, a classicist at Amherst College in Massachusetts. Evidence from new and old excavations shows that about 60% of the people who stayed in Pompei survived the first pumice flows. About half then hid in their homes while the rest fled. In a second wave of eruptions, torrents of ash and pumice poured down streets and piled up on walls, engulfing people on the roads. Those hiding inside stayed alive—only to suffocate when their roofs collapsed, the team reports in the 20 August *Journal of Volcanology and Geothermal Research*.

The team asserts that intact skeletons and unmelted glass containers indicate the later deposits were not hot enough to burn the victims. But Peter Baxter of the Institute of Public Health at the University of Cambridge, U.K., says they could have died from inhaling hot particles.

World Tree Alert

Fires in the past 2 years have ravaged forests of monkey puzzle trees (*Araucaria araucana*), pictured here in Chile's Conguillio National Park, destroying trees as old as 2000 years.

This Chilean icon is one of an estimated 8000 tree species—about 10% of the world's total—threatened with extinction, according to a report published last week by the United Nations Environment Programme and Flora and Fauna International in Cambridge, U.K. The groups are seeking funding for a "World Atlas of Threatened Trees" as part of their Global Trees Campaign (see www.globaltrees.org). Urgent action is needed to map and protect wild forests, says the report, *Towards a Global Tree Conservation Atlas*, which includes distribution maps, population estimates, conservation status, and information on the ecology and uses of five "flagship" species.

PEOPLE

edited by Yudhijit Bhattacharjee

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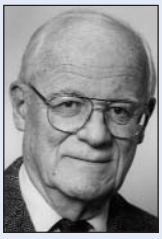
with John Enders and Thomas Weller of Children's Hospital in Boston to devise a way to grow large quantities of the poliovirus in a test tube. He spent half a century at Case Western Reserve University in Cleveland, and in the 1980s helped start a collaboration between CWRU's medical school and the Ugandan government for AIDS and tuberculosis research. Robbins also was president of the Institute of Medicine of the National Academies.



He is survived by his wife, Alice Northrop Robbins, and their daughters, Alice and Louise.

Lasting memory. One of the pioneers of cognitive neuroscience, Yale University neurobiologist Patricia Goldman-Rakic, died last month after being struck by a car while crossing a street in Hamden, Connecticut. She was 66.

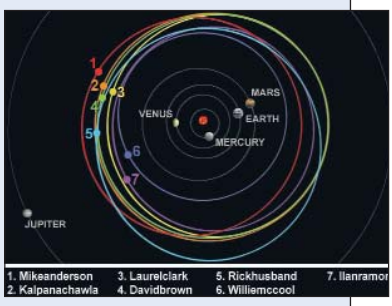
Goldman-Rakic spent much of her research life deciphering the neural basis of working memory, the ability to keep thoughts and plans in mind. She will be best remembered for her exquisite neurobiological studies demonstrating how the primate prefrontal cortex governs this ability. She also discovered that the neurotransmitter dopamine is crucial for working memory, which helped explain some of the cognitive distortions of schizophrenia. That and more recent work on anatomical defects associated with the disease made her "one of the most influential basic scientists working on schizophrenia," says Nobelist Eric Kandel of Columbia University. Her death is a "staggering loss for the field," says memory researcher Dan Schacter of Harvard University.

Among many other honors, Goldman-Rakic was a member of the National Academy of Sciences and served as president of the Society for Neuroscience. She is survived by her husband, Yale neuroscientist Pasko Rakic, and sister Ruth Rappaport.

MILESTONES

Honored. They never returned from their journey to the heavens. But now, the seven astronauts who perished aboard the space shuttle Columbia have their own monuments among the stars.

The Jet Propulsion Laboratory (JPL) in Pasadena has named seven asteroids after the crewmembers. The celestial bodies, all roughly the same size and in similar orbits between Mars and Jupiter, were discovered in July 2001 by JPL astronomer Eleanor F. Helin using the Palomar Observatory near San Diego. The seven asteroids were all close together when they were discovered, says Raymond Bambery, who succeeded Helin as principal investigator of JPL's Near-Earth Asteroid Tracking system. "We thought that was kind of nice and symbolic," he says.



CREDIT: (TOP RIGHT) CHRISTIAN ECHEVERRIA; (TOP LEFT) ARCHIVE OF THE SOPRINTENDENZA ARCHEOLOGICA DI POMPEI; (BOTTOM LEFT) CWRU; (CENTER) BASS PHOTO CO.; (BOTTOM RIGHT) NASA