RANDOM SAMPLES

edited by TRACI WATSON

White House Wins an AIDS Czarina

After being turned down repeatedly over the course of a 6-month search, the Clinton Administration has finally wooed and won an AIDS policy coordinator—a.k.a., "AIDS czarina." The job goes to Kristine Gebbie, a former public health official in the Pacific Northwest who began her career as a nurse. Gebbie has sat on several federal AIDS committees dealing with public health issues but until now was largely unknown in the AIDS research community.

Why did the White House suffer so many rejections? Several candidate AIDS policy coordinators said no thank you to the position because they feared the job would have been little more than a functionary slot at the Department of Health and Human Services (HHS), rather than an agenda-setting White House post. Though much of the job description has yet to be spelled out, President Bill Clinton, when announcing Gebbie's appointment on 25 June, tried to put that issue to rest. "By now appointing an AIDS policy coordinator, we will ensure that one person in the White House oversees and unifies government-wide AIDS efforts," said Clinton, noting that Gebbie would be a full member of the White House Domestic Policy Council.

Like other candidates, Gebbie, who recently submitted her Ph.D. dissertation about the creation of the Washington State health department to the University of Michigan School of Public Policy, also thought long and hard about taking the job. "I had some reservations and ambivalence [about] getting totally immersed in one disease," she told *Science*. But she's optimistic that she can make a difference: "I don't take on things I don't think can be done."

As for AIDS research, Gebbie hopes to "make certain we really target our [research] efforts" and "balance behavior with basic science." She also plans to defuse funding battles between different branches of government, such as the skirmish between HHS and the Department of Defense over $20 million Congress allocated for a therapeutic AIDS vaccine trial. "My gut says anywhere we have two agencies scrapping over money, we're wasting energy," she says. Gebbie plans to hire a handful of assistants and have her office running by 1 August.

Science Fiction Invades Mars

Speculations about canals and little green men would seem to have little place in an era when the Mars Observer and Viking missions have provided hard scientific data about Mars. And yet the next spacecraft scheduled to land on the Red Planet will carry two laser discs filled with stories about Mars-based utopias, Martian invasions of Earth, and other such topics. Supporters say that the discs, which hold a century of human lore about Mars and Martians, will ensure that future explorers and settlers have a record of today's science fiction about Mars. This mini-library, declares astronomer Carl Sagan, president of the Planetary Society, the prime sponsor of the discs, will serve "as a motivation and memento for future explorers" of the planet.

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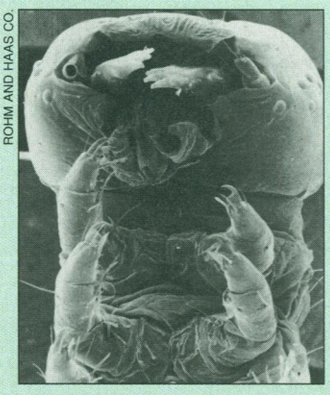
Martian model. A little green man from a 1954 magazine.

The discs, dubbed "Visions of Mars," will travel to the planet aboard Mars 94, a Russian spacecraft set to blast off in October 1994. The discs will ride to the planet's surface on Mars 94's two landers, which hold scientific equipment to examine the planet's inner structure, climate, and other features. Planetary Society boosters say that future human visitors to Mars will be able to call up thousands of pages of science fiction about Mars from the discs, plus artwork of Mars and Martians and Mars-related recordings.

Though this dreamy $50,000 effort has plenty of support from researchers, a Martian time capsule does not provoke unanimous enthusiasm. Says one planetary scientist, "I'm not sure it's going to support any scientific purpose, not even a symbolic one."

Skin-Deep Insecticide Straitjackets Pests

Although biologically based pesticides occupy but a tiny slice—perhaps 5%—of the global market, a new preparation occasionally makes waves worldwide (*Science*, 28 February 1992, p. 1070). One of the most recent attention-getters, which is expected to be approved in France this summer: a diabolical new insecticide called "Mimic," which puts moth and butterfly pests in a very nasty fix.



ROHM AND HAAS CO.

Skin tight. A spruce budworm larva, treated with Mimic, can't get out of its old skin. A hole cut in the old skin shows the mouth trapped beneath.

Mimic contains a synthetic variation of the hormone ecdysone, which normally causes molting. In Mimic, however, the molecule has been altered so that it triggers a normal molt but doesn't follow through on the process. As a result, says product development manager Lynn Oakes of Rohm and Haas Co., Mimic's Philadelphia-based developer, the hapless worm is trapped in an old exoskeleton that never falls off, and its new one never hardens. It can't obtain food and starves to death in 5 to 7 days.

The new product is specific to larval moths and butterflies, doesn't poison other insects, and is biodegradable, says Oakes. The company plans to file for registration in the United States this August, and the product has passed toxicological review in France and will probably be marketed there soon. French vintners can't wait, Oakes says, since Mimic will target the berry moth, "probably the most important European grape pest." Canadians are interested in Mimic for its impact on the spruce budworm, which attacks balsam firs. Potential U.S. targets include the gypsy moth, the cotton-munching beet army worm, and the codling moth that attacks, among other things, apples.

Chemists Tell Tales From Beyond the Grave

Chemists, like everyone else, eventually die. But a new European study suggests that they don't necessarily die the same way that everyone else does. Rather, the study concludes, they are particularly prone (in comparison to other professionals) to cancers of the blood cells and bone marrow, parts of the digestive system, the pleura (a chest membrane), the kidney, the skin, and parts of the nervous system. The study's statistics also reveal a more dramatic inequality: Chemists die more in plane crashes, which may have something to do with the number of conferences they fly to.

The investigation, led by William Hunter of the European Community's Health and Safety Directorate in Luxembourg,* examined the deaths of 14,884

*Reported in the *American Journal of Industrial Medicine* **23**, 615 (May 1993).

male members of Britain's Royal Society of Chemistry, beginning in 1965. (Nearly all chemists working in the 1960s were male.) Over the following 25 years, 4012 of them passed away. That's actually a lower overall mortality rate than among other British professionals and should bring some comfort to the people bent over the lab bench.

Nonetheless, as has been shown in past studies of American and Swedish chemists, the British chemists had high rates of lymphatic and hematopoetic cancers, which caused 97 deaths versus an expected 73. "We don't know quite why that is," says Hunter, although benzene—a once-ubiquitous solvent in all chemistry labs—and other chemicals have been linked to such cancers.

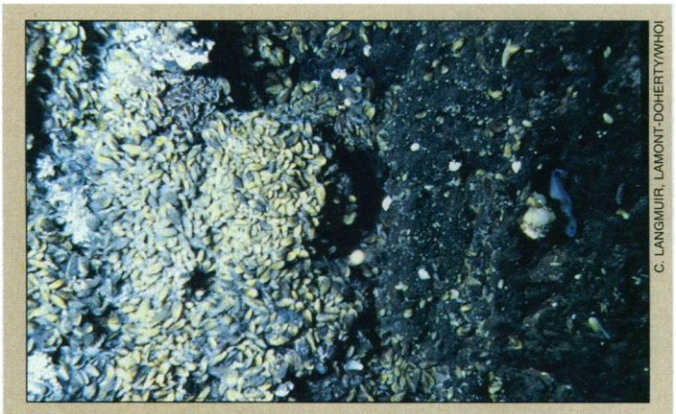
African TB Research Gets a Boost

Not long ago, any drug company official proposing a multimillion-dollar collaborative tuberculosis (TB) research program with the South African government would have been laughed out of the boardroom for political naivete, given the likely backlash from the anti-apartheid lobby. But political reform is taking root in South Africa, and TB is making a global comeback—thanks to the emergence of drug resistant strains of the TB organism, *Mycobacterium tuberculosis*. And so the UK pharmaceutical company Glaxo is formulating just such a program.

Over the next 5 years, Glaxo will plow some $15 million into a collaboration linking its own TB group with three South African academic research teams and with British centers at the London School of Hygiene and Tropical Medicine, London's St. Mary's Hospital, and the University of Birmingham.

To Barrie Ward, Glaxo's head of microbiology research, the logic of such an unusually large investment in South African research is simple: The country has one of the world's highest TB rates, and—unlike many similarly afflicted nations—also has a well-developed scientific infrastructure. Giving money to academia rather than increasing Glaxo's in-house program—which had been shut down and was only reinstated last year—is the quickest way to ramp up the company's TB activities, Ward says.

The program will have a major impact on South African academia: Protein chemist Mario Ehlers of the University of Cape Town, who will head one of the Glaxo-funded teams, says the new money represents a 50% increase for South African TB research. But Glaxo isn't just acting out of charity. The primary goal, says Ward, is to lead the company to new TB drugs.



C. LANGMUIR, LAMONT-DOHERTY/WHOI

Hot-tubbing in the Atlantic. Mussels thrive at a newly discovered thermal vent field near the Azores.

Oceanographers Find Hotbed of Sea Creatures

They are the deep sea's garden spots—and this one is the size of a small farm. The Atlantic's most extensive known collection of volcanic hot springs and the teeming life they support has been found 200 miles west of the Azores, at a depth of 5000 feet, by an expedition led by marine geophysicist Charles Langmuir of Columbia University's Lamont-Doherty Earth Observatory.

"We don't really know the extent of this field yet," says Langmuir. But in a series of dives last month in the research submarine Alvin, he and his fellow scientists surveyed some 50 acres of hot springs and mineral deposits left behind by the 350°C water that gushes from the volcanic vents. The Lucky Strike field, as it's called, is more than three times the area of the Atlantic's second largest vent field.

Like other hydrothermal sites in the Atlantic, the field straddles the mid-Atlantic Ridge, the volcanic range that runs like a seam down the middle of the ocean floor. But unlike the other fields, which huddle deep in the ridge's central rift valley, Lucky Strike is perched on a flat-topped volcano that rises above the walls of the valley, placing it thousands of feet shallower than other sites. And while the hot springs at other Atlantic sites are clustered in a central mound, these are dispersed, like hot springs along the more geologically active ridges of the Pacific.

Also setting the site apart are the bright yellow mussels and pink sea urchins that cluster around the springs, feeding on the sulfur-metabolizing bacteria in the water. According to Richard Lutz, a Rutgers University marine biologist, this is the first time mussels have been seen in such numbers at a hot spring site in the Atlantic. But the sea urchins are the real surprise, he says: "We haven't encountered them anywhere else."

It's far too early to say what accounts for Lucky Strike's unusual geology and fauna, but Langmuir and his colleagues are laying plans to find out: Just one day out of port and in shallower water than other Atlantic vent fields, the site is the ideal spot to set up instruments and video cameras in an onsite, unmanned laboratory.

When Worlds Don't Collide: Earth Escapes

The future of the human race looked pretty grim last fall, when astronomers announced that the number of tiny asteroids whizzing past Earth each year is 10 to 100 times higher than researchers had previously assumed (*Science*, 16 October 1992, p. 403). Had Earth just been lucky lately? Could a storm of mini-asteroids shortly resume pelting the planet?

Now astronomers have put those fears to rest. There is indeed a slew of asteroids out there, but Earth has its own Star Wars defense system: its atmosphere. Writing in the 24 June issue of *Nature*, planetary scientist Christopher Chyba of NASA's Goddard Space Flight Center in Greenbelt, Maryland, argues that, except for rare solid-iron objects, asteroids smaller than 50 meters can't make it through the atmosphere to hit our planet's surface.

Air may seem a puny barrier against large chunks of rock and metal hurtling along at about 50,000 kilometers per hour. But that very speed bolsters the barrier's effectiveness. The faster the object, the greater the strain imposed by the oncoming atmosphere and the greater the likelihood the object will break into small pieces that explosively burn up. At high velocities, says Chyba, even a stony object, if smaller than 50 meters, would explode 10 to 40 kilometers over Earth's surface, which is too high to do significant damage. Even so, Chyba calculates that at least several Hiroshima-sized detonations—without the radiation—strike yearly.