Briefings

edited by CONSTANCE HOLDEN

Databank on Chernobyl Disaster

Scientists and writers researching the huge fallout of information about the Soviet Union's 1986 Chernobyl nuclear accident can now put a complete bibliography of the literature into their PCs. For $395, they can buy ChernoLit, created for the Department of Energy (DOE) at DOE's Pacific Northwest Laboratory in Richland, Washington. The database comes on 5.25- and 3.5-inch diskettes for use in IBM-compatible computers. It consists of 4500 articles and reports, collected from around the world, on the accident and its consequences for human health and the environment. ChernoLit comes with its own search software, and each item includes a complete citation and an abstract. Lab spokesman Terry Brown says the accident, while tragic, produced "the first real-world data" for a nuclear power plant disaster. "Previously, all we had were models, theoretical calculations, and simulations."

Review for Army Whistleblower

Army physicist Aldric Saucier, who has been a burr under the Pentagon's saddle with his criticism of the Strategic Defense Initiative (SDI) research program, has won a Defense Department review of his allegations of misconduct by senior SDI officials.

On 28 February the Federal Office of Special Counsel, an independent agency set up in 1979 to protect whistleblowers, determined that Saucier's case is substantial enough to warrant investigation. Saucier has been contending for several years that Star Wars research has been plagued by waste, fraud, and politicking that has distorted research priorities. The Army responded, he says, by demoting him from a senior management position in the SDI program to a lesser post at the Army Ballistic Missile Defense Command.

Saucier subsequently gained a champion in Representative John Conyers Jr. (D–MI), whose subcommittee on national security has been investigating the SDI program. But last month, the Army tried to fire Saucier. When Conyers objected, the Army suspended the dismissal pending a 2-week review. Conyers has now gone a step further, asking Defense Secretary Richard Cheney to hold off action until both reviews have been completed.

The Army says Saucier was dismissed after doing an "unacceptable" job on a report about tracking and shooting down missiles. But Conyers agrees with Saucier that the dismissal was an act of "retaliation." So does the Government Accountability Project, a public-interest group that is suing the Army on the grounds that Saucier's firing is illegal under the 1989 Whistleblower Protection Act. Pentagon officials have declined to comment while the matter is under investigation.

Population Alarm

The National Academy of Sciences (NAS) and the Royal Society of London ordinarily don't do much together except meet every couple of years. But the two organizations have become worried enough about world population growth that last month they put out their first joint statement: a warning that "if current predictions of population growth prove accurate and patterns of human activity on the planet remain unchanged, science and technology may not be able to prevent either irreversible degradation of the environment or continued poverty for much of the world."

Present trends "should make even those most optimistic about future scientific progress pause...," says the statement, noting that population is growing faster than was forecast by the United Nations in 1984, and that, under conservative estimates, it is now expected almost to double by 2050.

Peter Raven, NAS home secretary and head of the Missouri Botanical Garden, says that behind the statement is the fact that "the world scientific community has drifted away" from population issues over the past decade or so—and "many, many scientists feel there's a need to refocus" on the subject. Nonetheless, at present, says Raven, "scientists in general are doing a lot more talking about global warming and ozone depletion than they are about the basic forces that are driving those things."

The joint statement was issued in anticipation of the UN Conference on Environment and Development, to be held in Brazil in June. But population issues may get a less politicized forum at a conference, announced in the joint statement, planned for May 1993 that is to be hosted in Stockholm by the Royal Swedish Academy of Sciences.

Painting the Brain

This colorful three-dimensional view of the human brain was produced by Phil Mercurio of the San Diego Supercomputer Center using a software animation package called Wavefront that processed data from a normal brain. The data were collected by neuroscientist Robert B. Livingston of the University of California, San Diego, who filmed slices of a brain that had been encased in a parafin block and then shaved off in thin layers. The images were digitized and different colors were assigned to different brain features. The result shows the thalamus (yellow); the hypothalamus (dark green); the amygdala (pink); the cortex (gray); the cerebellum (magenta); the brainstem (transparent blue); the corpus callosum (brown); the caudate (green); Broca's area (dark blue); Wernicke's area (cyan); the red nucleus (red); mammalary bodies (dark orange); the pituitary gland (bright orange); the substantia nigra (black); and the subthalamic nucleus (yellow-green).

Big Red's Computer Virus Hatchery

As computer managers braced for an explosion of the Michelangelo virus last week, Cornell University clamped down on a local infection of its own—the second major case in the past 4 years. M. Stuart Lynn, Cornell's vice president for information services, announced that the university has tracked down two 19-year-old virus-hatchers employed by the school's own computer office. Lynn brought the state police and the FBI in after the discovery of the virus on 14 February, and it was traced in record time—leading to the 24 February arraignment of two sophomores. They were accused

of spreading the viruses, which have turned up in sites as remote as Japan and Wales, through Macintosh computer games.

Eggs-aggeration

You may have read in the news a few weeks ago about a clever way to test eggs for salmonella contamination. Scientists at Los Alamos National Laboratory announced they could pick out contaminated eggs by measuring their acoustic resonance. That led *The Wall Street Journal, The San Francisco Chronicle*, and other newspapers to report that the method might help solve the growing problem of salmonella poisoning from raw or undercooked eggs. Sounds nice, but don't go on a raw-egg binge just yet.

The truth is, egg-contamination experts say, the method has little chance of success. "If this were a stock option, I wouldn't bet a dollar on it," says Charles Beard, director of the U.S. Department of Agriculture's (USDA) Southeast Poultry Research Laboratory in Athens, Georgia. Why not? Well, what the newspapers failed to report is that the eggs tested at Los Alamos were artificially infected and contained billions of bacteria—a whopping number compared to the numbers of bacteria found in studies of naturally contaminated eggs.

"We don't really know if this is an accurate simulation of what goes on in naturally contaminated eggs," admits team member Roger Johnston. And Beard says it isn't. In studies by researchers at the USDA and elsewhere, eggs laid by salmonella-infected hens contain as few as 10 bacteria, and at most thousands—not billions—per egg. And will the Los Alamos method —which only detects heavily contaminated eggs in 25% of cases—ever be sensitive enough to identify naturally contaminated eggs? There is no way to know yet, say the researchers. "They were cautious in their paper, and I tried to convey that," says lab spokesman John Gustafson, who wrote the press release on the work. But, he adds, "it's kind of a cute story, so people ran with it."

Orchid Gene Repository

USDA—R.H. LAWSON

Catteleya Orchid—one of the species found around Brasilia.

Brazil's Distrito Federal, where its capital, Brasilia, is situated, happens to be an unusually rich locale for orchids—botanists have catalogued more than 250 species within its 5000 square kilometers, compared to 350 species in the whole Amazon region. Now, according to Rio's *Jornal do Brasil*, four scientists at the University of Brasilia are trying to preserve as many species as possible by creating Brazil's first germ plasm bank for ornamentals, at the orchidary at the Brasilia Botanical Garden. The group has obtained 250 million cruzeiros ($270,000) from the government and will begin by building greenhouses to cultivate specimens they have as well as additional ones they want to collect. Joseph Arditti, an orchidologist at the University of California, Irvine, welcomes this project: "Orchid gene banks present a lot of problems," he says—germ plasm has to be grown from time to time to be sure it's still viable. "Now there is only one outstanding seed bank for orchids in the world, in Australia. Starting one for living plants in Brazil, which is losing so much of its flora, is an important step."

Dutch Polluters' Green Plan

One of the Netherlands' largest polluters is trying to make good by funding a long-term tree-planting campaign to offset carbon dioxide emissions. According to the Rotterdam newspaper *NRC Handelsblad*, the Dutch electric utilities, through the FACE Foundation that they sponsor, intend to plant 150,000 hectares around the world—enough forest to soak up the CO_2 that would be emitted by a single 600-megawatt power plant over its lifetime. The utilities collectively run plants with a combined capacity of 12,000 megawatts, but just to offset a 600-megawatt plant, their foundation will have to spend 20 million guilders ($11.2 million) a year for 25 years.

Last month FACE began a demonstration effort, a 120-hectare wood at the edge of the city of Leeuwarden. But tropical lands are the main focus of the afforestation plans, beginning this year with a model forest of 40,000 hectares in Kalimantan, in the Indonesian part of Borneo. J. Van den Bos, the foundation's director, says it is also looking at possible locations in Africa, Ecuador, and Costa Rica, as well as the "black triangle"—where Polish, Czechoslovak, and German borders intersect—that Van den Bos describes as "totally ruined" by sulfur emissions.

Van den Bos plans to avoid the pitfalls of most afforestation projects, which he says usually involve monocultures of non-indigenous trees that are vulnerable to predators and require energy-intensive pesticides. FACE promises to sponsor only forests with a natural mix of native species.

Thwarting the FOIA

"Take time to rewrite [notes] in such a way as to minimize any adverse impact should they be publicly disclosed," the memo read. "Then destroy the old notes." Sound like the kind of advice you might expect to come out of, say, an Ollie North operation? No, this sentence comes from a two-page memo that appears to be an official NASA document. In it, an unnamed author went on to suggest a variety of techniques—including destroying and rewriting documents—that NASA employees might use to frustrate Freedom of Information Act (FOIA) requests.

In a letter to outgoing NASA administrator Richard Truly, Representative Howard Wolpe (D–MI), whose staff dug up the memo during oversight investigations into the SP-100, a proposed space nuclear reactor, charged that agency officials were deliberately sidestepping FOIA requirements. Wolpe also provided minutes from NASA meetings suggesting that the memo was the handiwork of Lawrence Ross, director of NASA's Lewis Research Center in Cleveland.

Within 24 hours of Wolpe's letter, Truly had repudiated the document as counter to NASA policy and had convened a panel to investigate the circumstances surrounding the memo. And Ross, along with a lawyer, had flown to Washington to meet with congressional investigators. But even NASA's prompt response, which Wolpe praised, hasn't mollified opponents of the SP-100: "Utterly disgaceful," says Steve Aftergood, a space reactor critic at the Federation of American Scientists, who sees the memo as revealing "amazing contempt" for the public.