RANDOM SAMPLES

edited by JOCELYN KAISER

Deliberate Poisoning at NIH?

Building 37 at the normally tranquil National Institutes of Health (NIH) was crawling with detectives and news reporters last week after a radioactive phosphorus isotope, P-32, turned up in a water cooler and in the urine of at least 28 workers. NIH officials say none of those affected received dangerous levels of radiation. But fears remain, says NIH spokesperson Anne Thomas, because "we do not believe it was accidental."

The contamination was first discovered on 29 June when a researcher in a molecular pharmacology laboratory on the fifth floor set off a Geiger counter. The woman, who was 4 months pregnant, was given a hydration treatment to dilute the isotope. She was exposed to 200 to 300 microcuries of radiation, an amount well below risk levels to her and her fetus, NIH says. Federal guidelines say that , a person can safely be exposed to 600 microcuries annually.

The problem didn't end there, however. Officials subsequently found that 27 other staffers had been exposed to P-32, although at a level of only 60 microcuries or less. And on 14 July a water cooler on the fifth floor was identified as the likely source. P-32, used to tag such biomolecules as DNA precursors, is stored in locked containers at NIH.

AIDS researcher Robert Gallo, who works a floor above the implicated water cooler, told *Science* that while "some people here are worried," most don't think P-32 will show up elsewhere in the building. "The dominant feeling is somebody on the fifth floor is trying to hurt someone on the fifth floor," Gallo said.

"It hasn't affected things on this floor," he said. "It's not a laughing matter, but at the same time you kind of say, 'God, what a world.' "

Blood Woes In Canada

Canada has been rocked by more blood supply troubles. While the government is still investigating why HIV in the country's blood supply in the early 1980s wasn't detected, the Canadian Red Cross has learned that two blood donors have Creutzfeldt-Jakob disease (CJD), a mysterious, fatal brain ailment. In response, the Red Cross has launched the largest blood recall in its history.

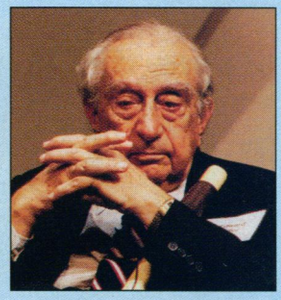
The move comes a month after a U.S. Food and Drug Administration advisory panel recommended that blood products derived from donors with CJD be recalled. Although the panel said there was little scientific evidence that CJD is transmissible by blood, it advised a recall to ensure confidence in the blood supply. Still, some CJD scientists feel the Canadians are overreacting. Clarence Gibbs of the U.S. National Institutes of Health says, "The risk is extremely low."

CJD is the human equivalent of mad cow disease and scrapie in sheep, and is believed to be caused by transmissible proteins called prions. Worldwide, it strikes about 5000 people every year. CJD's incubation time can be as long as 30 years, but once symptoms—disorientation and dizziness—appear, the victim dies within a year. There is no known treatment for the disease and no available blood test.

M. T. Aye of the Canadian Red Cross agrees that epidemiological data don't support transmission of CJD by blood transfusion. Still, 10 people in the United Kingdom have died of CJD after receiving injections of human growth hormone prepared from the pituitary glands of cadavers unknowingly infected with CJD. And twice CJD has reportedly been passed to animals by blood from an infected person.

But Gibbs says others have not been able to replicate those two reports. What's more, he says, over the last 40 years "there's probably been hundreds of cases of [blood] donors" who later developed CJD, yet there has been no increase in CJD among the recipients of blood products. "The risk is theoretical," admits Aye. But "unknowns," he says, "have helped guide our actions."

Stop Worrying and Love the Bomb



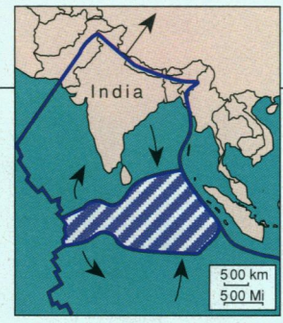
DOE

Nuclear defense. Edward Teller at NAS symposium.

Some participants in the Manhattan project say they have mixed feelings about having unleashed the nuclear demon 50 years ago. Not Edward Teller, the Lawrence Livermore National Laboratory scientist who went on to play a leading role in developing the hydrogen bomb. "I am sorry to admit, I have no regrets," Teller told a symposium at the National Academy of Sciences on 16 July.

Reflecting with other Manhattan project veterans on how the bomb changed history, Teller did express one qualm, however: "I blame others for spreading too much fear [about the bomb]." Robert Oppenheimer, the eloquent scientific leader of the bomb project, had presented this achievement to the world by quoting lines from the god Vishnu in the Hindu epic, the *Bhagavadgita*: "Now I am become Death, the destroyer of worlds."

"I wish he had said something entirely different," Teller said. His suggestion: " 'We scientists have done our job.... Now ... it is up to everyone in the body politic to apply that knowledge to world events in a positive way.' " Fifty years without another world war, the old Cold Warrior said, has given the lie to Oppenheimer's words: "The atomic bomb, instead of being fearful, was stabilizing."



1 into 2. New plate boundary.

Ocean Crackup

Earth now has an extra piece of crust. Geologists have traditionally divided the planet's surface into 12 floating plates. But the number is actually 13, researchers at Columbia University's Lamont-Doherty Earth Observatory report in the June *Earth and Planetary Science Letters*. Sound waves sent into the crust below the Indian Ocean indicate that the Indo-Australian plate has split in two.

The report confirms earlier hints of a split. The first came in the 1970s, when scientists discovered a broad east-to-west zone near the equator where the Indian Ocean floor was compressed. Drilled core samples showed that the deformation had begun about 8 million years ago. And in 1990, researchers at Northwestern University first proposed that, judging from the movement of surrounding plates, this area of crust was actually two pieces (*Science*, 16 February 1990, p. 808).

The crack probably occurred after the Indo-Australian plate had jammed underneath Asia, raising the Tibetan Plateau. Eventually the pressure became so great that this plate buckled and broke. "It's the first time we've seen a plate boundary formed this way," says Lamont-Doherty geophysicist James Cochran, an author of the report.

Cochran's team tested the theory by using sound waves to image chunks of rock that had been pushed up along some 400 faults within the possible boundary. Higher chunks on the eastern side showed that the compression between sections of crust there was twice as intense as on the western end, indicating that indeed, two plates were moving and rotating independently.