JAPAN

Court Hears Fight Over Safety of Lab

TOKYO—Ten years after filing suit to block construction of a government laboratory, and 6 years after it opened for business, a retired professor and neighborhood activist is finally getting his day in court. Last week, Shingo Shibata argued before a Tokyo district court that the National Institute of Infectious Diseases (NIID) in downtown Tokyo poses unacceptable health risks to the densely populated community and should be halted. The institute disagrees. "We think the safety precautions are equal to or exceed those at America's National Institutes of Health," says NIID Director-General Shudo Yamazaki.

The case is being watched closely. "This is the first time a [Japanese] citizens' group has really assembled considerable scientific support," says Keisuke Amagasa, a writer and environmental activist. The group has also won the backing of such global activists as Jeremy Rifkin of the Washington-based Foundation on Economic Trends. Environmentalist groups hope that a victory—which many consider unlikely—would set a precedent in a country where successful challenges to government institutions are rare. But even a defeat, says Amagasa, would give other groups pointers for waging similar battles. Scientists are concerned that the fallout from this case could be burdensome regulations and nuisance lawsuits.

The NIID is the national government's main facility for research on and surveillance of infectious diseases. The lab's stores of pathogens include dengue and hantaviruses, which fall into a category defined by the World Health Organization (WHO) as causing serious disease but do not ordinarily spread from one infected individual to another. The six-story lab is located in downtown Tokyo, wedged between the 40,000-student Waseda University and a rehabilitation center for the handicapped. A midrise apartment complex sits across a narrow street, a major hospital is a stone's throw away, and the NIID building casts its afternoon shadow on a row of single-family homes, including that of Shibata, who is a professor emeritus of philosophy and sociology at Hiroshima University.

Shibata's protest began after NIID, then known as the Japan National Institute of Health (JNIH), announced plans to move to the site in 1986. The site was already notorious as the headquarters of the Japanese Army's infamous Unit 731, which used prisoners of war as human guinea pigs for biological warfare and human endurance experiments. Unhappy with JNIH's explanations of safety procedures, Shibata and others started lobbying politicians and persuaded the local ward assembly to adopt a resolution opposing construction. In December 1987, the protest escalated when riot police were called to clear the construction site. The following March, area residents and members of the Waseda faculty and staff formed a committee and sued the institute and the Ministry of Health and Welfare, its governmental sponsor, seeking a ban on experiments. Although the building was occupied in 1992, the suit continues to wend its way slowly through the legal system.

Safety first. NIID's Yamazaki says biosafety precautions match or exceed U.S. standards.

The plaintiffs, who now number more than 200, claim that neither the location nor the safety practices of the NIID meet WHO recommendations. A succession of scientific witnesses, including some researchers from NIID, testified earlier that a more isolated site would reduce public health risks and that NIID's crowded and cluttered labs compromise safety. But NIID officials say the concerns are groundless. "There has never been a single case of disease caused by an escaped organism in Japan," says Yamazaki.

Key elements in the legal battle are expected to be reports by outside experts—a rarity in such disputes—on the lab's safety procedures and the risk to the community. The plaintiffs called on microbiologist Christopher Collins, a former coordinating editor of the *WHO Laboratory Biosafety Manual*, and David Kennedy, a medical equipment safety specialist formerly with the United Kingdom's Department of Health. The defendants recruited Vinson Oviatt, a former biosafety official at the U.S. National Institutes of Health in Bethesda, Maryland, and at WHO in Geneva, and Jonathan Richmond, director of health and safety for the U.S. Centers for Disease Control and Prevention in Atlanta. The four toured the facilities together in June 1997.

Dangerous neighbor? Shibata says NIID (right) is too close to apartment buildings (left), a university campus, and a local hospital.

The experts' findings supported the positions of their clients. A 27-page report submitted to the court by Collins and Kennedy finds problems with everything from protective clothing to the handling of solid waste. Regarding a pathogen freezer storage compartment, for example, Collins and Kennedy write: "There did not appear to be a procedure, or materials available, for dealing with accidental leakage or breakage of vials and release of contents." They also cite WHO recommendations that "high-level containment or high-risk laboratories should be located away from patient or public areas. ..." The report's conclusion: "... it is difficult to see how the protection of staff and public from exposure to infection can be properly ensured."

In contrast, the 13-page Oviatt-Richmond report concluded that nothing was amiss. "All the biological safety level/P3 laboratories meet or exceed the standards," reads one of 27 "positive findings." Its opening lines convey its essential message: "The National Institute of Infectious Diseases poses no biosafety threat to the outside surrounding community as a consequence of its work with infectious diseases. No serious breaches in biosafety were observed."

Institute officials say that Collins took out of context the WHO recommendations for siting such labs away from public areas. "That section [of the WHO recommendations] is referring to a lab located within a hospital," says Hiroshi Yoshikura, NIID deputy director-general; he says it seeks to avoid siting labs in areas where the public and patients circulate. Collins, who was the coordinating editor of the WHO publication, acknowledges that the section is ambiguous, referring both to labs within hospitals as well as free-standing institutes. But he maintains that NIID's location is inappropriate.

A ruling is not expected for a year or so, and even Shibata admits that victory is a long shot. "When citizens sue the government in Japan, usually the government wins," he says. The activists hope that a positive ruling will lead to national standards for laboratories handling biologically hazardous materials and to independent inspections to ensure compliance. Earlier this year the Ministry of Education, Science, Sports, and Culture (Monbusho) released a manual intended to standardize biosafety practices at universities, an activity that researchers say was not related to the NIID controversy.

Yamazaki even sees some advantages to an inspection system. Recent revelations of

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official cover-ups of accidents and mishandling of radioactive material at nuclear power research facilities have caused public faith in government research institutes to plummet, he says, and an inspection system "could reassure residents." –DENNIS NORMILE

EUROPEAN UNION

Cresson Told to Explain Questioned Contracts

The European Commission's head of research, Edith Cresson, was called last week before the European Parliament's research committee to answer allegations that a personal friend from her home town of Chatelleraut, France, had been given consultancy contracts with the commission for work he may not have been best qualified to carry out. Rene Berthelot, a dentist, had been contracted to gather information on the state of research in France. But Cresson, who sent a deputy to answer the committee's questions, told *Science* this week that Berthelot had been the right person for the work.

No show. EU commissioner Edith Cresson.

Cresson's decision not to appear before the committee angered some members. "In the Netherlands if a minister is called to answer questions by Parliament they come straight away," says Dutch member Elly Plooy van Gorsel. Cresson's deputy, Hendrik Tent, told the committee that Berthelot was not merely a dentist but had additional medical and legal qualifications, and that he was hired in the normal way. But his short statement failed to satisfy all members, and the committee insisted that Cresson submit a written statement herself. "There's nothing wrong with awarding a contract to someone you know who is qualified," says committee member Giles Chichester, "but if it is a personal friend, then it is a different matter. It looks like cronyism."

Cresson, a former French prime minister, is the head of directorate-general XII (DGXII), which is responsible for the European Union's science, research, and development activities, including the current 5-year, $15 billion Framework program, which covers everything from nuclear fusion to biotechnology. The contracts were awarded by DGXII to Berthelot soon after Cresson's appointment in 1995. Cresson says that she was unhappy with the large number of priority research topics she inherited and wanted urgently to assess the state of research. "I wanted someone to look at AIDS, cancer, and also technical innovations to help us focus priorities." Berthelot had the networking skills to gather information quickly and reliably, she says.

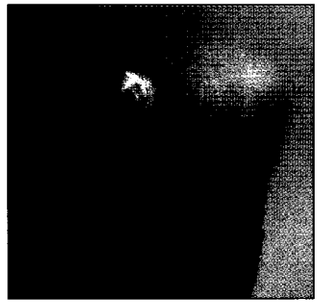
The timing of the allegations, which first surfaced in the press, was unfortunate for Cresson. The commission and Parliament are currently locked in combat over a number of financial problems and accusations of corruption, focused largely on contracts for humanitarian aid carried out by the Luxembourg arm of a company run by businessman George Perry. Audit inquiries allegedly have failed to account for millions of dollars of commission funds and Luxembourg police are investigating the so-called Perrylux affair. Berthelot had once worked for Perry as a consultant, and the French newspaper *Liberation* published an article last week linking Cresson, via Berthelot's DGXII contracts, to the "real mess" she says surrounds humanitarian funds. Tent told the committee that Berthelot's work had nothing to do with the Perrylux affair, and Cresson says she is suing the newspaper.

Two members of the science committee, Claude Desama and Gordon Adam, say Cresson does not need to defend herself any further. "I felt we had been given a full explanation," says Adam. But others want more specific information about whether the normal process had been followed in hiring Berthelot. Says Wim van Velzen: "There have been serious allegations in the press, and it is only normal that Parliament asks for Mrs. Cresson's response. If she does not provide us with a formal statement in due course, I will ask her to appear before the House after all." –NIGEL WILLIAMS

ECOLOGY

Bug Vanquishes Species

For the first time, scientists have documented a case of an infection wiping out the last remnants of an entire species. The victim was a type of land snail that scientists were trying to pull back from the brink of extinction in a captive-breeding program. Experts say the finding, reported in this month's issue of *Conservation Biology*, points up the urgent need to guard against infectious diseases when nursing species off the endangered list. "Captive breeding is not always a safe haven," says conservation biologist Stuart Pimm of the University of Tennessee, Knoxville.



Tiny victim. A protozoan appears to have finished off *P. turgida*.

South Pacific land snails are rare to begin with, but they have taken a hit in the last few decades after residents of Raiatea, in the Society Island chain some 5000 kilometers south of Hawaii, began importing predatory snails from Florida in 1986 to eat another imported snail that had become a pest. The predators, it turned out, preferred the taste of the native snails, and by 1991 they had driven several species to the brink of extinction.

That year Paul Pearce-Kelly and colleagues at the Zoological Society of London captured the last known individuals of one species—*Partula turgida*—to try to save them through a breeding program. But 4 years ago the snails began dying off mysteriously. When the population had dwindled from 296 individuals to fewer than 10, veterinary pathologist Andrew Cunningham of the Institute of Zoology in London and parasitologist Peter Daszak of Kingston University in Kingston-upon-Thames, England, set out to find out why.

Before they could solve the puzzle, however, the remaining snails had died. After slicing open the last five bodies, Cunningham noticed something odd: scads of protozoan-like spores in the digestive glands and reproductive tracts, suggesting that a parasite had infected the snails. Daszak put the spores under an electron microscope and spotted spiral tubes—a hallmark feature of Microsporidia, a family of protozoa known to infect aquatic snails. Closer scrutiny revealed that the spores belong to a new species of microsporidian in the genus *Steinhausia*. The parasite had ravaged the snails' digestive glands, Daszak says, persuasive enough evidence for him and Cunningham to conclude that it had finished off the snails. Because the apparent killer does not seem to infect other land snails, by killing off *P. turgida* it may have sealed its own fate.

"It's great that somebody's finally got a concrete example of an infectious disease leading to the extinction of a species," says ecologist Andy Dobson of Princeton University. He says the finding should serve notice to endangered-species recovery programs that they must closely monitor the cause of death of individuals in their care. And the snail's demise hammers home the danger of allowing a species to slip so far that it has vanished from its habitat and ended up on captive-breeding life support. Says Pimm, "Species need to be in the wild, not in zoos." –DAN FERBER

Dan Ferber is a science writer in Urbana, Illinois.

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