

## Yelena Bonner Tells of Medical Abuse of Her Husband

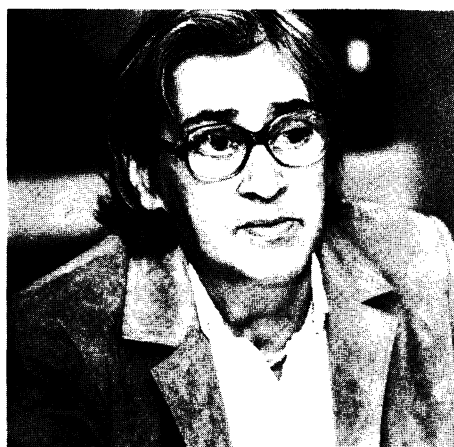
Yelena Bonner, the wife of physicist Andrei Sakharov, visited Washington at the end of April to press the cause of human rights in the Soviet Union. She spoke at the AAAS to a group of representatives from human rights groups and scientific societies and showed some film clips of Sakharov taken by the Russians that vividly convey his helplessness. She also attended the annual meeting of the National Academy of Sciences, whose members gave her a standing ovation.

Bonner, 62, is recovering from sextuple coronary bypass surgery. She looked well (she has quit her heavy smoking habit) and seemed in good spirits.

Speaking through an interpreter at the AAAS gathering, she stressed that nothing but misinformation is being sent out of Gorki, where she and her husband have lived for the past 6 years. Bonner had been allowed to make trips to Moscow until her trial in the summer of 1984, but has since not been allowed to leave the city. She finally gained permission in January to fly to Boston for surgery. For the past 2 years, she said, she and her husband have been "totally isolated from the world," without a telephone, forbidden from using public telephones and from talking to the citizens of Gorki. Bonner said she was in almost total isolation during the 10 months Sakharov was hospitalized as a result of a hunger strike.

She then showed some films that were made by the Russians to demonstrate that Sakharov is in good shape. Although made for external consumption (they have not been shown in the U.S.S.R.), they were very crude and demonstrated that Soviet disrespect for medical ethics is not confined to psychiatry. All were made without the subject's knowledge. One film showed Bonner sitting on a bench with her lawyer, used as evidence that Bonner "often met with friends." (Bonner said she did not realize until after watching the film several times that the lawyer was aware of the camera.) Another film showed Sakharov "resting." In fact he is sitting with his physician, who is shuffling foreign magazines and ostentatiously making the covers visible to the camera. Bonner said that was for the purpose of establishing that Sakharov was well at a time when he was in fact on a hunger strike. Another film showed a gaunt and

apparently hairless Sakharov hungrily eating in his hospital bed. In this scene, the camera pans in on a wall calender in an apparent attempt to prove the footage was taken in 1985 during his supposed hunger strike when in fact it was 1984. Another showed a female technician prodding his naked torso during a medical exam. Bonner was clearly upset over the violations of the man's dignity and went on to relate how he was humiliated by what the Russians called "our female brigade" who tied him down on the bed for force-feeding. She quoted medical officials as telling Sakharov: "we won't allow you to die but we will make a cripple of you."



Craig Chapin

**Yelena Bonner.** During Washington visit, Sakharov's wife spoke for human rights.

When Sakharov came home from his hospital stay he told Bonner, "my physicians are contemporary Dr. Mengeles."

Bonner, who plans to return in time for her husband's 65th birthday on 21 May, said she was "afraid we will find ourselves in conditions of total isolation." Sakharov, she said, is very worried that false statements about "social questions" will be attributed to him and relayed his request that no information be believed that has not been confirmed by herself or by her son-in-law, Efrem Yankelevich, who lives in Newton, Massachusetts.

Bonner expects that the exile will be continued indefinitely. Commenting on reports that Sakharov might be given his freedom in a spy exchange, Bonner said she thought that the rumor of an 18 May exchange had been planted to forestall widespread celebration of Sakharov's birthday.

In response to questions, Bonner said that it would be "very desirable" to have human rights considerations built into any exchange agreement with the Russians. But she warned that any discussions that are not well publicized "will go directly to the garbage can." ■ **CONSTANCE HOLDEN**

## NIH Plans Probe on Test of Altered Virus

The National Institutes of Health will investigate whether federally funded researchers in Texas violated agency guidelines while developing a swine vaccine against pseudorabies. NIH plans to form an eight-member committee of in-house scientists to look into the matter, according to William Gartland, director of NIH's office of recombinant DNA activities.

The vaccine was commercially licensed in January by the U.S. Department of Agriculture. Pseudorabies causes serious economic losses for many pig farmers, especially in the Midwest.

At issue is whether the researchers had proper authorization before they conducted a field test of the vaccine, which is made from a modified live virus. The dispute over the test underscores the confusion among researchers and among federal agencies over the regulation of experiments that involve the deliberate release into the environment of genetically engineered organisms.

At a congressional hearing on 29 April, members of the House science and technology oversight subcommittee contended that the researchers should have obtained permission from their schools' institutional biosafety committees before the field test of the genetically altered virus was performed. The biosafety committee at Texas A&M University said in a letter dated 25 April to NIH that the test should have been regarded as a deliberate release experiment by faculty member Stewart McConnell, who tested the vaccine.

The test was conducted in 1984, but only recently has garnered wide publicity. The experiment involved the inoculation of 1400 pigs on a farm in Lometa, Texas, to control an outbreak of pseudorabies.

Saul Kit of Baylor College of Medicine, who developed the vaccine and supplied it to McConnell for testing, testified that the field test was not a deliberate release experiment involving a recombinant DNA organism. The vaccine virus was modified by the deletion of gene and does not contain any foreign genetic material, so it is not a recombinant DNA organism, he says. The altered virus cannot replicate as a result of the gene deletion and the virus is not excreted by inoculated animals, Kit said in an interview.

Kit says that under USDA regulations the field test was proper. His contention is supported by USDA official George Shibley, who recently said that testing the vaccine in animals does not constitute an environmental release of the organism. Other officials at USDA and other agencies either

disagree or say that the definition of deliberate release is fuzzy. Gartland of NIH says, "If the vaccine virus doesn't shed, does inoculation constitute an environmental release? It's an interesting question." But deliberate release "has never been carefully defined," he says, and the Administration policy statement on regulating biotechnology, which is expected to be released soon, "does not come to grips with the issue." ■

MARJORIE SUN

## Congress Approves Garrison Compromise

Congress in April finally approved a scaled-down version of the Garrison Diversion Project in North Dakota, subject of one of America's longest-running pork barrel controversies.

The massive irrigation scheme has been kept alive by a handful of North Dakota politicians even though it has long been considered questionable by many farmers themselves, has drawn the ire of Canadians who feared pollution of their watershed, and has outraged conservationists who said valuable wetlands were being destroyed (*Science*, 31 August 1984, p. 904). A congressionally appointed commission last year recommended a modified version of the project that included putting some of the funds into development of municipal water supplies. Construction was halted pending congressional action.

The new measure, covering 6 years, authorizes \$700 million including new money for irrigation of Indian lands. It reduces the acreage to be irrigated from 250,000 to 130,000, cancels the most environmentally damaging portions of the plan as well as those affecting the Canadian watershed, and calls for the establishment of a federal and state-funded "wetlands trust." Congress has added a new feature in the form of a penalty equal to 10% of irrigation costs for farmers who use the irrigated land to grow surplus crops. Total costs of the program will probably approach the \$1.2 billion first projected for the entire scheme, which originally was supposed to cover 900,000 acres. A congressional aide says the authorization is not indexed for inflation, which could be a precedent for future water project funding.

Ruth Norris of the National Audubon Society, which has spearheaded efforts at a compromise, says conservationists are pleased with the solution "insofar as we could ever be pleased with the Garrison project." ■

## New Annual Report on Global Deterioration

"World Resources 1986," a thick, statistics-ridden document on global environmental deterioration and population growth, has just been issued, the first of an annual series jointly produced by the World Resources Institute and the International Institute for Environment and Development.

Unlike the rather cautious report on population growth and economic development that was recently issued by the National Academy of Sciences (*Science*, 28 March, p. 1493), this one paints a picture of frighteningly rapid developments in such areas as soil erosion, deforestation, uncontrolled urban growth, and population growth.

WRI vice president Jessica T. Mathews said the report represents a first stab at establishing "key environmental indicators" that can be universally used in environmental assessments. Most readers, she added, "will emerge surprised and somewhat shaken by how much we do not know." Data are spotty, out of date, and not comparable between countries. There is, for example, little information on what substances, other than carbon dioxide, have a major role in the "greenhouse effect."

Each year's report is to contain a special section, including recommendations, on a particularly urgent problem. This year it is the destruction of temperate forests of Europe and North America, which speakers called one of the world's greatest ecological threats. In 1982, for example, "Waldsterben" (forest death) afflicted 8% of the trees in German forests. In 1984 it was 50%. The section also contains exhaustive data on the types of trees affected, their locations, symptomatology, the noxious agents, and "schools of thought" on forest decline.

According to IIED vice president David Runnalls, the document is intended primarily as a tool for economic decision-makers. It has been presented to the board of the Asian Development Bank and will be introduced at other international forums. ■

CONSTANCE HOLDEN

## Third Disaster in a Row for NASA

The explosion of a Delta rocket at Cape Canaveral on the evening of 3 May, coupled with the loss of the space shuttle Challenger on 28 January and the explosion of an Air Force Titan rocket on 18 April, has left the

United States with almost no means to launch commercial and military satellites into space.

All three programs have now been suspended pending a resolution of their respective problems. The only large member of the U.S. stable of launchers still in service is thus the Atlas-Centaur rocket, manufactured by the General Dynamics Corporation. However, only three Atlas-Centaurs still remain, and those three are already committed to launch Navy satellites. The National Aeronautics and Space Administration (NASA) had phased out production of the Atlases and Deltas prior to the Challenger accident in anticipation that the shuttle would carry the majority of payloads. NASA also has a dozen tiny Scout rockets left, but they, too, are committed, and in any case can only lift about 200 kilograms into orbit.

The Delta is a medium-lift launcher and is often used for lofting weather and communications satellites into the 35,900 geosynchronous orbit. On this flight it was carrying a \$57.5-million weather satellite known as GOES-G.

The loss of the Delta came as a severe blow to NASA, which is still struggling to recover from the shuttle disaster. It was the agency's first launch after Challenger and had a great deal riding on it, both politically and emotionally. "This was what was going to start the turnaround," says one observer who was at the Cape that evening. The shock was especially acute because the Delta had been considered the most reliable launch vehicle in NASA's inventory, with a run of 43 successful launches stretching over a decade, and a total of 178 launches since the program's inception in the 1960's. Senator Albert Gore (D-TN), who sits on the subcommittee that oversees NASA, has called for a complete reassessment of the agency's policy, priorities, and quality-control procedures.

At this point no one can say exactly what caused the failure. The lift-off appeared normal until just 71 seconds into the flight, when the rocket's main engine shut down abruptly and the vehicle began to tumble out of control; range safety officers then destroyed it with onboard explosives. William Russell, head of NASA's Delta program, later told reporters that an analysis of the telemetry data had revealed two large surges of electrical power in the rocket's main engines just prior to the shutdown. "It's the first thing that leaps from the data," he said. An obvious possibility is that the spikes were caused by a short circuit. However, Russell also cautioned against jumping to conclusions about where the electrical spikes had come from or whether they were the cause of the engine shutdown. Asked