

cost us for making the smallpox-VEE chimera at Vector in 1990 and 1991.

Ken Alibek's statements about the genetic engineering of smallpox are disturbing. I felt a need to hear some perspective from senior scientists who are close to the situation. Dr. Peter Jahrling is the chief scientist at USAMRIID, and he has visited Russia four times in recent months. ("It seems as if all I do these days is visit Russia," he said to me.) He knows the scientists at Vector pretty well. He has listened to Alibek and questioned him carefully, and he doesn't believe him about the Ebola-smallpox chimera. "His talk about chimeras of Ebola is sheer fantasy, in my opinion," Jahrling said. "This would be technically formidable. We have seen zero evidence of the Vector scientists doing that. But a smallpox chimera—is it plausible? Yes, it is, and I think that's scary. The truth is, I'm not so worried about governments anymore. I think genetic engineering has been reduced to simple enough principles so that any reasonably equipped group of reasonably good scientists would be able to construct a credible threat using genetic engineering. I don't think anyone could knock out New York City with a genetically engineered bug, but someone might be able to knock out a few people and thereby make an incredible panic."

Joshua Lederberg is a member of a working group of scientists at the National Academy of Sciences who advise the government on biological weapons and the potential for bioterrorism. He is a professor at Rockefeller University, in Manhattan, and is considered to be one of the founders of the biotechnology revolution. He received the Nobel Prize for discovering—in 1946, when he was a young man—that bacteria can swap genes with each other. It was apparent to him even back then that people would soon be moving genes around, for evil as well as good.

I found Lederberg in his office, in a modest building covered with vines, in a green island of grass and trees on Manhattan's East Side. He is in his seventies, a man of modest size and modest girth, with a trim white beard, glasses, intelligent hazel eyes, and careful sentences. Lederberg knows Alibek and Pasechnik. He said to me, "They are offering very important evidence. You have to look carefully at what they're saying, but I offer high credibility to their remarks in general." He seemed to be choosing his words. As far as what was going on at Vector, he says that "with smallpox, anything could have happened. Lev Sandakhchiev is one of the world's authorities on the smallpox genome. But there are all kinds of reasons you'd want to introduce modifications into smallpox." He said that you might, for example, alter smallpox in order to make a vaccine. "You have to prove intent to make a weapon," he said.

Researchers normally introduce new genes into the vaccinia virus. Vaccinia doesn't cause major illness in humans, but if you're infected with it you become immune to smallpox. When the new genes are introduced into vaccinia, they tend to make the virus even weaker, even less able to trigger disease. Putting new genes into smallpox presumably might make it weaker, too. Alibek insisted that the Russians have found places in the genome of smallpox where you can insert new genes, yet the virus remains deadly.

I said to Lederberg, "If someone is adding genes from Ebola to smallpox virus, and it's making the smallpox more deadly, as Alibek says is happening in Russia, isn't that evidence of intent to make a weapon?"

"No," he said firmly. "You can't prove intent by the experiment itself. It's not even clear to me that adding Ebola genes to smallpox would make it more deadly. What

troubles me is that this kind of work is being done in a clandestine way. They are not telling us what is going on. To be doing such potentially evil research without telling us what they are doing is a provocation. To do an experiment of this kind in the United States would be almost impossible. There would be an extensive review, and it might well not be allowed for safety reasons. The experiment is extremely dangerous, because things could get out of hand."

Lederberg agreed that Russia does have a clandestine biological-weapons program today, though it's not at all clear how much Vector and Biopreparat have to do with it, since they are independent entities. As for the biological missiles once aimed at the U.S., it doesn't surprise him: "You can put anything in a ballistic missile."

Lederberg seems to be a man who has looked into the face of evil for a long time and hasn't blinked. He is part of a group of scientists and government officials who are trying to maintain a dialogue with Russian biologists and bring them into the international community of science. "Our best hope is to have a dialogue with Sandakhchiev," he said quietly. "There is no technical solution to the problem of biological weapons. It needs an ethical, human, and moral solution if it's going to happen at all. Don't ask me what the odds are for an ethical solution, but there is no other solution." He paused, considering his words. "But would an ethical solution appeal to a sociopath?"

Terrorism is the uncontrolled part of the equation. A while ago, Richard Butler, who is the head of the United Nations Special Commission weapons-inspection teams in Iraq, remarked to me, "Everyone wonders what kinds of delivery systems Iraq may have for biological weapons, but it seems to me that the best delivery system would be a suitcase left in the Washington subway."

Could something like that happen? What would it be like? The truth is that no one really knows, because lethal bioterror on a major scale has not occurred. At one point in my talk with Ken Alibek in Bill Patrick's kitchen that winter afternoon, we took a break, and the former master bioweaponers stood on the lawn outside the house, looking down on the city of Frederick. The view reaches to the Mt. Airy Ridge, a blue line in the distance. Clouds had covered the sun again.

Patrick was squinting east, with a professional need to understand the nuances of wind and cloud. "The wind is ten to twelve miles an hour, gusting a bit." He pointed to smoke coming from a building in the valley. "See the smoke there? It's drifting up a little, but see how it hangs? We have sort of an inversion today, not a good one. I'd say it's a good day for anthrax or Q fever."

Alibek lit a cigarette and watched the sky. He appraises weather the same way Patrick does.

Suddenly Patrick turned on his heel and went into his garage. He returned in a few moments carrying a large mayonnaise jar. He unscrewed the cap. The jar contained a fine, creamy, fluffy powder, with a mottled pink tinge. The pink was the dried blood of chicken embryos, he explained. "This is a simulant for VEE." It was a fake version of the weaponized brain virus. It was sterile, and had no living organisms in it. It was harmless.

The VEE virus can be grown in weapons-grade concentration in live chicken embryos. When the embryos are swimming with virus particles, you break open the eggs (you had better be wearing a spacesuit), and you harvest the sick embryos. You freeze-dry them and process them into a powder using one of Patrick's secret methods.

He shook the jar under my face. The blood-tinted powder climbed the sides of the jar. A tendril of simulated bioweapon reached for my nose.

Instinctively, I jerked my head back.

Patrick walked across the lawn and stood by an oak tree. Suddenly he extended his arm and heaved the contents of the jar into the air. His simulated brain-virus weapon blasted through the branches of a dogwood tree and took off in the wind heading straight down a meadow and across the street, booming with celerity toward Frederick. Within seconds, the aerosol cloud had become invisible. But the particles were there, moving with the breeze at a steady ten to twelve miles an hour.

Alibek watched, tugging at his cigarette, nonchalant, mildly amused. "Yeah. You won't see the cloud now."

"Some of those particles'll go eighteen to twenty miles, maybe to the Mt. Airy Ridge," Patrick remarked. The simulated brain virus would arrive in Mt. Airy in less than two hours. He walked back and put his hand on Alibek's shoulder, and smiled.

Alibek nodded.

"What are you thinking?" I asked Alibek.

He pursed his lips and shrugged. "This is not exciting for me."

Patrick went on, "Say you wanted to hit Frederick today, Ken, what would you use?"

Alibek glanced at the sky, weighing the weather and his options. "I'd use anthrax mixed with smallpox."

SENATE RESOLUTION 174

The text of the resolution (S. Res. 174) as agreed to by the Senate on March 11, 1998, is as follows:

S. RES. 174

Whereas the United States maintains a close bilateral partnership with Thailand and has a profound interest in furthering that relationship;

Whereas the friendship between our two countries goes back farther than that with any other Asian nation dating back to the Treaty of Amity and Commerce and Navigation of 1833;

Whereas the bilateral trade relationship is robust and promises to grow even more so in time;

Whereas the United States security relationship with Thailand is one of our most critical, and it is in both countries' interest to maintain and strengthen that relationship;

Whereas the new Government in Thailand has committed itself to making significant structural reforms to its economy in line with the conditions placed upon it by the International Monetary Fund, including improving financial and economic transparency and cutting its budget;

Whereas the conditions imposed on Thailand by the International Monetary Fund were developed in August of 1997, when the economic environment in Asia was vastly different from that existing today;

Whereas an example of those changed circumstances is the fact that both Korea and Indonesia provided second line of defense contingency loans to Thailand in August 1997, amounting to US\$500 million each; and

Whereas Thailand's democratic reforms have advanced with that country's economic growth and development: Now, therefore, be it

Resolved, That it is the sense of the Senate that—

(1) the United States should enhance the close political and security relationship between Thailand and the United States and strengthen economic ties and cooperation

with Thailand to ensure that Thailand's economic recovery continues uninterrupted; and
 (2) Thailand deserves praise and commendation from the United States for the measures it has implemented to resolve its financial problems.

CORRECTION TO THE RECORD

Rollcall Vote No. 26 on page S1752 of the March 11, 1998, edition of the RECORD has been corrected to reflect the following:

The result was announced—yeas 18, nays 80, as follows:

[Rollcall Vote No. 26 Leg.]

YEAS—18

Abraham	Hutchinson	Mack
Ashcroft	Hutchison	McCain
Brownback	Inhofe	Nickles
Coats	Kyl	Smith (NH)
Coverdell	Levin	Thompson
Graham	Lugar	Thurmond

NAYS—80

Akaka	Enzi	Leahy
Allard	Faircloth	Lieberman
Baucus	Feingold	Lott
Bennett	Feinstein	McConnell
Biden	Ford	Mikulski
Bingaman	Frist	Moseley-Braun
Bond	Glenn	Moynihan
Boxer	Gorton	Murkowski
Breaux	Gramm	Murray
Bryan	Grams	Reed
Bumpers	Grassley	Reid
Burns	Gregg	Robb
Byrd	Hagel	Roberts
Campbell	Harkin	Rockefeller
Chafee	Hatch	Roth
Cleland	Helms	Santorum
Cochran	Hollings	Sarbanes
Collins	Inouye	Smith (OR)
Conrad	Jeffords	Snowe
Craig	Johnson	Specter
D'Amato	Kempthorne	Stevens
Daschle	Kennedy	Thomas
DeWine	Kerrey	Torricelli
Dodd	Kerry	Warner
Domenici	Kohl	Wellstone
Dorgan	Landrieu	Wyden
Durbin	Lautenberg	

NOT VOTING—2

Sessions	Shelby
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MESSAGES FROM THE HOUSE

At 4:15 p.m., a message from the House of Representatives, delivered by Mr. Hays, one of its reading clerks, announced that the House has passed the following bills, in which it requests the concurrence of the Senate:

- H.R. 992. An act to end the Tucker Act shuffle, and for other purposes.
- H.R. 1432. An act to authorize a new trade and invest policy for sub-Saharan Africa.
- H.R. 2883. An act to amend provisions of law enacted by the Government Performance and Results Act of 1993 to improve Federal agency strategic plans and performance reports.

MEASURES REFERRED

The following bills were read the first and second times by unanimous consent and referred as indicated:

- H.R. 992. An act to end the Tucker Act shuffle, and for other purposes; to the Committee on the Judiciary.
- H.R. 2883. An act to amend provisions of law enacted by the Government Performance and Results Act of 1993 to improve Federal agency strategic plans and performance reports; to the Committee on Governmental Affairs.

EXECUTIVE REPORTS OF COMMITTEES

The following executive reports of committees were submitted:

By Mr. MCCAIN, from the Committee on Commerce, Science, and Transportation:

Robert J. Shapiro, of the District of Columbia, to be Under Secretary of Commerce for Economic Affairs.

John Charles Horsley, of Washington, to be Associate Deputy Secretary of Transportation.

James E. Hall, of Tennessee, to be Chairman of the National Transportation Safety Board for a term of two years. (Reappointment)

Orson Swindle, of Hawaii, to be a Federal Trade Commissioner for the term of seven years from September 26, 1997, term expired, to which position he was appointed during the last recess of the Senate.

Mozelle Willmont Thompson, of New York, to be a Federal Trade Commissioner for the term of seven years from September 26, 1996, to which position he was appointed during the last recess of the Senate.

Winter D. Horton, Jr., of Utah, to be a Member of the Board of Directors of the Corporation for Public Broadcasting for a term expiring January 31, 2002, term expired.

Christy Carpenter, of California, to be a Member of the Board of Directors of the Corporation for Public Broadcasting for a term expiring January 31, 2002, term expired.

The following-named officers for appointment in the U.S. Coast Guard to the grade indicated under title 14, U.S.C., section 271:

To be rear admiral

- Rear Adm. (lh) Joseph J. McClelland, Jr., 1599
- Rear Adm. (lh) John L. Parker, 7443
- Rear Adm. (lh) Paul J. Pluta, 4222
- Rear Adm. (lh) Thad W. Allen, 3199

The following-named officers for appointment in the U.S. Coast Guard to the grade indicated under title 14 U.S.C., section 271:

To be rear admiral (lower half)

- Capt. David S. Belz, 7006
- Capt. James S. Carmichael, 7926
- Capt. Roy J. Casto, 8656
- Capt. James A. Kinghorn, 8699
- Capt. Erroll M. Brown, 1778

(The above nominations were reported with the recommendation that they be confirmed, subject to the nominees' commitment to respond to requests to appear and testify before any duly constituted committee of the Senate.)

Mr. MCCAIN. Mr. President, for the Committee on Commerce, Science, and Transportation, I report favorably seven nominations lists in the Coast Guard and National Oceanic and Atmospheric Administration, which were printed in full in the CONGRESSIONAL RECORD on November 6, 1997, January 29, 1998 and March 3, 1998, and ask unanimous consent, to save the expense of reprinting on the Executive Calendar, that these nominations lie at the Secretary's desk for the information of Senators.

The PRESIDING OFFICER. Without objection, it is so ordered.

(The nominations ordered to lie on the Secretary's desk were printed in the RECORDS of November 6, 1997, January 29, 1998 and March 3, 1998, at the end of the Senate proceedings.)

In the Coast Guard nominations beginning Cdr. Claudio R. Azzaro, and ending Cdr.

Jerry J. Saulter, which nominations were received by the Senate and appeared in the CONGRESSIONAL RECORD of November 6, 1997.

In the Coast Guard nominations beginning Stephen W. Rochon, and ending Louis M. Farrell, which nominations were received by the Senate and appeared in the CONGRESSIONAL RECORD of January 29, 1998.

In the Coast Guard nomination of Robert L. Clarke, Jr., which was received by the Senate and appeared in the CONGRESSIONAL RECORD of January 29, 1998.

In the Coast Guard nomination of Kerstin B. Rhinehart, which was received by the Senate and appeared in the CONGRESSIONAL RECORD of January 29, 1998.

In the Coast Guard nomination of Maury M. Mcfadden, which was received by the Senate and appeared in the CONGRESSIONAL RECORD of January 29, 1998.

In the National Oceanic and Atmospheric Administration nominations beginning James A. Illg, and ending Jennifer D. Garte, which nominations were received by the Senate and appeared in the CONGRESSIONAL RECORD of January 29, 1998.

In the Coast Guard nominations beginning William J. Shelton, and ending Keith O. Pelletier, which nominations were received by the Senate and appeared in the CONGRESSIONAL RECORD of March 3, 1998.

INTRODUCTION OF BILLS AND JOINT RESOLUTIONS

The following bills and joint resolutions were introduced, read the first and second time by unanimous consent, and referred as indicated:

By Mr. MACK (for himself, Mr. BREAUX, Mr. TORRICELLI, Mr. LOTT, Mr. HATCH, Mr. MURKOWSKI, Mr. DEWINE, Mr. HAGEL, Mr. KYL, Mr. ABRAHAM, Mr. ASHCROFT, Mr. COCHRAN, and Mr. HELMS):

S. 1748. A bill to amend the Internal Revenue Code of 1986 to provide that the reduced capital gains tax rates apply to long-term capital gain from property with at least a 1-year holding period; to the Committee on Finance.

By Mr. ALLARD (by request):

S. 1749. A bill to authorize the Secretary of the Interior to provide funding for the implementation of the endangered fish recovery implementation programs for the Upper Colorado and San Juan River Basins; to the Committee on Environment and Public Works.

By Mrs. HUTCHISON (for herself and Mr. DOMENICI):

S. 1750. A bill to amend section 490 of the Foreign Assistance Act of 1961 to establish an additional certification with respect to major drug-producing and drug-transit countries, and for other purposes; to the Committee on Foreign Relations.

By Mr. SPECTER:

S. 1751. A bill to extend the deadline for submission of a report by the Commission to Assess the Organization of the Federal Government to Combat the Proliferation of Weapons of Mass Destruction; to the Select Committee on Intelligence.

By Mr. KYL:

S. 1752. A bill to authorize the Secretary of Agriculture to convey certain administrative sites and use the proceeds for the acquisition of office sites and the acquisition, construction, or improvement of offices and support buildings for the Coconino National Forest, Kaibab National Forest, Prescott National Forest, and Tonto National Forest in the State of Arizona; to the Committee on Energy and Natural Resources.

By Mrs. FEINSTEIN: