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GLOBAL SPREAD OF CHEMICAL AND BIOLOGICAL WEAPONS

HEARINGS

BEFORE THE

COMMITTEE ON GOVERNMENTAL AFFAIRS

AND ITS

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ASSESSING CHALLENGES AND RESPONSES, FEBRUARY 9, 10, 1989

EXPORT CONTROLS OVER CHEMICAL/BIOLOGICAL WEAPON MATERIALS

ORGANIZATIONAL CHALLENGES FOR THE 1990's, MAY 2, 1989 GERM WARS

BIOLOGICAL WEAPONS PROLIFERATION AND THE NEW GENETICS, MAY 17, 1989

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According to such a plan, funds for the medical defense and related portions of BDRP would be transferred into the NIH budget, perhaps into NIAID and NIEHS, thereby becoming subject to its review and oversight policies. The bills just submitted by Representative Owens speak to these issues directly.

The dual review system at NIH offers the opportunity to assess projects for scientific merit alone and to make subsequent policy decisions concerning programmatic areas to be supported. This would ensure that the goals of the BDRP would be considered and accommodated.

In fact, I would like to emphasize that the Assistant Secretary of Defense for Health Affairs is already chartered as an ex officio member of both the NIAID and the NIEHS councils.

High-quality research pursued vigorously and intelligently and reported openly could reap enormous public health benefits, especially within the Third World. At the same time, the broad dissemination of this information would undermine the utility of these agents for BW purposes.

If these actions could be coupled with increased efforts to strengthen present sanctions against biological weapons, citizens of the world might be both safer and healthier.

Chairman GLENN. Thank you very much, doctor.

Dr. Matthew Meselson, Harvard University.

TESTIMONY OF MATTHEW MESELSON, PH.D., PROFESSOR OF BIOCHEMISTRY AND MOLECULAR BIOLOGY, HARVARD UNIVERSITY, CAMBRIDGE, MA

Dr. MESELSON. Thank you, Senator Glenn. I have brought with me a final copy of my testimony. I request that it be the one inserted into the record, if that is possible.[1]

Chairman GLENN. Fine. It will be substituted and be included in the record in its entirety.

Dr. MESELSON. I appreciate the opportunity to appear before this Committee to take part in its continuing consideration of biological and toxin weapons. In addressing the questions you have posed for today's hearing, I believe it is important to understand the reasoning that went into the longstanding United States renunciation of these weapons.

Twenty years ago, after intensive inter-agency review, the United States unilaterally and unconditionally renounced the development and possession of biological and toxin weapons. Our considerable stockpiles of such weapons were destroyed and the facilities for developing and producing them were converted to other uses.

These U.S. decisions went far beyond the mere cancellation of a program. They renounced without prior conditions even the option to develop or acquire biological and toxin weapons. Why?

First, it was understood at that time that biological weapons could be as great a threat to large populations as nuclear weapons, and that no reliable defense is likely. Already having nuclear weapons, the United States has no need for an additional, less pre-

[1] See p. 498.

dictable, less targetable strategic systems ineffective against hardened military installations.

Second, it was evident that biological weapons could be much simpler and less expensive than nuclear weapons to develop and produce. Proliferation of biological weapons would greatly increase the number of nations to which the populations of the United States and its allies are hostage.

Third, it was realized that our biological weapons program was pioneering an easily duplicated technology, and that our program was likely to inspire others to follow suit.

This stark analysis led to the conclusion that our biological weapons program was a substantial threat to our own security. The policy implication was that we should convincingly renounce biological weapons and seek to strengthen international barriers to their proliferation. In implementing this overall policy, the United States subsequently sponsored the Biological and Toxin Weapons Convention of 1972, ratified it in 1975, and led efforts to enhance the limited verification provisions of the Convention at its second review conference in 1987.

Today, to the best of my knowledge, no nation possesses a stockpile of biological or toxin weapons. Nevertheless, there is justifiable concern that the recent proliferation and use of chemical weapons, particularly in the Middle East, may set the stage for attempts to develop and produce biological weapons.

The potential linkage between chemical and biological weapons is one of the factors that argues for pressing forward with our commitment to achieve a verifiable international ban on chemical weapons. This treaty, the Chemical Weapons Convention, is now in an advanced phase of negotiation by the 40-nation Committee on Disarmament in Geneva.

The present rolling text of the Convention is largely based on the United States draft treaty presented in Geneva by then Vice President Bush. At the time, the Soviets, and even some of our allies, were unwilling to accept the tough verification measures called for in the United States draft. But with the changing attitude of the Soviet Union toward on-site verification, the United States position won out.

It is time to give high priority to settling the remaining issues at Geneva, to resolve the outstanding bilateral issues with the USSR, and to conduct needed studies in the United States on verification techniques.

Our first and most important line of defense against biological and toxin weapons is the effort to prevent their introduction into the arsenals of the world. We do this through our own example, through a growing and increasingly intrusive system of arms control agreements, and by a variety of diplomatic activities backed up by the influence and prestige of the United States.

In addition to these efforts to prevent the proliferation of biological and toxin weapons, there is the possibility of providing a limited defense against them. President Nixon, in 1969, did not reject biological research for protective purposes. Instead, he announced that, "We shall restrict our biological program to research for defensive purposes strictly defined, such as techniques of immunization, safety measures, and the control and prevention of disease."

This careful statement remains a good definition to guide United States military biological research programs. It subordinates biological research to the fundamental U.S. policy of renouncing biological weapons and building constraints against their proliferation. Moreover, it recognizes the requirement that our renunciation be convincing to others.

I recall that shortly after President Nixon's decisions, the White House sent inquiries to a considerable number of scientists and others who had been involved in the United States biological weapons program, a total of nearly 100.

The White House inquiry asked if the United States biological research program could be conducted without secrecy. The great majority of respondents replied that secrecy was not needed.

Openness in all biological research has advantages that far outweigh any risk. It makes U.S. policy credible. It helps in recruiting and keeping the most talented investigators and in exposing shoddy work or misguided lines of research. Openness accelerates progress through the kind of scientific interchange characteristic of the health sciences.

Finally, by minimizing mutual suspicions, openness makes it possible for more nations to coordinate their efforts to combat disease and to guard against infringements of the prohibition of biological and toxin weapons.

I believe that there are areas of biological research in which the military should be engaged. These must be judged on a case-by-case basis. Military research should be done with the same high degree of openness that characterizes other research in medicine and public health.

There should be meaningful civilian involvement in the oversight of the entire program, although it must also be recognized that the military do have special needs for protection against infectious hazards that the civilian sector tends to ignore.

Organized and directed properly, USAMRIID and other military facilities can increasingly be used to enhance confidence in biological disarmament and to help overcome the very real threat to the military and to all mankind from naturally-occurring disease.

I would like to make some comments on matters touched upon by previous witnesses. Sometimes it is said that there is no ability to verify the Biological Weapons Convention. That, of course, is an overstatement. There is an ability to verify the Biological Weapons Convention.

The Convention itself has very limited verification provisions. There are, however, national intelligence means of verifying compliance. There is also a considerable amount of information flowing to us daily from all kinds of non-governmental sources, including the international press. This has not been regarded, justifiably, as enough.

There have, in recent years, been measures taken to enhance the verification provisions of the Biological Weapons Convention. These have not taken the form of amendments of the treaty, but rather the form of agreements reached either at the review conferences of the Biological Weapons Convention or at the United Nations.

Today, the Secretary General of the United Nations has the authority to send teams to investigate on-site claims of chemical or

biological attack, something he did not have the authority to do until recently.

Moreover, at the second review conference of the Biological Weapons Convertion in 1987, an agreement was reached that annual declarations would be made of containment facilities at the highest level—that is, BL-4 containment facilities—regardless of their use by all nations party to the Biological Weapons Convention, and of lower-level containment facilities, BL-3, if they are in facilities that specialize in biological defense work.

One of the facilities declared by the Soviet Union which was declared even though, strictly, it was not required to be declared under the agreements reached by the second review conference, is located in Sverdlovsk. This brings me to some brief comments I wish to make on the issue of the anthrax outbreak in Sverdlovsk that occurred in April and May 1979.

The burden of the evidence available is that the anthrax outbreak was the result of a failure to keep anthrax-infected animals off of the civilian meat market, as the Soviets have maintained, and not the result of an explosion at a biological weapons factory, as previously asserted by the United States.

I think Ambassador Holmes' statement that maybe we will never know the cause of that epidemic shows a commendable willingness to review previous conclusions in the light of new information and new interpretations.

Ambassador Holmes correctly shifted the focus to the question of the facility in Sverdlovsk. There is indeed a large facility consisting of several buildings that can be seen on unclassified satellite photographs obtained, for example, from the Spot Corporation, the French satellite corporation, which has a security fence around it and is exactly at the place that the Soviets have declared they have a facility for defensive biological studies. They have said in their declaration that there are no pathogens at the facility.

The next step, it seems to me, in clarifying this issue, is to visit that facility, and I hope that is underway in discussions between the United States and the Soviet Union. That would be the kind of openess that is needed.

This leads me to my final point, and that is that the barriers to the spread of biological weapons are not financial and they are not technical. They are psychological and political. That means there is no technical fix. It means that we need the coordination and cooperation of other countries.

The United States cannot, by itself, prevent the state of mind from coming into being somewhere in the world that would produce, or develop and then produce biological weapons. Without the cooperation of other countries, our policy cannot be effective.

The foreign country whose cooperation is most essential is the Soviet Union. That is why it is essential for us to go the limit in trying to resolve the issues that have come up between the United States and the Soviet Union in the area of biological and chemical weapons.

This will require greater Soviet willingness, for example, to let us go see the Sverdlovsk facility to establish what is there today—and maybe shed some light on what was going on there 10 years

ago. It will also require U.S. willingness to objectively review previous allegations in view of new information and analysis.

Thank you, Mr. Chairman.

Chairman GLENN. Thank you very much, Doctor.

Dr. Jonathan King, of MIT.

TESTIMONY OF JONATHAN KING, PH.D., PROFESSOR OF MOLECULAR BIOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MA

Dr. KING. Mr. Chairman, members of the Committee, and staff, I have followed and appreciated the important work done by many members of this Committee with respect to the C and BW issues and I am pleased to be given this opportunity to speak to you today.

I hope, also, that my written comments can go in the record [1] and I will try to abbreviate them.

Chairman GLENN. Your entire statement will be included.

Dr. KING. I currently chair the Committee on the Military Use of Biomedical Research of the Council for Responsible Genetics. The CRG is a national organization of scientists, environmentalists, public officials, and citizens working to ensure the productive development of biotechnology in a socially useful manner.

The Committee on the Military Use of Biomedical Research has been closely monitoring developments related to the Biological Weapons Convention and biological weapons issues for the last 5 years.

As a result of the fundamental self-reproducing character of living creatures, they always have the potential to spread through populations and ecosystems—a feature of virus infections so tragically familiar to us at present.

Thus, though always a hazard to human populations, they have never been effective weapons, agents whose targets could be tightly controlled. It is particularly important to recognize that infectious agents recognize neither national boundaries nor uniforms, whether the Black Plague in the 14th century or AIDS in the 20th century.

It is not at all clear, at least to me, that it will be possible, using biotechnology, to generate infectious agents that have the character of weapons, agents that will, in a controlled manner, cause damage to enemies and not to friends.

However, I have no doubt that research efforts in this area will generate as side products organisms deleterious to the health and welfare of human, plant, and animal populations. Therefore, the danger is not the development of biological weapons. The danger is the proliferation of biological weapons defense programs themselves. And, of course, all nations call their programs defense programs because of the treaty.

Let us consider an adversary. Any plan for offensive use begins with the ability to defend one's own troops or population, as in the development of a vaccine against a virus.

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[1] See p. 506.