

Preliminary statement by Joshua Lederberg  
for the Committee on International Security and Arms Control  
Moscow, 8 October 1986.

This group does not need to be reminded of urgent reasons for strengthening controls on Biological Weapons. (I have brought a copy of a prior statement to this committee that reviews this issue for the benefit of those of you who did not participate in earlier meetings.) The recently concluded 5-year review conference on the BW Convention also stressed the importance of strengthening the treaty. I believe that this concurrence is an important step forward, and that our own discussion here will be very much in the spirit of implementing the strengthening measures advocated at Geneva.

Even with the best of good will and mutual confidence, the control of BW poses serious difficulties, and it may not be possible to solve all of them as long as there remain unresolved sources of interstate conflict. Even while we seek progress toward broader aims of harmony, prevalent suspicions, fears and doubts about BW remain a serious obstacle to those goals. Confidence-building measures therefore remain the most important step we can take, both for BW arms control and for broader aims.

Certain progress has also been made at the CD and in bilateral discussions towards advancing non-proliferation and disarmament in the CW field. My own discussion will center entirely on BW with infectious agents to the exclusion of toxins and of CW, acknowledging that progress in each arena contributes to the others. I am therefore more optimistic than has been possible for several years.

The central difficulties in BW arms-control are a) verification  
b) definition, c) the rapid advance of biotechnology, and  
d) the potential for rapid breakout.

a) The limitations of BWC verification by NTM have been well understood; several states were reluctant to sign a treaty that seemed to depend entirely on cooperative verification. Cooperative verification is tightly intertwined with mutual confidence: each depends on the other. It should be in the interest of each state to do all possible to reassure the others. I am pleased that a reaffirmation of this principle, and hopefully a fresh start in its practice, were signalled at Geneva. CW arms control may also show how mutually satisfactory regimes of inspection may be crafted that could later be applicable to BW as well (or even sooner, since the BWC already mandates BW-disarmament). I will return to CBM's later.

b) R&D related to BW is difficult to define, so much so that definition may be a graver problem than verification. The scale of facilities needed for production (forbidden under BWC) is fairly small, and difficult to separate from the scale for R&D (allowed). Defensive work, e.g. the production of vaccines, or the testing of potential threat agents in order to refine countermeasures, is difficult to separate from work with offensive goals. The BWC is somewhat vague about the level of production that would clearly mark an effort as offensive and illegal. At the same time, biomedical research, our common war against natural enemies, requires almost

identical tools, training, and knowledge as those which would have potential military application. (Conversely, work in military laboratories has played an important part in the history of the conquest of communicable diseases.)

c) The growth of biotechnology will eventually enable the production of BW agents of greater precision of targetability and control, attributes that are far more important than lethality to make them more usable for military purposes. The future prospects of such military uses heighten the anxiety about the intentions of work that is kept secret. At the same time, industrial biotechnology has already greatly expanded overall investment in large scale microbiological facilities which might have dual potential (i.e. to produce BW agents.) There is also a certain international competition for economic purposes, and industrial proprietary secrecy also may complicate the effort to build confidence by the freer exchange of information.

d) There is, and should be, grave concern about breakout. However effective an arms-control and confidence-building regime we may build tomorrow, ether side's accumulated knowledge, technical knowhow and industrial facilities could be rapidly converted from civilian to military purposes.

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Medical scientists in any country therefore have a complicated burden of conscience: on the one hand, to sustain their own country's security with realistic advice about vulnerability to attack with BW; on the other to do all possible to assure that biological weapons are never used, never produced, insofar as possible never developed, by anyone. My advice to my government has always been, unequivocally, to avoid BW as a military utility; and I believe any informed medical scientist will speak with the same voice to his government. Openness may therefore have a twofold benefit: to provide reassurance building confidence as between countries; and to give medical scientists everywhere the best opportunity to advise their own governments about the wisest policies for their own national as well as global interests.

Medical scientists, besides their unique ethical situation, also are uniquely qualified to work out the most feasible framework of cooperative verification, to understand its possibilities and its limits, and to take an active role in its implementation. We have a difficult task in thinking of measures that can meet the constraints of verification, definition, rapid technology and breakout well enough to promote confidence and enhance mutual security. We cannot expect perfect solutions overnight, and pragmatic advances will need the most thoughtful participation of scientists from all sides. It is therefore especially gratifying that we can have succeeded in arranging for this meeting, and its particular membership.

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CBMs.

The Geneva BWCRC suggested a number of measures, above all mutual

consultation in a variety of forums and with the participation of experts. (The U.S. government has acknowledged the value of informal exchanges, and encourages them; it also insists that formal consultation within the terms of the treaty not be evaded.) A meeting is agreed to be held in Geneva, April 1987 to work out modalities of exchange. Other steps include the registration of high-hazard facilities, and the publication of research related to BW. The overall framework of scientific cooperation in biotechnology and other biomedical research should be bolstered. We should discuss all of these, and other possibilities at this meeting.

I would not be candid if I overlooked what has been a major impediment in mutual confidence from a US perspective. We are also here to learn what the USSR's concerns may be. But I am glad to acknowledge a major positive step on the USSR's part in opening up discussion about the anthrax outbreak in Sverdlovsk in 1979. I was delighted to learn from Dr. Matthew Meselson about his visit in August this year with Moscow public health officials who were directly involved in managing that outbreak. He has briefed our delegation about what he learned. I have also received notes of Dr. Antonov's report to the BWCRC on the same subject. These reports have provided detail that was not hitherto available; and above all the opening of clear channels for further discussion with the relevant public health authorities is a very large and positive step that we all commend. The epidemic is a subject of considerable scientific interest, and I hope we will have time for some informal discussion with the principals to learn more from that perspective, as well as to advance the publication of detail in a way that can overcome the accumulated speculation of the past six or seven years.

A more difficult problem, because it must touch on the policies of controlled disclosure that are the privilege of each country, is wider exchange of information about facilities that work on BW-related matters. The US already publishes some information on these subjects. I am not authorized to speak on behalf of the US government but I am confident that many still larger steps could be agreed to on a reciprocal basis. Without broader disclosure, many biotechnology-related facilities in the USSR rumored to be BW-related are candidates for anxiety, and motivate initiatives to match them in the US: a tacit BW-technology race within the latitude of the treaty. If these anxieties are groundless, it is not in the USSR's interest that they be sustained by a refusal to discuss them; and needless to say, vice versa.

Third party and terrorist use of BW should be a matter of equal concern to the US and the USSR. Similar concerns about CW have been discussed bilaterally at Berne. If we can achieve higher mutual confidence about BW, we will be better able to advance our mutual stance about BW proliferation and terrorism.

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An important objective, as well as instrumentality, of CBMs is enhanced scientific cooperation. It is unrealistic to expect striking

progress in cooperation so long as fear about the other side's technology is the dominant emotion in the relationship. The US can benefit from USSR experience and skills in many aspects of epidemic disease; the converse is true, I believe, for industrial and pharmaceutical biotechnology. Most important, perhaps, the third world is legitimately demanding that both superpowers mitigate the bilateral problems, and devote attention and resources to its needs.

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