HARVARD UNIVERSITY

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8 December 1975

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Dear Linus,

I have taken so long to respond to your letter of 11 July that you may no longer have use for the enclosed materials. I don't think that my contribution to the recent progress in biological and chemical disarmament is much greater than that of a number of other individuals. Unfortunately, some of the hardest working of them may never be recognized because they are hidden in the middle levels of the government bureaucracy.

You may remember some good advice you gave me when I was a research student at Cal Tech. I had become quite involved in attempting to organize a conference on the health effects of fall-out. You told me to concentrate on scientific work, at least until I had done some worthwhile research. I took your advice and stayed mostly away from politics until 1963 when, through Paul Doty, I was asked to spend the summer as a full-time consultant to the Arms Control and Disarmament Agency in Washington. The multi-lateral nuclear force was then a subject of much debate and I was assigned to work on nuclear arms control. I soon realized that I could contribute nothing very effective in this area and asked to be assigned to study chemical and biological weapons. I read many government documents, most of them secret, and visited Fort Detrick and the CIA to find out what the U.S. was doing and what our government thought other countries were doing with chemical and biological weapons. I was startled to see how far the United States was moving in the biological weapons field when there was no valid national security interest in doing so. The military exploitation of our rapidly expanding knowledge of life processes could, in the long run, not only make war more terrible but might also bring about pernicious changes in man's view of the intrinsic value of human life. Of course, there were also more immediate reasons for urging changes in U.S. policy. Biological weapons are of no important military value to a nuclear power, yet their proliferation could greatly increase the power of other nations for threat and destruction. I shared an office at ACDA with the physicist Freeman Dyson, who gave me much encouragement. At the end of the summer I wrote up my analysis and conclusions in a classified document that probably never left the Agency. Parts of my report are reflected in a proposal that appears in the Proceedings of the Fourteenth Pugwash Conference, published in 1965, and in a book review published in the Bulletin of the Atomic Scientists in October 1964. At the time I was more con-

cerned with germ weapons than with chemical ones. I tried to attract the attention of a few higher level government officials and outside advisors to the unsoundness of U.S. policies. The individuals to whom I spoke were not unsympathetic but were too much preoccupied with problems of their own to take up an unfamiliar and seemingly not very urgent issue.

Although my discussions within the executive branch did not seem very effective, I was reluctant to go very far in public. Some of the technology of chemical and biological warfare being pioneered by the United States could easily be imitated by others. I was concerned that too much public attention to the subject might do more to provoke world-wide military interest in such weapons than to achieve their prohibition. But gradually I became convinced that no purely executive decision to curtail CBW programs was likely to have lasting effects, even if it could be achieved. It seemed that the lasting commitment of a treaty was required. Besides, the increasing use of "super tear gas" and herbicides in Vietnam and the large and conspicuous U.S. biological and chemical warfare programs made pointless any attempt to confine the arguments to official circles.

Since the ratification of treaties is generally impossible without strong public and congressional support, I began to try to stimulate broad awareness of the dangers of continued development of biological and chemical weapons and of the weakening of constraints against their use. My ultimate objective was to achieve U.S. ratification of the 1925 Geneva Protocol and to bring into existence new treaties to prohibit the production and possession of biological and chemical weapons. (As you know, many states consider the Protocol to prohibit only the first use of such weapons, not their use in reprisal.)

At about the same time I began the practice of seeking out and visiting individuals who might be able to exert a beneficial effect on policy, including publishers, journalists, and retired government officials, as well as active officials of the U.S. and other nations. In 1966, John Edsall and I, assisted by a biochemist, Milton Leitenberg, initiated a petition urging President Johnson to order a review of U.S. policies for biological and chemical weapons. It generated considerable coverage and favorable editorial comment in the press, first when it was released by its twenty-two initial sponsors in September 1966 and again when it was brought to the White House in February 1967 along with the signatures of more than 5,000 U.S. scientists.

Although at the time the scientists' petition did not bring about a high level review of U.S. policy or a halt in the

use of chemical weapons in Vietnam, it did increase public and official awareness of the issues and probably helped to set the stage for events that followed. In this regard it must be remembered that the Chemical Corps itself contributed much to public concern over biological and chemical weapons with a remarkable series of accidents and blunders. The implications of these events were particularly underscored by the writings and statements of the journalist Seymour Hersh and the Representative from New York Richard D. McCarthy.

After the scientists' petition was submitted, I continued to express my views both privately and in public talks and writings. Most of the latter are listed in the accompanying bibliography and copies are also enclosed. I also enclose a relevant chapter from a book by Joel Primack and Frank von Hippel. Some of the papers I wrote were directed at specific issues under consideration at the time. I circulated these papers privately to individuals in and out of the government and sought to arrange personal discussions of them where it seemed appropriate. Other papers and articles, written for a broader readership, were published in various newspapers, journals, and books.

In April 1969 I was invited to present an extended discussion of biological and chemical weapons in closed session to the Senate Committee on Foreign Relations. The published transcript is enclosed. After making the acquaintance of the Chairman and several other members of the Committee and its staff, I continued to consult with them, particularly in the course of hearings on the ratification of the Geneva Protocol in 1971 and 1974.

Another avenue of approach to the alteration of U.S. policy that seemed to hold promise was the holding of conferences to arouse interest among individuals who might be influential in foreign policy matters. Paul Doty and I organized such a conference at the American Academy of Arts and Sciences in Boston in July 1969 with support from the Salk Institute. Together with Herbert Scoville, Jr., I organized a later series of meetings at the Carnegie Endowment for International Peace. The Proceedings of the American Academy conference were circulated privately and the New York meetings led to a book published by the Carnegie Endowment in 1971. I also participated in numerous meetings and workshops dealing with biological disarmament sponsored by Pugwash and the Stockholm International Peace Research Institute and in a technical study of the possible effects of chemical and biological warfare published by the World Health Organization in October 1970. In the course of these trips, I arranged to speak with various officials abroad who might help to shape their countries' policies for biological and chemical disarmament.

In November 1969 and February 1970 President Nixon declared that the United States would renounce the development, possession and use of biological and toxin weapons and that the

1925 Geneva Protocol would be submitted to the Senate for its advice and consent to ratification. The President also announced U.S. support for the U.K. draft Convention prohibiting the development, production, possession, and transfer of biological weapons. I had no official role in the governmental review leading to these decisions. However, I was aware of the discussions taking place and I distributed several papers within the government addressed to some of the issues, particularly the ratification of the Geneva Protocol, the military use of tear gas, and the desirability of including toxins in the renunciation of biological weapons.

U.S. ratification of the Geneva Protocol, already delayed for forty-five years, was delayed for five more years because of dispute regarding the status of tear gas and chemical herbicides. Because of its massive use of these chemical weapons in Southeast Asia, the Administration argued that they did not come within the scope of the Protocol. The historical record, the views of the parties to the Protocol, and the weight of independent legal opinion were against the Administration view. This opposition was strongly stated by Secretary General U Thant and subsequently expressed by the General Assembly in a vote of eighty to three. Most of our closest allies abstained and only Portugal and Australia voted with the United States. I was convinced very early that the use of tear gas in war and even preparations for such use could lead to military acceptance and employment of more toxic chemicals. It took longer for me to see the full importance of prohibiting anti-plant warfare as well, although I was incensed by the use of herbicides to destroy food crops in Vietnam.

I learned much more about the use of herbicides in war than I ever expected by agreeing to conduct for the AAAS a limited study and field inspection of the effects of herbicides in Vietnam. Early in 1970 I invited the forester and biologist Arthur Westing to join me and after several months of study and preparation, we conducted an inspection in South Vietnam for six weeks in August and September 1970. We were accompanied by John Constable, a Boston surgeon familiar with medical conditions in Vietnam, and Robert Cooke, a Yale graduate student of plant ecology. On our return we wrote a preliminary report and a longer background document, which were presented at the annual AAAS meeting in Chicago in December. Several days earlier I had described our findings to officials at the White House and the State Department. At the start of the AAAS meeting, the White House announced that the use of herbicides in Vietnam would be subjected to "...an orderly, yet rapid phase-out..." Some of the photographs we took of sprayed forests and fields and an informal report of our observations appear in an article by Constable and me in the Sierra Club Bulletin for April 1971.

The Senate Foreign Relations Committee held its first series of hearings on ratification of the Geneva Protocol in March 1971. Although the use of herbicides in Vietnam had been essentially ended, the tear gas CS was still in combat use and the Administration sought to obtain Senate support for the view that tear gas and herbicides were not prohibited by the Protocol. I presented testimony to the effect that tear gas was of very little military value and that its use risked undermining the Protocol and stimulating world-wide interest and proliferation of other chemical weapons. I urged that Senate action be delayed in order to achieve an improvement in the Administration position. The Foreign Relations Committee decided to defer action and sent a letter to the President giving its reasons. The Administration has not yet changed its position on the interpretation of the Protocol. However, late last year President Ford directed that some compromise be found and as a result the Senate gave its consent and the United States became a party to the Protocol in April 1975. Under the compromise, the Senate did not explicitly agree with the Administration view of the Protocol but neither did it disagree. The two views are simply noted in the Report of the Foreign Relations Committee. For its part, the Administration agreed to renounce the use of tear gas and herbicides in all but a few limited and defined situations, including "rescue missions" and vegetation control on U.S. military bases. I argued against this compromise with Administration officials and Senators. Still, it is a decided improvement over the 1971 position and the United States is finally a party to the Protocol. We have also become party to the Biological Weapons Convention, making the Presidential decisions of 1969 into formal treaty commitments.

Aside from finally obtaining a uniform international interpretation of the Protocol, there is the task of creating a more far reaching treaty for chemical weapons, prohibiting their development, production, and possession. Although the U.S. and the U.S.S.R. have announced their intention to submit a joint initiative on chemical disarmament to the Conference of the Committee on Disarmament in Geneva, this has not occurred. I have tried to address the current situation in an article in Arms Control Today for April 1975.

Even a rather modest increase in public and congressional interest in chemical disarmament might overcome official indifference. Meanwhile, I think it is important to increase public awareness of the treaty commitments that governments have already undertaken. Even a treaty can be eroded if the people and their political leaders forget it. Therefore, aside from working for chemical disarmament, I would like to do what I can to bring about more general awareness of the Geneva Protocol and the Biological Weapons Convention. I want to find out if writers

of high school and college history texts can be interested in giving some space to these matters.

It was good to see Ava Helen and you last month. As I may have mentioned, I will be in the Bay Area on or about 10 February. Would that be a good time to visit you and see the Institute?

With warm regards,

Matt

Matthew Meselson