Personal memo from
JOSHUA LEDERBERG

Matt Meselson

BW history

AUG 10 1998

Matt –

Can you recall

1) when we first met *

2) " " " discussed BW.

Certainly by 1966. See enc's.

* Weren't you on Westex (Exobiology)?

Jsh.

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Lederberg

The Washington Post

Saturday, Sept. 24, 1966

A Treaty Proposal On Germ Warfare

By Joshua Lederberg

(The author is Professor of Genetics at the Stanford University School of Medicine, and a recipient of the Nobel Prize for Medicine in 1958.)

ON SEPT. 19 a distinguished group of my scientific colleagues released the text of a petition to President Johnson concerning U.S. policy on biological and chemical warfare. They point to the encouragement for the wider commitment to these weapons that our own actions in Vietnam might generate.

According to news reports, we are making extensive use of defoliating chemicals not only against forest cover but also against crops purportedly available to the Vietcong. At some times, tear gas has also been used in military and occupation missions.

The United States has vehemently denied the military use of any biological weapons or of any lethal chemical weapons. However, research on these weapons has continued through and from World War II. The Army has a well-known research facility at Fort Detrick, Md., and a testing station at Dugway, Utah. The aggressiveness with which these activities have been publicized may be laid to intra-service competition for funds to expand a line of work whose actual military utility is highly controversial.

CBR (Chemical, Biological, Radiological Warfare) can easily evoke a highly emotional response, attracting the most vehement emotions on the inhumanity of war. The focus on boycott demonstrations against napalm production shows this; aircraft manufacture or steel production would be far more consequential to the roots of military homicide. The petitioners do not allude to the specific inhumanity of CBR, but it is undoubtedly involved in the stringency of their reactions.

CAN WE be "rational" about the inhumanity of one class of weapons as against another? It is hard to imagine more inhuman methods of homicide than explosion or suffocation in a collapsed building or starvation, the most widely practiced techniques of contemporary warfare. Humanitarian opposition to CBR is altogether irrational, except as it is directed to war itself. It can be argued, however, that man's proclivity to warfare must be contained through his social institutions, and any breakdown of traditional limitations in the way war is practiced is one more step of degradation of the species.

The petition suggests that minor uses of CBR will lead to escalation. However, since tear gas is already rationalized for other social purposes, the lumping of Chemical, Biological and Radiological warfare may be especially confusing, and could exacerbate the chances of escalation. Biological warfare should be carefully set apart, particularly for the initiative in international negotiations, for several reasons:

Its development is closest to medical research, therefore conveys the most intense perversions of the human aims of science.

It is the most dubious of military weapons.

Its effects in field use are most unpredictable, with respect to civilian casualties, and even retroactive on the user.

The large scale deployment of infectious agents is a potential threat against the whole species: mutant forms of viruses could well develop that would spread over the earth's population for a new Black Death. Chemical weapons, however potent, at least do not produce equally or more virulent offspring!

ONE APPROACH to the control of biological warfare should be a nonproliferation treaty. Biological warfare development is within the potential resources of the smallest nations, and the weapons liable to the most irresponsible use. On the other hand, no vital interests of one nation are now committed to biological warfare: the powers can afford to limit their sovereignty in this area.

A nonproliferation treaty in this area could be a constructive precedent for other areas of arms control; the more narrowly it is defined the greater the likelihood of its adoption.

The treaty could dedicate all biological and medical research to human welfare. In this light, no research on living organisms could be classified. M.D.'s and Ph.D.'s in life sciences would be registered and expected to report periodically on their current research activity to an international organization. Ideally, these registrants should have the right of free travel, if necessary, for the purpose of reporting violations of the treaty. Special provisions are needed for proprietary interests, e.g., the drug industry, but with stringent time limits set for confidentiality of its information. A world data center for life sciences would have many human benefits, in addition to centralizing the surveillance of treaty obligations.

The future of the species is very much bound up with the control of these weapons. Their use must be regulated by the most thoughtful reconsideration of U.S. and world policy.

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STANFORD UNIVERSITY SCHOOL OF MEDICINE
Department of Genetics

December 11, 1969

Mr. A. Schou
Nobel Peace Institute
Oslo, Norway

Dear Mr. Schou,

This is to follow up our conversation in Stockholm in which I advocated a broadening of the mandate of the Nobel Peace Prize to include those scientific studies which might have a direct bearing on the rational ordering of human affairs towards the peaceful solution of group conflict.

May I take the occasion now to recommend a concrete step that would at least facilitate the consideration of such proposals without imposing a binding commitment on you. I suggest merely that you enlarge the field of qualified nominators for the peace prize to include previous recipients of the other Nobel Prizes in the sciences, medicine, and literature.

I would be happy to think that you would be burdened by a large number of additional nominations for if this were the case it would bespeak further intellectual attention to the problems of peace. My expectations are more modest but in that same direction.

Having requested such a self-serving gratuity it probably is already incumbent upon me to illustrate the point with some of my own suggestions.

For their important clarification of the role of instinct in aggressive behavior of animals and of men I would suggest Nikolas Tinbergen and Konrad Lorenz. Their findings should be no means be confused with the pernicious simplification that has been advertised, for example, by Ardrey.

In another sphere, namely the specific contributions of scientists towards initiatives for peace I would happily nominate Jerry Wiesner for his remarkable role in the development of the non-proliferation treaty. I am sure that you are already far more acquainted with this than I could be.

Finally, I would call to your attention a very able scientist whose dedication to an extremely important peace-related activity has just been crowned with a very significant concrete action, namely President Nixon's recent statement concerning U.S. policy on chemical and biological warfare. In my opinion this step has an importance that transcends even the crucial issues of biological weaponry as it may be a major avenue for international consensus on problems on global concern. My candidate is Professor Matthew Meselson about whom you may not have heard so much but whose contribution to this field has been acurately summarized in a recent profile in The New York Times, a copy of which is enclosed.

I have already intruded myself too far but in the event that there is indeed an avenue where people like myself can make explicit nominations for the Peace Prize I would be happy to undertake the effort of a more complete statement of justification.

Please accept my very best personal regards for Madame Schou as well as yourself.

Sincerely yours,

Joshua Lederberg
Professor of Genetics

1 Enclosure
JL/rr

I was quite startled to find this!

BW

June 10, 1949.

Dr. Hugo C. Wolfe,
Administrative Chairman,
Federation of American Scientists,
1749 L Street, N.W.,
Washington 6, D. C.

Dear Dr. Wolfe,

I have had an opportunity to study, and to a limited extent to reflect upon, the report of the FAS committee on biological warfare, which you brought to my attention about two weeks ago. I was a little surprised that my reactions were wanted, because I have no special information on the problem, and my acquaintanceship with it is limited to a reading of Rosebury & Kabat's review article which appeared two years ago in the Journal of Immunology.

To the extent that the report was based necessarily upon published material, one must have considerable reservations concerning the possibility of technical advances which might override the difficulties now seen in certain specific applications of BW. As a geneticist, I can see this possibility most acutely in respect to the development of fungus pathogens, especially rusts, which might become suitable for military attacks on enemy cereal agriculture. The problem of retroaction is not insurmountable because a) it is quite likely that the technique of in vitro cultivation of rusts will soon be perfected, if it has not been already, b) the predominant varieties adapted to climatic conditions of different countries show marked differences in susceptibility to different races of the pathogen, and c) it should not be difficult to

harvest spores in isolation plots at seasons (or under glass) when their spread can be controlled. The genetics of pathogenicity is better understood in the rusts than in any other microbe, and theproblem of developing pathogens which would be specifically active against the enemy's agriculture would here most readily be solved. Although admittedly this type of attack is not dufficiently reliable to be used as a primary weapon, the expectation of success should certainly be high enough that it would justify the relatively small investment needed.

With regard to BW against man, the point is rightly made both here and in the Rosebury-Kabat article, that retroaction may be the chief consideration. I have been impressed with the possibility, however, that in desperation, one country might be willing to assume the risks of using highly retroactive agents (such as, for example, pneumonic plague) although such use would make military occupation impossible. However, it seems likely that this kind of sterilization can be effected nearly as efficiently with radioactive poisons. The use of BW in this way might therefore be expected to originate from countries which have been attacked with a preponderance of military power in the form of atomic weapons, and for whom BW might be the only recourse.

I cannot envisage the possibility of effective international control of BW research. In contrast to atomic development, BW would require a minimum of industrial equipment, so that inspection could not be possible unless every house in every village could be searched. To hope to restrict the importation of anthropoids seems no more realistic than an effort to control the agar industry, or the distribution of embryonated eggs.

There is no doubt that there is great need for public education on the problem of BW. Fortunately, I don't believe that the sensational publicity has been taken very seriously. But it could certainly do a great deal of good to emphasize the need for expanded public health services, and the fact that a great deal of research is undoubtedly being carried on on defensive

aspects of BW, and that this work may be of public benefit far beyond its applications to military security.

As far as endorsement of a public report is concerned, however, I cannot help but feel that themilitary program holds the ace. Whatever an outside group might say would necessarily be subject to modification depending on the progress being made in the BW laboratories. Would it not be most useful, therefore, to seek an official endorsement of a report such as this, or to press for a comparable but authoritative statement from the Secretary of Defense?

Sincerely,

Joshua Lederberg,
Assistant Professor of Genetics.