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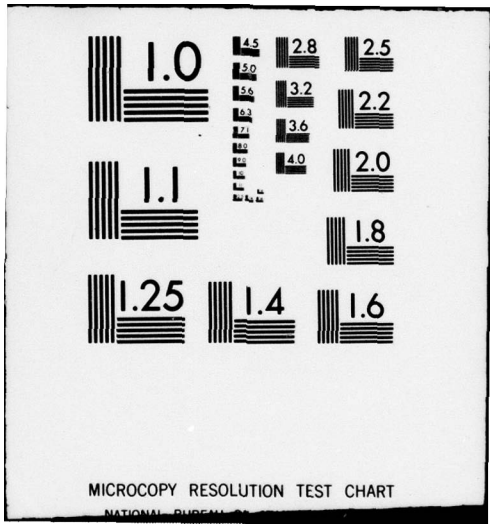
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THE BAN ON BIOLOGICAL WEAPONS

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements of the
degree

MASTER OF MILITARY ART AND SCIENCE

by

JAMES H. RAMSDEN, MAJ, USA
B.S., United States Military Academy, 1958
M.A., Johns Hopkins University, 1966

Fort Leavenworth, Kansas
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Name of Candidate James H. Ramsden, MAJ, USA

Title of Thesis The Ban on Biological Weapons

Approved by:

[signature], Research and Thesis Advisor

[signature], Member, Graduate Research Faculty

[signature], Member, Graduate Research Faculty

William V. O'Brien, Member, Graduate Research Faculty

Date: 16 June 1971

The opinions and conclusions expressed herein are those of the individual student and do not necessarily represent the views of either the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ACKNOWLEDGEMENTS

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ABSTRACT

On November 25, 1969, President Nixon made a major statement on United States chemical and biological warfare (CBW) policies. He reaffirmed the renunciation of the first use of lethal chemical agents and extended this policy to incapacitating chemical agents. He also banned the offensive use of lethal and incapacitating biological agents, promised the destruction of biological agent stockpiles and confined biological research to defensive measures such as immunization. The President's announcement followed a six month review of CBW policies by the National Security Council.

The policy statement met with generally favorable reaction in the United States and abroad. Although many people were uncertain as to why the President chose to ban biological weapons completely and not chemical weapons, such a significant unilateral step in the direction of arms control was felt to be a positive step toward peace.

The purpose of this unclassified study is to investigate the events that preceded the CBW policy statement in order to identify and evaluate the factors which contribute to the specific decision to ban biological weapons. Little has been written on why biological weapons were banned and it is hoped that this study will shed light on the reasons for the ban.

Essential background information and definitions on biological warfare concepts, historical precedent, international agreements, past United States policies and the threat posed to the United States is

necessary before a discussion of the specific factors. The factors behind the decision fall into three broad categories: domestic and international pressures, arms control considerations and biological weapon employment problems.

The decade of the 1960's saw mounting domestic and international criticism of United States CBW policies. Sparked by the use of riot control agents and defoliants in Vietnam, the pressure, particularly from Congress, grew in intensity as a result of several accidents, most notably the killing of over 6,000 sheep near the Dugway Proving Ground, Utah in March 1968. Procedures for testing, storage and transportation of chemical and biological agents came under both domestic and international attack. Criticism reached a high point by mid-1969 and President Nixon ordered the National Security Council to conduct a complete review of United States CBW policies - the first major review in over fifteen years. During the period of this review international calls for CBW curbs increased, with the most significant being Great Britain's proposal to ban only biological weapons. This domestic and international pressure created a painful awareness in the Nixon Administration of existing and potential CBW problem areas. It was up to the National Security Council to suggest appropriate courses of action to alleviate this pressure.

Arms control considerations played a key role in the decision to ban biological weapons. By his words and actions during 1969, President Nixon made it clear that the United States would accept any feasible disarmament proposals. A unilateral ban of biological weapons offered a unique opportunity to hopefully halt biological weapon proliferation in an historic disarmament step without jepoardizing United States national

security. Arms control objectives provided significant advantages to a course of action that involved a complete ban on biological weapons.

The many studies and reports, both domestic and international, on chemical and biological weapons clearly highlighted significant technical, military and political problem areas in biological weapon employment concepts. The National Security Council determined that biological weapons were essentially first-use weapons not suited for retaliation. This contradicted the long standing deterrent argument used to justify their inclusion in the United States weapon arsenal. In addition, their effects could be unpredictable and uncontrollable, a fact which diluted their military reliability and generated emotionalism and fear in the eyes of much of the world. Evidence indicates that in the mind of the President and a high level National Security Council spokesman, these employment problems were the final overriding factor which resulted in the decision to ban biological weapons.

Although only time will tell whether the decision was a wise one, the fact that the USSR has recently pledged to agree to a similar ban offers hope for significant arms control progress in the 1970's.

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CHAPTER I

INTRODUCTION

BACKGROUND

On November 25, 1969 at the White House, President Nixon publicly announced a revised Chemical-Biological Warfare (CBW) policy for the United States. In the area of chemical warfare (CW) he reaffirmed the renunciation of the first use of lethal chemical weapons and extended this renunciation to the first use of incapacitating chemicals. In the area of biological warfare (BW) he banned the use of "lethal biological agents and weapons, and all other methods of biological warfare."[1] (See Appendix A for the complete White House Press Release.)

The President's CBW policy decision followed a six month comprehensive review of our CBW policy by the National Security Council. Participants included the Department of State, the Department of Defense, the Central Intelligence Agency, the Arms Control and Disarmament Agency, and the President's Special Assistant for Science and Technology. Task forces under the NSC Interdepartmental Political-Military Group examined the many aspects of the CBW question covering the spectrum of options from no CBW policy change to complete renunciation of all methods of CBW.[2]

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[1]Richard M. Nixon, Statement by the President, Office of the White House Press Secretary, Washington, November 25, 1969, p. 2.

[2]U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress (Washington: Government Printing Office, 1970), p. 10.

The reaction to the President's CBW announcement, both domestic and foreign, was generally favorable, as indicated in the New York Times, "All major capitals in Western Europe hail decision."[3] There had been increasing attention devoted to CBW by news media in 1968 and 1969 and both public and Congressional concern had been building. Much of the attention was caused by several accidents and incidents involving chemical and biological agents. There had also been increased concern over the use of riot control agents and herbicides in the Republic of Vietnam.

The CBW policy announcement was hailed in the United States especially by Congressmen such as Richard D. McCarthy, who had led the fight against CBW. Their only criticism was that chemical weapons should also have been banned. Many Congressmen such as Senator Mansfield and Representative Ford, who had not openly fought for CBW controls, felt the announcement would have a good effect on the upcoming Strategic Arms Limitation Talks (SALT).[4] All but eight of the forty-three Republican Senators signed a letter by Senator Javits lauding the decision.[5]

A hint as to the military reaction to the curb was given in the New York Times. Secretary of Defense Laird "acknowledges that he had to overcome military chiefs opposition to plan to curb weapons."[6] According to Laird:

> There are certain differences that exist when you look at anything from a military position without looking at the political considerations.[7]

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[3]The New York Times Index, Vol. 57 (1969), p. 171.

[4]The New York Times, November 26, 1969, p. 1, Col. 8.

[5]Ibid., December 7, 1969, p. 1, Col. 3.

[6]Ibid.

[7]Ibid., December 2, 1969, p. 24, Col. 1.

Once the President announced his decision however, there was no publicized military opposition to the new policy.

All major powers of the world hailed the CBW curb with most praise coming from Europe. Even the Soviet Union welcomed the decision saying President Nixon had knuckled under to U.S. public pressure.[8] Predictably, North Vietnam accused the President of a cruel fraud because of the exclusion of riot control agents and defoliants from the ban.[9]

PURPOSE OF STUDY

The President's announcement of November 25, 1969 clarified the United States policy on chemical and biological warfare.

> There had been no such review in over fifteen years. As a result, objectives and policies in this field were unclear and programs lacked definition and direction.[10]

The most significant aspect of the announcement was the banning of all biological weapons. The biological research program was confined to defensive activities such as immunization and safety measures and the Department of Defense was ordered to destroy existing stocks of biological weapons.[11]

The purpose of this study is to identify and evaluate the factors which contributed to the United States decision to ban biological weapons. Even though the United States did not have a massive biological weapons program, the decision to ban one of four categories of weapons systems

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[8] Ibid., November 26, 1969, p. 17, Col. 4.

[9] Ibid., November 28, 1969, p. 10, Col. 1.

[10] Nixon, Statement of the President, op. cit., p. 1.

[11] Ibid., p. 2.

(conventional, nuclear, chemical and biological) is significant. Its importance is increased because of the possible effect on arms control progress.

Although the decision itself received much publicity, there has been little written on the factors which contributed to it. By examining events preceding the decision, especially certain critical events of 1968 and 1969, evidence will be produced to identify the relevant factors which contributed to the decision to ban biological weapons, thus answering the question: Why was the decision made? A subjective evaluation of the factors will seek to assess the role that each played in the decision-making process.

SCOPE OF STUDY

This study will be limited to the identification and evaluation of the factors which contributed to the biological weapons ban. Chemical and nuclear warfare policies and programs will not be discussed except where they impact on the biological weapons ban. The subsequent decision to ban toxins (biologically produced chemical substances[12]), which was announced on February 14, 1970, will not be treated.

Due to the high classification surrounding the U.S. chemical and biological warfare programs, evidence on some aspects of the problem has been impossible to obtain for this unclassified study. It is felt, however, that there is sufficient unclassified data to adequately conduct the study. During the research on this study, contact was made with the

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[12] Report of the Secretary General of the United Nations on Chemical and Bacteriological Weapons and the Effects of Their Possible Use, June 30, 1969, New York, cited in U.S., Congressional Record, 91st Cong., 1st Sess. (1969), CXV, No. 136, p. S9530.

National Security Council, the Departments of Defense and State and the Arms Control and Disarmament Agency. With the exception of the Arms Control and Disarmament Agency little unclassified data was provided to the writer from these sources. Replies indicated that the information requested was classified and sensitive.

The approach used in this study relies heavily on the determination of the various influences which were at work on the National Security Council and the President, with emphasis on identifying the advantages which the Council and the President attributed to the course of action chosen. In researching the problem, three areas of interest quickly surfaced and will be used to outline the study. The first deals with domestic and international pressure, the second with the specific influence of arms control objectives and the third with certain critical biological weapon employment problems.

CHAPTER II

BACKGROUND INFORMATION

This chapter is designed to provide a resumé of background information on biological warfare concepts, history, past United States policy and CBW capabilities of certain nations. A few definitions are necessary before examining this background information.

Biological Warfare

The Joint Chiefs of Staff Dictionary of Military Terms gives the following definition of biological warfare:

> The employment of living organisms, toxic biological products, and plant growth regulators to produce death or casualties in man, animals, or plants; or defense against such action.[1]

Because the definition includes defense against biological attack, the President's announcement did not technically ban United States participation in biological warfare.

Biological Agents

"A microorganism which causes disease in man, plants, or animals or causes deterioration of materiel" is defined as a biological agent.[2] Agents are further classified as lethal or incapacitating, and

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[1]JCS Pub 1, Dictionary of United States Military Terms for Joint Usage (Washington: Government Printing Office, 1 August 1968), p. 33.

[2]Ibid.

microorganisims have five major subdivisions: bacteria, viruses, rickettsiae, fungi and protozoa. (See Appendix B for a table of biological agents.) Vectors are animal carriers which transfer disease agents from one host to another. Examples are fleas, lice and mosquitos.[3]

Toxins are not biological agents. They are chemical substances and are so regarded by the U.N. Secretary General and the World Health Organization. Chemical synthesis of toxins is possible, but at present the bulk are produced by biological processes. Because "the production of toxins in any significant quantity would require facilities similar to those needed for the production of biological agents... it would be difficult to know whether they were being used to produce only toxins but not biological agents."[4] On February 14, 1970, President Nixon banned the use of toxin weapons.

BIOLOGICAL OPERATIONS

Production Facilities

There are five major CBW bases in the United States. Of these, Ft. Detrick, Maryland has served as the headquarters for the biological warfare research program, and Pine Bluff Arsenal, Arkansas has been the main center for the production and processing of biological agents.[5]

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[3]U.S. Department of the Army TM 3-216, Military Biology and Biological Agents (Washington: Government Printing Office, March 1964), p. 16.

[4]Richard M. Nixon, Press Release, Office of the White House Press Secretary, Key Biscayne, February 14, 1970.

[5]Seymour M. Hersch, "Chemical and Biological Weapons: The Secret Arsenal," The New York Times Magazine, August 25, 1968, cited in U.S., Congressional Record, 90th Cong., 2d Sess. (1968), CXIV, No. 152, p. S11017.

Although elaborate safety precautions are taken at all facilities accidents do occur. In May 1969, a U.S. Army study of Ft. Detrick's safety record revealed the following information:

YEARS	ACCIDENTAL INFECTIONS[6]
1943-59	370
1954-62	158
1960-68	50

Data on deaths is difficult to find but apparently three men died from anthrax during the 1954-62 period.[7] According to a paper in the December 8, 1967 issue of Science Magazine, the American Public Health Association has a file of 2,700 cases of virus infection (107 fatalities) contracted by workers in U.S. medical laboratories.[8]

Dissemination Techniques

The U.S. Army TM 3-216, Military Biology and Biological Agents lists three major methods of disseminating biological agents. The first, aerosols, can be delivered by existing ground, air and sea-launched weapon systems. Whether released at a single point or multiple points, missile or aircraft delivery methods are most common in dispensing biological bomblets. Aircraft can also dispense agents from spray tanks. The second method involves the use of vectors delivered in a similar manner. The

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[6]U.S., Congressional Record, 91st Cong., 1st Sess. (1969), CXV, No. 92, p. H4481.

[7]Ibid., No. 135, p. S9497.

[8]U.S., Congress, House, Subcommittee on National Security Policy and Scientific Developments of the Committee on Foreign Affairs, Chemical-Biological Warfare: U.S. Policies and International Effects, Hearing, 91st Cong., 1st Sess., November 18... December 19, 1969 (Washington: Government Printing Office, 1970), p. 369.

third method is covert introduction of agents, an ideal tactic because of agent detection difficulty and the small amount required.[9] In practice, methods of dissemination are limited only by the imagination as illustrated by one reported investigation of the possibility of transporting agents to Siberia on the feet of migrating geese.[10]

Environmental Factors

The ability of biological agents to survive is dependent on there being no extremes of temperature and relative humidity. In addition, wind speed and direction and excess ultraviolet radiation can degrade the desired effects.

Detection and Defense

"Biological agents are impossible to detect with any of the five physical senses...."[11] Although research is being done, no means for quick detection and identification is readily available for deployment. Thus in most cases evidence of a biological attack would only come from the symptoms exhibited by the target.

Defensive measures against biological agents include: physical protection (protective masks and shelters), immunization, decontamination, sanitation, and medical treatment. Because of the large number and variety of diseases "there is no antiserum, no drug, which is useful

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[9]U.S. Department of the Army TM 3-216, op. cit., p. 27.

[10]Seymour M. Hersch, Chemical and Biological Warfare: America's Hidden Arsenal (New York: The Bobbs-Merrill Co., 1968), p. 74.

[11]U.S. Department of the Army TM 3-216, op. cit., p. 32.

against all."[12] It has been impossible to have available the multitude of vaccines capable of being administered to a large population, and for some diseases there are no effective vaccines.[13]

Employment Considerations

For many years chemical and biological methods of warfare have been discussed as one topic, when in fact there are many differences between them. The following comparisons are appropriate for this study:

SIMILARITIES BETWEEN CW AND BW

FACTOR	CW AND BW
Physical Destruction	Minimal
Severity	Lethal or Incapacitating
Penetration Capability	Searches for Target
Environment Dependent	Yes
Surprise Possible	Yes
Troop Safety Hazard	Yes

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[12]U.S. Congress, Senate, Committee on Foreign Relations, Chemical and Biological Warfare, Hearing, 91st Cong., 1st Sess., April 30, 1969 (Washington: Government Printing Office, 1969), p. 47.

[13]U.S., Congress, Senate, Special Subcommittee on the National Science Foundation of the Committee on Labor and Public Welfare, Chemical and Biological Weapons, Hearing, 91st Cong., 1st Sess., May 1969 (Washington: Government Printing Office, 1969), p. 44.

DIFFERENCES BETWEEN CW AND BW

FACTOR	CW	BW
Type Weapon	Tactical	Strategic
Coverage	Small Area	Large Area
Speed of Action	Fast	Slow
Duration of Effects	Short	Long
Agent Reproductivity	No	Yes
Field Detection Device	Yes	No
Number of Agents	Few	Many
Open-Air Testing	Extensive	Limited

The differences between CW and BW are quite significant and played a key role in the NSC study. Particularly important are the characteristics of large area coverage, slow speed of action, long duration of effects and limited open-air testing of biological agents.

A LOOK AT HISTORY

Biological warfare had an early beginning in history and usually involved the employment of disease-ridden bodies and carcasses in water supplies. There are reports of this being done during the Crusades as well as in our own Civil War.[14] In 1763, during the French and Indian War, British troops sent smallpox contaminated trinkets to Indians to infect them with disease.[15]

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[14]Robin Clarke, The Silent Weapons (New York: David McKay Co., Inc., 1968), p. 14.

[15]Ibid., p. 15.

Although no documentated cases of biological warfare in the 20th Century have been widely accepted, there have been many publicized.[16] During World War I the Germans were accused of innoculating U.S. Army horses with a glanders organism.[17] Chemical warfare methods were extensively used in World War I with over one million resulting casualties.[18] Chemical warfare was again employed by Italy against the Ethopians in 1936.[19] World War II was characterized by intensive research in both CW and BW but by restraint in the use of agents. Following the war, the USSR accused Japan of using plague against the China mainland causing 700 deaths.[20]

In 1952 Communist China accused the United States of employing biological vectors against North Korea and tried to back up the charge with their own international investigation committee which produced so-called "conclusive proof". When the United States called on the United Nations to send an impartial team to investigate the charges, they were refused access by China and North Korea.[21]

There were rumors that the United States had plans for the possible use of biological agents against Cuba during the 1962 missile crisis,[22] but Cuba did not accuse the United States until 1964 when charges of "possible use" were publicized.[23]

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[16]Richard D. McCarthy, The Ultimate Folly (New York: Alfred A. Knopf, 1969), p. 66.

[17]Clarke, op. cit., p. 17.

[18]Frederick Brown, Chemical Warfare: A Study In Restraints (Princeton: Princeton University Press, 1968), p. 3.

[19]Ibid., p. 145.

[20]Clarke, op. cit., p. 21. [21]Hersch, op. cit., p. 19.

[22]McCarthy, op. cit., p. 66. [23]Hersch, op. cit., p. 21.

In recent years nerve gas was reportedly used by Egypt against Royalist Yemeni villages in 1966 and the United States has been accused of chemical warfare in South Vietnam due to its employment of riot control agents and herbicides. Herbicides were first employed in 1961 while riot agents were not used until 1964. Carefully planned use of both defoliants and riot control agents has greatly aided combat operations in Vietnam and saved many lives. Critics argue however that the ecological damage from herbicides is excessive and that the use of gas to flush out the hiding enemy where he can be engaged with conventional munitions is inhumane.[24]

INTERNATIONAL AGREEMENTS AND UNITED STATES POLICY

Treaties and Conventions

Summarized below are pertinent facts about some of the treaties and conventions which have a bearing on this study. They illustrate not only the international concern over the laws of war, but also the lack of agreement on specific prohibitions.

TREATY	YEAR	REMARKS
The Hague Conferences		
Convention II	1899	Prohibited the use of shells containing asphyxiating or deleterious gases. The U.S. did not sign.
Convention IV	1907	Prohibited the use of poisons, treacherous woundings and killings and weapons that caused unnecessary suffering. The U.S. accepted this convention.

[24] Ibid., pp. 144-187, 284.

TREATY	YEAR	REMARKS
The Washington Treaty	1922	Prohibited "asphyxiating, poisonous or other gases, and all analogous liquids, materials or devices...."[25] The United States ratified this treaty but France did not and the treaty did not become effective.
The Geneva Protocol	1925	This was the first treaty to specifically ban "the use of bacteriological methods of warfare...."[26] This is the most universally accepted treaty banning CBW. Although signed by over 84 nations, many did so with stipulated reservations. Japan and the United States are the only two major counties which are not parties to the treaty. (See Appendix C for the 1925 Geneva Protocol.)
The United Kingdom Draft Convention for the Prohibition of Biological Methods of Warfare	1969 (July)	Aimed specifically at biological warfare, this treaty would require signatures to (1) renounce the use of BW, (2) refrain from research and development except for peaceful purposes, and (3) destroy BW stockpiles.[27] The United States now associates itself with the treaty which is under study in the United Nations. (See Appendix D for Articles I and II of the British proposal.)
The Soviet Draft Convention on the Prohibition of the Development, Production and Stockpiling of Chemical and Bacteriological (Biological) Weapons, and Their Destruction.	1969 (September)	This convention bans both CW and BW but omits provision for a verification procedure. It is under study in the United Nations.

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[25]U.S., Congress, House, Subcommittee on National Security Policy and Scientific Developments, op. cit., p. 306.

[26]Ibid., p. 307.

[27]The Institute for Strategic Studies, Strategic Survey, 1969, (Dorking: Bartholomew Press, 1970), p. 34.

The almost universal acceptance of the 1925 Geneva Protocol makes it the most important treaty in regards to CBW. Despite the many reservations held by nations which signed it, the lack of ratification by the United States continues to be a source of embarrassment for our arms control negotiators.

In April 1969 the United States decided to seek a series of limited accords on strategic arms rather than a comprehensive package treaty. The U.S. and USSR agreed to convene the Strategic Arms Limitation Talks (SALT) but the Soviet Union delayed confirming the starting date until October 1969.[28] It should be noted that the USSR delay occurred at the same time as the NSC Review on CBW.

The Question of Legality

The U.S. Army FM 27-10, Law of Land Warfare, states:

> The United States is not a party to any treaty now in force, that prohibits or restricts the use in warfare of toxic or nontoxic gases, of smoke or incendiary materials or of bacteriological warfare.[29]

This often quoted, self-explanatory statement gives the United States position only from the standpoint of international treaty. There is a profusion and confusion of opinions when one gets down to the details of determining the legality of biological warfare. Research indicates however that from the standpoint of international treaties, many countries are only bound not to be the first to use biological weapons.[30] From the

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[28] The New York Times Index, Vol. 57 (1969), p. 78

[29] U.S. Department of the Army FM 27-10, The Law of Land Warfare (Washington: Government Printing Office, July 1956), p. 18.

[30] Joseph B. Kelly, "Gas Warfare in International Law," DA Pamphlet 27-100-9, Military Law Review (Washington: Government Printing Office, July 1960), p. 32.

general principle respect, most countries, including the United States, have asserted that biological weapons are primarily a deterrent and would be used only in retaliation against an enemy biological attack. Even though the most binding legal restriction to the use of chemical and biological warfare is the 1925 Geneva Protocol, the many reservations held by its signatories greatly weakens its power. The greatest prohibition to CBW may well be the almost universal absention by the countries of the world to engage in these methods of warfare. Dr. William O'Brien summed up the opinion of many legal experts in his book War and/or Survival:

> In my view, there is now a rule of customary international [law] reiterating the prohibitions of the protocol, limiting almost to negation the reservations of the great powers who adhered to it and applicable to all states, including the United States and Japan.[31]

This opinion is supported in a report prepared for the U.S. Arms Control and Disarmament Agency:

> Apart from treaty law, one can arrive at the conclusion that a more restrictive rule of customary international law has come into being which has universal obligation and which would forbid the first use of anti-personnel lethal or severely injurious chemical and biological agents.[32]

United States Policy

The policy of the United States concerning employment of biological weapons has been general acceptance of the 1925 Geneva Protocol

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[31]William V. O'Brien, War and/or Survival (New York: Doubleday and Co., Inc., 1969), p. 245.

[32]Ann and A.J. Thomas, Development of International Legal Limitations on the Use of Chemical and Biological Weapons (Southern Methodist University School of Law, November 1968), Vol. B, p. 288.

with emphasis on deterrence and no first use. During World War II, President Roosevelt promised swift retaliation against the Axis Powers if they used CBW and stated "categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies."[33] This has remained a basic tenet in our CBW policy.

In 1959 Congressman R. Kastenmeier, expressing concern over a proposed increase in research funds for CB weapons, introduced a concurrent resolution in the House of Representatives calling for reaffirming

> the long-standing policy of the United States that in the event of war the United States shall under no circumstances resort to the use of biological weapons or the use of poisonous or [noxious] gases unless they are first used by our enemies.[34]

The State Department and the Defense Department opposed the resolution on the grounds that it would be detrimental to our overall defense effort in meeting hostile actions of all kinds.[35] It did not pass. President Eisenhower however did reaffirm the no first use policy at a news conference in January 1960.[36]

When Congressional criticism over the use of riot control agents in South Vietnam surfaced in 1965, President Johnson announced through Deputy Secretary of Defense Cyrus Vance that,

> While national policy does proscribe the first use of lethal gas by American forces, there is not, and never has been, a national policy against the use of riot control agents.[37]

The same policy was extended to the use of chemical herbicides.

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[33] U.S., Congress, Senate, Special Subcommittee on the National Science Foundation, op. cit., p. 47.

[34] Ibid., p. 19.

[35] Ibid., p. 49.

[36] Hersch, op. cit., p. 28.

[37] U.S., Congress, Senate, Special Subcommittee on the National Science Foundation, op. cit., p. 20.

Before President Nixon announced the ban on biological weapons in November 1969, his Administration held to the no first use principle. The policy was summarized in an April 1969 Defense Department letter to Congressman McCarthy by Dr. John S. Foster, Director of Defense Research and Engineering:

> It is the policy of the U.S. to develop and maintain a defensive chemical-biological (CB) capability so that our military forces could operate for some period of time in a toxic environment if necessary; to develop and maintain a limited offensive capability in order to deter all use of CB weapons by the threat of retaliation in kind; and to continue a program of research and development in this area to minimize the possibility of technological surprise. This policy on CB weapons is part of a broader strategy designed to provide the U.S. with several options for response against various forms of attack. Should their employment ever be necessary, the President would have to authorize their use. The U.S. does not have a policy that requires a single and invariable response. Deterrence is our primary objective.[38]

CBW CAPABILITIES

Due to the classification and sensitivity of reports concerning the CBW potential of various countries in the world, it is difficult to assess their exact CBW capabilities. Of the fifteen countries reported to have conducted CBW research (Canada, Communist China, Cuba, Egypt, England, France, Israel, Nationalist China, Poland, USSR, South Africa, Spain, Sweden, United States and West Germany),[39] the threat posed by the Soviet Union and Communist China must be considered the greatest.

The USSR is acknowledged to have a much greater CBW capability than the United States. At a briefing for Congressmen in March 1969, Army

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[38] McCarthy, op. cit., p. 153.

[39] Hersch, op. cit., p. 281.

spokesmen estimated that the Soviet Union had eight times the capability of the entire free world.[40] Although most of this capability exists in chemical weapons, she reportedly operates at least four biological warfare bases.[41] Soviet military leaders have made a number of statements indicating the Soviet Union would not hesitate to use chemical and biological weapons in future wars.[42]

Because of the lack of hard evidence, some Congressmen do not believe the USSR has a significant offensive biological capability.[43] Assuming the capability does exist, the United States does not feel it poses the same threat as nuclear weapons. This was also indicated in Dr. Foster's letter to Congressman McCarthy:

> Although the possibility of the employment of biological weapons against U.S. population centers cannot be ruled out entirely, it does not presently warrant the priority given to defense against the effects of nuclear weapons.[44]

Communist China has done research on both chemical and biological weapons but little evidence is available to ascertain her present capabilities. As with the USSR, she too has apparently concentrated on chemical weapon development.[45]

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[40] The New York Times, March 5, 1969, p. 1, Col. 8.

[41] Hersch, op. cit., p. 289.

[42] U.S., Congress, Senate, Subcommittee on Disarmament of the Committee of Foreign Relations, CBR Warfare and Its Disarmament Aspects, Study, 86th Cong., 2d Sess., August 29, 1960 (Washington: Government Printing Office, 1960), p. 20.

[43] U.S., Congress, House, Subcommittee on National Security Policy and Scientific Development, op. cit., p. 39.

[44] McCarthy, op. cit., p. 155.

[45] Hersch, op. cit., p. 298.

CHAPTER III

IDENTIFICATION AND EVALUATION OF THE FACTORS CONTRIBUTING TO THE BIOLOGICAL WEAPONS BAN

It is important to keep in mind the significant role which the National Security Council played in the decision to ban biological weapons. President Nixon has relied heavily on the Council and its size and stature under Dr. Henry Kissinger, Special Assistant to the President for National Security Affairs, has grown phenomenally. The Council was ordered to make a comprehensive study of our chemical and biological warfare policies in June 1969.

> The participants were instructed to delineate the nature of the threat to the United States and its Allies and possible alternative approaches in meeting the threat; to discuss the utility of and circumstances for possible employment of chemical and biological agents; to define research and development objectives; to review current applications of U.S. policy relating to chemical defoliants; and to assess the implications of chemical warfare and biological research programs for U.S. foreign relations.[1]

After nearly six months of study, the Council completed its analysis of the problem and President Nixon made his decision on the basis of the review.

The factors which contributed to the ban were largely political with some military and economic overtones. There are three major

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[1] U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress (Washington: Government Printing Office, 1970), p. 10.

categories of factors for evaluation purposes. The first deals with essentially political pressures and influences from both domestic and international sources. Although most of these pressures stemmed from an increasing world-wide awareness of the threat of chemical and biological warfare, several accidents and incidents in 1968 and 1969 served to catalyze world opinion and focus mounting criticism on the unclear United States CBW policy.

The second category of factors is related to the problem of arms control. This is essentially a political topic but deserves separate treatment in this study. Increasing interest in general disarmament combined with the hope of stopping the spread of biological weapons made the ban a tempting goal if the national security of the United States would not be jeopardized. In addition, it offered an opportunity to soften the criticism of the use of chemical agents in Vietnam and increase United States prestige abroad.

The third category encompasses the questionable effectiveness of biological weapons which are difficult to test, characterized by delayed effects and pose potentially uncontrollable consequences. Despite the advantages of maintaining a biological capability as a deterrent, the technical uncertainties associated with employment created doubts and revulsion in the minds of many.

THE MOUNTING PRESSURE

Domestic Pressure

The 1960's were marked by mounting public and Congressional criticism of United States CBW policies. This criticism initially centered on secret government research at some universities and the use of

riot control agents and herbicides in Vietnam which many people felt violated the spirit, if not the letter, of the 1925 Geneva Protocol. In 1968 and 1969 the criticism was magnified by several accidents involving chemical nerve agents and unfavorable publicity about testing, storage and transportation procedures for chemical and biological agents. Fuel was added to the zeal of these critics by demands for the safeguard of our ecology and desires to cut defense spending.

The Drive for Support in the Early 1960's. Thanks to favorable hearings in the House of Representatives Committee on Science and Astronauts in June 1959, increased funds for CB weapon research and development became available during the early 1960's. The House hearings cited the growing Soviet threat as the primary reason for increasing CBW research and development.

"Operation Blue Skies" - a campaign to gain public support for an increased United States CB capability - was initiated in 1959. Apparently the campaign achieved some success as Chemical Corps generals gave many talks on lecture circuits. Some of the nation's large circulation magazines also supported the CBW Program. In January 1965, Dr. Clifford Rassweiler, head of the American Chemical Society, authored the article "What's So Terrible About Germ Warfare?" in the Saturday Evening Post. In the article Dr. Rassweiler criticized those who felt chemical and biological agents were horrible weapons, blaming ignorance and emotionalism for the opposition to the CBW Program.[2]

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[2]Seymour M. Hersch, Chemical and Biological Warfare: America's Hidden Arsenal (New York: The Bobbs-Merrill Co., 1968), p. 192-194.

Public opposition was practically nonexistent before Vietnam and even by 1968 few Americans were protesting our use of herbicides and riot control agents in Vietnam. In a February 1967 survey in Industrial Research magazine, 81% of the 1,800 scientists and engineers polled approved the use of riot control agents in Vietnam, and 35% felt lethal chemical and biological agents should be used in some cases. Continued research and development of CB weapons was approved by 89%.[3] Despite general public approval of the CBW Program however, increasing criticism, mainly from the academic and scientific community, arose during the mid-1960's.

The Initial Criticism of the Mid-1960's. In 1965 opposition to United States CBW policies began building. The criticism centered on the use of riot control agents and herbicides in Vietnam and the expanding secret research on CB weapons.

In March 1965, Representative Kastenmeier and several colleagues sent a letter to President Johnson requesting the removal of control and direction over the use of CB weapons including riot control agents from the military and restoration of exclusive control and direction to the President.[4] That same year the Soviet Union took the Vietnam issue to

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[3] Ibid., p. 262.

[4] U.S., Congress, Senate, Special Subcommittee on the National Science Foundation of the Committee on Labor and Public Welfare, Chemical and Biological Weapons, Hearing, 91st Cong., 1st Sess., May 1969 (Washington: Government Printing Office, 1969), p. 20.

the United Nations accusing the United States of violating the accepted rules of international law and the elementary principles of morality and humanity.[5]

By 1967, university campus dissent by both students and faculty was being loudly voiced. Some of this criticism centered on opposition to secret research of all types by universities, but a substantial number of CBW research contracts (at approximately fifty-two colleges and universities) were primary targets. Listed below are a few of the significant protests that indicate the magnitude of the dissent in the academic and scientific community:

- In December 1966 the American Association for the Advancement of Science passed a resolution to study possible ecological effects of CB weapons.[6]

- In February 1967, 5,000 scientists including 127 members of the American National Academy of Sciences and 22 Nobel Laureates sent a petition to President Johnson asking for (1) more restraints on CB weapons, (2) clarification on United States first-use policy, and (3) a White House study of CBW policy.[7]

- In April 1967 the American Association of University Professors passed a resolution urging colleges and universities to examine with care the consequences of their research relationships in the area of defense.[8]

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[5]C.V. Glines, "Nixon's CBW Policy: Unilateral Disarmament?", Armed Forces Management, XVI, No. 4 (January, 1970), p. 45.

[6]Robin Clarke, The Silent Weapons (New York: David McKay Co., Inc., 1968), p. 218.

[7]Ibid., p. 214.

[8]Hersch, op. cit., p. 232.

- In May 1967, the University of Pennsylvania board of trustees voted to either terminate or move off campus the projects (including CBW work) of its Institute for Cooperative Research.[9]

- During the summer of 1967, dissident faculty members of Johns Hopkins University formed the "JHU End Classified Research Committee."[10]

- In July 1967 the Federation of American Scientists, many of whose members were directly involved in CB research, declared that no university should accept secret research.[11]

These protests apparently had some effect on the Defense Department because in November 1967, Dr. Foster announced that the Defense Department was undertaking a review of its research activities in the nation's institutes of higher learning.

The mid-1960's also produced increasing comments from scientists that chemical and biological weapons should not be lumped together when discussing employment advantages and disadvantages.[12] In the 1967 poll of industrial scientists by Industrial Research magazine, a majority indicated that chemical weapons at least should be considered among the normal weapons of war. As we shall see later, this separation of chemical and biological weapons became more popular and was to impact on the decision to ban only biological weapons.

The Critical Years, 1968-1969. The criticism of United States CBW policy begun in the mid-1960's, grew in 1968, and reached a high point in 1969.

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[9] Ibid., p. 217.

[10] Ibid., p. 232.

[11] Ibid., p. 233.

[12] Clarke, op. cit., p. 220.

The majority of this criticism resulted from several chemical nerve agent accidents and nationwide publicity of the procedures for testing, storage and transportation of chemical and biological agents. Although there was public concern about the nation's CBW policies, the majority of the criticism and subsequent pressure for change came from Congress.

If there was any doubt that Pandora's CBW Box was opening, it was dispelled at 5:30 p.m. on Wednesday, March 13, 1968, when an Air Force jet at the Dugway Proving Ground, Utah during a spray test using the lethal nerve agent VX, accidently dispensed the agent at too high an altitude. The high winds from the weather front moving through from the west transported some of the agent to areas in Skull and Rush Valleys, 30 and 45 miles away, respectively. By Sunday more than 6,000 sheep were dead.[13]

Initially the Army denied responsibility, but later acknowledged some Army involvement in a letter to Senator Moss who, along with Senator Bennett, had demanded a probe of the incident.[14] Although the adverse publicity died out soon after the accident, a seed of doubt had been planted about the safety of testing CB agents, and a credibility gap stemming from the Army's reluctance to admit full responsibility had been established.

During the 1968 Senate debate on the Defense Appropriations Bill, Senator Clark's amendment requiring semi-annual Defense Department CBW

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[13]Seymour M. Hersch, "Chemical and Biological Weapons: The Secret Arsenal," The New York Times Magazine, August 25, 1968, cited in U.S., Congressional Record, 90th Cong., 2d Sess. (1968), CXIV, No. 152, p. S11015.

[14]Ibid.

reports was passed. This provision was later deleted in conference with the House, but it indicated the growing concern in the Congress.

In 1969 the controversy over CBW reached its peak. There was a storm of Congressional criticism over testing, storage and transportation procedures and the "secrecy barrier" came under sustained attack. The field of CBW "gained more prominence during 1969 than at any time in the previous forty-five years."[15]

Indications of the pressure emanating from Congress can best be seen in the 1969 Congressional Record. There were approximately 75 entries prior to November 25 dealing with CBW issues; there were several hearings in both the Senate and House and much behind the scenes maneuvering by influential persons. One example of this was the work done by Dr. Matthew S. Meselson, a former consultant in the Arms Control and Disarmament Agency and a close personal friend of Dr. Kissinger. According to the New York Times:

> There are many here in Washington and in the academic community who give Mr. Meselson more credit than any other individual in influencing the decision....[16]

Critics "efforts to reduce authorizations and restrict research and testing on chemical and biological warfare (CBW) projects gained wide support in Congress in 1969."[17] Congressman McCarthy from New York was one of the

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[15]The Institute for Strategic Studies, Strategic Survey 1969 (Dorking: Bartholomew Press, 1970), p. 37.

[16]The New York Times, November 26, 1969, p. 17, Col. 1.

[17]The Congressional Quarterly Almanac, XXV (1969), p. 259.

leading Administration critics and played a key role in mustering Congressional opposition. His interest was spurred by a television program in February:

> My concern about chemical and biological warfare came as a result of one of the better examples of investigative reporting carried by television, NBC's "First Tuesday".[18]

Shortly afterwards, McCarthy and twenty-three other Congressmen requested and received a U.S. Army briefing on CBW. Unable to get answers to many of his questions, McCarthy then began his own investigation of CBW policy.[19]

Two areas of concern were exploited by CBW critics prior to June when the NSC review was called. The first was open-air testing procedures, and the second was storage and shipment of lethal agents. By the end of May considerable pressure was being exerted by these critics. Senator Fulbright had held closed hearings on the United States stockpiles of biological agents. The fact that this hearing dealt only with biological weapons, not chemical weapons, illustrates the increasing concern that was beginning to be voiced about the use of disease as a weapon. Early in May, Fulbright backed McCarthy's proposal to President Nixon asking for a resubmission of the 1925 Geneva Protocol to the Senate.

Perhaps the most significant event of 1969 occurred at about the same time. The Army announced plans to ship 27,000 tons of obsolete chemical agents from Rocky Mountain Arsenal, Colorado to Earle, New Jersey for dumping in sealed containers off the coast of New Jersey. (Some items

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[18]Richard D. McCarthy, The Ultimate Folly (New York: Alfred A. Knopf, 1969), p. viii.

[19]Ibid., p. 128.

in this shipment were destined for military installations but the bulk was to be dumped.) The wave of protest over this plan included blasts from Congressmen, the public and many state Representatives. The shipment was finally postponed, but not before the incident had received almost as much adverse publicity as the "sheep incident" in Utah. According to Representative McCarthy:

> Perhaps more than anything else, the Army's plans for mass dumping of poison gas in the spring of 1969 aroused public concern. One highly useful result was the widespread interest that this public concern evoked in Congress. Members of Congress began to ask questions about the policy that permitted the accumulation of large quantities of deadly nerve gas. They asked questions about an almost casual approach to the handling and testing of gas and germ weapons. In the spring and summer of 1969, these questions began to cause concern in the Executive Branch.[20]

While McCarthy's bias is understandable, the fact remains that the planned shipment did generate much additional pressure on the Administration.

The testing issue was discussed late in May in a hearing by the House Government Operations Subcommittee on Conservation and Natural Resources. Testimony criticized open-air testing of both biological and chemical agents. It was at this hearing that Defense Department witnesses "officially conceded...that a lethal nerve gas had accidently killed 6,000 sheep in Skull Valley, Utah in March 1968."[21] This admission "generated a wave of Congressional criticism."[22] The credibility gap was widened when the committee was bluntly told that "the public

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[20] Ibid., p. viii.

[21] Facts on File, XXIX, No. 1500 (1969), p. 477.

[22] Ibid.

formation officer at Dugway had not told the truth when he told reporters in March that Dugway had done no testing that could have caused the sheep to die."[23]

Apparently President Nixon felt it was time for the United States to review its position on CBW, for in June he ordered the NSC to begin its study. Despite Administration spokesmen claims that the review was initiated on a routine basis, it appears that Congressional pressure contributed a great deal to the decision. In fact, the announcement of the review decision was made in a letter to Representative McCarthy who then disclosed it to the press.[24]

Although criticism subsided somewhat following the review decision, an uproar over U.S. policy of storing lethal agents overseas highlighted the domestic scene during the NSC review. The secrecy issue also came under scrutiny.

The uproar over the overseas storage issue began with the disclosures on July 18 that twenty-four American military personnel on Okinawa had been treated for the effects of nerve gas poisoning on July 8.[25] On July 22 the Pentagon confirmed that under a prior Administration lethal nerve gas had been shipped overseas.[26] This disclosure touched off a controversy which soon involved Japan and West Germany. Domestically there were the usual adverse press releases and Congressional concern as critics saw this "incident [as] another in [a] series of Pentagon blunders

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[23]The Congressional Quarterly Almanac (1969), op. cit., p. 801.

[24]The New York Times, June 18, 1969, p. 1, Col. 3.

[25]The Congressional Quarterly Almanac (1969), op. cit., p. 259.

[26]Facts on File, XXIX, No. 1502 (1969), op. cit., p. 508.

that have embarrased [the] government, complicated [the] conduct of U.S. foreign policy and produced determined effort in Congress to bring military leaders under stricter Congressional control."[27]

The overseas storage issue appeared to muster considerable anti-CBW support because on August 11 the Senate in a unanimous 91-0 vote approved an amendment to the 1969 Defense Appropriations Bill restricting the transportation, storage and deployment of chemical and biological agents.[28]

> Under terms of the amendment, open-air testing of CBW agents could be conducted only if the secretary of defense ruled them necessary for national security and the surgeon general determined they would not damage public health. (A Pentagon disclosure July 11 that the Army was conducting atmospheric tests of CBW agents at three sites in the U.S. had generated a wave of Congressional criticism.)[29]

Apparently the Defense Department saw the handwriting on the wall in this amendment because one day prior to the Senate vote, Secretary Laird issued a statement backing the amendment.[30]

In all the criticism of the United States CBW policy, one underlying note was struck by many Congressmen. This was the lack of information available to them because of the secrecy attached to matters of CBW. Representative McCarthy initially attacked the secrecy issue after the March briefing he and other Congressmen had received. Senator Edward Kennedy, Chairman of the Special Subcommittee on the National Science Foundation, referred to it in May 1969 when he stated:

> In the past, the subject of chemical and biological warfare has been shrouded in mystery and secrecy. The extent of United States

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[27] The New York Times Index, Vol. 57 (1969), p. 252.

[28] Facts on File (1969), op. cit., p. 509.

[29] Ibid.

[30] The New York Times, August 10, 1969, p. 1, Col. 7.

> participation in research and development is still largely unknown. Our use of and policy toward chemical and biological warfare has not been clarified.
>
> I am opposed to this secrecy and feel that the American public has a right to be better informed about what this Nation is doing. And I am convinced that only by open discussion and concerted effort to develop international controls can the serious threat to our future be reduced. The alternative is the horrible prospect of widespread chemical and biological warfare, a situation no humane individual or government can allow to develop.[31]

Congressional testimony often referred to the secrecy issue singling out biological weapons:

> Until recently, the Army's secrecy has kept biological weapons from arousing widespread alarm among physicians and the public at large. This year [1969], however, the biowar program, along with many other Pentagon projects, has lost much of its former immunity.[32]

Even President Nixon hinted at his dissatisfaction with the secrecy issue when he told reporters in late November 1969 that "I could recall the days when I sat on the National Security Council as Vice-President, when it was considered 'taboo' even to discuss chemical and biological warfare."[33]

One last domestic influence on the decision to ban biological weapons was the desire, again by Congress, to cut defense expenditures. In the March 1969 McCarthy briefing, it was disclosed that approximately $350-million yearly was being expended to develop and manufacture chemical and biological weapons.[34] Testimony before the House Foreign Affairs Subcommittee in November 1969 indicated that a minimum of two-billion

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[31] U.S., Congress, Senate, Special Subcommittee on the National Science Foundation, op. cit., p. v.

[32] U.S., Congressional Record, 91st Cong., 1st Sess. (1969), CXV, No. 135, p. S9499.

[33] The New York Times, November 26, 1969, p. 16, Col. 1.

[34] The New York Times, March 5, 1969, p. 1, Col. 8.

dollars had been spent on CBW weaponry since 1961.[35] With all the 1969 criticism of the CBW program it was only natural for Congress, in its efforts to trim defense spending, to single out the "secret" CBW projects for special attention. It should be noted that the $350-million figure was less than 0.5% of the Fiscal Year 1970 Defense Budget and most of it was spent on chemical weapons. Since biological weapon expenditures were already at a minimum, it does not appear any significant economic advantage was gained by eliminating them from the arsenal.

This review of the domestic influences on the biological weapons ban indicates that Congressional criticism revolved around the use of chemical agents in Vietnam and three significant accidents or incidents: the Skull Valley sheep accident, the plan to ship obsolete lethal agents across the United States for dumping in the Atlantic, and the Okinawa nerve gas accident which revealed the overseas storage policy. The evidence suggests, however, that it was Congressional criticism, not public pressure, that played the key role in the President's decision to call for a complete review of our CBW policies. Since most of this criticism focused on either our total CBW effort or chemical aspects of the program, I do not feel that domestic pressure alone would have resulted in a ban on biological weapons. There is little question, however, that without the constant prodding and harassment of Congressional critics like Mr. McCarthy, who were disgruntled over the secrecy barrier surrounding CBW matters, there would have been no impetus for the review which culminated in the ban.

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[35] The Congressional Quarterly Almanac (1969), op. cit., p. 798.

International Pressure

Just as the decade of the 1960's saw mounting domestic concern over the threat of chemical and biological warfare, so too did world concern build. Recommendations were made by several key governments to ban chemical and/or biological weapons, and the United Nations issued a study which soundly condemned all aspects of CBW.

The Increasing Opposition to CBW. The increasing opposition to CBW by both the world public and key governments was highlighted by the United States use of riot control agents in Vietnam and by the overseas storage policy uproar following the Okinawa accident. In both cases pressure was placed on the Administration to appease the criticism.

In March 1965, Horst Faas, an Associated Press reporter, filed a story on the planned use of a riot-control agent in Vietnam. Although riot-control agents had been in Vietnam for several years, they had never received much publicity. Needless to say, the press thought this was a good story and "U.S. Using Gas Warfare in Vietnam" headlines appeared throughout the world.[36] Seymour Hersch indicated the magnitude of the international and domestic criticism:

> The American use of gas brought condemnation from around the world. A Frankfurt newspaper published a cartoon showing the Statue of Liberty wearing a gas mask; Mainichi Shimbun, one of Japan's leading newspapers carried a cartoon of Adolph Hitler's ghost hovering over Vietnam with a bag labeled "Vietnam" in his right hand. In New York, the Times published a sharply critical editorial noting that "in Vietnam, gas was supplied and sanctioned by white men against Asians. This is something that no Asian, Communist or not, will forget."[37]

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[36] McCarthy, op. cit., p. 46.

[37] Hersch, op. cit., p. 170.

The Soviet Union protested to the United Nations accusing the United States of inhumanity, immorality and violating international law.[38] The United States replied by asserting that the riot control agents were non-toxic and not prohibited by the U.S. interpretation of the 1925 Geneva Protocol.

The controversy resulted in no riot agents being used in Vietnam for six months, a good indication of the sensitivity of the Executive Branch to criticism, and their next use was accompanied by a carefully prepared public relations program.[39] More importantly, however, was the lesson learned that there still existed substantial world public revulsion against the use of any form of gas, even tear gas, in war. Dr. William V. O'Brien points out the irony of this feeling:

> If a Regular or National Guard Unit uses tear gas to suppress a riot in an American city, instead of shooting, they are commended. If the same unit was sent to Vietnam and used the same tear gas against suspected Vietcong strongholds the headlines would blaze with the news of recourse to gas warfare....[40]

Today, however, the use of tear gas in domestic riots does bring criticism.

Another international outcry occurred in July 1969 following the Okinawa nerve gas accident. The disclosure of our storage of lethal agents on Okinawa set off a furor in Japan on the eve of Secretary of State Roger's visit to discuss the continued United States use of Okinawa.[41] Following the disclosure a Defense Department announcement said that the agents had not been deployed since Secretary Laird took office and that

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[38] Ibid.

[39] Ibid., p. 173.

[40] William V. O'Brien, War and/or Survival (New York: Doubleday and Co., Inc., 1969), p. 246.

[41] The New York Times, July 19, 1969, p. 2, Col. 3.

they would be removed from Okinawa. Informed sources indicated that similar stockpiles existed in West Germany and South Korea.[42] By the end of July, West Germany had asked for talks with the United States on storage policies. This request followed demands by the West German public and opposition political parties for explanation of safeguards in connection with the storage of lethal agents.[43]

Just as accidents and mishaps had generated domestic criticism, they provoked international opposition to U.S. CBW policies. As if acknowledging the inevitable, President Nixon on July 30 had a message read to the Geneva Disarmament Conference (Conference of the Committee on Disarmament - CCD) which included the sentence, "The specter of chemical and bacteriological warfare arouses horror and revulsion throughout the world."[44] This sentence had been unexplainably deleted in the original message read on July 3. The fact that the President had the message re-read on July 30 indicated not only how strongly he felt about the CBW issue, but also that there was a struggle going on between the Defense Department and other government agencies over the prohibition of chemical and biological weapons.

The Call for CBW Curbs. By the fall of 1969, several key governments, all of which had considerable influence in Washington, had proposed bans of one sort or another on chemical and biological weapons. These countries included Great Britain, West Germany, Canada and the Soviet Union. In addition, the United Nations published a scathing report denouncing

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[42] Ibid., July 23, 1969, p. 1, Col. 1.

[43] Ibid., July 30, 1969, p. 6, Col. 1.

[44] U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress, op. cit., p. 10.

all aspects of CBW. "Sec Gen Thant [called] on all governments to halt development and stockpiling of chemical and biological agents for warfare and to eliminate them from arsenals."[45] (See Appendix E for the conclusions of the United Nations Report.)

The most important proposal came from Great Britain. The initial proposal was made in August 1968 but a formal revised draft convention tabled at the Geneva Disarmament Conference a year later. The British plan banned only the development and use of biological weapons thus offering a better chance of agreement than other plans which attempted to restrict both chemical and biological weapons.

In July 1968, the Soviet Union had urged a ban on the use of both chemical and biological weapons, but did not submit a formal draft to the United Nations General Assembly until September 1969.[46] It conveniently omitted a verification procedure.

Canada did not propose a specific ban but in July 1969 issued a statement of policy saying the government would do "everything possible to eliminate use of biological and chemical forms of warfare."[47] In September West Germany asked the United States to withdraw its chemical weapons and proposed a "ban on chemical and bacteriological weapons throughout the world."[48]

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[45] The New York Times Index, Vol. 57 (1969), p. 170.

[46] Strategic Survey 1969, op. cit., p. 49.

[47] The New York Times, July 22, 1969, p. 3, Col. 6.

[48] Ibid., September 13, 1969, p. 7, Col. 1.

The United Nations Report on CBW was a joint effort by fourteen international experts and covered many aspects of CBW. Published on July 1, 1969, Secretary General U Thant in the Foreword stated:

> During the past few years, I have become increasingly concerned by developments in the field of chemical and bacteriological (biological) weapons.... In some respects, they may be even more dangerous than nuclear weapons.... It was also my hope that an authoritative report could become the basis for political and legal action by the members of the United Nations....[49]

He concluded by referring to the report's findings that CBW weapons are a unique threat to present and future generations, and tend to escalate both warfare and the arms race. He urged all states to accede to the 1925 Geneva Protocol and to halt development, stockpiling and use of CBW weapons.[50]

These various proposals presented a dilemma to the United States. Committed to working toward arms control in general and specifically toward CBW weapons control under a March 1969 agreement with the Soviet Union,[51] it appears there were several options available. First, there could be no major change in our CBW policy thus leaving the United States open to mounting criticism. Second, attempts could be made to work toward a complete ban on both chemical and biological weapons. Anticipating major problems in agreeing with the Soviet Union on adequate verification procedures, this option would involve a major delay. A third course of action, that of agreeing to ban only biological weapons offered several

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[49] Report of the Secretary General of the United Nations on Chemical and Bacteriological Weapons and the Effects of Their Possible Use, June 30, 1969, New York, cited in U.S., Congressional Record, 91st Cong., 1st Sess., 1969, XCV, No. 136, p. S9526.

[50] Ibid., p. S9527.

[51] The New York Times, March 19, 1969, p. 14, Col. 5.

major advantages. This would allow the President to immediately make a major statement clarifying our CBW policy and hopefully stem some of the criticism. Such a ban agreed completely with the British proposal and side-stepped the difficult verification issue on chemical weapons. Finally, this course of action would tend to block chances of success of the Soviet proposal to ban both chemical and biological weapons.

Summary

The evidence presented in this section concerning the domestic and international pressures which had a bearing on the decision to ban biological weapons strongly suggests that domestic criticism created a painful awareness of problem areas in our CBW policies while international proposals outlined possible solutions to these problems. Although initial dissent was from members of the academic and scientific community and focused on Vietnam issues, the significant pressure came from Congress in 1968 and 1969 as a result of several well-publicized accidents/incidents.

> ...Mistakes and accidents more than anything else, brought... U.S. policy and practice to public attention.[52]

The evidence suggests that President Nixon was reacting primarily to domestic Congressional pressure when he ordered the NSC review in June 1969.

From June to November 1969, while the NSC task force worked on possible options, it became clear that the United States should join the rapidly growing number of influential nations of the world which were calling for some form of CBW controls. The latter part of July, following the international uproar over the Okinawa storage accident, appeared

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[52]McCarthy, op. cit., p. 99.

to be a decisive time and culminated with the President stating that "the specter of chemical and biological warfare arouses horror and revulsion throughout the world."[53] Although the Defense Department representatives on the task force most likely recommended no change in our CBW policy, Secretary Laird not only backed the Senate restrictive CBW amendment but in October "submitted a secret memorandum to the National Security Council urging that the U.S. halt production of biological agents...."[54]

> At first, representatives of both the Joint Chiefs of Staff and the Pentagon took 'hard' lines against reducing the American biological capability. In late summer, however, Mr. Laird called back the study paper prepared by the Pentagon, and shortly thereafter issued a memorandum recommending a halt in the manufacture of biological agents.[55]

This memorandum, coming as it did shortly after the appearance of the many international proposals and UN Report, implies that the United States was well on its way toward supporting the British plan to ban only biological agents. Such a ban would greatly alleviate the mounting domestic and international criticism.

THE DRIVE FOR ARMS CONTROL

"After a period of confrontation, we are entering an era of negotiation."[56] These words by President Nixon at his inauguration gave a strong indication of the path that the United States was to take on the arms control issue. During his first year in office there were several

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[53] The New York Times (1969), op. cit., p. 678.

[54] Facts on File (1969), op. cit., p. 678.

[55] The New York Times, November 26, 1969, p. 1, Col. 8.

[56] The Congressional Quarterly Almanac (1969), op. cit., p. 1004.

milestones in arms control including the ban on biological weapons. The BW ban offered the possibility of curtailing the proliferation of biological weapons in a significant arms control step that would enhance U.S. prestige without jeopardizing her national security.

Although many general statements concerning the need for CBW controls have been made (primarily in the United Nations), it was not until the Arms Control and Disarmament Agency was established in 1961 that any concrete steps were taken. The going was slow and by 1966 the Agency had only four CBW studies underway.[57] Under the Johnson Administration some progress was made but CBW appeared to be "far down the list of criticality."[58] When President Nixon took office he upgraded the Agency. At the time of his appointment of Gerard C. Smith as Director, on January 29 the President said:

> The tasks of the Arms Control and Disarmament Agency belong to the most important of my Administration.... I am directing that the role and status of the Arms Control and Disarmament Agency within the U.S. Government be upgraded. Mr. Smith will have direct and ready access to the Secretary of State and to the President and will participate in all meetings of the National Security Council at which matters within the scope of his mission are considered.[59]

Several significant arms control events occurred in 1969 prior to the United States biological weapons ban. The Nuclear Nonproliferation Treaty was ratified in March and the United States and the Soviet Union tabled a joint draft treaty banning nuclear weapons from the seabed. The

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[57] Hersch, op. cit., p. 304.

[58] Ibid.

[59] U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress, op. cit., p. 1.

most important event bearing on the biological weapons ban, however, was the proposal for the Strategic Arms Limitation Talks (SALT). In June President Nixon invited the Soviet Union to begin negotiations but the USSR delayed accepting the proposal until late October. The biological weapons ban was to have added significance in these talks.

In this study the term "arms control" is used in lieu of the more limited term "disarmament." Although the ban on biological weapons was a step toward "complete disarmament" it's implications will be felt in the area of the control of arms.

Curtailing Proliferation

In banning biological weapons the U.S. hoped to stop further proliferation. President Nixon hinted at the importance of this factor in his decision when he said, "Mankind already carries in its own hands too many of the seeds of its own destruction."[60] By setting an example, the United States hoped to stop the dangerous and growing proliferation of biological weapons. Although only fifteen nations of the world have been reported as having some CBW capability, the number will no doubt grow.

During the hearings before the House Foreign Affairs Subcommittee on National Security Policy and Scientific Development in November 1969, Dr. Swyter, a former member of the staff of the Secretary of Defense, testified at some length about the threat of proliferation. He said:

> Secretary General Thant has called biological weapons the poor man's atomic bomb. A crude biological capability could cost much less than a nuclear one. Economics alone is reason enough for small, poor nations to take note.

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[60]Richard M. Nixon, Statement by the President, Office of the White House Press Secretary, Washington, November 25, 1969, p. 2.

> Proliferation, consequently, is a serious hazard. It is a hazard because the economics of... biological warfare appear potentially attractive to small, poor nations.[61]

In addition to being economical, the production of biological agents can be secretly accomplished in almost any health laboratory thus making detection extremely difficult. Even though small countries may not have the sophisticated delivery systems of the large powers, covert delivery of small amounts of lethal biological agents could cause havoc.

Complicating the proliferation issue are the new advances in genetic and molecular biology which could lead to the development of even more sophisticated and efficient biological agents. Some critics have gone so far as to predict the development of a "Doomsday Bug."[62] The United States has capitalized on this line of reasoning in its efforts to secure an international biological weapons ban at the Geneva Disarmament Conference:

> Without effective political and legal restraints however, these advances in knowledge could be put to perverse ends, resulting in even more efficient and ever more horrible methods of using disease as a weapon of warfare.[63]

A final proliferation consideration is the contention that the spread of biological weapons would affect the world's balance of power. Possession of biological weapons by small countries who are hostile to the

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[61] U.S., Congress, House, Subcommittee on National Security Policy and Scientific Developments of the Committee on Foreign Affairs, Chemical-Biological Warfare: U.S. Policies and International Effects, Hearing, 91st Cong., 1st Sess., November 18 - December 19, 1969 (Washington: Government Printing Office, 1970), p. 93.

[62] U.S., Congress, Senate, Special Subcommittee on the National Science Foundation, op. cit., p. 57.

[63] U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress, op. cit., p. 31.

United States would reduce our relative combat power. We would thus "lose some of the relative advantage of nuclear and conventional capability...."[64]

Although there is no direct evidence of the role which the proliferation issue played in the National Security Council Review, the overall reasoning was summed up by Mr. James F. Leonard, the U.S. Chief Delegate to the Geneva Disarmament Conference in an April 1970 speech:

> It is already well within the capability of a number of states to bring about these potential casualties, and such a capability could be acquired by many more. We therefore see ample reason to prohibit biological weapons and to do it promptly, and we see no barrier to taking this step.[65]

A Significant Arms Control Step

President Nixon's announced goal of achieving significant progress in arms control has already been mentioned. There is little doubt that arms control objectives had a significant influence on the National Security Council Review. It also appears that the possible banning of only biological weapons surfaced early in their deliberations. During the review process the distinction between BW and CW was necessary and the impact of such a ban on the upcoming Strategic Arms Limitation Talks (SALT) had to be considered. Finally, the impact of setting an example to the world in arms control had to be evaluated.

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[64] U.S., Congress, House, Subcommittee on National Security Policy and Scientific Developments, op. cit., p. 94.

[65] James F. Leonard, Speech before the Conference of the Committee on Disarmament (CCD), Geneva, April 21, 1970, p. 25.

In the cover letter to the Arms Control and Disarmament Agency Report of 1969 the President said:

> The events of the past year have shown that through negotiation we can move toward the control of armaments in a manner that will bring a greater measure of security than we can obtain from arms alone.
>
> There is reason to be hopeful of the possibility that an understanding can be reached with the Soviet Union which will permit both nations to reduce the burden and danger of competitive development of strategic arms.... In transmitting this report, I reaffirm my Administration's concern with the substance rather than the rhetoric of arms control.[66]

It is important to keep in mind the expressed arms control goals of the President when considering the task of the National Security Council.

An obvious result of the National Security Council Review was the distinct separation of the capabilities and possible consequences of the employment of chemical weapons versus biological weapons. When analyzing these two systems from the standpoint of arms control, the elimination of biological weapons presents some significant advantages. Dr. Ivan Bennett, the United States representative on United Nations CBW Report Committee and former Deputy Director of the President's Office of Science and Technology, said in November 1969:

> If we separate the B from the C in CBW, we have an opportunity to ban, for the first time, the very existence of a weapon. This could be done without waiting to complete the wrangling over... chemicals, ... and the exact meaning of the mysterious phraseology of the Geneva Protocol.... The journey toward the goal of general and complete disarmament will be long and hard. It is high time we took this first step, no matter how small it might seem.[67]

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[66]U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress, op. cit., p. ii.

[67]U.S., Congress, House, Subcommittee on National Security Policy and Scientific Developments, op. cit., p. 67.

Prior to the NSC Review a Subcommittee of the Senate Committee on Labor and Public Welfare had tabulated the more significant advantages of banning only biological weapons. These were:[68]

1. Nipping in the bud a weapon of mass destruction.
2. The lack of a precedent for biological weapon use.
3. Biological weapons are not widely possessed at the present time.
4. Greater public aversion to the use of BW than CW.
5. The danger of uncontrollable epidemics.
6. The inherent unreliability of biological weapons.
7. Elimination of biological weapons would not disburb the balance of power among major nations.
8. The lack of adequate defense against BW.

Another advantage which deserves special mention is the verification issue. The President felt the United States could safely ban biological weapons without getting bogged down in the verification issues. In the presentation of the United States viewpoint on the Soviet Union's proposal to ban both CW and BW, Mr. Leonard stated:

> We do not think that such a single instrument covering both chemical and biological weapons is now feasible.... Chemical weapons pose complex problems which will require more time and effort to resolve.... It is fortunately the case with biological weapons, however, that the problem of verification does not present a serious barrier to progress.... Even their retention by one state should not affect another state's decision to give them up.[69]

Thus, the United States saw the immediate banning of biological weapons as a significant first step in CBW arms control that might also lead to eventual elimination of chemical weapons. Mr. Leonard described it this way:

> I might describe our concept of handling chemical and biological weapons as involving a simultaneous advance along two or possibly more tracks. If we are able to proceed more quickly on one track - and we

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[68]U.S., Congress, Senate, Special Subcommittee on the National Science Foundation, op. cit., p. 29.

[69]Leonard, op. cit., p. 24.

> believe that will prove to be the case with biological weapons - we hope the Committee will fully exploit that opportunity to make concrete progress, meanwhile moving as quickly as possible down the other track or tracks.[70]

During the NSC analysis of the disarmament aspects of a biological ban, the difference then between BW and CB played a significant role. As stated in the Arms Control and Disarmament Agency's Report:

> One of the greatest values of the NSC study was the identification of these differences.[71]

The biological weapons ban was not only a significant arms control step in itself, but took on added importance in view of the upcoming Strategic Arms Limitations Talks (SALT) which had the potential of producing much greater results. President Nixon had invited the Soviet Union on June 19, 1969 to begin the talks, but it was only after considerable Soviet delay that the initial meeting was held on November 7, 1969. The Administration denied that the timing of the biological weapons ban was "exclusively related to the SALT talks,"[72] but there was little doubt that the ban would have a "highly salutary impact on the Strategic Arms Limitation Talks (SALT)."[73] In February 1970, a high Administration spokesman admitted, "It doesn't have a direct relation to the SALT, but it might contribute to the attitude and to the atmosphere."[74]

A last consideration of this significant arms control step was the hope that other nations would follow the United States example. This must

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[70] Ibid., p. 22.

[71] U.S. Arms Control and Disarmament Agency, 9th Annual Report to Congress, op. cit., p. 12.

[72] Transcript of Question and Answer Period Following President Nixon's News Conference, November 25, 1969, p. 7.

[73] The New York Times Index, Vol. 57 (1969), p. 171.

[74] Background Briefing Following White House Press Release on Toxins, February 14, 1970, p. 8A.

have been a key factor in the President's mind for he terminated his statement on November 25 with the sentence, "By the example we set today, we hope to contribute to an atmosphere of peace and understanding between nations and among men."[75] The same high Administration spokesman held a news conference following the President's statement and said:

> ...We hope that this demonstrates our interest in the control of arms and our intention to do what can be done to act humanly with respect to weapons of mass destruction and in that intangible way, we hope that it will set an example.[76]

This hope of others to follow was fulfilled on March 31, 1971 when the Soviet Union broke almost two years of deadlock in the Geneva Disarmament Conference and agreed to ban biological weapons.

Weighing the Risks

There have been many advantages cited favoring the biological weapons ban. In the selection of a course of action these advantages were carefully weighed against the disadvantages. There is little doubt that the National Security Council and the President spent considerable time evaluating the advantages and disadvantages before making the final decision. Research indicates that the six advantages listed below are most often associated with biological weapons:

1. They are relatively inexpensive and normally do not damage property.
2. They have the potential of producing a large number of casualties.
3. Their elimination significantly downgrades our deterrent options.
4. Their unilateral elimination wastes a diplomatic bargaining point with no guarantee that others will follow.

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[75]Nixon, Statement of November 25, 1969, op. cit., p. 2.

[76]Transcript of Question and Answer Period Following President Nixon's News Conference, op. cit., p. 7.

5. Their elimination removes the flexibility and humaneness inherent in the use of incapacitating biological agents.

6. Continued weapon research may lead to significant peaceful scientific breakthroughs in the field of biology.

Despite these significant advantages in maintaining a biological weapons capability, the disadvantages appeared to outweigh them since the decision was in fact made to ban all biological weapons.

The ban did, of course, entail some risk. The President acknowledged the risk in his November 25 statement when he said:

> Neither our association with the Convention nor the limiting of our program to research will leave us vulnerable to surprise by an enemy who does not observe these national restraints. Our intelligence community will continue to watch carefully the nature and extent of the biological programs of others.[77]

When one considers the President's expressed feelings on "sufficiency" in military arms rather than "superiority", the risks involved diminish and his decision to ban biological weapons appears quite logical. With nuclear, chemical and conventional weapons as deterrents, "it is difficult to imagine... that any proposal for the partial control of biological weapons would profoundly disturb the balance of power among the major nations."[78]

In its report to the Arms Control and Disarmament Agency in 1971, the Carnegie Endowment for International Peace Study supported this view:

> The President did not consider that the national security of the United States would be in jeopardy if these weapons and agents were renounced.[79]

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[77] Nixon, Statement of November 25, 1969, op. cit., p. 2.

[78] U.S., Congress, Senate, Special Subcommittee on the National Science Foundation, op. cit., p. 31.

[79] Archibald S. Alexander and others, The Control of Chemical and Biological Weapons (New York: Carnegie Endowment for International Peace, 1971), p. 102.

Summary

Arms control was a subject of growing importance during the 1960's and will receive even more attention during the 1970's. President Nixon's announced goal of achieving significant progress set the stage for the National Security Council Review and played a key role in the final decision to ban biological weapons. The best summary to this section, which included a discussion of the proliferation issue and national security risks involved in the significant arms control step, is contained in the President's Foreign Policy Report to Congress which he presented on February 18, 1970:

> We are prepared to take any unilateral arms control action that will not compromise our security and will minimize the danger that certain weapons will ever be developed or used by any nation. A good example is the field of chemical and biological weapons. After extensive study, I determined that a new American policy would strengthen ongoing unilateral efforts to restrict the use of these weapons by international law. We hope that other nations will follow our example and restrict their programs unilaterally.[80]

PROBLEMS IN BIOLOGICAL WEAPONS EMPLOYMENT

The third and final category of factors which contributed to the decision to ban biological weapons deals with inherent problems in the possible employment of these weapons. Three major areas will be discussed. First, the realization that biological agents are essentially first-use weapons; second, the lack of knowledge concerning the true effectiveness of these weapons and the possible effects of their use on world health and ecology; and third, the continued world-wide aversion to their use.

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[80]Report to the Congress by the President of the United States, U.S. Foreign Policy for the 1970's: A New Strategy for Peace, February, 18, 1970, p. 147.

The First-Use Issue

Deterrence has been the principal reason for maintaining a CBW arsenal in the United States inventory of weapons. In an April 1969 reply to Representative McCarthy's inquiry about our CBW policy, Dr. Foster, Director of Defense Research and Engineering, said:

> It is the policy of the U.S... to develop and maintain a limited offensive capability in order to deter all use of CB weapons by the threat of retaliation in kind.... Deterrence is our primary objective. ... As a matter of policy the U.S. will not be the first to use biological weapons....[81]

It is this retaliation in kind that poses a significant problem because it might well be impossible to determine the identity of the country which initiates a biological attack. The characteristic delayed effects of a biological attack would usually not be evidenced for several days. Mr. Leonard of the Arms Control and Disarmament Agency stressed this fallacy in our policy:

> It is the considered judgement of the Unites States Government that retaliation in kind would not be the best military response to a biological attack.... A country subjected to attack with biological weapons might not be aware for days or weeks that the attack had taken place.[82]

Complicating further the retaliation issue is the fact that we could hardly launch missiles or aircraft in a biological retaliatory attack since the aggressor might assume a nuclear attack and escalate the confrontation to a nuclear holocaust. This line of reasoning leads one to the conclusion that biological agents are essentially first-use or clandestine weapons.

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[81] McCarthy, op. cit., p. 153.

[82] James F. Leonard, Speech before the Conference of the Committee on Disarmament (CCD), Geneva, March 17, 1970, p. 32.

Shortly after the NSC Review began, Secretary of Defense Laird acknowledged this problem area:

> Because it would not always be possible to determine the origin of attack by biological agents, the deterrent aspects of biological research are not as sharply defined.[83]

Note the Secretary's use of the term "biological research" instead of "biological weapons." He concluded by saying:

> It is important that the American people be informed of why we must continue to maintain our chemical deterrent, conduct biological research, and how we propose to improve the management and control of these programs.[84]

Just ten days prior to the above statement, in an address to a group of summer interns at the Pentagon, the Secretary not only failed to make this distinction, but commented on why "we need chemical and particularly biological weapons to deter against the use of a weapon against us...."[85] Although the choice of words could be coincidence, it appears that an initial decision to limit biological weapons had been made during those ten days, perhaps as a result of discussions in the NSC Interdepartmental Political-Military Group.

One of the major conclusions of the NSC Review was the determination that biological weapons were essentially first-use weapons. "We concluded that bacteriological weapons were really primarily useful for first-use."[86] This finding greatly weakened the "deterrence" argument long used to justify biological weapons.

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[83] U.S. Congressional Record, 91st Cong., 1st Sess. (1969), XXV, No. 136, p. S9526.

[84] Ibid.

[85] Extract of Remarks by Secretary of Defense Melvin Laird to Group of Summer Interns at the Pentagon, July 28, 1969.

[86] Transcript of Question and Answer Period Following President Nixon's News Conference, op. cit., p. 4.

The Doubtful Effectiveness of Biological Weapons

The second major problem area in the employment of biological weapons deals with certain undesirable characteristics of the weapon system. The President referred to these in his statement when he said:

> Biological weapons have massive, unpredictable and potentially uncontrollable consequences. They may produce global epidemics and impair the health of future generations.[87]

Although not all biological agents are capable of self-reproduction, the anti-personnel pathogenic microorganisms can reproduce and multiply in the host. It is this factor coupled with their viability (ability to survive in a hostile environment) that leads to their possible unpredictability, uncontrollability,and massive consequences.

The Army Technical Manual on military biological agents states:

> Following large-scale dissemination of a biological agent, an initial outbreak of disease of epidemic proportions might occur. This may or may not be followed by a secondary or epidemic spread of the disease, depending on the contagiousness of the agent, the presence or absence of favorable environmental conditions, and other factors.[88]

These uncertainties present a spectrum of effects from little military benefit to a widespread epidemic that could spread across a continent.

"Military men do not want weapons which take at least two days to stop the enemy from fighting," and the deliberate propogation of disease has little appeal for many military personnel.[89] This uncertain military effectiveness of biological weapons was voiced by retired Air Force Chief

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[87]Nixon, Statement of November 25, 1969, op. cit., p. 2.

[88]Ibid.

[89]Leonard Beaton, "Chemical and Biological Warfare," Survival, XII, No. 1 (January, 1970), p. 17.

of Staff Curtis LeMay in October 1968 when he stated that biological weapons were not used in past wars because they were inefficient systems, not because of moral scruples of leaders.[90]

Apparently it was the other end of the spectrum, that of global epidemics, that played a key role in the President's decision. Because biological agents have not been widely tested outside of laboratories, no one is really sure what effect their widespread use would have on world health and ecology. The intense research conducted during 1968 and 1969, including government sponsored studies, the United Nations Report, Congressional hearings, a Democratic Party CBW study, and individual research, highlights growing concern about the possible irreparable damage that could be done by widespread use of biological agents. In addition the susceptibility of civilian populations, particularly the aged, the young and the weak is often cited. Finally, the development of new virulent disease strains against which no immunity exists is conjured up to present the possibility of genetic warfare. Dr. Leroy Fothergill, former director of the Ft. Detrick laboratories, offered this assessment of the unknowns in a major biological attack:

> It is possible that many species would be exposed to an agent for the first time in their evolutionary history. We have no knowledge of the range of susceptibilities of these many species of wild life to specific micro-organisms.... What would be the consequences?... Would it create the basis for possible genetic evolution of micro-organisms in new directions, with changes in virulence for some species? Would it create public health and environmental problems that are unique and beyond our present experience?[91]

With Presidential emphasis placed on the unpredictable and uncontrollable nature of biological weapons, it is not surprising that this

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[90] The New York Times, October 24, 1968, p. 40, Col. 5.

[91] Hersch, "Chemical and Biological Weapons: The Secret Arsenal," The New York Times Magazine, op. cit., p. S11017.

line of reasoning would carry over into our CBW negotiations at Geneva. Mr. Leonard in a speech there in March 1970 said:

> ...Biological weapons present a clear danger to mankind, especially to an unprotected civilian population. The effect of their use however, would be difficult to predict.... There can be no assurance that this form of warfare, if ever begun, would not spread uncontrollably to one's own population and to still other countries, as well as to the enemy.[92]

The Aversion to the Use of Biological Weapons

Ever since the use of chemical warfare in World War I, there has been varying degrees of public psychological aversion to chemical and biological warfare. A good case can be made for its humaneness particularly when considering the use of non-lethal agents which might merely incapacitate the enemy and do no damage to property. Opponents, however, see only CBW's anti-humaneness and its specter of horror of lethal agents which could open a Pandora's box of destruction on the world. This charge is often leveled at biological weapons whose "effects are less predictable than those of CW weapons, and the distinction between lethal and non-lethal is more difficult to draw."[93]

Despite the many attempts to gain domestic public support for CBW research, most notably "Operation Blue Skies" in the early 1960's, efforts have largely failed. In 1968 and 1969 with all the adverse publicity at home and abroad and denunciations by critics, considerable ground was lost. The United Nations Report on CBW summed up the feeling of many this way:

> All weapons of war are destructive of human life, but chemical and biological weapons stand in a class of their own. As armaments which

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[92] Leonard, Speech on March 17, 1970, op. cit., p. 31.

[93] Strategic Survey 1969, op. cit., p. 37.

> exercise their effects solely on living matter, the idea that biological weapons could deliberately be used to spread disease generates a new sense of horror. The fact that certain chemical and biological agents are potentially unconfined in their effects, both in space and time, and that their large-scale use could conceivably have deleterious and invisible effects on the balance of nature adds to the sense of insecurity and tension which the existence of this class of weapons engenders.[94]

This wide-spread emotional and moral reaction to the use of CBW is another factor which had to be evaluated in the President's decision-making process.

Summary

Without access to the top secret National Security Council Report[95] on CBW and contributing reviews by participating agencies, it is difficult to know precisely what effect these biological employment problems had on the ultimate decision to ban biological weapons. Representative McCarthy in a reply to my query on the subject, felt their effect was significant. He listed the following reasons for the ban:

> Biological weapons:
> 1. Were not of much strategic or tactical value.
> 2. Were less controllable and reliable than other weapon systems.
> 3. Were regarded with genuine public revulsion because of the use of disease as a weapon.[96]

Perhaps the best evidence of the significant role that these problem areas of first-use, doubtful effectiveness and world-wide aversion played in the decision comes from a high level National Security Council spokesman who, after the President's announcement said:

> We concluded that bacteriological weapons if used might well produce global epidemics similar to the worldwide flu epidemic with which

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[94]Report of the U.N. Secretary General on Chemical and Bacteriological Weapons, op. cit., p. S9548.

[95]Memorandum to writer from the Office of the Chief of Military History, Department of the Army, February 26, 1971.

[96]Letter to writer from Representative Richard D. McCarthy, House of Representatives, New York, November 24, 1970.

we are familiar. And for this reason we have concluded that the use of bacteriological weapons either lethal or incapacitating... will not be American policy and we are renouncing their use either in a "first-use" capacity or in retaliation.... We are giving up a means of retaliation but when we consider the long-term effects of bacteriological warfare... we concluded that bacteriological weapons were primarily really useful for "first-use". That the effect in retaliation would be long delayed; the consequences would be too uncontrollable; and we have deliberately decided to renounce bacteriological warfare, either for "first-use" or for retaliation and we have simply not concluded that this is an effective or proper instrument of warfare.[97]

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[97] Transcript of Question and Answer Period Following President Nixon's News Conference, op. cit., pp. 4-5.

CHAPTER IV

SUMMARY AND CONCLUSIONS

> The President's announcement of November 25 must be accounted one of the most significant official U.S. statements ever made on chemical-biological warfare....[1]

Despite criticism from some critics who say the President did not go far enough, his decision to ban biological weapons must be regarded as one of the major decisions of his first year in office. The six month National Security Council study testifies to the lenghthy and painstaking decision-making process that was followed in the first comprehensive government CBW policy review in fifteen years. The purpose of this study was to identify and evaluate the factors which contributed to that widely acclaimed decision.

The President in his announcement admitted that United States CBW objectives and policies were unclear, and programs lacked definition and direction. This was particularly true for biological weapons which, unlike chemical weapons, had no real precedent for use. The questionable international legality of BW was complicated by the fact that the United States had never ratified the 1925 Geneva Protocol which prohibited the use of bacteriological methods of warfare. The factors which my research uncovered fell into three major categories; first, domestic and international pressure on the Nixon Administration; second, the influence of

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[1] The Congressional Quarterly Weekly Report, XXVIII, No. 30 (July 24, 1970), p. 1919.

the current drive for arms control, and third, the significant problems associated with employment of biological weapons.

Even though domestic and international pressure began building during the mid-1960's due to the use of riot control agents and herbicides in Vietnam, it was primarily Congressional criticism of accidents and procedures for testing, storage and transportation of CB agents that led to a re-evaluation of our CBW policies. International pressure resulted from the failure of the United States to ratify the 1925 Geneva Protocol and increasing demands for curbing chemical and biological methods of warfare. The United Nations report on CBW contained an urgent appeal to halt the production of CB weapons. In the midst of this criticism, the United Kingdom proposal for banning only biological weapons presented a feasible solution which if adopted by the United States promised to alleviate much of the domestic and international pressure.

In the area of arms control, the ban of only biological weapons offered a unique opportunity to unilaterally renounce a complete weapon system without jeopardizing the national security of the United States. The President had set a goal of action, not rhetoric, in the field of disarmament and the National Security Council obviously adopted this spirit in their review of CBW policy. It was the sincere desire of the President that the ban set an example for the world and hopefully halt the dangerous proliferation of biological weapons. In addition, such a significant arms ban would have a salutary impact on the Strategic Arms Limitation Talks and no doubt enhance the image of the United States.

If pressure created an awareness of the problem, and arms control objectives suggested a biological ban as a possible course of action, then technical, military and political biological weapon employment problems

convinced the decision-makers that a complete ban on biological weapons was the best course of action. A high level NSC spokesman made it clear that the NSC Review concluded that biological weapons were primarily first-use weapons, that their effects could be unpredictable as well as uncontrollable, and that global epidemics could result from their employment.

It will be the task of historians to assess the true impact and value of the United States decision to ban biological weapons. As Senator Strom Thurmond said following the announcement:

> Although everyone must applaud the humanitarian spirit in which this renunciation was made, one may legitimately question whether such a renunciation will actually contribute to world security....[2]

In the months following the decision, no other country took similar action, and a number of controversies still linger, but progress is being made at the Geneva Disarmament Conference and in the Strategic Arms Limitation Talks. The surprise Soviet Union decision to join the United States in banning biological weapons offers concrete hope that the 1970's may truly be the Disarmament Decade.

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[2]C. V. Glines, "Nixon's CBW Policy: Unilateral Disarmament?" Armed Forces Management, XVI, No. 4 (January, 1970), p. 43.

APPENDIXES

APPENDIX A

PRESIDENT NIXON'S STATEMENT OF NOVEMBER 25, 1969[a]

THE WHITE HOUSE

STATEMENT BY THE PRESIDENT

Soon after taking office I directed a comprehensive study of our chemical and biological defense policies and programs. There had been no such review in over fifteen years. As a result, objectives and policies in this field were unclear and programs lacked definition and direction.

Under the auspices of the National Security Council, the Departments of State and Defense, the Arms Control and Disarmament Agency, the Office of Science and Technology, the Intelligence Community and other agencies worked closely together on this study for over six months. Those government efforts were aided by contributions from the scientific community through the President's Scientific Advisory Committee.

This study has now been completed and its findings carefully considered by the National Security Council. I am now reporting the decisions taken on the basis of this review.

Chemical Warfare Program

As to our chemical warfare program, the United States:

-- Reaffirms its oft-repeated renunciation of the first use of lethal chemical weapons.

-- Extends this renunciation to the first use of incapacitating chemicals.

Consonant with these decisions, the Administration will submit to the Senate, for its advice and consent to ratification, The Geneva Protocol of 1925 which prohibits the first use in war of "asphyxiating, poisonous or other Gases and of Bacteriological Methods of Warfare." The United

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[a]Richard M. Nixon, Statement by the President, Office of the White House Press Secretary, Washington, November 25, 1969.

States has long supported the principles and objectives of this Protocol. We take this step toward formal ratification to reinforce our continuing advocacy of international constraints on the use of these weapons.

Biological Research Program

Biological weapons have massive, unpredictable and potentially uncontrollable consequences. They may produce global epidemics and impair the health of future generations. I have therefore decided that:

-- The U. S. shall renounce the use of lethal biological agents and weapons, and all other methods of biological warfare.

-- The U. S. will confine its biological research to defensive measures such as immunization and safety measures.

-- The DOD has been asked to make recommendations as to the disposal of existing stocks of bacteriological weapons.

In the spirit of these decisions, the United States associates itself with the principles and objectives of the United Kingdom Draft Convention which would ban the use of biological methods of warfare. We will seek, however, to clarify specific provisions of the draft to assure that necessary safeguards are included.

Neither our association with the Convention nor the limiting of our program to research will leave us vulnerable to surprise by an enemy who does not observe these rational restraints. Our intelligence community will continue to watch carefully the nature and extent of the biological programs of others.

Those important decisions, which have been announced today, have been taken as an initiative toward peace. Mankind already carries in its own hands too many of the seeds of its own destruction. By the examples we set today, we hope to contribute to an atmosphere of peace and understanding between nations and among men.

APPENDIX B

TABLE OF BIOLOGICAL AGENTS[b]

TYPE OF DISEASE	DISEASE	SYMPTOMS/EFFECTS	COMMENTS
Bacterial	Anthrax	High fever and collapse; pulmonary form fatal if untreated.	Moderately high infectivity; low transmissibility from man to man. Stable in storage. Highly persistent (100+ years) after deployment. Vaccines available; early treatment by antibiotics possible. Other bacterial agents include brucellosis, cholera, pneumonic plague and typhoid fever (none of which has such high persistence after deployment as anthrax).
Viral	Yellow Fever	Jaundice-type fever; mortality up to 40%.	Very high infecivity; no transmissibility from man to man. Stable in storage under specific conditions. Vaccines mass-produced; no effective therapy. Other viral diseases suitable for BW include dengue fever, encephalitis and smallpox.
Rickettsial	Psittacosis	Mild to severe fever, sometimes fatal.	High infectivity; moderately high transmissibility from man to man. No vaccine available, but antibiotic treatment effective. Other possible rickettsial agents include Q-fever and epidemic typhus.
Fungal	Coccidioidomycosis	Mild to severe fever, rarely fatal.	High infectivity; long duration; no transmissibility from man to man. Highly stable in storage. Highly persistent after deployment. No vaccine available; no antibiotic therapy possible.

[b]Strategic Survey 1969, The Institute for Strategic Studies (Dorking: Adlard and Son, Ltd., 1970), p. 36.

APPENDIX C

THE 1925 GENEVA PROTOCOL[c]

PROTOCOL PROHIBITING THE USE IN WAR OF ASPHYXIATING, POISONOUS OR OTHER GASES, AND OF BACTERIOLOGICAL METHODS OF WARFARE, GENEVA, JUNE 17, 1925

The undersigned plenipotentiaries, in the name of their respective Governments:

Whereas the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilized world; and

Whereas the prohibition of such use has been declared in Treaties to which the majority of Powers of the world are Parties; and

To the end that this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations;

Declare:

That the High Contracting Parties, so far as they are not already Parties to Treaties prohibiting such use, accept this prohibition, agree to extend this prohibition to the use of bacteriological methods of warfare and agree to be bound as between themselves according to the terms of this declaration.

The High Contracting Parties will exert every effort to induce other States to accede to the present Protocol. Such accession will be notified to the Government of the French Republic, and by the latter to all signatory and acceding Powers, and will take effect on the date of the notification by the Government of the French Republic.

The present Protocol, of which the French and English texts are both authentic, shall be ratified as soon as possible. It shall bear to-day's date.

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[c]U.S, Congress, House, Committee on Foreign Affairs, Subcommittee on National Security Policy and Scientific Developments, Chemical-Biological Warfare: U.S. Policies and International Effects, Hearings, 91st Cong., 1st Sess., November 18... December 19, 1969 (Washington: Government Printing Office, 1970), p. 269.

The ratifications of the present Protocol shall be addressed to the Government of the French Republic, which will at once notify the deposit of such ratification to each of the signatory and acceding Powers.

The instruments of ratification and of accession to the present Protocol will remain deposited in the archives of the Government of the French Republic.

The present Protocol will come into force for each signatory Power as from the date of deposit of its ratification, and, from that moment, each Power will be bound as regards other Powers which have already deposited their ratification.

In witness whereof the Plenipotentiaries have signed the present Protocol.

Done at Geneva in single copy, this seventeenth day of June, One Thousand Nine Hundred and Twenty-Five.

APPENDIX D

ARTICLES I AND II OF THE UNITED KINGDOM DRAFT PROPOSAL[d]

ARTICLE I

Each of the Parties to the Convention undertakes, insofar as it may not already be committed in that respect under Treaties or other instruments in force prohibiting the use of chemical and biological methods of warfare, never in any circumstances, by making use for hostile purposes of microbial or other biological agents causing death, damage or disease by infection or infestation to man, other animals, or crops, to engage in biological methods of warfare.

ARTICLE II

Each of the Parties to the Convention undertakes:

(a) not to produce or otherwise acquire, or assist in or permit the production or acquisition of:

(i) microbial or other biological agents of types and in quantities that have no independent justification for prophylactic or other peaceful purposes.

(ii) ancillary equipment or vectors the purpose of which is to facilitate the use of such agents for hostile purposes;

(b) not to conduct, assist or permit research aimed at production of the kind prohibited in sub-paragraph (a) of this Article; and

(c) to destroy, or divert to peaceful purposes, within three months after the Convention comes into force for that Party, any stocks in its possession of such agents or ancillary equipment or vectors as have been produced or otherwise acquired for hostile purposes.

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[d]U.S., Congress, House, Committee on Foreign Affairs, Subcommittee on National Security Policy and Scientific Developments, Chemical-Biological Warfare: U.S. Policies and International Effects, Hearings, 91st Cong., 1st Sess., November 18...December 19, 1969 (Washington: Government Printing Office, 1970), p. 276.

APPENDIX E

CONCLUSIONS OF THE UNITED NATIONS

REPORT ON CBW[e]

"The general conclusion of the report can thus be summed up in a few lines. Were these weapons ever to be used on a large scale in war, no one could predict how enduring the effects would be, and how they would affect the structure of society and the environment in which we live. This overriding danger would apply as much to the country which initiated the use of these weapons as to the one which had been attacked, regardless of what protective measures it might have taken in parallel with its development of an offensive capability. A particular danger also derives from the fact that any country could develop or acquire, in one way or another, a capability in this type of warfare, despite the fact that this could prove costly. The danger of the proliferation of this class of weapons applies as much to the developing as it does to developed countries.

"The momentum of the arms race would clearly decrease if the production of these weapons were effectively and unconditionally banned. Their use, which could cause an enormous loss of human life, has already been condemned and prohibited by international agreements, in particular the Geneva Protocol of 1925, and, more recently, in resolutions of the General Assembly of the United Nations. The prospects for general and complete disarmament under effective international control, and hence for peace throughout the world, would brighten significantly if the development, production and stockpiling of chemical and bacteriological (biological) agents intended for purposes of war were to end and if they were eliminated from all military arsenals.

"If this were to happen, there would be a general lessening of international fear and tension. It is the hope of the authors that this report will contribute to public awareness of the profoundly dangerous results if these weapons were ever used, and that an aroused public will demand and receive assurances that Governments are working for the earliest effective elimination of chemical and bacteriological (biological) weapons."

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[e]Report of the Secretary-General of the United Nations on Chemical and Bacteriological (Biological) Weapons and the Effects of Their Possible Use, June 30, 1969, cited in U.S. Congressional Record, 91st Cong., 1st Sess., (1969), CXV, No. 136, p. S9527.

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