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RATIFICATION OF THE GENEVA PROTOCOL ON GAS AND BACTERIOLOGICAL WARFARE: A LEGAL AND POLITICAL ANALYSIS

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Introduction

ON November 25, 1969, President Nixon announced the initial results of a sweeping review of United States policy on chemical and biological warfare.[1] He reaffirmed the nation's traditional policy of no-first-use of lethal chemical weapons and extended the policy to incapacitating chemicals. He also renounced the use under any circumstances of biological weapons and methods of warfare, and declared that the United States will confine its biological research to defensive measures and dispose of existing stocks of bacteriological weapons not required for defensive research. Finally, he indicated that the Administration would ask the Senate to advise and consent to the ratification of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on June 17, 1925.[2]

The most important operative provisions of the Protocol provide:

> 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 civilised 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

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1 61 Dep't State Bull. 541 (1969).

2 94 L.N.T.S. 65.

> 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. . . .[3]

At the Geneva Conference of 1925 the United States delegation took the lead in proposing the Protocol and subsequently signed it as did twenty-nine of the other delegations participating in the Conference. Because of inadequate coordination with the Senate, however, the United States ratification of the Protocol died eighteen months later without coming to a vote on the Senate floor.[4] At the present time approximately ninety-eight states are party to the Protocol, including all of the major military and industrial powers of the World, all of our NATO allies, the Soviet Union and all but one of its Warsaw Pact allies, and the People's Republic of China. There is also a substantial momentum toward increased participation. Since January 1970 some fourteen countries, including Brazil and Japan, have become parties. With the recent accession by Japan, the United States remains the only major military or industrial power not a party to the Protocol.[5]

Subsequent to President Nixon's announcement and prior to consideration of the Geneva Protocol by the Senate, a variety of other policy pronouncements indicated the momentum within the Administration on chemical and biological warfare (CBW) issues. Thus, on February 14, 1970, the President announced that the ban on biological weapons and methods of warfare would also apply to toxins–biologically produced chemical poisons.[6] On January 27, 1971, the President announced that the biological facilities at Pine Bluff Arsenal would

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[3] The Protocol also creates a duty to "exert every effort to induce other States to accede to the . . . Protocol . . . ." *Id.* at 69.

[4] The Protocol was transmitted to the Senate for advice and consent to ratificatiou on January 12, 1926, and because of the unexpected opposition which developed on the floor was referred back to the Senate Foreign Relations Committee on December 13, 1926. *See* 68 CONG. REC. 368 (1926).

[5] Testimony of Secretary of State William P. Rogers before the Seuate Foreign Relations Committee, March 5, 1971.

[6] *See U.S. Renounces Use of Toxins as a Method of Warfare*, 62 DEP'T STATE BULL. 226 (1970); N.Y. Times, Feb. 15, 1970, at 1, col. 8.

be turned over to the Food and Drug Administration to investigate the health effects of chemical substances such as food additives and pesticides; and on October 18, 1971, he announced that the former Army Biological Defense Research Center at Fort Detrick, Maryland would be converted into a center for cancer research.[7] Related decisions include United States support for a draft arms-control convention that would ban the development, production and stockpiling of biological agents and toxins,[8] continuation of efforts to obtain international agreement on the control of development, production and stockpiling of chemical weapons, initiation of a review of the use of riot-control agents and herbicides in the Vietnam War, termination of the use of chemical herbicides for crop-destruction in Vietnam, and a gradual phase-out of the use of chemical herbicides for defoliation in Vietnam.[9]

On August 19, 1970, President Nixon transmitted the Geneva Protocol to the Senate for advice and consent to ratification. In his letter of transmittal the President said, "I consider it essential that the United States now become a party to this Protocol, and urge the Senate to give its advice and consent to ratification with the reservation set forth in the Secretary's report."[10] The accompanying report of Secretary of State Rogers proposed that the Senate give its consent to ratification subject to a single reservation:

> That the said Protocol shall cease to be binding on the Government of the United States with respect to the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials, or devices, in regard to an enemy State if such State or any of its allies fails to respect the prohibitions laid down in the Protocol.[11]

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[7] Testimony of Secretary of State William P. Rogers before the Senate Foreign Relations Committee, March 5, 1971 (Pine Bluff Arsenal); Bush, *U.N. Commends Biological Weapons Convention and Requests Continued Negotiations on Prohibition of Chemical Weapons*, 66 DEP'T STATE BULL. 102, 104 (1972) (Ft. Detrick).

[8] *See* statement by Ambassador Leonard, "Geneva Disarmament Conference Agrees on Draft Text of Bacteriological Weapons Convention," in 65 DEP'T STATE BULL. 504 (1971).

[9] Testimony of Secretary of State William P. Rogers before the Senate Foreign Relations Committee, March 5, 1971.

[10] Letter of transmittal from President Richard Nixon to the Senate of the United States, Aug. 19, 1970, in SENATE FOREIGN RELATIONS COMM., 91ST CONG., 2D SESS., MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING THE PROTOCOL FOR THE PROHIBITION OF THE USE IN WAR OF ASPHYXIATING, POISONOUS, OR OTHER GASES, AND OF BACTERIOLOGICAL METHODS OF WARFARE, SIGNED AT GENEVA, JUNE 17, 1925, iii (1970) [hereinafter MESSAGE FROM THE PRESIDENT].

[11] Letter of submittal from Secretary of State William P. Rogers to the President, Aug. 11, 1970, *id.* at v.

This reservation parallels similar no-first-use reservations by France, the United Kingdom, the Soviet Union, the People's Republic of China and some thirty other countries. But with the exception of the Netherlands, all of these countries have more sweeping no-first-use reservations. Only the Netherlands reservation and the proposed United States reservation do not reserve the right to retaliate with biological weapons. Thus, the proposed United States reservation is consistent with President Nixon's renunciation of the use in all circumstances of biological and toxin weapons and methods of warfare. Secretary Rogers' report also indicates that the United States will not, by reservation, limit its obligations under the Protocol to the parties,[12] as have many other states. But by way of limitation, Secretary Rogers' report goes on to say, "It is the United States understanding of the Protocol that it does not prohibit the use in war of riot-control agents and chemical herbicides." [13] The Administration does not intend this informal understanding to be part of the instrument of ratification or otherwise formally conveyed to the parties to the Protocol.

During March of 1971 the Senate Committee on Foreign Relations held hearings on the Protocol. All of the distinguished witnesses, governmental and non-governmental, strongly supported ratification of the Protocol. Administration spokesmen particularly stressed the importance of ratification of the Protocol in promoting further international agreement on more comprehensive measures for controlling chemical and biological warfare. The principal policy issue which emerged during the hearings was the wisdom of the understanding that the Protocol does not include riot-control agents and chemical herbicides. A number of non-governmental witnesses—including McGeorge Bundy, Dr. Matthew Meselson, and Professor Thomas Buergenthal—pointed out that since many states interpret the Protocol to ban chemical riot-control agents and herbicides, the Administration's proposed understanding might undermine the effectiveness of United States ratification. A number of senators, both members and non-members of the Foreign Relations Committee subsequently echoed this point.[14] In view of the

12 *Id.* at vi.

13 *Id.*

14 The wide variety of witnesses testifying before the Senate Foreign Relations Committee included, among others, Secretary of State William P. Rogers, Philip J. Farley, the Deputy Director of the Arms Control and Disarmament Agency; G. Warren Nutter, the Assistant Secretary of Defense for International Security Affairs; McGeorge Bundy, President of the Ford Foundation; George Bunn, Professor of Law at the University of Wisconsin; Thomas Buergenthal, Professor of Law at the State Univer-

evident disagreement between some senators and the Administration concerning the proposed understanding with respect to riot-control agents and chemical herbicides, Senator Fulbright, as Chairman of the Senate Foreign Relations Committee, sent a letter to the President supporting ratification but asking

> that the question of the interpretation of the Protocol be reexamined considering whether the need to hold open the option to use tear gas and herbicides is indeed so great that it outweighs the long-term advantages to the United States of strengthening existing barriers against chemical warfare by means of ratification of the Protocol without restrictive interpretations.[15]

Following Senator Fulbright's letter to the President, the Administration and the Senate Foreign Relations Committee have been locked in an impasse: the Secretary of State has suggested that rejection of the Administration's understanding on riot-control agents and herbicides might result in loss of Administration support, while Senator Fulbright has expressed doubt that the Senate will consent to the understanding.[16] The Administration is presently reviewing the issue in the light of recently completed studies on the use of riot-control agents and chemical herbicides in Vietnam and the implications of that experience for future use by the United States of such agents in war. On the Senate side, importance continues to be attached by some senators to a broader interpretation of the Protocol. Senator Hubert Humphrey, for example, introduced a resolution which would express the Senate's support of

> a broad interpretation of the Geneva Protocol. In so doing [the Senate] recommends that the United States be willing, on the basis of reci-

sity of New York; Senator Gaylord Nelson; Representative Richard D. McCarthy; Mrs. Donald Clusen of the League of Women Voters; and Dr. Matthew Meselson, Professor of Biology at Harvard.

For remarks made by Senators not testifying, *see, e.g.*, the remarks of Senator Gravel on Mar. 30, 1971, calling for submission of the Protocol to the International Court of Justice for an interpretation as to whether it includes riot-control agents and herbicides, 117 CONG. REC. E2481-82 (daily ed. Mar. 30, 1971).

[15] 117 CONG. REC. S12189 (daily ed. July 27, 1971). Senator Fulbright continued: "If the Administration were to take the longer and broader view of our own interests, I cannot imagine any serious opposition to that decision either here at home or abroad." *Id.*

[16] *See* the testimony of McGeorge Bundy before the Senate Foreign Relations Committee on March 19, 1971.

> procity, to refrain from the use in war of all toxic chemical weapons whether directed against man, animals, or plants.[17]

Senator Humphrey's draft resolution roughly parallels Resolution 2603A, adopted by the United Nations General Assembly on December 16, 1969.[18] That Resolution interpreted the Geneva Protocol broadly as prohibiting the use in international armed conflicts of "[a]ny chemical agents of warfare—chemical substances, whether gaseous, liquid or solid—which might be employed because of their direct toxic effects on man, animals or plants." [19] Resolution 2603B, adopted by the General Assembly on the same day, called "anew for strict observance by all States of the principles and objectives of the Protocol," and invited "all States which have not yet done so to accede to or ratify the . . . Protocol." [20]

Although the House of Representatives is not a formal participant in the process of ratification, the Subcommittee on National Security Policy and Scientific Developments of the House issued, on May 16, 1970, an important report, *Chemical-Biological Warfare: U. S. Policies and International Effects*, which grew out of extensive hearings held by the Subcommittee in November and December of 1969.[21] The Committee concluded that

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17 S. Res. 154, 92d Cong. 1st Sess. (1971), *reprinted in* 117 CONG. REC. S11920 (daily ed. Jul. 23, 1971). *See also* the resolution introduced by Senator Brooke, S. Res. 158, 92d Cong. 1st Sess. (1971), *reprinted in* 117 CONG. REC. S12187 (daily ed. Jul. 27, 1971).

18 G.A. Res. 2603A, 24 U.N. GAOR Supp. 30, at 16, U.N. Doc. A/7630 (1969).

19 More completely, G.A. Res. 2603A recognized

> that the Geneva Protocol embodies the generally recognized rules of international law prohibiting the use in international armed conflicts of all biological and chemical methods of warfare, regardless of any technical developments . . . .

and declared

> as contrary to the generally recognized rules of international law, as embodied in the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925, the use in international armed conflicts of:
>
> (a) Any chemical agents of warfare—chemical substances, whether gaseous, liquid or solid—which might be employed because of their direct toxic effects on man, animals or plants;
>
> (b) Any biological agents of warfare—living organisms, whatever their nature, or infective material derived from them—which are intended to cause disease or death in man, animals or plants, and which depend for their effects on their ability to multiply in the person, animal or plant attacked.

Id.

20 G.A. Res. 2603B, 24 U.N. GAOR SUPP. 30, at 16-17, U.N. Doc. A/7630 (1969). *See also* G.A. Res. 2662, 25 U.N. GAOR SUPP. 28, at 14, U.N. Doc. —— (1970).

21 SUBCOMMITTEE ON NATIONAL SECURITY POLICY AND SCIENTIFIC DEVELOPMENTS OF THE COMMITTEE ON FOREIGN AFFAIRS OF THE HOUSE OF REPRESENTATIVES, 91ST CONG., 1ST

> because of the obvious dangers to America's strategic position in the proliferation of biological and chemical weapons, it is in the national interest of the United States to adhere to existing international agreements aimed at CBW control and to seek new multilateral pacts which would ban the development, production and stockpiling of CB agents. Moreover, to the extent that such weapons, particularly those employing biologicals, threaten the existence of human life on earth or raise fears of extinction, our Nation has a duty to mankind to help obtain their effective prohibition.[22]

Accordingly,

> [T]he Senate should speedily approve the protocol and the single reservation proposed by the President, thereby giving congressional endorsement to the unilateral and complete renunciation of biological warfare by the United States.
>
> The question of the use of tear gas and herbicides in warfare should be left open in any formal or informal interpretation of the protocol made by the executive branch or the Senate, and once the United States becomes a party to the treaty it should seek agreement with the other parties on a uniform interpretation of the scope of the protocol, either through a special international conference among the parties or through established international juridical procedures.[23]

United States consideration of ratification of the Geneva Protocol is taking place against the broader and potentially more important background of international efforts for comprehensive control of development, production, stockpiling and all use in war of chemical and biological weapons. Pursuant to these efforts the Soviet Union and its allies submitted to the General Assembly a draft convention prohibiting the development, production, stockpiling, and destruction of chemical and bacteriological (biological) weapons; and the United Kingdom submitted to the Geneva Conference of the Committee on Disarmament a draft convention for the prohibition of biological methods of warfare.[24] On December 16, 1969,[25] and again on December 22, 1970,[26] the United

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SESS., REPORT WITH AN APPENDED STUDY ON THE USE OF TEAR GAS IN WAR: A SURVEY OF INTERNATIONAL NEGOTIATIONS AND U.S. POLICY AND PRACTICES, CHEMICAL-BIOLOGICAL WARFARE: U.S. POLICIES AND INTERNATIONAL EFFECTS (Comm. Print. 1970).

22 *Id.* at 8-9.

23 *Id.* at 10.

24 *See* 10 INT'L LEG. MAT. 633-45 (1971).

25 *See* G.A. Res. 2603B, 24 U.N. GAOR SUPP. 30, at 16-17, U.N. Doc. A/7630 (1969).

26 G.A. Res. 2662, 25 U.N. GAOR SUPP. 28, at 14, U.N. Doc. —— (1970).

Nations General Assembly requested the Geneva Conference of the United Nations Committee on Disarmament to give urgent consideration to reaching agreement on the prohibitions contained in these draft conventions. Subsequently, the United States, the United Kingdom, the Soviet Union and nine other states reached agreement within the framework of the Conference of the Committee on Disarmament on a "Draft Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction." [27] And on December 16, 1971, the United Nations General Assembly by a vote of 110 to zero, with only France abstaining, commended the Convention and expressed "hope for the widest possible adherence to the Convention." [28] The Convention was opened for signature simultaneously at Washington, London, and Moscow during April of 1972. Its most important operative provisions provide as follows:

Article I

> Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:
>
> (1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;
>
> (2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

Article II

> Each State Party to this Convention undertakes to destroy, or to divert to peaceful purposes, as soon as possible but not later than nine months after the entry into force of the Convention all agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, which are in its possession or under its jurisdiction or control. In implementing the provisions of this Article all necessary safety precautions shall be observed to protect populations and the environment.

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[27] *See* Resolutions of the General Assembly at Its Twenty-Sixth Regular Session 21 September-22 December 1971, U.N. Press Release GA/4548, at Part II, 26-33 (Dec. 28, 1971), *reprinted in* 65 DEP'T STATE BULL. 508-10 (1971).

[28] G.A. Res. 2826, Resolutions of the General Assembly at Its Twenty-Sixth Regular Session 21 September-22 December 1971, U.N. Press Release GA/4548, at Part II, 26-33 (Dec. 28, 1971). *See also* Bush, *supra* note 7.

Article III

> Each State Party to this Convention undertakes not to transfer to any recipient whatsoever, directly or indirectly and not in any way to assist, encourage, or induce any State, group of States or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in Article I of the Convention. . . .[29]

In another resolution adopted on December 16 by the same large margin the General Assembly requested

> the Conference of the Committee on Disarmament to continue, as a high priority item, negotiations with a view to reaching early agreement on effective measures for the prohibition of the development, production and stockpiling of chemical weapons and for their elimination from the arsenals of all States . . . .[30]

Because of the difficult issues of verification raised by a ban on chemical weapons, it is unlikely that agreement on a similar chemical ban will be reached as easily or as quickly.

The broadest context of relevant negotiations would also include the United States-Soviet Strategic Arms Limitation Talks (SALT), underway since November 1968, involving limitations of both offensive and defensive strategic weapons, and the second meeting of the Conference of Government Experts on the International Humanitarian Law Applicable in Armed Conflicts scheduled for May of 1972. Although not immediately linked with the Geneva Protocol, these negotiations are part of a pattern of arms limitation and law-of-war efforts which might

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[29] DEP'T STATE BULL. 508, 508-09 (1971). On March 28, 1972 the Soviet Union presented a draft chemical convention roughly paralleling this draft biological convention. N.Y. Times, Mar. 29, 1972, at 3, col. 1.

[30] G.A. Res. 2827A, Resolutions of the General Assembly at Its Twenty-Sixth Regular Session 21 September-22 December 1971, U.N. Press Release GA/4548, at Part II, 34-37 (Dec. 28, 1971). A slightly more controversial resolution adopted the same day by a vote of 101 in favor, none against and ten abstentions urged

> all States to undertake, pending agreement on the complete prohibition of the development, production and stockpiling of chemical weapons and their destruction, to refrain from any further development, production or stockpiling of those chemical agents for weapons purposes which because of their degree of toxicity have the highest lethal effects and are not usable for peaceful purposes.

G.A. Res. 2827B, Resolutions of the General Assembly at Its Twenty-Sixth Regular Session 21 September-22 December 1971, U.N. Press Release GA/4548, at Part II, 37 (Dec. 28, 1971).

be generally influenced by United States actions with respect to the Protocol.

Against the background of these efforts at more comprehensive control of CB and other arms, United States ratification of the Geneva Protocol assumes added importance. The Protocol is one of the most significant international limitations on the use of chemical and biological weapons, and its importance is recognized in the recent draft biological-weapons convention.[31] Furthermore, at least six General Assembly resolutions adopted since 1966 have urged universal adherence to the Protocol or called for strict observance of its principles.[32] If the United States continues as the only major power not a party to the Protocol, the leadership and influence that it can exert in these and perhaps other important arms limitation efforts may be affected adversely. Moreover, early ratification might give renewed impetus to the present momentum for improved control of CBW. In turn, early ratification depends in large measure on the position that the Administration and the Senate adopt regarding riot-control agents and chemical herbicides.[33] In light

[31] The Draft Biological Weapons Convention provides with respect to the Protocol:

> The States Parties to this Convention, . . .
>
> Recognizing the important significance of the Geneva Protocol of 17 June 1925 for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, and conscious also of the contributions which the said Protocol has already made, and continues to make, to mitigating the horrors of war,
>
> Reaffirming their adherence to the principles and objectives of that Protocol and calling upon all States to comply strictly with them,
>
> Recalling that the General Assembly of the United Nations has repeatedly condemned all actions contrary to the principles and objectives of the Geneva Protocol of 17 June 1925, ...
>
> Have agreed as follows: . . . .
>
> Nothing in this Convention shall be interpreted as in any way limiting or detracting from the obligations assumed by any State under the Geneva Protocol of 17 June 1925 by the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare.

65 DEP'T STATE BULL. 508, 508-09 (1971).

[32] *See* G.A. Res. 2162B (XXI) (Dec. 5, 1966); G.A. Res. 2454A (XXIII) (Dec. 20, 1968); G.A. Res. 2603 A & B (XXIV) (Dec. 16, 1969); G.A. Res. 2662 (XXV) (Dec. 7, 1970); G.A. Res. 2826 (XXVI) (Dec. 16, 1971); G.A. Res. 2927A (XXVI) (Dec. 16, 1971)..

[33] For general background on CBW and United States policy, see F. BROWN, CHEMICAL WARFARE: A STUDY IN RESTRAINTS, (1968); WHEN BATTLE RAGES, HOW CAN LAW PROTECT? Proceedings of the Fourteenth Hammarskjöld Forum, J. Carey ed. (1971); CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, THE CONTROL OF CHEMICAL AND BIOLOGICAL WEAPONS (1971); J. COOKSON & J. NOTTINGHAM, A SURVEY OF CHEMICAL AND BIOLOGICAL WARFARE (1969); S. HERSH, CHEMICAL AND BIOLOGICAL WARFARE: AMERICA'S HIDDEN ARSENAL (1968); R. MCCARTHY, THE ULTIMATE FOLLY (1969); M. MCDOUGAL & F. FELICIANO, LAW AND MINIMUM WORLD PUBLIC ORDER 632-40, 662,

of these current issues this Article will explore the background of United States CBW policy with special emphasis on the legal and political costs and benefits of ratification of the Protocol and of the associated options concerning riot-control agents and chemical herbicides.

A Brief History of United States CBW Policy

World War I and the Inter-War Years

During World War I both sides made steady use of various lachrymatory (tear), chlorine, phosgene and mustard gases. United States forces, which entered the War relatively late, were attacked on February 25, 1918, by Germans using phosgene shells. In turn, the United States used gas offensively beginning in June 1918. Apparently, the United States used only about 1,100 tons of the total 58,000 tons of gas fired by the allies in the War and did not use tear gas or other riot-control agents.[34]

The widespread use of gas in World War I, causing possibly 1.3 million casualties and 100,000 deaths, engendered almost universal abhorrence for gas warfare.[35] In the years following World War I the United States participated actively in the international efforts to control

664 (1961); H. Meyrowitz, Les Armes Biologiques et le Droit International (1968); CBW: Chemical and Biological Warfare (S. Rose ed. 1969); A. Thomas & A. Thomas, Legal Limits on the Use of Chemical and Biological Weapons (1970); Tucker, *The Law of War and Neutrality at Sea*, 50 Naval War College International Law Studies (1955); Baxter & Buergenthal, *Legal Aspects of the Geneva Protocol of* 1925, 64 A.J.I.L. 853 (1970); Bunn, *Banning Poison Gas and Germ Warfare: Should the United States Agree?*, 1969 Wisc. L. Rev. 375; Johnstone, *Ecocide and the Geneva Protocol*, 49 Foreign Affairs 711 (1971); Kelly, *Gas Warfare in International Law*, 9 Military L. Rev. 1 (1960); O'Brien, *Biological/Chemical Warfare and the International Law of War*, 51 Geo. L.J. 1 (1962); *Hearings on Chemical and Biological Warfare Before the Committee on Foreign Relations of the United States Senate*, 91st Cong., 1st Sess. (1969); *Hearings on Chemical-Biological Warfare: U.S. Policies and International Effects Before the Subcommittee on National Security Policy and Scientific Developments of the Committee on Foreign Affairs of the House of Representatives*, 91st Cong., 1st Sess. (1970); Report of the Subcommittee on National Security Policy and Scientific Developments, *supra* note 21; *Report of the Secretary-General on Chemical and Bacteriological (Biological) Weapons and the Effects of Their Possible Use*, U.N. Doc. A/7575; A/7575/Rev. 1 (1969); *Health Effects of Possible Use of Chemical and Biological Weapons—Report of a WHO Group of Consultants, reprinted in Hearings on Chemical-Biological Warfare: U.S. Policies and International Effects Before the Subcommittee on National Security Policy, supra* at 443.

34 S. Hersh, Chemical and Biological Warfare: America's Hidden Arsenal 4-5 (1968).

35 R. McCarthy, The Ultimate Folly 5 (1969). Seymour Hersh gives a figure of 91,000 deaths attributable to gas warfare in World War I. *See* S. Hersh, *supra* note 34, at 5.

chemical and biological warfare. Thus, the United States participated in negotiations leading to the Versailles Treaty of 1918, which, in Article 171, provided: "the use of asphyxiating, poisonous, or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden in Germany." [36] Primarily because of the refusal of the Senate to consent to the provisions concerning United States membership in the League of Nations, the United States did not become a party to the Versailles Treaty. But Article 171 of the Treaty was incorporated by reference (along with the entire section of the Versailles Treaty of which Article 171 is a part) in the Treaty Restoring Friendly Relations between the United States and Germany of August 25, 1921.[37] Similar articles appeared in the United States peace treaties with Hungary and Austria.[38] Charles Cheney Hyde notes that because of this incorporation of Article 171 of the Treaty of Versailles in the peace treaties with the Central powers, the United States might be considered a party to a treaty outlawing gas warfare,[39] contrary to the language of *Army Field Manual 27-10*.[40] It is generally agreed, however, that the restriction on gas warfare incorporated into these peace agreements was a disarmament measure intended to be binding on the Central powers and not the United States.[41]

In another post-war initiative, Secretary of State Charles Evans Hughes led a United States delegation to the Washington Arms Conference, which drafted the Treaty on the Use of Submarines and Noxious Gases

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[36] Treaty of Peace between the Principal Allied and Associated Powers and Germany, signed at Versailles, Jun. 28, 1919, [1919] GT. BRIT. T.S. No. 4, 2 TREATIES AND OTHER INT'L AGREEMENTS OF THE U.S., 1776-1949 119 (Bevans ed. 1969).

[37] 42 Stat. 1939, 1943 (1921), 8 TREATIES AND OTHER INT'L AGREEMENTS, *supra* note 36, at 145.

[38] 42 Stat. 1946 (1921), 5 TREATIES AND OTHER INT'L AGREEMENTS, *supra* note 36, at 215, 217-18 (Article II(1) of the Treaty of Peace with Austria); 42 Stat. 1951 (1921), 8 TREATIES AND OTHER INT'L AGREEMENTS, *supra* note 36, at 982, 985 (Article II(1) of the Treaty of Peace with Hungary).

[39] 3 C. HYDE, INTERNATIONAL LAW 1821 (2d ed. 1947).

[40] DEP'T OF THE ARMY FIELD MANUAL FM 27-10, THE LAW OF LAND WARFARE (1956). Paragraph 38 of the field manual provides with respect to "Gases, Chemicals, and Bacteriological Warfare":

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

Id. at 18.

[41] *See, e.g.*, A. THOMAS & A. THOMAS, LEGAL LIMITS ON THE USE OF CHEMICAL AND BIOLOGICAL WEAPONS 58-62 (1970); Bunn, *Banning Poison Gas and Germ Warfare: Should the United States Agree?*, 1969 WISC. L. REV. 375 at 376.

in Warfare (The Treaty of Washington).[42] The Treaty was signed in 1922 by France, Great Britain, Italy, Japan and the United States. Article Five of the Treaty, which was introduced by Senator Elihu Root, a member of the American delegation, included a broad ban against gas warfare. It provided as follows:

> The use in war of asphyxiating, poisonous or other gases, and all analogous liquids, materials or devices, having been justly condemned by the general opinion of the civilized world and a prohibition of such use having been declared in treaties to which a majority of the civilized Powers are parties,
>
> The Signatory Powers, to the end that this prohibition shall be universally accepted as a part of international law binding alike the conscience and practice of nations, declare their assent to such prohibition, agree to be bound thereby as between themselves and invite all other civilized nations to adhere thereto.[43]

There is evidence that the United States delegation sought to promote a comprehensive ban that would prohibit all use of gas, including tear gas, in war. A report prepared by the Advisory Committee of the United States Delegation urged that "chemical warfare, including the use of gases, whether toxic or nontoxic, should be prohibited by international agreement." [44] And a memorandum prepared by the General Board of the Navy, after weighing the humane uses of tear gas against the difficulty of demarcation between those gases which cause unnecessary suffering and those such as tear gas which need not, concluded that it is "sound policy to prohibit gas warfare in every form and against every objective, and [The General Board] so recommends." [45] But after presenting these Reports to the Conference Committee on Limitation of Armaments, Secretary of State Hughes, perhaps advertently, perhaps not, stated the recommendation of the American delegation more restrictively:

> [T]he American delegation, in the light of the advice of its advisory committee and the concurrence in that advice of General Pershing . . .

[42] Treaty Relative to the Protection of the Lives of Neutrals and Noncombatants at Sea in Time of War and to Prevent the Use in War of Noxious Gases and Chemicals, Feb. 6, 1922, 3 TREATIES CONVENTIONS, INT'L ACTS, PROTOCOLS AND AGREEMENTS 3116 (Redmond ed. 1923).

[43] *Id.* at 3118.

[44] Conference on the Limitation of Armament, S. Doc. No. 126, 67th Cong., 2d Sess. 386 (1922).

[45] *Id.* at 387.

> and of the specific recommendation of the General Board of the Navy, felt that it should present the recommendation that the use of asphyxiating or poison gas be absolutely prohibited.[46]

The Senate consented to the Treaty of Washington without a dissenting vote but also without focused discussion on whether it prohibited the use of tear gas in war. Apparently the principal issue in the 1922 Senate debate was whether gas warfare in general was a relatively humane form of warfare and not whether riot-control agents should be a specially permitted form of gas warfare.[47] Ultimately, the Treaty of Washington did not enter into force because France refused to ratify it. France's refusal related to the provisions restricting submarine warfare rather than disagreement with the provisions restricting the use of gas in war.

Three years later an initiative of the United States Delegation to the Geneva Conference for the Supervision of the International Trade in Arms and Ammunition and in Implements of War led to the adoption by the Conference of the Geneva Protocol of 1925, which followed the language of Article Five of the ill-fated Treaty of Washington.[48] There was little discussion at the Geneva Conference of the scope of the prohibitory language of the Protocol, and none regarding whether it included riot-control agents or chemical herbicides.[49] The report of the United States Senate Foreign Relations Committee, which recommended approval of the Protocol, however, contained a statement by Theodore E. Burton, the representative of the United States at Geneva and a signatory of the Protocol for the United States, that the Protocol was "in accordance with our settled policy." He also recalled the broad definition of prohibited gases urged by the United States Advisory

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[46] *Id.* at 387-88.

[47] *See* 62 CONG. REC. 4723-30 (1922). Professors Richard R. Baxter and Thomas Buergenthal observe that the failure of any Senator to inquire "whether Article 5 prohibited the use of tear gas or any other irritant chemical . . . [was] particularly noteworthy because the documents of the conference at which the treaty was drafted, and which were before the Senate, . . . [indicated] that this question had been considered but had not been unequivocally resolved." Baxter and Buergenthal, *Legal Aspects of the Geneva Protocol of* 1925, 64 A.J.I.L. 853, 859 (1970).

[48] For the background of the United States proposals and the adoption of the Treaty of Washington formula, see Baxter & Buergenthal, *supra* note 47, at 860-61.

[49] According to George Bunn "[t]here is no recorded discussion of tear gases by the delegates." Bunn, *supra* note 41, at 402. And Professors Baxter and Buergenthal write that "[n]o attempt was made at the Geneva Conference to discuss the scope of this prohibition and no reference to tear gas or other irritant chemicals appears in the records of the Conference." Baxter & Buergenthal, *supra* note 47, at 861.

Committee at the Washington Arms Conference which included the phrase *whether toxic or nontoxic*, and he cited the 1922 report of the Navy General Board, which had recommended the prohibition of gas warfare *in every form*.[50] Moreover, one of the arguments against the Protocol made by Senator David A. Reed during the Senate debate was that it would prohibit tear gas which "has been adopted by every intelligent police force in the United States . . . ." [51] Although Senator William E. Borah's rather cryptic reply indicated that the Protocol would not prevent the domestic use of tear gas, he seemed not to dispute Senator Reed's contention that the Protocol would prohibit the use of tear gas in war. The Protocol breezed through the Senate Foreign Relations Committee by a vote of eight to one, but it failed to come to a vote after it was reported out.[52] Apparently, it was defeated by a combination of the Administration's complacency induced by the approval of the Washington Treaty three years earlier and vigorous lobbying against it by the chemical industry, the Army Chemical Corps, and other groups.[53] The Protocol remained on the docket of the Senate Foreign Relations Committee until withdrawn by President Truman in 1947 as part of a general housekeeping effort to update the docket of the Foreign Relations Committee, a housekeeping effort initiated by the new chairman of the committee, Senator Arthur H. Vandenberg.[54]

In 1930, some doubt arose at the meeting of the Preparatory Commission for the League of Nations Disarmament Conference whether the Geneva Protocol of 1925 included lachrymatory gases. The British and French governments issued statements indicating that lachrymatory gases were included and ten of the remaining sixteen states present and party to the Protocol associated themselves with the British and French

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50 *See* Gellner & Wu, *The Use of Tear Gas In War: A Survey of International Negotiations and of U.S. Policy and Practice*, in SUBCOMMITTEE ON NATIONAL SECURITY AND SCIENTIFIC DEVELOPMENTS, REPORT, *supra* note 21, at 11, 32.

51 *See* 68 CONG. REC. 150 (1926).

52 *See* R. MCCARTHY, *supra* note 35, at 7.

53 George Bunn says of the Senate failure to advise and consent to the Protocol:

> [p]robably because of the ease with which the Washington Treaty had sailed through the Senate, Secretary of State Kellogg did not make the effort to gain support for the Geneva Protocol that Secretary Hughes had made earlier for the Washington Treaty. Although Congressman Burton was the head of the United States delegation, no Senator was included. No advisory committee was enlisted. The Army's Chemical Warfare Service was not prevented from mobilizing opposition to the protocol. It enlisted the American Legion, the Veterans of Foreign Wars, the American Chemical Society, and the chemical industry.

Bunn, *supra* note 41, at 378.

54 *See* 16 DEP'T STATE BULL. 726 (1947).

statements. The remaining six states did not respond to the invitation to register their views.[55] Although the United States was not a party to the Protocol, Hugh Gibson, the United States Representative to the Preparatory Commission, took the occasion to indicate that the draft convention to be prepared by the Disarmament Conference should not ban lachrymatory gases. He said:

> I think there would be considerable hesitation on the part of many Governments to bind themselves to refrain from the use in war, against an enemy, of agencies which they have adopted for peace-time use against their own population, agencies adopted on the ground that, while causing temporary inconvenience, they cause no real suffering or permanent disability, and are thereby more clearly humane than the use of weapons to which they were formerly obliged to resort to in times of emergency.[56]

At the Disarmament Conference itself the Conference adopted a broadly worded ban that prohibited "the use, by any method whatsoever, for the purpose of injuring an adversary, of any natural or synthetic substance harmful to the human or animal organism, whether solid, liquid or gaseous, such as toxic, asphyxiating, lachrymatory, irritant or vesicant substances."[57] The United States representatives agreed to this proposal but the draft convention never went into force.

It seems fair to conclude that prior to World War II the policy of the United States Executive was to work to prohibit the use of all chemical and biological weapons, though there was some vacillation regarding the propriety of prohibiting lachrymatory gases. During this period the question whether to prohibit tear gases received little attention in comparison with the efforts to ban gas warfare in general; and the question whether to prohibit chemical herbicides, not yet developed, was not even raised. Evidence concerning the United States interpretation of the Geneva Protocol during this period is particularly sketchy.

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55 LEAGUE OF NATIONS, DOCUMENTS OF THE PREPARATORY COMMISSION FOR THE DISARMAMENT CONFERENCE (SERIES X): MINUTES OF THE SIXTH SESSION (SECOND PART) 311-14 (1931).

56 *Id.* at 312.

57 2 LEAGUE OF NATIONS, CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS: CONFERENCE DOCUMENTS 476, at 488 (1935). For a discussion of the general position of the United States at the Conference *see* J. WHEELER-BENNETT, THE PIPE DREAM OF PEACE 17-18 (1971).

World War II and the Korean War

During World War II the United States did not use gas weapons, despite recommendations from several military sources in May and June of 1945 that favored the use of gas in the Pacific theatre.[58] Prior to the War President Roosevelt had said in general terms, "It has been and is the policy of this Government to do everything in its power to outlaw the use of chemicals in warfare. Such use is inhuman and contrary to what modern civilization should stand for." [59] An exchange of pledges to observe the Protocol had been made between the British, French, Italian and German governments at the outbreak of the War.[60] But reports during the War that the Germans might use gas weapons prompted Roosevelt to declare more specifically in 1943,

> From time to time since the present war began there have been reports that one or more of the Axis Powers were seriously contemplating use of poisonous or noxious gases or other inhumane devices of warfare. . . .
>
> Use of such weapons has been outlawed by the general opinion of civilized mankind. This country has not used them, and I hope that we never will be compelled to use them. I state categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.[61]

It is unclear whether Roosevelt meant to include riot-control agents or chemical herbicides, but no such weapons were used in combat during World War II.[62] That at least the decision to avoid use of gas was not made by default is suggested by Admiral Chester W. Nimitz's statement that one of his toughest decisions during the War occurred "when the War Department suggested the use of poison gas during the invasion of Iwo Jima." He went on to say, "I decided the United States should not be the first to violate the Geneva Convention." [63] Admiral Nimitz, of course, was speaking generally when he spoke of

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58 Gellner & Wu, *supra* note 50, at 26-27.

59 L. Brophy & G. Fisher, The Chemical Warfare Service: Organizing for War 22 (1959).

60 *See* Bunn, *supra* note 41, at 381-82.

61 8 Dep't State Bull. 507 (1943).

62 Brophy and Fisher limit Roosevelt's declaration to "poisonous or noxious gases," classifications which could be taken to exclude tear gas. *See* Brophy & Fisher, *supra* note 59, at 88.

63 *See* S. Hersh, *supra* note 34, at 25-26 n.xx.

"violating" the Geneva Convention, as the United States was not a party to the Protocol.

In March of 1945 Major General Myron C. Cramer, the Judge Advocate General of the Army, prepared a memorandum for the Secretary of War concerning the legality of the destruction of crops by chemicals. He concluded that no rule prohibited the use of chemical agents for the destruction of crops, provided "that such chemicals do not produce poisonous effects upon enemy personnel, either from direct contact, or indirectly from ingestion of plants and vegetables which have been exposed thereto." [64] There is, however, no indication that any such chemicals were subsequently used during World War II. Interestingly, the Cramer memorandum seems to have provided the principal legal basis relied on by the Department of Defense for the large scale use of herbicides in Vietnam some twenty years later.[65]

During the Korean War the United States again refrained from using chemical weapons in combat situations, though field commanders are reported to have requested permission to use gas, including tear and vomiting gases, to attack deeply entrenched enemy fortifications in order to break the deadlock in the latter stages of the war.[66] Since the United States was better prepared to use chemical weapons than the North Koreans and Communist Chinese, such use might have been militarily advantageous to the United States. United States military authorities did use tear and vomiting gases to quell rioting Communist prisoners of war on the theory that use in a POW camp is not a use "in war." [67]

The United States seems never to have used biological agents in war, but during the Korean War, Peking repeatedly alleged that the United States was engaged in germ warfare. A United States request in 1952 that the International Committee of the Red Cross (ICRC) undertake an investigation of the charges was blocked by North Korean and Communist Chinese refusal to cooperate with the ICRC. Several months later a United States sponsored resolution in the United Nations Security Council requesting that the ICRC investigate the Chinese allegations was vetoed by the Soviet Union; and in April 1953 a General As-

64 The Memorandum is reprinted in 10 INT'L LEG. MAT. 1304-06 (1971).

65 *See* the letter from J. Fred Buzhardt, General Counsel of the Department of Defense, to Senator J. W. Fulbright, *reprinted in* 10 INT'L LEG. MAT. 1303-04 (1971).

66 *See* Gellner & Wu, *supra* note 50, at 27.

67 *See* Gellner & Wu, *supra* note 50, at 27; A. THOMAS & A. THOMAS, *supra* note 41, at 148.

sembly Resolution proposing a five-state commission to investigate the charges was also blocked by North Korean and Chinese Communist refusal to cooperate.[68]

Summarizing United States policy with respect to chemical and biological warfare during World War II and the Korean War, the United States seemed to follow a no-first-use policy similar to that which emerged under the Geneva Protocol. The policy did not expressly prohibit use of riot-control agents, but, in fact, it consciously precluded the use of such agents in combat situations. The principal reasons for the adoption of the no-first-use policy seem to have been fear of retaliation in kind, concern for escalation to inhumane chemical or biological weapons, concern for possible adverse international political reactions from first use, and, during the Korean War, a consciousness that decisions on weapons would be particularly subject to international scrutiny. Though chemical herbicides were not used in World War II or the Korean War the issue had not really become focused.

In the years following the Korean War, the United States seems to have reassessed its CBW policy.[69] The outlines of the reassessment were by no means clear, but they suggested some relaxation of controls. The 1956 edition of the *Army Field Manual 27-10,* still the current field manual,[70] provides: "The United States is not a party to any treaty, now in force, that prohibits or restricts the use in warfare of toxic or non-toxic gases, of smoke or incendiary materials, or of bacteriological warfare." [71] The *Field Manual* expressed no opinion on a no-first-use limitation or on the extent of the customary international legal obligation which might be binding on the United States. Evidence of a possible relaxation in the United States no-first-use policy during

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[68] *See* 10 M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 461-66 (1968); S. HERSH, *supra* note 34, at 18-21; A. THOMAS & A. THOMAS, *supra* note 41, at 156; Fuller, *The Application of International Law to Chemical and Biological Warfare,* 10 ORBIS 247 (1966).

[69] *See* S. HERSH, *supra* note 34, at 22-33; Gellner & Wu, *supra* note 50, at 33-34.

[70] Although Seymour Hersh writes of a shift in CBW policy evidenced by differences between the 1954 and 1956 editions of DEP'T OF THE ARMY FIELD MANUAL FM 27-10, *supra* note 40, Professor Howard S. Levie has indicated to the author that there is no 1954 edition of the *Field Manual.* Apparently Hersh may have relied on an unofficial mimeograph draft prepared in 1954 which indicates on the cover sheet that the document was not approved either by the Judge Advocate General or by the Department of the Army. Needless to say, the differences between such a draft and the approved *Field Manual* are poor evidence of a shift in United States policy. *See* S. HERSH, *supra* note 34, at 23-24.

[71] THE LAW OF LAND WARFARE, *supra* note 40, at 18.

this period is provided by the Defense and State Department reactions to a resolution introduced in 1959 by Congressman Robert Kastenmeier. As a result of what he perceived to be an increased interest in CBW and a possible change in United States policy, Congressman Kastenmeier introduced a resolution affirming "the longstanding 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 obnoxious [sic] gases unless they are first used by our enemies." [72] When President Eisenhower was asked at a press conference in January 1960 about the possibility of a change in policy he said, "no such official suggestion has been made to me and so far as my own instinct is concerned, is to not start such a thing as that first." [73] Nevertheless, both the State and Defense Departments opposed the Kastenmeier resolution, stressing the need for presidential discretion.[74] It is unclear whether the discretion sought to be retained during this period related to first use of lethal CB or only to the use of incapacitating, riot-control, or anti-plant agents; but the breadth of the debate suggests that the issue may again have been the propriety of using chemical and biological weapons generally rather than the wisdom of imposing less restrictive controls on the use of riot-control or anti-plant agents.

The Indo-China War

Breaking with the World War II and Korean War traditions, the United States has used both riot-control agents and chemical herbicides in the Indo-China War. Beginning in about 1962 chemical agents were supplied to South Vietnamese forces and, according to the *New York Times*, "no provision was made for special authorization to use them . . . and it was assumed that South Vietnamese commanders would use them as they saw fit." [75] Rear Admiral Lemos stated in testimony before a House Subcommittee in 1969 that "[t]he Department of Defense with the concurrence of the Department of State obtained Presi-

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[72] *See* H.R. Res. 433, 86th Cong. 1st Sess. (1959), *reprinted in* 105 CONG. REC. 10824 (1959); SUBCOMMITTEE ON DISARMAMENT OF THE SENATE COMMITTEE ON FOREIGN RELATIONS, 86TH CONG., 2D SESS., CHEMICAL, BIOLOGICAL, RADIOLOGICAL (CBR) WARFARE AND ITS DISARMAMENT ASPECTS 20 (1960).

[73] PUBLIC PAPERS OF THE PRESIDENTS, DWIGHT D. EISENHOWER 1960-61 29 (1961).

[74] *See* A. THOMAS & A. THOMAS, *supra* note 41, at 167-68; Gellner & Wu, *supra* note 50, at 34.

[75] N.Y. Times, Mar. 24, 1965, at 7, col. 1.

dential approval in November 1965 for the use of CS and CN in Vietnam."[76] The United States has relied primarily on CS (ortho-chlorobenzylidenemalonoitrile) in Vietnam but has also used CN (*w*-chlorocetophenone) and initially provided DM (diphenylaminechloroarsine or adamasite) to South Vietnamese forces.[77] CS, CN and DM are, in the terms of the 1969 *Report of the United Nations Secretary-General*, "tear and harassing gases."[78] According to the Report, "tear and harassing gases rapidly produce irritation, smarting and tears. These symptoms disappear quickly after exposure ceases";[79] however, the Report further noted, "[d]eaths have been reported in three cases after extraordinary exposure to . . . (CN) in a confined space."[80] Thus, in military concentrations and with prolonged exposure any of these gases may be lethal, but deaths would be rare, particularly from CS.[81] Interestingly, CS popularly called "super" tear gas, is both the most irritating and least toxic of the three common harassing agents.[82] According to the *Army Field Manual* on such weapons (*FM 3-10*), DM can be lethal and its use is not approved "in any operation where deaths are not acceptable."[83] Apparently for this reason DM is no longer part of the United States arsenal.[84]

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[76] Statement of Rear Am. William E. Lemos, Director of Policy Plans and National Security Council Affairs, Office, Assistant Secretary of Defense for International Security Affairs [hereinafter cited as Statement of Rear Adm. Lemos], in *Hearings on Chemical-Biological Warfare: U.S. Policies and International Effects Before the Subcommittee on National Security Policy and Scientific Developments of the Committee on Foreign Affairs of the House of Representatives* 91st Cong., 1st Sess. (1970) 223, 224-25.

[77] *See* Gellner & Wu, *supra* note 50, at 28-29.

[78] *Report of the Secretary-General on Chemical and Bacteriological (Biological) Weapons and the Effects of Their Possible Use*, U.N. Doc. A/7575; A/7575/Rev. 1 (1969), at 45.

[79] *Id.*

[80] *Id.*

[81] The testimony of Dr. Matthew S. Meselson before the Senate Foreign Relations Committee on April 30, 1969, mentions "claims by unofficial observers" of "a few deaths from CS in Vietnam." *See Hearings on Chemical and Biological Warfare Before the Committee on Foreign Relations of the United States Senate*, 91st Cong., 1st Sess. 7 (1970).

[82] *See Report of the Secretary-General*, *supra* note 78, at 45. As Professor Howard S. Levie has pointed out, contrary to Seymour Hersh the "S" in "CS" does not stand for "super" but is derived from the codevelopers of the gas. *See* S. HERSH, *supra* note 34, at 60, and Levie, The Impact of New Weapons and Technology in the Indo-China Conflict, unpublished paper delivered at a meeting of the American Society of International Law in Washington, D. C., 1971.

[83] DEP'T OF THE ARMY FIELD MANUAL FM 3-10, EMPLOYMENT OF CHEMICAL AND BIOLOGICAL AGENTS para. 11 at 7 (1966).

[84] *See* statement of Rear Adm. Lemos, *supra* note 76, at 241.

A statement by Secretary of State Dean Rusk in 1965 suggested that tear gas would be used in Vietnam only for humanitarian purposes, such as separating combatants and non-combatants:

> We do not expect that gas will be used in ordinary military operations. Police-type weapons were used in riot control in South Viet-Nam—as in many other countries over the past 20 years—and in situations analogous to riot control, where the Viet Cong, for example, were using civilians as screens for their own operations.[85]

Subsequently tear gas was authorized for use in normal combat operations, though, according to the testimony of Rear Admiral Lemos, such use for humane purposes where combatants and non-combatants are intermingled is a recommended use.[86] Evidently, however, tear gas has been used predominantly in normal combat operations to support attacks on occupied positions, defend positions, clear tunnels, break contact with the enemy, and aid in rescuing downed airmen.[87] In recent years, as the direct involvement of United States ground combat forces has been winding down, the use of tear gas has been substantially curtailed.[88]

Since about 1962 chemical herbicides have been used in Vietnam, first experimentally, and then extensively.[89] Principal uses have included improving visibility by defoliating jungle areas concealing enemy supply bases and trails, defoliating allied base perimeters, and defoliating dense growth along roads and waterways which might harbor an ambush.[90] At one time herbicides were also used in a controlled program to destroy crops reputedly intended for Vietcong forces.[91] According to Defense Department figures, as of July 1969, the United

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85 52 DEP'T STATE BULL. 529 (1965). The evolution of United States policy in the use of riot-control agents in Vietnam provides an example of the difficulty in proposing a particular use restriction as a firebreak for weapons control.

86 *See* statement of Rear Adm. Lemos, *supra* note 76, at 237.

87 *See, e.g., id.* at 225-28.

88 *See* the Department of Defense data, "Procurement of CS, CS1, and CS2 For Southeast Asia," set out in a statement by Senator Humphrey on the Geneva Protocol, 117 CONG. REC. S11920, S11921 (daily ed. Jul. 23, 1971).

89 See generally on the use of herbicides in Vietnam S. HERSH, *supra* note 34, at 144-67.

90 *See* statement of Rear Adm. Lemos, *supra* note 76, at 229.

91 *See id.* at 230.

> Crops in areas remote from the friendly population and known to belong to the enemy and which cannot be captured by ground operations are sometimes sprayed. Such targets are carefully selected so as to attack only those crops to be grown by or for the VC or NVA.

States had sprayed approximately 5,070,800 acres in South Vietnam with herbicides, a figure equivalent to more than ten percent of the land area of the country.[92] Initially, herbicides were believed to be neither harmful to man nor permanently damaging to plants. Subsequent evidence indicates that intensive exposure to some agents may be harmful both to man and the natural environment through a variety of both direct and more subtle synergistic effects.[93] Recently President Nixon ordered the termination of crop destruction by chemical herbicides, and began a phase-out of the use of chemical herbicides for defoliation.[94] According to the testimony of Secretary of State Rogers before the Senate Foreign Relations Committee on March 5, 1971,

> During the phase out, our herbicide operations will be limited to defoliation operations in remote, unpopulated areas or to the perimeter defense of fire bases and installations in a manner currently authorized in the United States and which does not involve the use of fixed-wing aircraft.[95]

Secretary Rogers also disclosed plans for disposing of "the stocks of agent 'Orange' presently in Viet-Nam."[96] Agent Orange is a 50-50 mixture of two commonly used defoliants, 2,4-D and 2,4,5-T, both of which may have adverse effects on the environment and human health.[97]

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[92] SUBCOMMITTEE ON NATIONAL SECURITY POLICY AND SCIENTIFIC DEVELOPMENTS, REPORT, *supra* note 21, at 5.

[93] *See generally* Galston, *Defoliants*, in CBW: CHEMICAL AND BIOLOGICAL WARFARE 62-75 (S. Rose ed. 1969); R. MCCARTHY, *supra* note 35, at 74-98.

[94] *See* the testimony of Secretary of State William P. Rogers before the Senate Foreign Relations Committee, March 5, 1971.

[95] *Id.* at 3.

[96] *Id.*

[97] *See* R. MCCARTHY, *supra* note 35, at 76, 74-98. L. Craig Johnstone, the former chief of the Pacification Studies Group of the Military Assistance Command in Vietnam, writes in FOREIGN AFFAIRS:

> Many scientists have expressed concern over the possible effects of herbicides on humans. The principal military herbicide, Agent Orange, was banned from further use in 1970 due to preliminary evidence of the possibility that it produced birth defects after it had been used extensively in Vietnam. Of the two remaining agents used there today, neither is allowed for general agricultural use in the United States because of possible environmental and toxic effects.

Johnstone, *Ecocide and the Geneva Protocol*, 49 FOREIGN AFFAIRS 711, 718 (1971).

On Nov. 4, 1971, an order of the United States Environmental Protection Agency upheld a previous determination cancelling certain registered uses of the herbicide 2,4,5-T. The Administrator indicated that the previous action was mandated by the following facts:

> 1. A contaminant of 2,4,5-T—tetrachlorodibenzoparadioxin (TCDD, or dioxin)—is one of the most teratogenic chemicals known. The registrants have not estab-

With respect to the legal issues involved in use of herbicides, a letter from J. Fred Buzhardt, the General Counsel of the Department of Defense, to Senator Fulbright on April 5, 1971, conveys the opinion of the General Counsel and that of the Judge Advocate Generals of the Army, Navy and Air Force:

> [N]either the Hague Regulations nor the rules of customary international law applicable to the conduct of war and to the weapons of war prohibit the use of anti-plant chemicals for defoliation or the destruction of crops, provided that their use against crops does not cause such crops as food to be poisoned nor cause human beings to be poisoned by direct contact, and such use must not cause unnecessary destruction of enemy property. . . .
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> The Geneva Protocol of 1925 adds no prohibitions relating to either the use of chemical herbicides or to crop destruction to those de-

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lished that 1 part per million of this contaminant—or even 0.1 ppm—in 2,4,5-T does not pose a danger to the public health and safety.

2. There is a substantial possibility that even "pure" 2,4,5-T is itself a hazard to man and the environment.

3. The dose-response curves for 2,4,5-T and dioxin have not been determined, and the possibility of "no effect" levels for these chemicals is only a matter of conjecture at this time.

4. As with another well-known teratogen, thalidomide, the possibility exists that dioxin may be many times more potent in humans than in test animals (thalidomide was 60 times more dangerous to humans than to mice, and 700 times more dangerous than to hamsters; the usual margin of safety for humans is set at one-tenth the teratogenic level in test animals).

5. The registrants have not established that the dioxin and 2,4,5-T do not accumulate in body tissues. If one or both does accumulate, even small doses could build up to dangerous levels within man and animals, and possibly in the food chain as well.

6. The question of whether there are other sources of dioxin in the environment has not been fully explored. Such other sources, when added to the amount of dioxin from 2,4,5-T, could result in a substantial total body burden for certain segments of the population.

7. The registrants have not established that there is no danger from dioxins other than TCDD, such as the hexa- and heptadioxin isomers, which also can be present in 2,4,5-T, and which are known to be teratogenic.

8. There is evidence that the polychlorophenols in 2,4,5-T may decompose into dioxin when exposed to high temperatures, such as might occur with incineration or even in the cooking of food.

9. Studies of medical records in Vietnam hospitals and clinics below the district capital level suggest a correlation between the spraying of 2,4,5-T defoliant and the incidence of birth defects.

10. The registrants have not established the need for 2,4,5-T in light of the above-mentioned risks. Benefits from 2,4,5-T should be determined at a public hearing, but tentative studies by this agency have shown little necessity for those uses of 2,4,5-T which are now at issues. . . .

In Re Hercules, Inc. and Dow Chemical Co., Order of the Administrator of the Environmental Protection Agency (I.R.&F. Docket Nos. 42 & 44, Nov. 4, 1971), at 4-5.

> scribed above. Its preamble declares that its prohibition shall extend to "the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices." Bearing in view that neither the legislative history nor the practices of States indicate that the Protocol draws chemical herbicides within its prohibitions, any attempt by the United States to include such agents within the Protocol would be the result of its own policy determination, amounting to a self-denial of the use of the weapons. Such a determination is not compelled by the 1907 Hague Regulations, the Geneva Protocol of 1925 or the rules of customary international law.[98]

Consistent with its use of riot-control agents and chemical herbicides in Vietnam, the United States has maintained in United Nations discussions of the use of these chemicals that their use is lawful and is not prohibited by the Geneva Protocol of 1925. In 1965 the Soviet representative to the United Nations attacked the United States for using tear gas and herbicides in Vietnam; and on November 7, 1966, Hungary introduced a draft resolution calling for strict compliance by all states with the principles of the Geneva Protocol of 1925.[99] In sponsoring the resolution Hungary intended to censure the United States for using tear gas and herbicides in Vietnam. The United States supported the final resolution which, with the benefit of western amendments, merely "calls for strict observance by all States of the principles and objectives of the Geneva Protocol," condemns "all actions contrary to those objectives," and invites all states to accede to the Protocol.[100] In explaining its vote for the resolution and in responding to Soviet and Hungarian charges that the use by the United States of chemicals in Vietnam violated the principles of the Geneva Protocol, Ambassador Nabrit, the Deputy United States Representative, said:

> The Geneva Protocol of 1925 prohibits the use in war of asphyxiating and poisonous gas and other similar gases and liquids with equally deadly effects. It was framed to meet the horrors of poison gas warfare in the First World War and was intended to reduce suffering by prohibiting the use of poisonous gases such as mustard gas and phosgene. It does not apply to all gases. It would be unreasonable to contend that any rule of international law prohibits the use in combat against an enemy, for humanitarian purposes, of agents that Governments around the world commonly use to control riots by their own

[98] 10 INT'L LEG. MAT. 1300, 1302-03 (1971).

[99] A/C.1/L.374, *reprinted in* DOCUMENTS ON DISARMAMENT 694 (1966).

[100] G.A. Res. 2162B, 21 U.N. GAOR SUPP. 16, at 11, U.N. Doc. A/6316 (1966)

> people. Similarly, the Protocol does not apply to herbicides, which involve the same chemicals and have the same effects as those used domestically in the United States, the Soviet Union and many other countries to control weeds and other unwanted vegetation.[101]

On December 16, 1969, the General Assembly adopted a resolution submitted by Sweden that was intended to construe the Geneva Protocol to embody a rule of customary international law binding on all states, and to ban the use of tear gas and herbicides. The resolution recited "that the Geneva Protocol embodies the generally recognized rules of international law prohibiting the use in international armed conflicts of all biological and chemical methods of warfare, regardless of any technical developments. . . ." [102] It was adopted by a vote of eighty-to-three with thirty-six abstentions.[103] The United States voted against the resolution, along with Australia and Portugal, explaining its opposition on the dual grounds that a General Assembly resolution was not a proper vehicle for interpreting a multilateral treaty and that the conclusion in the resolution regarding what is prohibited under generally recognized rules of international law was erroneous in several respects. Specifically, Ambassador James F. Leonard, the United States Representative to the Conference of the Committee on Disarmament, objected to the inclusion of riot-control agents and chemical herbicides within the ban, the suggestion that the Protocol was a no-use rather than a no-first-use ban, and the shift from the Protocol language "in war" to the broader phrase "in international armed conflicts." [104]

The most recent and important pronouncement of United States CBW policy was President Nixon's declaration of November 25, 1969. As indicated previously, the President declared that the United States will not initiate the first use of lethal or incapacitating chemicals and will make no use of biological weapons or methods of warfare. Subsequently, he extended the biological ban to include toxins and referred the Geneva Protocol of 1925 to the Senate for advice and consent with the understanding that "it does not prohibit the use in war of riot-control agents and chemical herbicides." [105]

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101 Statement of United States Representative Nabrit to the U.N. General Assembly, Dec. 5, 1966, 21 U.N. GAOR A/P.V. 1484 U.N. Doc. —— (1966), *reprinted in* DOCUMENTS ON DISARMAMENT 800, 801 (1966).

102 G.A. Res. 2603A, 24 U.N. GAOR SUPP. 30, at 16, U.N. Doc. A/7630 (1969).

103 U.N. GAOR ——, U.N. Doc. —— ( ).

104 *65* DEP'T STATE BULL. *505* (1971).

105 For references *see* notes 1, *6* & 13 *supra.*

In testimony before the House Subcommittee on National Security Policy, Thomas R. Pickering, the Deputy Director of the State Department Bureau of Politico-Military Affairs, defined "riot control agents" as understood by the United States to be "those (*a*) producing transient effects—such as lachrymation, etc.—that disappear within minutes of removal from exposure and (*b*) are widely used by governments for domestic law enforcement purposes." [106] At least in their effects, such agents resemble "harassing agents," as defined by a World Health Organization (WHO) report. According to the WHO report, "[a] *harassing agent* (or short-term incapacitant) is one capable of causing a rapid disablement that lasts for little longer than the period of exposure." [107] The United States definition of "riot control agents" is more restrictive than the WHO definition of "harassing agents," since riot-control agents must be "widely used by governments for domestic law enforcement purposes." At the present time the only militarily significant agents in this category are CN and CS gas. Similarly, Mr. Pickering restricted the definition of "chemical herbicides" to "those chemical compounds which are (*a*) designed to be plant growth regulators, defoliants and desiccants, and (*b*) are used domestically within the United States in agriculture, weed control, and similar purposes." [108] This definition seems to preclude future use in war of those chemical herbicides, such as "Agent Orange," which are banned for domestic use within the United States.

The Vietnam experience has caused the United States to refine its earlier, more general, no-first-use policy, modifying it selectively to permit first use of some agents, and to prohibit any use of other agents. Under current policy the United States may not use biological weapons even to retaliate in kind, yet riot-control agents and chemical herbicides may be used on a first-use basis, so long as their use is otherwise consistent with the laws of war. From a legal perspective, at least the Executive seems to take the view that riot-control agents and chemical herbicides are permitted both by the Geneva Protocol and by customary

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[106] Statement of Thomas R. Pickering, Deputy Director, Bureau of Politico-Military Affairs, Department of State, December 18, 1969, *Hearings on Chemical-Biological Warfare*, *supra* note 76, at 173, 177. Mr. Pickering defined incapacitating agents "as those producing symptoms—such as nausea, incoordination and general disorientation, etc.—that persist for hours or days after exposure to the agents has ceased." *Id.*

[107] *Health Effects of Possible Use of Chemical and Biological Weapons—Report of a WHO Group of Consultants, reprinted in Hearings On Chemical-Biological Warfare*, *supra* note 76, at 443, 445.

[108] Statement of Thomas R. Pickering, *supra* note 106, at 177.

international law.[109] Although not completely clear, it seems a reasonable inference from a variety of policy pronouncements that the United States views the first use of any other chemical or biological weapon as a violation of both the Protocol and customary international law.[110]

An Examination of the Legal Effects of the Geneva Protocol

Legal Restraints Binding on Non-Parties

A variety of legal restraints, stemming from both convention and customary international law, place restrictions on the use of CBW by non-parties to the Geneva Protocol. Though the United States is not a party and in fact opposed its adoption, the Hague Gas Declaration of 1899 prohibited "the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases."[111] The Hague Declaration proved largely ineffective during World War I, in part because projectiles were designed to spread shrapnel as well as gas, because gas was released from cylinders rather than "projectiles," and because the French claimed that the lachrymatory (tear) gas they used was not an "asphyxiating or deleterious" gas.[112] An example of the breakdown of

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109 *See, e.g.,* Statement of John B. Rhinelander, Deputy Legal Adviser, Department of State, in *Hearings on Chemical-Biological Warfare, supra* note 76, at 200.

110 Policy pronouncements concerning a policy of no-first-use of lethal agents are not necessarily equivalent to statements of legal position, but when taken with the consistent *lack* of statements concerning lawfulness of first use of such agents they suggest that the United States views the first use of lethal agents as unlawful under both customary international law and the Protocol.

One specific pronouncement on the illegality of the use of lethal agents was made by Ambassador Goldberg in a letter dated Jul. 24, 1967, concerning charges that the United Arab Republic used poison gas in Yemen. Ambassador Goldberg said:

> The United States position on this matter is quite clear. . . . The use of poison gases is clearly contrary to international law and we would hope the authorities concerned in Yemen heed the request of the ICRC not to resort in any circumstances whatsoever to their use.

M. Whiteman, *supra* note 68 at 476. Ambassador Goldberg did not clarify whether this requirement was one of no use or no-*first*-use or was rooted in the Protocol or customary international law.

There is more doubt whether the United States takes the position that the first use of incapacitating agents would be a violation of customary international law. It seems a reasonable inference from the Administration's focus on the chemical riot-control and herbicide exceptions and the recent extension of the no-first-use policy to incapacitating agents that it is now the United States view that the first use of incapacitating agents would violate customary international law as well as the Protocol.

111 Declaration (IV 2) Concerning Asphyxiating Gases, *reprinted in* J. Scott, The Hague Conventions and Declarations of 1899 and 1907, 225-26 (3d ed. 1918).

112 *See* Bunn, *supra* note 41, at 375, 376.

the Hague Declaration occurred on April 22, 1915, during the second battle of Ypres when the Germans used cylinders rather than projectiles to release chlorine against the Allied lines in the first major gas attack of the War.[113]

Of greater contemporary importance than the Hague Gas Declaration are a variety of restrictions on the conduct of warfare embodied in the Hague Regulations of 1907,[114] which are equally applicable to some uses of CB agents. These restrictions include, among others, the Article 23 prohibitions against using "poison or poisoned weapons," killing or wounding "treacherously," and using "arms, projectiles, or material calculated to cause unnecessary suffering." Article 25 prohibits "the attack or bombardment, by whatever means, of towns, villages, dwellings, or buildings which are undefended." The Geneva Conventions of 1949[115] are also relevant to some possible uses; for example, Article 13 of the Convention Relative to the Treatment of Prisoners of War prohibits "[m]easures of reprisal against prisoners of war." [116] Although the Article 23 proscriptions may apply to some gases as weapons they probably do not prohibit the use of tear gas per se apart from individual uses which may cause unnecessary suffering or are otherwise prohibited.[117] Similarly, the Hague Article 25 prohibition and the Geneva proscrip-

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113 *See* S. HERSH, *supra* note 34, at 5-6.

114 Convention Respecting the Laws and Customs of War on Land, Hague Convention No. IV and Annex, Oct. 18, 1907, in 2 TREATIES, CONVENTIONS, INT'L ACTS, PROTOCOLS AND AGREEMENTS BETWEEN THE UNITED STATES OF AMERICA AND OTHER POWERS, 1776-1909, 2269, 2285 (Malloy ed. 1910).

115 The Geneva Convention for the Amelioration of the Wounded and the Sick in the Armed Forces in the Field, T.I.A.S. No. 3362 (1949); The Geneva Convention for the Amelioration of the Condition of Wounded, Sick, and Shipwrecked Members of Armed Forces at Sea, T.I.A.S. No. 3363 (1949); The Geneva Convention Relative to the Treatment of Prisoners of War, T.I.A.S. No. 3364 (1949); The Geneva Convention Relative to the Protection of Civilian Persons in Time of War, T.I.A.S. No. 3365 (1949).

116 Similarly, Article 33 of the Geneva Civilian Convention prohibits "[r]eprisals against protected persons and their property."

117 Scholars are divided on the question whether the Hague proscription of "poison or poisoned weapons" extends to modern CBW in general and if so to what agents. For a discussion of the literature see A. THOMAS & A. THOMAS, *supra* note 41, at 49-57. In an analysis which seems illustrative of the majority view Professor Erik Castrén indicates that the Hague prohibition of "poison or poisoned weapons" is rooted in "the idea that treacherous forms of warfare are unlawful." Accordingly he views "odorless and invisible poisonous gases" as unlawful but indicates that "the prohibition against poison does not extend to asphyxiating gases." E. CASTRÉN, THE PRESENT LAW OF WAR AND NEUTRALITY 194 (1954). The weight of authority would seem to be that at least CS and CN are not prohibited per se by the Hague Regulations.

tions against taking reprisals on civilians and prisoners of war are specific use restrictions rather than prohibitions against all uses of chemical or biological weapons. These Hague and Geneva rules are binding on the United States as a signatory, and at least the Hague rules have become, for the most part, customary international law.

The principal restrictions on the use per se of CBW by non-parties to the Geneva Protocol are those of customary international law. Though there is some scholarly opinion to the contrary, the weight of opinion seems to support the view that customary international law prohibits at least the first use of lethal chemical agents in war.[118] Thus, the recent use of lethal gases, including mustard and possibly nerve gas, by the United Arab Republic against Royalist villages in the Yemen Civil War was condemned by a number of spokesmen as a violation of international law and was supported by no one. Egypt simply denied any such use and invited an investigation.[119] It also seems reasonably clear that customary international law prohibits the first use of lethal biological agents in war, though this may not have been as clear before the recent 1966 and 1969 United Nations resolutions.[120] A good case

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118 *See, e.g.*, Baxter & Buergenthal, *supra* note 47, at 853. Professors Baxter and Buergenthal do not qualify their statement by a first-use restriction. Their view is: "[t]he weight of opinion appears today to favor the view that customary international law proscribes the use in war of lethal chemical and biological weapons." *Id.* at 853. In view of the widespread no-first-use reservation to the Protocol, the principal evidence of the scope of the customary prohibition, it seems clear only that the first use of such lethal chemicals is prohibited. *See*, Bunn, *supra* note 41, at 388.

Some scholars indicate in general terms that the Geneva Protocol is so universally recognized that it "must be regarded as binding the community of natious independently of treaty obligation." *See, e.g.*, M. GREENSPAN, THE MODERN LAW OF LAND WARFARE 354 (1959). This view, though a majority view, offers little assistance in precisely delineating the scope of the customary law prohibition.

Some scholars, however, such as Professor Howard S. Levie, have taken the position that there is no accepted rule of customary international law which prohibits the use of chemical weapons. Letter from Professor Howard S. Levie to Professor John Norton Moore, Feb. 28, 1972.

119 See the discussion of the use of gas warfare in the Yemen Civil War in A. THOMAS & A. THOMAS, *supra* note 41, at 151-53. *See also* Levie, *Some Major Inadequacies in the Existing Law Relating to the Protection of Individuals During Armed Conflict*, in WHEN BATTLE RAGES, HOW CAN LAW PROTECT? (Working Paper and Proceedings of the Fourteenth Hammarskjöld Forum, J. Carey ed. 1971) 1, 17.

Italy used gas against Ethiopia during the 1930's. In League debates Italy admitted the use and claimed that it was a lawful reprisal for earlier violations of the law of war by Ethiopia. *See* A. THOMAS & A. THOMAS, *supra* note 41, at 141-43.

120 *See, e.g.*, Baxter & Buergenthal, *supra* note 47, at 853; Bunn, *supra* note 41, at 388. Writing in 1962 Professor William O'Brien concluded that customary international law prohibits "the first use of chemical weapous" but not "biological warfare." O'Brien,

can also be made that the customary international norm is evolving to prohibit the first use of incapacitating chemicals in war and all use of biological agents in war.[121] It is unclear whether the customary rule prohibits all use in war of lethal or incapacitating chemical agents, but the customary rule probably does not prohibit all use in war of riot-control agents or chemical herbicides. Though the 1969 General Assembly Resolution suggests that all of these categories are prohibited, such a broad prohibition is questionable both in view of state practice and the terms of the Geneva Protocol as evidence of customary international law.

Most statements of the customary law norm, such as that in the 1969 General Assembly Resolution, purport broadly to prohibit "the use" of CBW. But the Geneva Protocol itself, which is evidence of the customary law norm, has been qualified by a common reservation in effect limiting the Protocol to a no-first-use convention for most treaty relations. Since reprisals in kind are still permitted for prior violation of the laws of war, possibly the principal difference between a customary law of no use and a customary law of no-*first*-use is merely whether the requirements of reprisal law (such as prior diplomatic protest and proportionality of response) must be followed before retaliating with otherwise prohibited CB agents, or whether prior violation permits unrestricted retaliation with CB agents other than as prohibited by specific use restrictions.[122]

Biological/Chemical Warfare and the International Law of War, 51 GEO. L.J. 1, 59 (1962). See generally the discussion of the authorities in Bunn, *supra* note 41, at 386 n.57.

121 With respect to the use of biological weapons, Professor Castrén, for example, urges that "[g]eneral opinion seems to condemn bacteriological warfare even more severely than the use of gas." E CASTRÉN, *supra* note 117, at 195. See also M. GREENSPAN, *supra* note 118, at 358. The Draft Convention on the Prohibition of Biological and Toxin Weapons would, of course, prohibit the development, production and stockpiling of biological and toxin weapons. This is some additional evidence that a customary norm is developing which would also prohibit any use in war of biological or biologically derived toxin weapons.

122 George Bunn suggests that the customary law requirements of a lawful reprisal must still be followed "even if the obligations of the protocol are suspended by the terms of paragraph two [the no-first-use reservation]." Bunn, *supra* note 41, at 393 n.82. *But see* Baxter & Buergenthal, *supra* note 47, at 872-73. It would seem equally plausible that the specific reservation would govern rather than the more generalized customary law of reprisals in cases where the contending belligerents are both parties to the Protocol. Possibly the applicability of the law of reprisal depends on whether the use is prohibited by customary international law as well as by the Protocol and, if so, on the scope of the customary norm.

The position of the United States is that riot-control agents and chemical herbicides are not prohibited by any rule of customary international law. Judging by their vote with the United States against General Assembly Resolution 2603A, Australia and Portugal seem to support this position.[123] Moreover, both Japan—in ratifying the Geneva Protocol with an informal understanding that it does not ban use of riot-control agents[124]—and Great Britain—in announcing the understanding of the British government that the use of CS "smoke" is not prohibited by the Geneva Protocol[125]—seem *a fortiori* to have adopted the view that no rule of customary international law prohibits the use of riot-control agents (in Britain's case, CS gas) per se. On the other hand, Resolution 2603A—which uses deliberately broad language both to include tear gas and herbicides and to declare that such coverage constitutes "generally recognized rules of international law . . ." and which was adopted by an overwhelming vote of eighty to three, with thirty-six abstentions—provides some evidence that the customary rule is a broad one. But since almost one third of the states that voted either voted against the resolution or abstained, the vote is perhaps another indication that the customary law concerning tear gas and herbicides is unclear. Moreover, the states dissenting or abstaining included most of the NATO members and many major or significant military powers, such as the United States, France, Great Britain, Italy, Japan, Belgium, Canada and Nationalist China, whose views would be particularly important in shaping a norm of customary international law. Since the Geneva Protocol of 1925 is to some extent a law-creating (or recognizing) convention, the interpretation given the Protocol and the number and identity of the parties to the Protocol will also have a significant effect on the scope and strength of the customary international law rule. The scope and strength of the Protocol regime is not, however, automatically transferable to the customary norm. This caveat applies to reliance on any multilateral treaty to infer customary international law, but it is particularly applicable when the treaty contains a common reservation expressly limiting its binding legal effect to relations between the parties to the treaty, as does the Protocol.

123 24 U.N. GAOR ——, U.N. Doc. —— ( ).

124 *See* the testimony of Secretary of State William P. Rogers before the Senate Foreign Relations Committee, March 5, 1971.

125 795 Parl. Deb. (Hansard), H.C. No. 50, at 18 (Written Answers to Questions, 1970). For a fuller version of Mr. Stewart's statement, see text at note 173 *infra*. *See also* Carlton & Sims, *The CS Gas Controversy: Great Britain and the Geneva Protocol of* 1925, 13 SURVIVAL 333 (1971).

Further Legal Restraints Binding on Parties

The Geneva Protocol binds parties "as between themselves" not to "use in war . . . asphyxiating, poisonous or other gases, and . . . all analogous liquids, materials or devices," and not to use "bacteriological methods of warfare." Though by its terms it purports to prohibit any use in war of the agents within its scope, at least thirty-eight states have entered a reservation that the Protocol shall cease to be binding with respect to any enemy state that violates the Protocol or whose allies violate the Protocol.[126] Thus, at least in situations in which at least one of the actors has entered such a reservation, the Protocol is in effect a no-first-use ban. If none of the actors has entered such a reservation, the general treaty rule permitting parties specially affected by a material breach to suspend the operation of the treaty in whole or in part against the defaulting state might sometimes allow roughly the same result.[127] In any event, the Protocol clearly does not prohibit the development, testing, manufacturing or stockpiling of gas and biological weapons but only their use. In fact, it has been widely suggested that one of the chief sanctions that prevented the use of chemical, and possibly biological, warfare in World War II, and which supports the efficacy of the Protocol regime in general, is the availability of a retaliatory capability.

Reservations to the Protocol

At least thirty-eight states have entered one or both of two general reservations to the Protocol. These reservations seem to be modelled on the French reservations, France being the first state to ratify the Protocol.[128] The French reservations are:

> 1. The said protocol shall be binding on the Government of the French Republic only with respect to the States which have signed and ratified it or which have acceded to it;

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[126] *See* the Reservations to the Protocol collected in MESSAGE FROM THE PRESIDENT, *supra* note 10, at 5-8.

[127] As evidence of this general rule, *see* Convention on the Law of Treaties, opened for signature at Vienna, May 23, 1969, Art. 60, par. 2(b), U.N.Doc. A/CONF. 39/27 (1969) [hereinafter the Vienna Convention]. Professors Baxter and Buergenthal discuss a variety of ways in which the no-first-use reservation might permit greater latitude in response to a first use than would the general treaty rule. *See also* the Vienna Convention, Art. 60 pars. 2(c), and 5.

[128] *See* Bunn, *supra* note 41, at 389.

> 2. The said protocol shall automatically cease to be binding on the Government of the French Republic with respect to any enemy State whose armed forces or whose allies fail to respect the interdictions which form the subject of this protocol.[129]

There are a variety of minor variations on both themes, none of which seems particularly desirable, or in most circumstances even meaningful. For example, Great Britain substitutes for the first reservation: "The said protocol shall be binding on His Britannic Majesty only with respect to the Powers and States which have signed and ratified it or which have acceded to it permanently." [130] The modification, "acceded to it *permanently*," rather than the simpler "acceded to it" of the French formula, would be significant only in the as yet non-existent circumstance of a temporarily qualified accession or a notification of future withdrawal. Canada adopts the "acceded to it permanently" language of the British change and adds the words "de jure" or "de facto" to qualify "allies" in the second reservation.[131] Since "allies" would without qualification seem to include both de jure and de facto allies this Canadian modification also seems otiose. And Spain and the People's Republic of China use the language "subject to reciprocity." [132]

One important exception is the more limited reservation of the Netherlands which reserves the right to retaliate only with chemical, not biological, weapons in case of prior violation by an enemy state or its allies.[133] And one special reservation of regional importance is that of Syria, which has entered a reservation declaring:

> The accession of the Syrian Arab Republic to this protocol and its ratification by its Government shall in no case signify recognition of Israel and could not lead to establishing relations with the latter concerning the provisions prescribed by this protocol.[134]

Since the Protocol contains the language, "the High Contracting Parties . . . agree to be bound as between themselves," and "each Power will be bound as regards other Powers," the first common reservation seems redundant except, perhaps, as emphasis to negate any possible

129 The French reservation is reprinted in MESSAGE FROM THE PRESIDENT, *supra* note 10, at 6.

130 *Id.* at 5.

131 *Id.* at 6.

132 *Id.* at 6, 7.

133 *Id.* at 6.

134 *Id.* at 7.

inference that non-parties may benefit from the Protocol regime. Perhaps without this first reservation, the Protocol would have had a greater effect in bringing about, or at least evidencing, a customary international prohibition; but this difference seems minimal, and even if the parties had omitted the first reservation, the differential impact on the development of customary international law would have depended more on the intention of the parties in not filing the reservation.

The second common reservation may be of major importance in making clear that the treaty imposes a no-first-use obligation, rather than a no-use obligation, and in allowing retaliation for a violation by an ally of an enemy state as well as by the enemy state itself. Since, at least by the terms of the French model of the second reservation, prior violation causes the Protocol to "automatically cease to be binding" on the reserving state, it is not clear that retaliation must be either in kind or proportional to the initial violation. This point can be enormously significant when a state erroneously assesses the scope of prohibited agents, or uses an agent in good faith which it, but not the opposing belligerent, interprets the Protocol to permit.[135]

The Scope of the Protocol: Riot-Control Agents

The principal uncertainties in the scope of the Protocol are whether its prohibition extends to riot-control agents (agents commonly in use by domestic police forces for riot-control purposes) and chemical herbicides (plant growth regulators, defoliants, and desiccants). There is also a significant grouping of issues concerning the threshold of applicability of the Protocol "in war." Occasionally a question is raised concerning the inclusion of weapons employing fire and smoke. Interpretation of the Protocol on each of these issues may easily be confused with the related task of interpreting the scope of the customary international law prohibition. But whereas the customary rule is evidenced by the practice and *opinio juris* of all states, both parties and non-parties to the Protocol, the scope of the Protocol is evidenced by the terms of the Protocol, and if the terms are unclear, by the preparatory work, the context of its conclusion, and the subsequent practice of the parties.[136]

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135 See note 122 *supra.*

136 *See* the Vienna Convention, *supra* note 127, Art. 31, par. 1, Art. 31, par. 3(b), and Art. 32. For a broader analysis of the problem of treaty interpretation, see M. McDougal, H. Lasswell & J. Miller, The Interpretation of Agreements and World Public Order (1967).

Considering first the interpretation of the Protocol with respect to riot-control agents, the English language version of the Protocol prohibits "the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices." The language "or other gases" seems broad enough to prohibit an harassing agent, such as tear gas, which is admittedly not an "asphyxiating" or "poisonous" gas. But it may be urged in favor of a restrictive interpretation that by the principle of *ejusdem generis* "other gases" should be similar to those enumerated, *i.e.* similarly deleterious as "asphyxiating" or "poisonous" gas, and that the relatively mild riot-control agents are thus not included. It may also be urged in favor of a restrictive interpretation that the purpose of the Protocol is to eliminate weapons which cause unnecessary suffering and that the retention rather than the prohibition of tear gas would best serve this purpose. Finally, it may be noted that the equally authentic French text prohibits the use in war of *gaz asphyxiantes, toxiques ou similaires.* That is, *similaires* must mean gas with an effect on man similar to that of toxic or asphyxiating gas and thus could not include tear gas which is much less deleterious.[137]

The principle of *ejusdem generis* would certainly suggest that "other gases" should be interpreted to permit the use in war of helium for barrage balloons. But it is unclear under the principle whether the kind of similarity required would be a seriously deleterious effect on man, as the argument to exclude riot-control agents requires, or any toxic effect on man, an interpretation which would still include such agents. And in response to the argument based on the French text, it has been said: "Those who espouse this argument overlook the fact that the phrase '*gaz toxiques*' includes, as a matter of French usage, all chemical weapons that are employed for their toxic effect on living organisms. It thus applies to such irritant chemicals as tear gas." [138] One difficulty with this latter interpretation is that if *gaz toxiques* was meant initially to be an all inclusive category, the specific companion prohibitions of *gaz asphyxiantes . . . ou similaires* would seem superfluous. Another interpretation that could reconcile the French and English texts yet still support a broad interpretation banning tear gas is that the term "*similaires*" might have been meant to qualify the broad prohibition against the use of all gas "in war" to prohibit only the use of gas in any form as a weapon against man (and possibly the use against plants as well)

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137 *See generally* Bunn, *supra* note 41, at 394-99.

138 Baxter & Buergenthal, *supra* note 47, at 856 n.16.

but not to prohibit other uses of gas "in war" such as the use of helium in barrage balloons.

On balance, neither the textual arguments supporting a restrictive interpretation that would permit riot-control agents, nor a broad interpretation that would prohibit such agents seems wholly persuasive, and the answer, if any, must lie in the history of the Protocol and the subsequent practice and interpretation of the parties.

Lachrymatory gases were well known to the draftsmen of the Protocol. It has been estimated that 12,000 tons of lachrymators were used in World War I, and by 1925 tear gas was also being used by domestic police agencies.[139] A League of Nations report on the effects of chemical and biological weapons prepared by a group of experts in 1924 divided the known chemical agents used in war into three classes—toxic agents, suffocating or asphyxiating agents, and irritant agents, which category was said to include lachrymatory, sneeze-producing, and blistering agents.[140] It should also be recalled that the Hague Gas Declaration of 1899 prohibited "the use of projectiles the sole object of which is the diffusion of *asphyxiating or deleterious gases*," and that this vague language gave rise during World War I to a debate concerning whether tear gas was included. The British and French both contended that it was not. Some German writers, on the other hand, urged that the French had violated the Hague Declaration in World War I by first employing tear gas projectiles and that this justified the subsequent German chlorine attack at Ypres.[141]

In light of the then existing knowledge of tear gas and the World War I debate about the scope of the Hague Gas Declaration, the drafting history of the Protocol is remarkably unclear with respect to the inclusion of tear gas. There seems to be no record of a discussion of tear gas by the delegates at the 1925 Geneva Conference.[142] Congressman Theodore F. Burton, the American representative, did express "the very earnest desire of the Government and people of the United States that

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139 *See* Baxter & Buergenthal, *supra* note 47, at 857; Bunn, *supra* note 41, at 397.

140 *See* LEAGUE OF NATIONS OFF. J., Spec. Supp. 26, at 122-24 (1924).

141 For an analysis of the German case, see A. THOMAS & A. THOMAS, *supra* note 41, at 140-41.

142 *See* Baxter & Buergenthal, *supra* note 47, at 861; Bunn, *supra* note 41, at 402. Professor Bunn urges,

> If [the delegates] . . . had been determined to prohibit gases the experts had said were in use by police departments to prevent loss of life, they might have been expected to do so more explicitly, or at least to have discussed the point.

Id. at 402.

some provision be inserted in this Convention relating to the use of asphyxiating, poisonous, and deleterious gases," [143] a possibly non-restrictive but nevertheless vague formula, mildly reminiscent of the Hague Gas Declaration. Moreover, the report of the legal committee used the language "asphyxiating, poisonous or other similar gases," [144] and another committee described the prohibited class as "asphyxiating, poisonous and other deleterious gases." [145] These latter formulations also mildly suggest a non-restrictive interpretation that would permit tear gas, but they are hardly conclusive. This evidence of a non-restrictive interpretation is somewhat offset by the apparent assumption during the United States Senate debate on ratification that the Protocol banned the use of tear gas.[146] Since the final language of the Protocol was taken from that used in the Treaty of Versailles and subsequently adopted in Article Five of the 1922 Treaty of Washington, an analysis of the negotiating history of these treaties may be suggestive (but again hardly conclusive) of the interpretation attached to this language by the draftsmen at the Geneva Conference.[147]

Article 171 of the Treaty of Versailles provided that "the use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden in Germany." An earlier draft, which had been approved in principle by the foreign ministers and heads of government, used the language "Production or use of asphyxiating, poisonous or similar gases . . . are forbidden." [148] There is no record of a discussion of tear gas at the Conference or evidence that the change to arguably more restrictive language was felt to be significant.[149] It has been argued in favor of a permissive interpretation, moreover, that the gases prohibited against "manufacture and importation" in Germany were, by the language of the Treaty, already "prohibited" and that since the use of tear gas per se was neither prohibited by the Hague

143 LEAGUE OF NATIONS, PROCEEDINGS OF THE CONFERENCE FOR THE SUPERVISION OF THE INTERNATIONAL TRADE IN ARMS AND AMMUNITION AND IN THE IMPLEMENTS OF WAR 155 (1925).

144 *Id.* at 745.

145 *Id.* at 596.

146 68 CONG. REC. 150 (1926).

147 On the background of the Protocol language, see generally Baxter & Buergenthal, *supra* note 47, at 860-61.

148 4 FOREIGN RELATIONS OF THE UNITED STATES, THE PARIS PEACE CONFERENCE 1919 232 (1943).

149 Bunn, *supra* note 41, at 398.

Gas Declaration of 1899 nor by the Hague Regulations of 1907, the treaty did not prohibit all use of tear gas by Germany.[150] This argument, though carrying some weight, may prove too much. At least certain uses of any gas, including tear gas (such as the use in projectiles or a use in any manner to cause unnecessary suffering) were prohibited by the time of Versailles; yet the somewhat mysterious declaration in the Versailles Treaty did not explain why any chemical agents were already prohibited apart from such uses. Another argument for an intepretation of the Versailles language which would permit the use of riot-control agents points out that the French text of Article 171 uses the word *similaires* for *other*, as does the French text of the 1922 Washington Treaty and the Geneva Protocol. But as the loose translation into French of Article 172 of the Treaty suggests, it would be a mistake to place great weight on the discrepancy between the English and French texts.[151]

To summarize the evidence bearing on interpretation of the Geneva Protocol from the language and history of the Versailles Treaty, it seems most accurate to say that the draftsmen of the Versailles Treaty did not specifically advert to the problem whether tear gas was to be included and that the language is inconclusive. Even if the draftsmen at Versailles had shared one or another interpretation, it by no means follows that the draftsmen at Geneva would have been aware of that interpretation when they adopted the then widely accepted language of the Versailles and Washington Treaties. This conclusion seems particularly true in view of the nuance relied upon by contemporary advocates of one or another interpretation.

Though there was no specific discussion of tear gas at Versailles or Geneva, the issue was raised during the drafting of the 1922 Washington Treaty. Again the Conference adopted the Versailles formula and the issue was not explicitly resolved, though several pertinent reports were available to the Conference. One report from the technical experts of the negotiating countries, which included the input of a United States

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150 *See* Bunn, *supra* note 41, at 398-99.

151 Developing this argument, Professors Baxter and Buergenthal indicate

> [t]hat little significance can be attached to the slight divergency between the English and French texts of Article 171 is apparent, moreover, from the language of Article 172 of the treaty. It required Germany to disclose to the Allies "the nature and make of all explosives, toxic substances or other *like* chemical preparations used by them in the war. . . ." The French text of Article 172 renders the more restrictive "or other like chemical preparations" simply as "ou *autres* preparations chemiques."

Baxter & Buergenthal, *supra* note 47, at 858.

expert, concluded, as a compromise between those experts who favored gas weapons and those who did not, that the only "practicable" limitation was to "prohibit the use of gases against cities and other large bodies of noncombatants . . . ." [152] But the reports of the Advisory Committee to the American Delegation and of the Navy General Board not only urged a broader use prohibition on gas warfare, but also specifically concluded that tear gas should be banned because of the difficulty in distinguishing between categories of gases. The Advisory Committee recommended that "chemical warfare, including the use of gases, whether toxic or non toxic, should be prohibited by international agreement." [153] And the Report of the Navy General Board concluded, "[t]he General Board believes it to be sound policy to prohibit gas warfare in every form and against every objective, and so recommends." [154] Despite these recommendations that tear gas be included in any ban, the resolution actually offered by the United States and adopted by the Conference used the Versailles formula; and the remarks of Secretary of State Hughes and Senator Elihu Root in offering the resolution did not make it clear whether it was intended to include tear gas.[155] Scholars suggesting an interpretation of the Treaty of Washington that would have permitted the use of tear gas have relied on a restrictively worded statement by Secretary of State Hughes that the American delegation "felt that it should present the recommendation that the use of asphyxiating or poison gas be absolutely prohibited." They have also relied on an understanding by Senator Root that the Versailles Treaty, which was adopted as the model for the resolution, was a restatement of the ban on poison gases "which had been adopted during the course of the Hague Conferences." [156] On the other hand, scholars suggesting a broad interpretation that would have prohibited tear gas have noted the two reports specifically contending that tear gas should be banned and have urged that in view of Secretary Hughes' presenting these reports to the Conference, it would be "most unlikely that a government which believed that Article 5 did not outlaw all forms of chemical warfare would have failed to states its views to the Conference." [157]

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152 CONFERENCE ON THE LIMITATION OF ARMAMENT, *supra* note 44, at 384-85.

153 *Id.* at 386.

154 *Id.* at 387.

155 *Id.* at 387-88.

156 *See* Bunn, *supra* note 41, at 400. Professor Bunn adds: "these [the Hague rules] probably were never intended to apply to tear gases." *Id.* at 400.

157 Baxter & Buergenthal, *supra* note 47, at 860.

On balance, it seems that the principal issue at the 1922 Conference was whether chemical weapons in general were worse than other categories of weapons and should thus be banned. Once this issue was decided affirmatively the delegates as a whole were insufficiently concerned with whether tear gas should be included in the ban to make the record clear. In any event, the sketchy record of the discussion at the 1922 Conference seems a flimsy reed upon which to base either a permissive or a restrictive interpretation of the Geneva Protocol, which was adopted at a subsequent Conference.

If the negotiating history of the Protocol is inconclusive on whether the Protocol prohibits the use of riot-control agents, subsequent interpretations by the parties reveal both a continuing dispute on whether tear gas is prohibited and that today more parties support an interpretation prohibiting riot-control agents than support an interpretation permitting such agents. During its 1930 meetings, the Preparatory Commission for the League of Nations Disarmament Conference considered a draft disarmament provision that would have prohibited the "use in war of asphyxiating, poisonous or similar gases." The substitution of "similar," apparently derived from the French text of the Geneva Protocol, for "other," which was the English version, engendered some concern that the draft was not intended to outlaw irritant or tear gases. In response to this concern the British delegation declared:

> Basing itself on this English text [of the Geneva Protocol], the British Government have taken the view that the use in war of "other" gases, including lachrymatory gases, was prohibited. They also considered that the intention was to incorporate the same prohibition in the present Convention.[158]

And in response to a British request for opinions of the other powers on the subject the French Delegation agreed:

> All the texts at present in force or proposed in regard to the prohibition of the use in war of asphyxiating, poisonous or similar gases are identical. In the French delegation's opinion, they apply to all gases employed with a view to toxic action on the human organism, whether the effects of such action are more or less temporary irritation of certain mucuous membranes or whether they cause serious or fatal lesions. . . .

[158] LEAGUE OF NATIONS, DOCUMENTS OF THE PREPARATORY COMMISSION FOR THE DISARMAMENT CONFERENCE (SERIES X): MINUTES OF THE SIXTH SESSION (SECOND PART) 311 (1931).

> The French Government therefore considers that the use of lachrymatory gases is covered by the prohibition arising out of the Geneva Protocol. . . .[159]

Delegations from Canada, China, Czechoslovakia, Italy, Japan, Romania, Spain, Turkey, Yugoslavia, and the USSR also agreed with the British interpretation, and at the time eight of these states were parties to the Protocol.[160] Czechoslovakia subsequently became a party in 1938 and Japan became a party in 1970, though with an informal understanding that the Protocol did not prohibit the use of tear gas. The remaining six states that were both party to the Protocol and members of the Preparatory Commission did not respond to the British request for an opinion.[161] Although as has been pointed out, Hugh Gibson, the United States representative to the Preparatory Commission, took issue with the Franco-British interpretation, the United States was not a party to the Protocol and Mr. Gibson's remarks seemed addressed more to the coverage of the proposed new draft than to an interpretation of the Protocol. In any event, the exchange of views provided an opportunity for ten of the twenty-eight states then party to the Protocol to indicate their support for a broad interpretation prohibiting lachrymatory gases. Furthermore, no party to the Protocol had publicly adopted an interpretation permitting such gases. The Preparatory Commission, however, reported in 1931 that "it was unable to express a definite opinion on this question of interpretation." [162]

The subsequent Disarmament Conference accepted the broad ban suggested by the Special Committee appointed to consider CBW. The ban included

> all natural or synthetic noxious substances, whatever their state, whether solid, liquid or gaseous, whether toxic, asphyxiating, lachrymatory, irritant, vesicant, or capable in any way of producing harmful effects on the human or animal organism, whatever the method of their use.[163]

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159 *Id.*

160 *Id.* at 311-14.

161 *Id.*

162 DEP'T STATE, REPORT OF THE PREPARATORY COMMISSION FOR THE DISARMAMENT CONFERENCE 45 (1931). The Commission went on to say: "[v]ery many delegations, however, stated that they were prepared to approve the interpretation suggested in the British Government's memorandum." *Id.*

163 I LEAGUE OF NATIONS, CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS: CONFERENCE DOCUMENTS 210, 214 (1932).

The United States representative to the Conference agreed to this broad ban, which was apparently adopted because of the concern over the difficulty of differentiating chemical agents on the basis of their relative harmfulness.[164] Although the Disarmament Commission ultimately failed to reach agreement on general disarmament, and although the Commission was not interpreting the Geneva Protocol, the apparent consensus within the Special Committee that tear gas should be banned is another indication of the willingness of at least some of the parties to the Protocol to prohibit the use of tear gas in war. The failure of any of the parties to the Protocol to use tear gas in combat situations during World War II or the Korean War may lend further support to an interpretation that the Protocol prohibits the use of tear gas as well as other chemical agents.

The use by the United States of riot-control agents and chemical herbicides in the Indo-China War precipitated a new round of debates concerning the correct interpretation of the Protocol even though neither the United States nor (unless bound by the French ratification of May 9, 1926) North Vietnam, South Vietnam, Laos and Cambodia are party to the Protocol. Thus, in November 1966 Hungary, which has been a party to the Protocol since 1952, introduced a draft resolution in the First Committee of the United Nations General Assembly calling for compliance by all states with the principles of the Geneva Protocol. In explaining its resolution Hungary made clear its view that the gases and herbicides used by the United States in Vietnam were prohibited by the Protocol.[165] During the course of debate the initial Hungarian draft—which declared that the Protocol "prohibits the use of chemical and bacteriological weapons" [166]—was altered to render ambiguous the scope of the Protocol ban.[167] George Bunn has written of these and subsequent United Nations debates during 1966, 1967, and 1968:

> In the 1966, 1967, and 1968 debates in the United Nations General Assembly and the Geneva Disarmament Conference, only the Soviet Union and its allies actively opposed the United States position that tear gases in war did not violate the protocol. Belgium agreed with the American view. The French, without mentioning tear gases, hinted that they no longer believed in giving the protocol the broad interpre-

164 *See* the references cited in Baxter & Buergenthal, *supra* note 47, at 864 n.56.

165 21 U.N. GAOR A/C.1/1451, U.N. Doc. —— ( ).

166 DOCUMENTS ON DISARMAMENT 694, 695 (1966).

167 G.A. Res. 2162B, 21 U.N. GAOR SUPP. 16, at 11, U.N. Doc. A/6316 (1966).

> tion they had given it in the 1930's. The United Kingdom and Kenya referred to the opposing views on tear gas without taking sides. Most countries, however, remained silent.[168]

Australia, which has been a party to the Protocol since 1930, and which has used tear gas in Vietnam, also supported the American position that "the use of . . . riot control agents, herbicides and defoliants does not contravene the Geneva Protocol nor customary international law."[169] But if "only the Soviet Union and its allies actively opposed the United States position," the lack of active support from more than one or two states for the United States interpretation did not on balance strengthen the case for permissive interpretation.

That the tide was running against the permissive interpretation was even more evident in 1969 when the United Nations General Assembly adopted a resolution sponsored by Sweden and eleven other states (ten of the twelve sponsors being parties to the Protocol) which was clearly intended to interpret the Protocol to prohibit tear gas and anti-plant chemicals. The resolution declared

> contrary to the generally recognized rules of international law, as embodied in the [Geneva] Protocol . . . the use in international armed conflicts of:
>
> (a) Any chemical agents of warfare–chemical substances, whether gaseous, liquid or solid–which might be employed because of their direct toxic effects on man, animals or plants . . . .[170]

The resolution was adopted by a vote of eighty-to-three with thirty-six abstentions. Australia, Portugal and the United States cast the three opposing votes. Portugal, like Australia, has been a party to the Protocol since 1930. Of the states that supported the Swedish resolution forty-one are party to the Protocol, and among those abstaining on the vote thirty-three are party to the Protocol. Since less than half of the states presently party to the Protocol expressed by their vote approval of a broad interpretation prohibiting tear gas and herbicides, and since more than one-third of the parties to the Protocol abstained, the resolution should not be deemed a conclusive interpretation of the Protocol.[171]

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168 Bunn, *supra* note 41, at 404-05.

169 *See* 24 U.N. GAOR A/C.1/1716 at 82, 87, U.N. Doc. —— (Provisional 1969).

170 G.A. Res. 2603A, 24 U.N. GAOR SUPP. 30, at 16, U.N. Doc. A/7630 (1969).

171 Abstaining countries included such militarily and industrially significant countries as Britain, France, Canada, Japan and many NATO members. France and perhaps

The interpretive effect of such a vote is further obfuscated by the nature of votes on General Assembly resolutions: such votes need express neither an instructed opinion on all of the included issues nor a position intended to be legally binding on the voting state. Nevertheless, comparing the forty-one parties voting in favor with the two parties voting against indicates that a broad interpretation prohibiting tear gas and herbicides has substantially greater support among the parties than does a restrictive interpretation.

Though not nearly as relevant in interpreting the Protocol as the subsequent interpretations of the parties, it is by no means politically irrelevant that thirty-nine non-parties to the Protocol also voted in favor of a broad interpretation while only one non-party voted against it. Moreover, in his preface to the 1969 *United Nations Report on Chemical and Biological Weapons*, United Nations Secretary-General U Thant urged United Nations members

> [t]o make a clear affirmation that the prohibition contained in the Geneva Protocol applies to the use in war of all chemical, bacteriological and biological agents (including tear gas and other harassing agents), which now exist or which may be developed in the future.[172]

Two recent interpretations suggest, however, that despite the 1969 General Assembly resolution and the invitation of the Secretary-General, the dispute about the scope of the Geneva Protocol is still alive. On February 2, 1970, Michael Stewart, the British Secretary of State for Foreign and Commonwealth Affairs, announced to Parliament that although the British government had not changed its position that tear gases are prohibited by the Protocol, it did not interpret this ban as extending to CS–the principal tear gas relied on by the United States in Vietnam and by Great Britain in Northern Ireland. By way of explanation Mr. Stewart said:

> [M]odern technology has developed CS smoke which, unlike the tear gas available in 1930, is considered to be not significantly harmful to man in other than wholly exceptional circumstances; and we regard

other states in this group apparently agreed with the purpose of the resolution but disagreed with its legality as a method of interpreting the Protocol. *See generally* Gellner & Wu, *supra* note 50, at 24-26.

[172] *Report of the Secretary-General on Chemical and Bacteriological (Biological) Weapons and the Effects of Their Possible Use*, U.N. Doc. A/7575; A/7575/Rev. 1 (1969), at xii.

> CS and other such gases accordingly as being outside the scope of the Geneva Protocol. CS is in fact less toxic than the screening smokes which the 1930 statement specifically excluded.[173]

Mr. Stewart's attempt to demonstrate that the British position has not changed is painfully tortured, but the shift by an important party to the Protocol away from a position staunchly supporting a broad interpretation demonstrates that the issue is not yet resolved.

The second such recent interpretation was that of the Japanese government in ratifying the Protocol in May, 1970. In the debates in the Diet the Japanese government indicated that Japan interpreted the Protocol to permit the use in war of riot-control agents.[174]

To summarize the legal effect of the Geneva Protocol with respect to riot control agents, the text and negotiating history of the Protocol are inconclusive. Subsequent interpretations of the Protocol by the parties indicate that the question whether these agents are included is still open, but that substantially greater support exists for a broad interpretation prohibiting such agents than for a restrictive interpretation permitting such agents.

The Scope of the Protocol: Chemical Herbicides

A second question regarding the scope of the Protocol is whether chemical herbicides are included. Chemical herbicides, such as those used by the United States in the Indo-China War, were developed toward the end of World War II. Not surprisingly, a 1924 study initiated by the League of Nations indicates that experts were not then aware of any chemical agents harmful to plants, even though there was some concern about possible biological agents harmful to crops.[175] Many of these chemicals, developed during World War II, are now used domestically in small quantities to control unwanted vegetation. Their use by the United States in Vietnam is their first and only use in war to date. Initially such chemicals were assumed to be harmless to man and the environment. Evidence available within the last few years indicates that many such chemicals may have direct and more subtle synergistic

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173 795 Parl. Deb. (Hansard), H.C. No. 50, at 18 (Written Answers to Questions 1970). *See also* Meselson & Baxter, *Use of Tear Gas in War: An American View*, The Times (London), Feb. 12, 1970, at 11, col. 3 (letter to the editor).

174 Testimony of Secretary of State William P. Rogers before the Senate Foreign Relations Committee, March 5, 1971.

175 LEAGUE OF NATIONS OFF. J., Spec. Supp. 26, at 121, 124, 126 (1924).

effects harmful to man and that at least in quantities and combinations used in war they may produce long lasting adverse ecological effects.[176] Both the late development of such chemicals and the recent realization of their potentially harmful effects make an analysis of the scope of the Protocol with respect to such chemicals more uncertain than with respect to riot-control agents.

The language of the Protocol that prohibits the use in war not only "of asphyxiating, poisonous or other gases," but also of "all analogous liquids, materials or devices" is arguably broad enough to include herbicides. Moreover, it is not decisive that chemical anti-plant agents were not known at the time the Protocol was concluded in 1925. The principal issues are whether the parties intended to extend the scope of the Protocol to agents harmful to plants, and if the parties did not advert to this question in 1925, whether the Protocol has been subsequently supplemented by an interpretation of the parties extending the Protocol to such agents.

There is no record of any discussion of anti-plant weapons at either the 1919 Versailles or 1922 Washington Conferences. At the 1925 Geneva Conference, however, the Polish delegate expressed concern about possible bacteriological warfare against crops as well as bacteriological antipersonnel weapons.[177] And as has been discussed, the 1924 report of the League experts also adverted to the possibility of bacteriological warfare against crops, although most experts felt that no existing bacteriological substances were "capable of destroying a country's . . . crops." [178]

In support of an interpretation of the Protocol that would permit use of chemical anti-plant agents, it may be urged that the principal thrust of the Protocol was to prohibit inhumane antipersonnel weapons and that chemical anti-plant agents were neither known nor mentioned at the Geneva Conference or any of the Conferences leading up to Geneva. It has also been noted that the French response in 1930 to a question raised by the British concerning the inclusion of lachrymatory

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[176] *See, e.g.*, Galston, *Defoliants*, *supra* note 93, at 62-75; Statement of Dr. Arthur W. Galston, Professor of Biology and Lecturer in Forestry, Yale University, *Hearings on Chemical-Biological Warfare*, *supra* note 76, at 107.

[177] LEAGUE OF NATIONS PROCEEDINGS, *supra* note 143, at 340. The Polish delegate said: "Bacteriological warfare can also be waged against the vegetable world, and not only may corn, fruit and vegetables suffer, but also vineyards, orchards and fields." *Id.*

[178] 7 LEAGUE OF NATIONS OFF. J., Spec. Supp. 26, at 126 (1924).

gases emphasized "gases employed with a view to toxic action on the human organism . . ." This interpretation should not receive undue weight, as the context related to lachrymatory gases and not anti-plant chemicals. It is perhaps more significant that the Disarmament Conference of 1933, which otherwise accepted a broad CBW ban, spoke ouly in terms of "harmful effects on the human or animal organism." Lastly, it might be urged in support of a permissive interpretation that the Geneva Protocol was modeled on the Versailles Treaty, which by its language regulated chemicals already prohibited (probably by the Hague Gas Declaration of 1899 and the Hague Regulations of 1907). Since no existing law prohibited anti-plant chemicals per se, such agents remained lawful apart from particular uses which might violate the Hague Regulation ban against employing poison or "material calculated to cause unnecessary suffering," or other ban on particular use.

On the other hand, no evidence indicates that the draftsmen sought deliberately to exclude anti-plant chemicals from the broad wording of the Protocol. Moreover, the expression of concern about the possible destruction of crops through use of the only anti-crop agents then known suggests that the draftsmen intended to prohibit at least anti-crop weapons as well as antipersonnel weapons. As Professors Richard R. Baxter and Thomas Buergenthal have written,

> There is no evidence in the negotiating history of the Protocol to indicate that its draftsmen intended to *exclude* from its reach the use in war of plant-destroying chemical agents. There is, on the other hand, considerable evidence to justify the belief that the Protocol sought to outlaw chemical and biological warfare in general irrespective of whether it was directed against human beings, animals, or plants.[179]

On balance, the negotiating history concerning chemical herbicides is not very helpful. It demonstrates only that the draftsmen, unaware of such yet-to-be-developed chemicals, did not specifically consider whether they should be prohibited or permitted. The negotiating history also demonstrates that the draftsmen were aware of the possibility of anti-crop agents and probably intended to prohibit biological anti-crop agents, the only such agents then known.

Whether or not the Protocol was initially intended to prohibit chemical herbicides, the 1969 General Assembly vote on Resolution 2603A, which specifically interprets the Protocol to prohibit the use in war of

[179] Baxter & Buergeuthal, *supra* note 47, at 853, 867.

chemical and biological agents directed against "man, animals or plants," demonstrates substantial support among parties to the Protocol for a broad interpretation prohibiting such chemicals. The only parties to the Protocol which seem to have taken the unequivocal position that herbicides are not included within the Protocol are Australia and Portugal. Arrayed against these two parties to the Protocol and the United States, a non-party, are some forty-one parties to the Protocol and thirty-nine non-parties which voted for the resolution. The legal significance of this resolution for interpreting the Protocol, of course, is subject to the same qualifications discussed with respect to its significance concerning riot-control agents. These include a failure by more than half of the present parties to the Protocol to take an unequivocal stand on chemical herbicides, and the inherent ambiguity in translating a political vote on a General Assembly resolution into a legally binding interpretation.[180]

The Scope of the Protocol: Weapons Employing Fire and Smoke

An occasional authority has urged that the Geneva Protocol bans fire weapons such as white phosphorus, flamethrowers, or napalm as "analogous liquids, materials or devices."[181] The principal argument that napalm is covered is that it may cause death by carbon monoxide poisoning or oxygen deprivation. By the overwhelming weight of authority, however, such weapons are not prohibited by the Protocol.[182] A recent statement by Professor Ian Brownlie is representative:

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[180] During the First Committee debates prior to the adoption by the General Assembly of G.A. Res. 2603 (XXIV), only a handful of states specifically adverted to and took the position that the use of riot-control agents and chemical herbicides was banned by the Geneva Protocol. See the documents at 24 U.N. GAOR A/C.1/X, U.N. Doc. —— (Provisional 1969), reporting the First Committee debates during November and December, 1969.

[181] For example, some experts at the 1969 International Conference of the Red Cross in Istanbul expressed the opinion that napalm falls within the Protocol. The weight of opinion at the Conference was that it does not. *See* INTERNATIONAL COMMITTEE OF THE RED CROSS, REAFFIRMATION AND DEVELOPMENT OF THE LAWS AND CUSTOMS APPLICABLE IN ARMED CONFLICT 61-63 (Report submitted to the XXIst International Conference of the Red Cross, held in Istanbul in September, 1969).

[182] Professors Thomas and Thomas conclude after an extensive analysis of the literature that

> the conclusion can be reached that no matter what might have been the thought prior to World War II, the use of incendiary weapons is now considered legitimate subject only to whatever effect the restraints of proportionality in the unnecessary suffering principle as well as the noncombatant and other principles might have.

A. Thomas & A. Thomas, *supra* note 41, at 240. *See also* Brownlie, *Legal Aspects*, in

> Neither the legal definition nor, it seems fairly clear, the scientists include fuels and incendiary weapons in the category of chemical weapons. As Dr. Sidel points out in his paper on napalm, explosives and incendiary weapons are 'physical' weapons, producing their effects by blast and heat. As a class it is doubtful if such weapons are prohibited since they do not appear to fall within the terms of the Geneva Protocol.[183]

This conclusion is supported by the absence of any discussion of such weapons as chemical weapons at the Versailles, Washington, and Geneva Conferences. Even more significant are the opinions of a majority of the delegates at the 1969 Conference of Government Experts sponsored by the International Committee of the Red Cross that napalm was not banned by the Protocol,[184] and the absence of any intent evident during the recent General Assembly debates on the scope of the Protocol to include such weapons. It is also significant that the 1969 *Report on Chemical and Biological Weapons* by United Nations consultant experts specifically excludes incendiary weapons employing fire and smoke from the category of "chemical and bacteriological (biological) weapons." The consultant experts conclude,

> We also recognize there is a dividing line between chemical agents of warfare in the sense we use the terms, and incendiary substances such as napalm and smoke, which exercise their effects through fire, temporary deprivation of air or reduced visibility. We regard the latter as weapons which are better classified with high explosives than with the substances with which we are concerned. They are therefore not dealt with further in this report.[185]

The conclusion that incendiary fire and smoke weapons are not banned by the Protocol is further supported by a recent General Assembly Resolution, approved on December 20, 1971, which calls for a separate study "on napalm and other incendiary weapons and all aspects of their possible use."[186] Secretary of State Rogers' letter submitting the Pro-

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CBW: CHEMICAL AND BIOLOGICAL WARFARE 141-54 (S. Rose ed. 1969); N. SINGH, NUCLEAR WEAPONS AND INTERNATIONAL LAW 151 (1959); and Levie, *supra* note 82.

183 Brownlie, *supra* note 182, at 150.

184 *See* International Committee of the Red Cross, supra note 181, at 61-63.

185 *Report of the Secretary-General, supra* note 172, at 7.

186 G.A. Res. 2852, Resolutions of the General Assembly at Its Twenty-Sixth Regular Session 21 September-22 December 1971, U.N. Press Release GA/4548, Part V at 58, 61 (Dec. 20, 1971).

tocol to the President for transmission to the Senate indicates that the United States understands that the Protocol does not prohibit "[s]moke, flame, and napalm." [187]

It should be emphasized that weapons employing fire and smoke, though not prohibited by the Geneva Protocol, are nevertheless subject to the general laws of war, both customary and conventional. Thus, Department of the Army *Field Manual 27-10* says with regard to weapons employing fire:

> The use of weapons which employ fire, such as tracer ammunition, flamethrowers, napalm and other incendiary agents, against targets requiring their use is not violative of international law. They should not, however, be employed in such a way as to cause unnecessary suffering to individuals.[188]

It is generally agreed that even though no rule of international law prohibits napalm and other incendiary weapons per se, the use of such weapons against other than hardened targets—for example, a bunker or tank—would generally violate the unnecessary suffering principle.[189]

Threshold of Applicability of the Protocol: The "Use in War" and "Methods of Warfare"

By its title, the Geneva Protocol is concerned with "the Prohibition of the Use in War." Similarly, the preamble on chemical agents speaks of "the use in war," and the operative paragraph on bacteriological agents speaks of "methods of warfare." Several problems are presented by this language. First, what is "war" within the meaning of the Protocol? And second, are there any uses "during" war which are not uses "in" war or "methods of warfare"?

The Protocol does not define what is meant by "war." By analogy to the threshold of applicability of the laws of war in general, and the Geneva Conventions of 1949 in particular,[190] the Protocol would apply to any armed conflict between two or more parties to the Protocol, whether or not formally declared or otherwise recognized by one or

187 Letter of submittal from Secretary of State William P. Rogers to the President, August 11, 1970, in MESSAGE FROM THE PRESIDENT *supra* note 10, at vi.

188 THE LAW OF LAND WARFARE, *supra* note 40, at § 36, 18.

189 Professor Greenspan writes: "it would appear that fire should not be employed as an antipersonnel weapon, although it may lawfully be used against other material objectives." M. GREENSPAN, *supra* note 118, at 362. *See also* the anthorities collected in A. THOMAS & A. THOMAS, *supra* note 41, at 238-40.

190 *See* Article 2 common to the four Geneva Conventions of 1949, *supra* note 115.

both parties. It is the factual state of international armed conflict between parties to the Protocol rather than conclusory legal formalities which determines applicability.[191] This conclusion seems supported by General Assembly Resolution 2603A of December 16, 1969, which uses as the operable threshold language "the use in international armed conflicts." Apparently this language was, for at least forty-one parties to the Protocol, synonymous with the Protocol phrase "the use in war." Thus, the principal threshold problem in defining "war" or "international armed conflict" within the meaning of the Protocol is to determine, regardless of legal formalities, whether a conflict amounts to an "international" armed conflict rather than mere "civil strife" or "internal conflict." In terms of applicability of the laws of war in general this determination presents either of two issues: whether there is a sufficiently high level of external intervention to justify application of the international laws of war, or whether there is a sufficiently intense level of internal conflict, as for example in a war of secession such as the Nigeria-Biafra Civil War or the Pakistan-Bangla Desh Civil War, to justify application of the international laws of war. The first facet of this problem, though drawing increasing attention in recent years, has not been satisfactorily resolved. And although the second facet of the problem has long been recognized as a problem in the law of war, no satisfactory test has yet been widely accepted. It should be noted that both questions are common to all customary and conventional laws of war including the Protocol; but the specifics of a particular convention may answer one or both.

With respect to interpretation of the Protocol's applicability in interventionary settings (the type I problem), a mixed civil-international conflict of the magnitude of the Indo-China War, if it involved parties to the Protocol as opposing belligerents, would certainly trigger applicability. A good case can also be made that the Protocol prohibits any use of a prohibited agent by one party or its allies against another or its allies, regardless of the magnitude of the conflict. Such a case might be based either on a determination that any conflict involving two or more parties to the Protocol is automatically an international armed conflict, or that by its terms the Protocol applies "as regards other Powers" party to the Protocol. Regardless of the formalistic basis, this conclusion seems strongly supported by the arms control and law of war *raison d' etres* underlying the Protocol.

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191 *See* Baxter & Buergenthal, *supra* note 47, at 868-69.

With respect to applicability in purely internal conflicts (the type II problem), the Protocol applies "as regards other Powers" party to the Protocol. Thus, despite its humanitarian basis, the Protocol does not apply to an internal conflict not involving two or more parties to the Protocol.

Once insurgents are recognized as "belligerents" (a form of recognition largely out of fashion), the customary international law of war would apply in the relations between the belligerents.[192] And today customary law might apply even below this belligerency threshold. As has been seen, once applicable, customary international law would include most, if not all, of the Protocol restrictions. In addition, some conflicts not of an international nature may also be governed by the protection accorded noncombatants under Article 3 of the 1949 Geneva Conventions, although the threshold applicability of Article 3 presents a formidable problem of its own.[193]

There is general agreement that the laws of war, and a fortiori the Protocol, do not apply to purely internal low level violence—including sporadic rioting. This agreement is paralleled by the general understanding, evident throughout the negotiating history, that the Protocol does not prohibit the domestic use of tear gas. Beyond situations of relatively low level and sporadic violence, it would seem useful to encourage wide application of the humanitarian provisions of the Protocol in civil conflicts or interventionary settings, whether or not involving parties to the Protocol. A low threshold for applicability of the customary laws of war would probably be the most effective way to accomplish this objective, since applying the customary laws of war would bring to bear most of the Protocol proscriptions.

The second general threshold problem of applicability concerns the uses "during" war that may not be uses "in war" or "methods of warfare" within the meaning of the Protocol. The principal problem which seems to have been raised in this respect is whether the Protocol would prohibit the use of riot-control agents in a prisoner of war camp against rioting prisoners. Though not a party to the Protocol, the United States used tear gas to subdue rioting North Korean and Chinese prisoners during the Korean War. At least one commentator,

192 *See, e.g.*, THE LAW OF LAND WARFARE, *supra* note 40, at § 11(a), 9.

193 *See, e.g.*, Farer, *The Humanitarian Laws of War in Civil Strife: Towards a Definition of International Armed Conflict*, VII REVUE BELGE DE DROIT INTERNATIONAL 20 (1971).

Congressman Richard D. McCarthy, who is generally critical of CBW, has taken the position that such use is permissible:

> Tear gas was used by American soldiers to subdue rioting North Korean and Chinese P.O.W.s. But this was clearly the way to handle a situation where rifles would otherwise have had to have been turned on unarmed prisoners.[194]

On the other hand, legal commentators seem split on whether such use would be permissible under the Protocol. Professors Thomas and Thomas have taken the position that such use is permissible:

> Cognizance should be taken of the use of riot control, incapacitating tear, and vomiting agents by United States military forces to control North Korean prisoners of war in prison camps. Since they were not used in war itself, they could be excluded from a rule prohibiting the use of gas in war.[195]

And Professors Baxter and Buergenthal have taken the position that such use would be prohibited:

> Does the use of gas against unruly prisoners of war constitute a use in "war"? It appears that it does, since prisoners of war rioting against the forces of the Detaining Power have in fact resumed hostilities against the Detaining Power and are engaged in "warfare" with it. It would be strange indeed if gas could not be used against enemy soldiers in combat but could be freely employed against them once they were taken prisoner. The very use of gas against prisoners awakens memories of the use of gas in the concentration camps of the Second World War.[196]

From an analytic perspective, a threshold question is whether the Protocol prohibts the use of tear gas at all. If it does, the question becomes whether *all* of the restrictions of the Protocol apply to riots in POW camps or whether *none* of them apply. Since the language "use in war" is not self-defining and since the negotiating history provides no definition, the issue should be resolved in the light of the purposes of the Protocol.

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194 R. McCarthy, *supra* note 35, at 45.

195 A. Thomas & A. Thomas, *supra* note 41, at 148.

196 Baxter & Buergenthal, *supra* note 47, at 869.

In support of a broad interpretation some urge, as have Professors Baxter and Buergenthal, that rioting prisoners have resumed "warfare" against the detaining power. Moreover, to erase all per se restrictions on the use of chemical and biological agents to subdue rioting in a POW camp might lead to significant abuse of helpless prisoners.

In support of an interpretation permitting the use of tear gas against rioting POW's, even if tear gas is otherwise prohibited by the Protocol, it may be urged that the principal thrust of the Protocol is the normal combat situation and not the riot in the POW camp. Moreover, permitting use only in POW camps provides a fairly clear line not likely to result in escalation, since the battlefield pressures to resort to lethal weapons or to use gas to increase the lethality of other weapons are absent. Indeed, because use of lethal weapons against unarmed prisoners would clearly be unacceptable, the situation more closely resembles the permitted use in a domestic disturbance. Also, the alternatives to tear gas as a non-lethal weapon may be less effective than the alternatives to gas as a lethal weapon. Finally, the customary law of war, the Hague Regulations of 1907, and the Geneva Conventions of 1929 and 1949 Relative to the Treatment of Prisoners of War impose a more stringent standard of "humane treatment" for the treatment of prisoners rather than the less restrictive "unnecessary suffering" standard applicable on the battlefield.[197] And Article 42 of the 1949 Geneva Convention provides even more specifically,

> The use of weapons against prisoners of war, especially against those who are escaping or attempting to escape, shall constitute an extreme measure, which shall always be preceded by warnings appropriate to the circumstances.[198]

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[197] *See, e.g.*, Article IV of the Annex to the 1907 Hague Convention No. IV, 2 TREATIES, CONVENTIONS, INT'L ACTS, PROTOCOLS AND AGREEMENTS 2281, 2282 (Malloy ed. 1910); Article 2 of the 1929 Geneva Convention Relative to the Treatment of Prisoners of War, 47 Stat. 2021 (1932), 2 TREATIES AND OTHER INT'L AGREEMENTS, *supra* note 36, at 932, 938; *and* Article 13 of the 1949 Geneva Convention Relative to the Treatment of Prisoners of War, T.I.A.S. No. 3364 at 14 (1949).

[198] Article 42 of the 1940 Geneva Convention Relative to the Treatment of Prisoners of War, T.I.A.S. No. 3364 at 36 (1949).

Pictet supports the position that the use of tear gas in POW camps as a minimum force weapon to subdue rioting is permitted—indeed preferred—under Article 42.

> The use of force by guards may also be justified in the case of rebellion, and the remarks already made above concerning attempts to escape are applicable here also. The analogy is not absolute, however, and in the event of mutiny there may be other possibilities as regards the weapons to be used. Before resorting to

Thus, the riot in the POW camp is unlike other "warfare" situations in that these international proscriptions prevent the detaining power from freely using conventional firepower to subdue the "warfare."

There is no authoritative answer to the question whether the Geneva Protocol applies to rioting in prisoner of war camps. If the Protocol applies, no prohibited agents may be used against prisoners; but if the Protocol does not apply, the use of chemical and biological agents in prisoner of war camps is governed solely by the special regimes for the protection of prisoners. Either interpretation would seem reasonable, but the latter interpretation seems more compatible with the purposes of the Protocol as well as preferable policy. Moreover, the use of tear gas against rioting prisoners seems far more humane than firearms, which would presumably be a permitted "extreme measure" under Article 42 of the Geneva Convention. But if a permissive interpretation is adopted, it should be recognized that conflicting interpretations may provide an excuse for opposing belligerents to allege first use under the Protocol and thereby to escalate to otherwise forbidden chemical or biological agents. Thus, if the Protocol bans the use of tear gas generally, it might be dangerous to use it to subdue rioting prisoners of war in conflicts to which the Protocol otherwise applies even though a strong case can be made that it is a permitted use. Specific agreement on the use of tear gas against prisoners would obviate this problem and it would be useful to attempt to promote such agreement.

In addition to the use of tear gas against rioting prisoners of war, there may be other situations in which a use "during" war is not necessarily a use "in war" within the meaning of the Protocol. For example, the use of tear gas by domestic police forces to control disturbances by the civilian population during a mixed civil-international conflict is not necessarily a use "in war" within the meaning of the Protocol. Thus, the Saigon police might legally use tear gas during the Vietnam War to quell an unruly demonstration for increased veterans disability benefits, even if the Protocol were applicable to the conflict. Similarly, the use of herbicides to increase civilian agricultural production rather than as a weapon against opposing belligerent forces or their crops would not seem to be a use "in war" or "method of warfare" within the meaning of the Protocol.

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weapons of war, sentries can use others which do not cause fatal injury and may even be considered as warnings—tear-gas, truncheons, etc.

THE GENEVA CONVENTIONS OF 12 AUGUST 1949, COMMENTARY III, GENERAL CONVENTION RELATIVE TO THE TREATMENT OF PRISONERS OF WAR (J. Pictet ed. 1960), at 247.

One area of potentially dangerous ambiguity is whether the use of herbicides for military objectives on one's own territory or the territory of one's allies and resulting in the destruction of the property of the using state and its nationals—or its co-belligerents and their nationals—rather than the property of the enemy would be a use "in war." Particular United States and South Vietnamese uses of herbicides on territory in South Vietnam under government control and resulting in the destruction of South Vietnamese forests and plantations rather than Vietcong crops would be an example. The use of herbicides to clear the perimeters of United States or South Vietnamese bases would be another example. On the one hand, law-of-war prohibitions usually exist for the protection of opposing combatants, nationals of an opposing power, or civilians in occupied territory.[199] On the other hand, the case for applicability is strengthened by the military purpose of such use, by the uncertain allegiance of much of the civil population in mixed civil-international conflicts, and by the uncertain toxic and ecological effects of the widespread use of some such agents even on one's own territory.

On balance, any use directed against enemy crops, bases, or territory would probably be a use in war within the meaning of the Protocol. Beyond that it is unclear whether uses not immediately directed against the enemy, such as the clearing of allied base perimeters or highway rights-of-way, would be a use in war. Because of the difficulty in drawing lines which will be viable in the field, it might be preferable to interpret "use in war" to include any use of herbicides for military purposes in a conflict involving two or more parties to the Protocol. But pending greater international agreement on the meaning of "use in war" and a full appraisal of the environmental impact of alternatives to chemical herbicides, it seems preferable to preserve some flexibility in borderline uses. The real focus should be to prohibit the massive and repeated applications of chemical herbicides over large areas, on crops, and in populated regions.[200]

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199 For example, Article 23(g) of the Hague Rules regulates destruction or seizure of "the enemy's property." 36 Stat. 2277 (1909), 2 TREATIES, CONVENTIONS, INT'L ACTS, PROTOCOLS AND AGREEMENTS, *supra* note 197, at 2285.

200 These uncertainties in interpreting "use in war" within the meaning of the Protocol indicate the existence of important uncertainties other than the inclusion of riot-control agents and herbicides. The United States should carefully consider a modality of ratification capable of dealing with the full range of these uncertainties in interpretation. The complexity of the issues also suggests a flexible modality for resolving the issues, preferably a forum which is both expert and non-politicized. For example, how should the question of use of chemical herbicides for the clearing of base perimiters be

The Geneva Protocol and the Use of Riot-Control Agents and Chemical Herbicides in the Indo-China War

The use by the United States of riot-control agents and herbicides in the Indo-China War is widely perceived as an important factor in United States ratification of the Geneva Protocol. It may be helpful to examine briefly both the legal regime presently applicable to such use and the regime that would apply following ratification.

At the present time the United States is bound by the customary international norms concerning the legality of chemical and biological weapons per se and the laws of war, both customary and conventional, concerning particular uses of any such generally permissible weapons. It is widely assumed that whatever the theoretical threshold for applicability to internal conflicts and interventionary settings, the customary laws of war apply fully to conflicts of the magnitude of the mixed civil-international conflict in Indo-China. But no rule of customary international law prohibits the use of riot-control agents or chemical herbicides per se, although in view of the large vote in favor of General Assembly Resolution 2603A such a rule has significant support. At least for the present, tear gas and herbicides may lawfully be used in the Indo-China War to the extent that specific uses do not contravene particular prohibitions on the conduct of warfare. For example, it would be illegal to use tear gas in any way to cause unnecessary suffering, to kill persons rendered *hors de combat* by tear gas when the means is available to take them prisoner, to use herbicides against crops for their poisonous effect on belligerents expected to consume the crops, or to destroy crops which were known to be or reasonably should have been known to be intended for civilian use.[201] These same legal

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resolved even if herbicides are otherwise prohibited? Adequate consideration of this question requires expert opinion on whether alternative techniques of clearing, such as the use of the "Rome plow" or high explosives, might not be more damaging to regional ecology than the use of herbicides. Another relevant consideration of mixed fact and law is the weight to be accorded a "no herbicide" line as an aid to verification and prevention of CB escalation. The range, importance, and complexity of these issues suggests the utility of a conference approach.

201 The crop destruction program in Vietnam, which has been discontinued by the Nixon Administration, may have sometimes exceeded the limits imposed by customary international law in inadequately differentiating in the field between crops intended for civilian and those intended for military use. Although the scope of the customary international law rule concerning crop destruction is uncertain, at a minimum it prohibits destruction of crops intended solely for consumption by noncombatants and it may prohibit destruction unless the crops are intended solely for combatant use. *See* authorities cited in note 223 *infra*. Moreover, the burden of demonstrating sub-

restrictions would apply to the occasional uses of tear gas by the North Vietnamese and Vietcong as well as by allied forces.

In the event of ratification, the United States would, at least in the eyes of many states accepting a broad interpretation of the Protocol, assume an additional obligation not to use tear gas or herbicides "in" the war against other parties "which have already deposited their ratifications." There would also be a substantial question of which uses of tear gas and herbicides "during" the war were uses "in" war within the meaning of the Protocol. North Vietnam, South Vietnam, Laos, and Cambodia have not ratified, acceded to, concluded a succession agreement, or notified the Secretary-General of the United Nations that they are bound by the Geneva Protocol. Unless they can be said to be bound by the French ratification of May 9, 1926, which was "applicable to all French territories"—an obligation which these states have apparently not recognized—ratification of the Protocol would not impose additional legal obligations on the United States in the Indo-China War.[202]

A Cost-Benefit Analysis of United States Options

In analyzing whether and how the United States should adhere to the Geneva Protocol, one should keep in mind that the issue is neither solely interpretation of the Protocol and customary international law nor the desirability of banning the use in war of particular chemical and biological weapons. United States options are constrained by a customary international regime applicable to the use of chemical and biological weapons; an existing Protocol with a substantial legislative history; the necessity of interacting with the other parties to the Protocol, many of whom have interests differing from those of the United States; a long history of United States policy with respect to CBW and CB arms control measures; and domestic politics. In this milieu United States decision-makers must consider the art of the possible as well as what is ideally desirable from the perspective of national or international policy. It may seem anomalous, at least in terms of the principles underlying the laws of war, that the lawfulness of the use of tear gas in war

stantial military necessity [*i.e.* that crops are intended for military consumption] should rest on the state employing crop destruction.

202 One caveat to this conclusion should be noted: it might be urged that the Soviet Union, the People's Republic of China and other states providing military assistance to North Vietnam, even though taking no active part in the hostilities, are belligerents, and that as such the Protocol would apply in the relationship between the United States and North Vietnam, their ally. Such an interpretation would be strained on both counts.

is controversial while only minimal legal constraints apply to aerial bombardment of major population centers or the use of napalm. But in the context in which the issue arises, it is not at all anomalous to pursue reasonable agreement on CBW when, for whatever reason, such agreement may be obtained. Other problems can be dealt with when the opportunity arises, though the anomaly does suggest that opportunities to deal with these other problems should be sought vigorously.

In analyzing the costs and benefits of ratification of the Protocol this section will first examine the substantive issues (issues of content) concerning the desirability of ratification of the Protocol, the desirability of ratification with a no-first-use or reciprocity reservation, and the desirability of ratification with some form of riot-control and herbicide understanding or reservation. Discussion will then turn to the issues bearing on selection of a specific modality of ratification (issues of procedure). Possible modalities include ratification with an informal understanding, an understanding formally communicated to the depository power, an express reservation, submission to the International Court of Justice, an effort to obtain international agreement to an annex interpreting the Protocol, and delay in ratification pending an international agreement or authoritative pronouncement on interpretation.

Issues of Content

Ratification in General

No fundamental changes in the international rights, privileges, powers and immunities of the United States or third parties would result from United States ratification of the Geneva Protocol. The weight of opinion is that all states are presently bound by a customary international law rule prohibiting at least the first use of lethal chemical and biological agents in war. Nevertheless, ratification by the United States would have significant legal effects. The principal effects would be to reinforce these customary legal relations with a conventional law source; to strengthen the customary law by United States adherence to the Protocol; possibly (depending on the scope of the present customary norm of international law) to extend the United States CBW obligation to prohibit a first use of incapacitating chemicals; probably (depending on the scope of the present customary norm and the extent of the United States reservation) to extend the United States CBW obligation to prohibit any use of biological methods of warfare; perhaps (depending on

the scope of the present customary norm) to broaden the concept of a use-permitting-violation to include a first use by any of the allies of an opposing belligerent and vice-versa; and (as the Protocol is interpreted by many parties and in the absence of a formal reservation, understanding, or annex accepted by these other parties) to cast doubt on the lawfulness of the first use by the United States against other parties to the Protocol of riot-control agents and chemical herbicides. The United States has already extended the no-first-use restraint to incapacitating chemicals, has unilaterally renounced the production, stockpiling, and all use of biological weapons and has signed an international convention to this effect. Ratification would cost little and would generate substantial national and international benefits. The costs of ratification measured in terms of reduced freedom of action, *i.e.*, not necessarily real costs, may be summarized as follows:

> [1] The United States would assume a conventional obligation not to use lethal or incapacitating chemical or biological methods of warfare except in retaliation for first use. This obligation largely parallels that already binding on the United States by customary international law.
> [2] If the United States limits its no-first-use reservation to chemical weapons, it would assume a conventional obligation not to make any use of biological methods of warfare against parties to the Protocol not having a broader no-first-use reservation. This obligation would stop short of the present unilaterally adopted national policy which, though not yet legally binding, ends United States manufacture, stockpiling, and use of such weapons.
> [3] Absent acceptance by most of the parties to the Protocol of a reservation, understanding, or annex to the contrary, the United States might lose some of its present freedom with respect to the first use in war of riot-control agents and chemical herbicides. The degree of loss, if any, would ultimately depend upon whether a broad or restrictive interpretation of the Protocol becomes generally accepted and how customary international law evolves with respect to such agents.

The benefits of ratification may be summarized as follows:

> [1] Ratification would strengthen the national security by reinforcing the customary and conventional legal norms prohibiting at least the first use in war of lethal or incapacitating chemical and biological agents and by adding a conventional legal right against some ninety-

> eight states with respect to the first use against the United States or any of its allies. In addition, if the United States files the presently contemplated no-first-use reservation limited to chemical weapons, *all use* of biological weapons against the United States would be prohibited in relations with accepting parties who have not filed a no-first-use reservation or who like the Netherlands have a similarly limited no-first-use reservation.
> [2] Ratification would contribute to the present momentum toward more comprehensive measures for the control of chemical and biological warfare.
> [3] Ratification would enhance United States influence with respect to current CB and other arms control negotiations and efforts to strengthen the legal regime governing the laws of war.
> [4] Ratification would constitute a direct response to the recent resolutions of the United Nations General Assembly inviting "all States which have not yet done so to accede to or ratify the Geneva Protocol," and the appeal of the United Nations Secretary-General to the same effect.[203]

On balance, the national interest of the United States, as well as the global interest of the world community, strongly support United States ratification of the Protocol. Not surprisingly, almost all individuals and organizations that have recently studied the issues—including the President, the Secretary of State, the Senate Foreign Relations Committee, the House Subcommittee on National Security Policy and Scientific Developments, the American Chemical Society, the American Society of Microbiology and the Council of the Federation of American Scientists—have urged ratification.[204]

Reciprocity and No-First-Use

Of the two common reservations to the Protocol, there seems little reason for or against adopting the "reservation" that "[t]he . . . protocol shall be binding . . . only with respect to the States . . . [which are parties]." The principle that a treaty is binding only between parties is implicit in the law of multilateral treaties. Since the principle is also

[203] In his foreword to the July 1969 *Report of the Secretary-General on Chemical and Biological Weapons*, Secretary-General U Thant appealed "to all States to accede to the Geneva Protocol of 1925." *Report of the Secretary-General, supra* note 172, at xii.

[204] *See* James M. McCullough, *Chemical and Biological Warfare: Issues and Developments During* 1970, CONGRESSIONAL RESEARCH SERVICE OF THE LIBRARY OF CONGRESS (UG 447, 71-37 SP, Jan. 18, 1971), at 7.

explicit in the Protocol itself, it seems simpler to ratify without such a reservation. Ratification without the reservation might also set a mood more conducive to rapid extension of the customary legal regime to that of the Protocol, thus more completely binding non-adhering states. It should be made clear that the United States' reasons for not depositing such a reservation are that such a reservation would be redundant and that the United States seeks to encourage more rapid extension of the customary norm to that of the Protocol. Failure to deposit such a reservation should not be based on an assumption that the treaty regime and the customary international legal obligation are today necessarily congruent. The recommendation of the Secretary of State to the Senate is consistent with omitting this reciprocity "reservation." [205]

The second common reservation, the no-first-use reservation, provides that "[t]he . . . protocol shall automatically cease to be binding . . . with respect to any enemy State whose armed forces or whose allies fail to respect the interdictions which form the subject of this protocol." Some thirty-eight states out of the eighty-five states that were parties to the Protocol in June 1970 had deposited roughly similar reservations. One additional state, the Netherlands, limits the no-first-use reservation to chemical agents.[206] Unlike the first common reservation, this reservation may change the legal meaning of the Protocol in several material respects and probably should be entered. First, it makes clear that the Protocol is a no-first-use prohibition rather than a no-use prohibition. Without such a reservation the legal right of retaliation for prior violation will depend upon the treaty rules concerning excuse of performance for material breach, or possibly on the customary international law of reprisals for violation of the laws of war, both of which may be more restrictive than the reservation.[207] Second, at least a common form of such reservation may broaden the right of retaliation from a right only

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[205] *See* the letter of submittal from Secretary of State William P. Rogers to the President, August 11, 1970, MESSAGE TO THE PRESIDENT, *supra* note 10, at vi. "Unlike France, the Union of Soviet Socialist Republics, the United Kingdom, and most other reserving States the United States would not assert by reservation a limitation of its obligations under the Protocol to the Parties thereto." *Id.*

[206] The Netherlands reservation is as follows:

> This protocol as regards the use in war of asphyxiating, poisonous, or other gases, and any similar liquids, materials, or processes, shall automatically cease to be binding on the Royal Government of the Netherlands with respect to any enemy State whose armed forces or whose allies fail to respect the interdictions which form the subject of this protocol.

MESSAGE FROM THE PRESIDENT, *supra* note 10, at 6.

[207] See the discussion in notes 122 & 127 *supra.*

against a violating belligerent to a right against all belligerents allied with a belligerent first violating the Protocol. The advantage of clearly establishing such a broad right of retaliation for prior violation of the Protocol is that since the Protocol is not a true arms-control measure, it may be largely enforced by a right of retaliation for first use. The Protocol regime will be most effective if that retaliatory right is clearly established not only with respect to a violating enemy state, but also with respect to its allies as well. On the other hand, such a reservation may also increase the risk of escalation when prohibited weapons are used.

Secretary Rogers has proposed that the United States ratify with a no-first-use reservation limited, as is that of the Netherlands, to a right of retaliation only with chemical weapons. In the context of the recently announced United States policy not to develop, manufacture, stockpile or use biological weapons or toxins for offensive purposes in war, this limitation of the no-first-use reservation makes excellent sense. If the principal purpose of this reservation is to preserve a clear right of retaliation as a substitute for a more complete arms-control measure, there is little point in reserving rights with respect to weapons that according to national policy, should not be developed or used in any circumstances. Moreover, if the United States limits its reservation to retaliation by chemical weapons, only chemical weapons could be used in retaliation against the United States if the United States reservation were in turn invoked against the United States by a party without a broader no-first-use reservation.[208] The limitation, of course, would also make ratification consistent with the spirit of United States support for the recently concluded Draft Convention on the Prohibition of the

[208] Conversely, the United States or any other state with a narrower reservation might still be legally entitled reciprocally to invoke the broader reservation in a dispute with a state which has filed such a reservation. *See, e.g.*, the Vienna Convention, Art. 21, para. 1(b); L. MCNAIR, THE LAW OF TREATIES 573 (1961). This leaves a significant loophole in the Protocol regime with respect to the use of biologicals. The need effectively to plug this loophole against *any* use of biologicals is an additional argument suggesting the need for more compreheusive agreement on interpretation of the Protocol and strengthening of the Protocol regime. It should also be noted that although the preamble of the Draft Convention on the Prohibition of Biological and Toxin Weapons speaks of excluding "completely the possibility of bacteriological (biological) agents and toxins being used as weapons," the agreement itself contains no *use* restriction other than the Protocol restriction incorporated by reference. A more complete regime for the elimination of biological and toxin weapons should make clear that the *use* of such weapons is prohibited in all circumstances, including retaliation in kind under the Protocol and reprisal under customary international law.

Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction.

Chemical Riot-Control Agents

The principal arguments for the United States to reserve through some modality, the right to use chemical riot-control agents are as follows:

> [1] Such agents per se do not violate the principles of the laws of war prohibiting weapons causing unnecessary suffering or indiscriminate effects on non-combatants.
> [2] Such agents can in some combat circumstances provide a more humane option, thus promoting the principles of the laws of war.
> [3] Such agents may be militarily advantageous.

The principal arguments against reserving the right to use chemical riot-control agents are as follows:

> [1] Because the Geneva Protocol is interpreted by many, if not most, parties to prohibit the use of riot-control agents, there is a danger that the use by the United States of such agents in war may be interpreted as a first use justifying retaliation by any opposing belligerent not agreeing with the permissive interpretation. [It should be noted that this danger would be minimized or avoided if the United States could obtain widespread international agreement permitting the use of riot-control agents.].
> [2] Prohibiting riot-control agents would promote the effectiveness of the Protocol in controlling lethal and incapacitating CB agents.
> [3] Prohibiting riot-control agents might enhance the chances for more complete arms-control agreement on CB and increase United States influence on arms-control negotiations.
> [4] The use of riot-control agents in war may be politically costly, as the United States' experience with their use in Indo-China suggests.

It may be helpful briefly to develop each of these arguments for and against reserving the right to use chemical riot-control agents.

First, chemical riot-control agents per se do not violate the principles of the laws of war. The major principles of the laws of war concerning the prohibition of weapons per se, as opposed to particular use restrictions, focus on the propensity of the weapon to cause unnecessary suffering and the difficulty of using the weapon in a manner which dis-

criminates between combatants and non-combatants.[209] Nothing inherent in the nature of CS or CN gas violates these principles, although they may be used in a manner that would be violative. In fact, the use of such agents may allow greater discrimination between combatants and non-combatants, when, for example, an opposing force is using civilians or prisoners as a shield against hostile fire. Since the use of these agents per se does not violate the principles of the laws of war, it is unpersuasive to urge as an argument against them that they are typically employed in combat to cause enemy casualties rather than solely to reduce casualties.[210] The issue is not whether a particular weapons system causes combatant casualties—a characteristic shared in common by all weapons—but whether, considering all uses, on balance it is consistent with the principles of the laws of war. Neither riot-control agents nor any other weapon may be used to enhance casualties when the agent alone would place enemy troops *hors de combat* and enable capture or when its use would increase the seriousness of the injuries which enemy troops would otherwise suffer.

Second, the use of chemical riot-control agents can in some circumstances reduce combatant or non-combatant suffering and casualties. Although this potential for humane use provided the initial rationale for the use of such agents in Vietnam, and such uses have been recorded, some evidence indicates that opportunities for humane use may be relatively infrequent on the battlefield. Rear Admiral William E. Lemos, the Director of Policy Plans and National Security Council Affairs of the Office of the Assistant Secretary of Defense for International Security Affairs, testified before the House Subcommittee on National

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209 *See generally* M. McDOUGAL & F. FELICIANO, LAW AND MINIMUM WORLD PUBLIC ORDER 46, 77 (1961); J. PICTET, THE PRINCIPLES OF INTERNATIONAL HUMANITARIAN LAWS (1966); Farer, *The Laws of War 25 Years After Nuremburg*, INT'L CONCILIATION 14-17 (No. 583, May 1971).

210 *See, e.g.*, Foreword by Professor George Wald to the Ballantine edition of the SECRETARY-GENERAL'S REPORT ON CHEMICAL AND BACTERIOLOGICAL (BIOLOGICAL) WEAPONS AND THE EFFECTS OF THEIR POSSIBLE USE xiii, xv (1970).

> The distinction between lethal and incapacitating gases, however, fails entirely under combat conditions. Under combat conditions the tear gases, for example, are used to drive the enemy out from under cover and render him helpless so that he can be destroyed by other means. In Vietnam the tear gases have been used routinely to drive the enemy into the open before bombing and artillery attacks, or before an infantry assault. Under combat condition, tear gas is part of a thoroughly lethal operation; and the fact that in Vietnam this operation has involved many noncombatants in its sweep hardly helps our case.

Id. Implicit in this argument, of course, is a firebreak argument based on an arms control rationale rather than a law of war rationale. The firebreak argument is certainly one of the more serious objections to the use of riot-control agents.

Security Policy that the United States has used riot-control agents in Vietnam principally in conjunction with attacks on occupied positions, in defense of position, in tunnel clearing, in breaking contact with the enemy, in defense against ambush, and in rescuing downed airmen.[211] In most of these cases CS is used for its military effectiveness rather than its effectiveness in preventing unnecessary suffering or in allowing greater discrimination between combatants and noncombatants. Some evidence also indicates that riot-control agents tend to be stronger when adapted for military use and that their injurious effects, such as blistering of the skin, may be greater than agents in domestic use.[212] In fact, some scholars have suggested that a humanitarian case might be made *against* the use of riot-control agents. Thus, Professor Tom Farer writes,

> As in the case of any means, assessment of the humanitarian characteristics of gas without reference to specific tactical and strategic contexts—without reference, that is, to the way in which the military has found its employment to be economic—can be dangerously naive. The military setting of gas use is fundamentally different from the civilian, because in the former gas is merely a prelude to engaging an armed and organized adversary.
>
> What is the humanitarian case against gas? Certainly an important negative feature is the possibility, cited above, that gas may flush out and herd together belligerents and civilians who will form a single target for the attacker's fire. Secondly, it is by no means certain that the now most commonly employed gas, CS, does not have permanent harmful effects. An investigating team appointed by the British government following use of CS in Northern Ireland to quell sectarian violence, found no evidence of lasting illness among previously healthy persons. But it concluded that further study was necessary, with particular reference to the effects of the gas on the young, the aged, and those with impaired health.[213]

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211 Statement of Rear Adm. Lemos, *supra* note 76, at 223, 225-28.

212 When used with proper precautions, CS is a relatively safe agent for riot-control because there is a large difference between the amount needed to cause brief incapacitation and the amount that causes serious injury or death. When used in combat, where many of the currently employed CS weapons contain much more of the agent than do police-type munitions, CS can cause severe blisters and skin burns that take one or two weeks to heal. Although extreme exposures in some combat situations may exceed the human lethal dosage, the primary effect of CS is not to kill but to incapacitate.
Statement of Dr. Matthew Meselson before the Senate Committee on Foreign Relations, Mar. 26, 1971.

213 Farer, *supra* note 209, at 19.

Determination of the humaneness of riot-control agents should be based on the total context of their actual and potential military use. Evidence of individual instances of humane use does not, by itself, justify a decision to permit such agents; conversely, neither do the possible harmful effects of such agents justify prohibiting them without also considering the harmful effects of the alternatives which might otherwise be used and the possibility of effective use restrictions for situations of potential abuse.

There has been little experience with efforts to promote use of riot-control agents to increase the ability to discriminate between combatants and non-combatants or to reduce total casualties. Even though some humane uses have been made in Vietnam, the potential for such use may be substantially greater than the Vietnam experience would suggest. Thus if there had been a vigorous national policy to isolate and operationalize potential humane uses of riot-control agents, the evidence of humane use might be far more impressive. Despite the dangers in the use of riot-control agents pointed out by Professor Farer and others, such agents may have a significant potential for promoting human rights which it would be shortsighted to neglect.

Third, riot-control agents may reduce allied casualties relative to enemy casualties or otherwise enable more efficient completion of a military mission. Assessment of the military effectiveness of riot-control agents depends on informed military judgment, and until the present Defense Department studies on their use in Vietnam are released, little hard evidence is available. But at least some experts who have studied the effectiveness of chemical riot-control agents in Vietnam are skeptical of their utility.[214] They indicate that the enemy soon adapts defensively by supplying gas masks to its forces and that in any event the military uses of riot-control agents are marginal. Other experts, such as Admiral Lemos in his testimony before the House Subcommittee on National Security Policy, urge that the use of CS gas in Vietnam has been militarily effective in a variety of operational settings. In summarizing

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214 *See, e.g.*, statement of Dr. Matthew Meselson before the Senate Committee on Foreign Relations, Mar. 26, 1971:

> To summarize, CS seems to have been a useful auxiliary weapon in certain situations when it was first introduced. However its use and its utility have greatly declined, because the enemy has learned to cope with it, especially by equipping his troops with gas masks. Indeed, on numerous occasions he has used CS on a limited scale against us.

See also Johnstone, *supra* note 97.

his testimony with respect to the use of riot-control agents Admiral Lemos said:

> The riot control agent, CS, has become a lifesaving part of military operations in Vietnam. CN, the older agent, because of its relative ineffectiveness, is now seldom used. The use of CS in combat operations clearly reduces casualties among friendly troops, permits extraction of civilians who may be under enemy control often without casualties, and frequently allows the enemy the option of capture rather than casualties. Perhaps the most valid indication of the effectiveness of CS in combat operations is that U.S. personnel continue to carry CS grenades to the field in lieu of some of their normal high explosive ammunition, and ground commanders often call for CS rather than high explosives. Riot-control agents are a valuable aid in accomplishing our mission and in protecting our forces.[215]

Turning to the arguments on the other side, there are four principal arguments against reserving the right to use riot-control agents. First, since the Protocol is interpreted by many, if not most, parties to prohibit riot-control agents, the use by the United States of such agents may be interpreted as a first use justifying suspension of the Protocol. In considering whether riot-control agents should be included in the United States ratification of the Protocol it is important to keep in mind that the issue is not simply whether from a law-of-war or arms-control perspective such agents *should* be permitted. Many, if not most, parties to the Protocol interpret it as prohibiting riot-control agents. Unless the United States enters an understanding or reservation permitting such agents that is accepted by the other parties to the Protocol, or obtains international agreement permitting such use, any use of such agents by the United States, or possibly by any of its allies, might be interpreted as a first use justifying the use of lethal or incapacitating chemical or biological weapons against the United States and its allies. It is probably true that the legal restraint provided by the Protocol is a less effective check against escalation of CBW than the threat of retaliation in kind or the prohibition of the development, manufacture and stockpiling of CB agents. Nevertheless, if the Protocol is worth ratifying at all, it should not be undermined with an ambiguity that could lead to a colorably lawful use of lethal and incapacitating CB against United States forces.[216] It is perhaps instructive to remember that one German justi-

215 Statement of Rear Am. Lemos, *supra* note 76, at 223, 228.

216 This argument rests on an interaction between the principles of content and

fication for the use of lethal gases in World War I was that such use was in reprisal against a prior illegal French use of tear gas.

A second argument for not reserving the right to use riot-control agents is that prohibiting such agents would promote the effectiveness of the Protocol in controlling lethal and incapacitating CB agents. The Geneva Protocol is to some extent an agreement based on a law-of-war rationale that prevents the use of weapons which cause unnecessary suffering; but it is probably even more a product of an arms-control rationale (though it is not a comprehensive arms-control agreement). Thus, a principal reason for ratification is to promote the national security by strengthening international legal barriers against the use of lethal and incapacitating chemical and biological agents against the United States or its forces in the field. The recent Secretary-General's report describes vividly the enormous increase in firepower provided by such weapons and their potentially devastating effect on population centers. In comparison with the importance of prohibiting lethal and incapacitating CBW, the importance of retaining the right to use riot-control agents is relatively minor. If abandoning the right to use riot-control agents would materially strengthen controls on major CB agents, abandonment might well be advisable.

A variety of reasons lend at least some support to the conclusion that prohibiting chemical riot-control agents may strengthen control of lethal and seriously incapacitating CB agents. Whether rational or irrational, prohibition of the use of "any gas" in warfare is a widely shared international standard for controlling CBW. Moreover, because of the difficulty of distinguishing precisely the effects of different gases and the possibility of the development of militarily significant new gases, a simple standard prohibiting all use of gas in warfare is less likely to

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procedure concerning United States policy choices in relation to the Protocol and the use of riot-control agents and herbicides. Since it seems of major inportance it is emphasized here as a principle of content. In general, the argument has been missed or underrated as scholars have focused on analysis either of principles of content or of principles of procedure without considering the dynamic interrelation between them. Professors Baxter and Buergenthal have pointedly indicated the problem:

> If an enemy state should construe the Protocol as prohibiting the use of tear gas and the United States should neverthless use that weapon, the enemy state might then tax the United States with the first violation of the agreement and use other forms of chemical and bacteriological warfare under claim of right. It would be easy to cast off the restraints of the Protocol in an argument about how far it carries. Thus the continued use of tear gas by the United States could lead to retaliatory use of far more devastating chemicals by a state claiming that it is acting in full conformity with the law.

Baxter & Buergenthal, *supra* note 47, at 876.

lead to uncertainty and escalation. There are also real problems in verification, particularly as new additives or more effective forms of tear gas are developed. In general, those arms-control agreements which use relatively simple and unambiguous standards are likely to fare better than those which rely on vaguer criteria for applicability. As Thomas Schelling has said with respect to the non-use of gas weapons in World War II:

> "Some gas" raises complicated questions of how much, where, under what circumstances; "no gas" is simple and unambiguous. Gas only on military personnel; gas used only by defending forces; gas only when carried by projectile; no gas without warning—a variety of limits is conceivable. Some might have made sense, and many might have been more impartial to the outcome of the war. But there is a simplicity to "no gas" that makes it almost uniquely a focus for agreement when each side can only conjecture at what alternative rules the other side would propose and when failure at coordination on the first try may spoil the chances for acquiescence in any limits at all.[217]

Possibly a rule permitting the use only of chemical riot-control agents would provide a viable line; in this respect the British designation of CS is even clearer. But given the present international disagreement about the status of such agents, a "no gas" line seems more reliable. There is perhaps also some truth in the argument that the use of any gas in war will breed familiarity with gas warfare, create vested interests groups in favor of chemical warfare, result in development of general gas weapons technology and manufacturing capability, and in these and other ways break down internal restraints against escalation to more lethal agents. This argument has less weight for an arms-use prohibition than for a more comprehensive ban on development, manufacturing and stockpiling; but it may nevertheless indicate an added source of pressure for escalation under any type of limitation agreement.[218]

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217 T. SCHELLING, ARMS AND INFLUENCE 131 (1966).

218 These "firebreak" arguments are among the most serious against the use of riot-control agents. For example, Professor John Edsall points out:

> By using gas, even riot-control agents, we are encouraging escalation in the use of more deadly gases by other nations. The danger of such escalation is surely a greater threat to the future security of the United States than any short term gains from the use of gas by us in war can justify.

Proceedings of the Conference on Chemical and Biological Warfare, Sponsored by the American Academy of Arts and Sciences and the Salk Institute, July 25, 1969, reprinted in HEARINGS ON CHEMICAL-BIOLOGICAL WARFARE, *supra* note 76, at 451, 487. *See also* the remarks of Dr. Matthew Meselson, *id.* at 487-88.

A third argument for not reserving the right to use riot-control agents is that prohibiting them might enhance the chances for more complete arms-control agreement on CW, and increase United States influence in arms-control negotiations. A comprehensive agreement on CW, comparable to the Draft Convention on Biological and Toxic Weapons, depends in large part on reaching agreement on principles for verifying compliance. Nevertheless, agreement may also be influenced by the disagreement concerning chemical riot-control agents and herbicides. If the United States were to adopt an interpretation of the Protocol that riot-control agents are included, or renounce the first use of such agents against parties to the Protocol in the absence of an international agreement or authoritative pronouncement permitting their use, such a policy might increase the chances for comprehensive agreement on CW. The demonstration of continued momentum and flexibility on CBW issues might also increase United States influence in other arms-control and law-of-war negotiations.

The fourth argument suggesting that the United States should ratify the Protocol without reserving the right to use riot-control agents is that past use has incurred significant political costs. Internationally, the initial use of tear gas in Vietnam met with vocal outcry and a Soviet sponsored campaign within the United Nations against the use.[219] The uproar was sufficient to prompt the United States Information Agency to protest the use.[220] And nationally, when the use of tear gas in Vietnam was first brought to public attention in the spring of 1965, the news triggered a negative public reaction.[221] According to Seymour Hersh and Congressman Richard McCarthy, these negative international and national political reactions caused the Administration to halt the use of tear gas in Vietnam, a decision which proved only temporary.[222]

In weighing these competing considerations, it is difficult to arrive at an informed conclusion in the absence of more information about the actual and potential humanitarian and military uses of chemical riot-control agents. Nevertheless, the humanitarian potential of such agents suggests a modest initial presumption in their favor if international agreement can be reached permitting them and they are narrowly and precisely defined. It should be noted that all of the arguments against reserving the right to use riot-control agents lose much of their force if in-

219 *See* S. HERSH, *supra* note 34 at 168-70.

220 *Id.* at 171.

221 R. MCCARTHY, *supra* note 35 at 45-46.

222 S. HERSH, *supra* note 34, at 173; R. MCCARTHY, *supra* note 35, at 46.

ternational agreement can be reached permitting such agents. In the absence of international agreement or an authoritative determination permitting the use of riot-control agents, the balance would seem to favor a policy that they will not be used by the United States against another party to the Protocol. In striking this balance, the danger of a United States use of riot-control agents legitimating enemy use of lethal or incapacitating chemicals under the common no-first-use reservation is a particularly important consideration.

Chemical Herbicides

The principal arguments for reserving, through some modality, the right to use chemical herbicides are as follows:

> [1] Such chemicals per se do not violate the principles of the laws of war prohibiting weapons causing unnecessary suffering or indiscriminate effects on noncombatants.
> [2] Such chemicals may be militarily advantageous.

The principal arguments against reserving the right to use chemical herbicides are as follows:

> [1] Because the Geneva Protocol is interpreted by many, if not most, parties to prohibit the use of chemical herbicides, there is a danger that the use by the United States of such chemicals in war may be interpreted as a first use justifying retaliation by any opposing belligerent not agreeing with the permissive interpretation.
> [2] The use of chemical herbicides may endanger man and the environment in ways that at present are insufficiently understood.
> [3] The use of chemical herbicides in war may be politically costly, as the United States' experience with their use in Indo-China suggests.
> [4] Prohibiting chemical herbicides would promote the effectiveness of the Geneva Protocol in controlling lethal and incapacitating CB agents.
> [5] Prohibiting chemical herbicides might enhance the chances for more complete arms-control agreement on CW and increase United States influence in arms-control negotiations.

The first argument for reserving the right to use chemical herbicides is that such chemicals per se do not violate the principles of the laws of war, since not all, or even most, uses cause either unnecessary suffering or indiscriminate effects on civilians. The use of chemical herbicides

against crops which are or reasonably should be known to be intended for civilian use probably would be a violation of the laws of war whether or not such chemicals are prohibited per se.[223] The differential impact on civilians of anti-crop programs carried out by any means suggests that such programs should be a prohibited use, unless it is certain that crops are intended solely for consumption by the armed forces.[224] But the moderate use of herbicides, for example, to defoliate an allied base perimeter or an enemy base camp, does not necessarily cause unnecessary suffering or indiscriminate effects on civilians.

Second, chemical herbicides may be militarily advantageous. The testimony of Rear Admiral Lemos indicates a variety of ways in which herbicides have been used to military advantage in Vietnam. These include defoliation of base perimeters, lines of communication, infiltration routes, and enemy base camps. Herbicides have been used to a lesser extent for destruction of crops "in areas remote from the friendly population and known to belong to the enemy and which cannot be captured by ground operations." [225] This crop destruction program seems

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223 The precise scope of this rule is uncertain. A recent Defense Department pronouncement says

> [A]n attack *by any means* against crops intended solely for consumption by noncombatants not contributing to the enemy's war effort would be unlawful for such would not be an attack upon a legitimate military objective.
>
> Where it cannot be determined whether crops were intended solely for consumption by the enemy's armed forces, crop destruction would be lawful if a reasonable inquiry indicated that the intended destruction is justified by military necessity under the principles of Hague Regulation Article 23(g) and that the devasation occasioned is not disproportionate to the military advantage gained.

Letter from J. Fred Buzhardt, General Counsel of the Department of Defense, to Senator J. W. Fulbright, Apr. 5, 1971, in 10 INT'L LEG. MAT. 1300, 1302 (1971). This seems a looser standard from that in DEP'T OF THE ARMY FIELD MANUAL FM 27-10, *supra* note 40, which states only that the rule "does not prohibit measures being taken to . . . destroy, through chemical or bacterial agents harmless to man, crops intended solely for consumption by the armed forces (if that fact can be determined)." *Id.* at 18. The matter is one of emphasis, however, and the two statements are not inconsistent.

See generally the excellent unpublished paper by Professor George Bunn delivered at the 1970 Annual Meeting of the American Academy for the Advancement of Science, entitled "Herbicides and International Law."

224 L. Craig Johnstone points out:

> In the course of investigations of the program in Saigon and in the provinces of Vietnam, I found that the program was having much more profound effects on civilian noncombantants than on the enemy. Evaluations sponsored by a number of official and unofficial agencies have all concluded that a very high percentage of all the food destroyed under the crop destruction program had been destined for civilian, not military use.

Johnstone, *supra* note 97, at 719.

225 Statement of Rear Adm. Lemos, *supra* note 76, at 223, 230.

suspect since it is difficult to find and isolate crops intended solely or even primarily for combatant use. Some military uses, particularly against crops, may also be politically counter-productive, as, for example, when crops of uncommitted civilians are destroyed. And with respect to some uses of herbicides, for example clearing base perimeters, alternatives such as the "Rome plow" might be available if the use of herbicides were prohibited. One consideration in determining whether some uses of herbicides should be permitted is simply whether these alternatives to herbicides could be more destructive of regional ecology than the limited use of herbicides. Quite possibly "Rome plows" or high explosives would be more destructive. To summarize, present evidence indicates that some uses of chemical herbicides can be militarily advantageous but that associated costs can also be high. A more complete assessment of the military effectiveness of herbicides may be provided when Defense Department studies on the use and effects of the herbicide program in Vietnam are released.

There are four principal arguments against reserving the right to use chemical herbicides. First, since many, if not most, parties interpret the Protocol to prohibit the use of chemical herbicides, the use by the United States of such chemicals might be interpreted as a first use justifying retaliation. By retaining the right to use a marginally important weapon, the United States might precipitate lawful, or at least colorably lawful, retaliation with lethal and incapacitating CB agents against United States forces.

Second, the use of chemical herbicides may endanger man and the environment in ways that at present are insufficiently understood. The massive and widespread use of herbicides in Vietnam is the first time such chemicals have been used in war. During the last few years concern has grown within the scientific community, both in the United States and abroad, that some herbicides may be harmful to humans and, if used massively and repeatedly, may injure regional ecology.[226] Some

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226 *See, e.g.*, Galston, *supra* note 93, at 62-75; R. McCarthy, *supra* note 35, at 74-98; Statement of Dr. Arthur W. Galston, Professor of Biology and Lecturer in Forestry, Yale University, in Hearings on Chemical-Biological Warfare, *supra note* 76, at 107; *In Re* Hercules, Inc. and Dow Chemical Co., Order of the Administrator of the Environmental Protection Agency (I.R.&F. Docket Nos. 42 & 44, Nov. 4, 1971), at 4-5.

One of the most thoughtful analyses of the costs and benefits of the military use of herbicides is D. Brown, *The Use of Herbicides in War: A Political/Military Analysis*, in Carnegie Endowment for International Peace, The Control of Chemical and Biological Weapons 39 (1971). Brown concludes after a careful assessment of the

evidence suggests that some commonly used chemical herbicides and their contaminants may be potent teratogenic agents, that is, chemicals such as thalidomide, capable of producing birth defects in humans. Such agents may have their principal effects on a future generation. Similarly, harmful ecological effects may be long hidden and may affect future generations years after the termination of the conflict. As A. W. Galston has written:

> To damage or kill a plant may appear so small a thing in comparison to the human slaughter every war entails as to be of little concern. But when we intervene in the ecology of a region on a massive scale we may set in motion an irreversible chain of events which could continue to affect both the agriculture and the wildlife of the area—and therefore the people—long after the war is over.[227]

Such long term effects would make the use of chemical anti-plant agents quite indiscriminate in their effects on non-combatants. They would also render such weapons questionable from the standpoint of environmental protection, a concern which must be added to the traditional policies of the law of war in future decisions to legitimize a particular weapons system.

Third, the use of chemical herbicides in war may be politically costly. The United States' use of herbicides in Vietnam has produced adverse political reaction within South Vietnam, within the United States, and within the United Nations. The overwhelming vote for the adoption of General Assembly Resolution 2603A in 1969, which declares the use of anti-plant agents in international armed conflicts "contrary to the generally recognized rules of international law," provides some evidence of the strong international political opposition to such use. And if contemporary opposition is any guide, the international community will probably refuse to accept the legitimacy of chemical herbicides in the future. Only the United States and Portugal seem to have urged permitting such agents.

Fourth, prohibiting chemical herbicides would promote the effectiveness of the Protocol in controlling lethal and incapacitating CB agents. The need for clear lines in arms-control measures suggests the utility

United States experience with herbicides in Vietnam that "[r]eview of the U.S. experience in Vietnam suggests that herbicide operations have been at cross-purposes with the political/psychological aims of 'unconventional warfare.'" *Id.* at 59.

227 Galston, *supra* note 93, at 62.

of prohibiting the use in war of "all chemicals" as well as "all gas." For example, the use of chemicals against plants, particularly crops, could present difficult problems in determining and verifying whether particular agents were herbicides directed against plants, poisons directed against enemy combatants, or herbicides directed against plants but inadvertently poisonous to enemy combatants and noncombatants.

Lastly, prohibiting chemical herbicides might enhance the chances for more complete arms-control agreement on CW, and increase United States influence in arms-control negotiations. Supporting reasons parallel those discussed earlier in considering this argument as an argument for not reserving the right to use riot-control agents.

On balance, the dangers of anti-crop uses, the uncertainty surrounding the effects of anti-plant chemicals on man and his environment, the strong international opinion against the use of such chemicals, and the danger that the use of herbicides will trigger retaliation with lethal CB agents, strongly suggest that the national interest would be best served by not reserving the right to use chemical herbicides "in war." And unlike the balance on riot-control agents, if the United States seeks an international agreement interpreting the Protocol, it should seek an agreement that chemical herbicides are included.

Issues of Procedure

A variety of issues concerning the best modality for United States ratification of the Geneva Protocol should be considered.[228] The principal modalities of ratification are as follows:

> [1] ratification preceded by a unilateral declaration of interpretation (an informal understanding);
> [2] ratification with an understanding formally communicated to France as the depositary power;
> [3] ratification with an express reservation;
> [4] ratification followed by an effort to obtain an interpretation by the International Court of Justice;
> [5] ratification followed by an effort to obtain international agreement to an annex interpreting the Protocol;
> [6] delay in ratification pending an international agreement or authoritative pronouncement on interpretation.

Each of these options has advantages and disadvantages. None offers a completely satisfactory resolution of the issues.

228 This analysis draws heavily on the work of Professors Richard R. Baxter and Thomas Buergenthal. *See* Baxter & Buergenthal, *supra* note 47, at 873-79.

An Informal Understanding

Ratification preceded by a unilateral declaration of interpretation—an informal understanding—is the path of least resistance. Such a tack would minimize the immediate international political response and, at least in the short run, bypass the necessity for reaching international agreement on interpretation. An informal understanding announced by the Executive or the Senate in the course of United States consideration of the Protocol would not legally bind other parties. Thus, they need not formally respond to the United States interpretation. Such an understanding would have legal effect only as evidence of the subsequent interpretation of one party to the Protocol and perhaps also as some evidence of the *opinio juris* concerning the customary international norm.

The strength of this first option is also its weakness. By avoiding the necessity of international agreement, an informal understanding would contribute to the existing uncertainty about interpretation of the Protocol. Continuation of this uncertainty after ratification has at least three major disadvantages.

First, given the present ambiguity in interpretation, other states which have not taken a position would retain relative freedom in interpreting the Protocol, even though the United States would, by announcing an interpretation, lose much of its flexibility. Thus, even if the United States interprets the Protocol to prohibit riot-control agents or herbicides, it will not thereby preclude other parties from urging that these agents are permitted. In this respect, the General Assembly debate on Resolution 2603 (A) indicates that few states have taken a specific stand with respect to their own interpretation concerning riot-control agents and chemical herbicides, despite the one-sided vote on the Resolution.[229] And at least four states in addition to the United States have interpreted the Protocol to permit the use of at least some riot-control or anti-plant chemicals.[230]

Second, and even more important, an informal understanding concealing a lack of international agreement may increase the risk of CB escalation. The danger would still exist that a controverted use would be interpreted as a first use removing all legal restraints imposed by the Protocol. In this regard, there is ample uncertainty concerning both the applicability of the Protocol prohibition to riot-control agents and

229 See note 180 *supra.*

230 Australia, Japan, Portugal and the United Kingdom.

chemical herbicides, and the scope of the use "in war" limitations on prohibited chemical and biological agents. The force of this argument is not as strong as it might first appear, since the legal restraint is not the only, or even the principal, restraint on escalation. The fear of retaliation and escalation, and the new draft agreement prohibiting the development, manufacture, and stockpiling of biological agents are more important factors. Nevertheless, if a principal purpose of ratification is to strengthen the legal restraints against CB use, then modalities of ratification which undermine that restraint are surely costly.

In general, it is important that arms-control agreements be as simple and unambiguous as possible. This principle is even more apt when the agreement subsumes, as does the Geneva Protocol, a no-first-use reservation arguably permitting the removal of all Protocol restraints in response to prior violation. Even if the United States expressed an informal understanding that the Protocol prohibits riot-control agents and chemical herbicides, some ambiguity would continue in relations with parties that have not expressed an understanding or between parties that have expressed contrary understandings.

Third and last, an informal understanding that the Protocol does not prohibit riot-control agents or chemical herbicides would provide no real legal protection against a charge of violation of the Protocol. Since a United States understanding would have only the weak legal effect of evidencing a subsequent interpretation of one party to the Protocol, if a majority of parties disagreed, the United States would have little defense against a charge of law violation. It is questionable whether retention of a right which, if exercised, might be widely regarded as a law violation would be desirable. If, of course, the United States were to adopt an interpretation that riot-control agents and chemical herbicides were prohibited by the Protocol, this objection to an informal understanding would lose most of its force, though it would still apply to other disputed issues of interpretation.

In summary, an informal understanding has the advantages of minimizing potential political opposition to the United States interpretation of the Protocol and avoiding the difficulties and trade-offs in reaching international agreement on interpretation. In the short run it probably maximizes United States flexibility in pursuing preferred policy. On the other hand, an informal understanding provides no real legal protection; may by increasing the uncertainty regarding coverage augment the risk of escalation; and does not commit all parties to a definite in-

terpretation of the Protocol.[231] These objections would be lessened, but not completely avoided, if the United States adopted an informal understanding that riot-control agents and chemical herbicides were included in the Protocol.

A Formal Understanding

As a second modality, the United States could ratify the Protocol with an understanding formally communicated to France as the depositary power. Such an understanding might be conveyed in the instrument of ratification or separately and might invite a response by other parties to the Protocol. According to the *Restatement Second of the Foreign Relations Law of the United States*, "A party may make a declaration which indicates the meaning that it attaches to a provision of an agreement but which it does not regard as changing the legal effect of the provision." [232] A formally communicated understanding in any form probably would result in more vocal political opposition than an informal understanding, particularly if the United States' understanding interprets the Protocol not to prohibit riot-control agents and chemical herbicides. Moreover, if the understanding were communicated in the instrument of ratification, France would probably officially notify the other parties of the understanding, thereby exacerbating international reaction.[233] Such an understanding might also be treated as a reservation subjecting the United States ratification to possible rejection by a non-accepting state or to ambiguous acceptance limited to

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231 One strategy for committing other nations without the necessity of a new conference might be to announce a statement for signature concerning an interpretation on riot-control agents and herbicides and perhaps even on no use of biological agents or the meaning of "use in war." Apparently, Sweden has raised a similar proposal in the discussions of the Eighteen Nation Disarmament Commission. The disadvantages of this approach are that it has only a minimal legal effect and is more inflexible than a conference in offering opportunities for agreement.

See generally on the comparative advantages and disadvantages of a procedure for registration of national interpretations Archibald S. Alexander, *Limitations on Chemical and Biological Warfare Going Beyond Those of the Geneva Protocol*, in CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, THE CONTROL OF CHEMICAL AND BIOLOGICAL WEAPONS 94, 99-108 (1971).

232 RESTATEMENT (SECOND) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES § 124, comment *c* at 391 (1965).

233 The Protocol provides: "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." 94 L.N.T.S. 65 at 69.

areas other than those to which the reservation relates.[234] In addition, unlike an express reservation, a formally communicated understanding would increase only marginally the legal protection of the United States, is unlikely to reduce materially the uncertainties surrounding interpretation of the Protocol, and would not necessarily commit other parties to a definite interpretation. In short, this second option would substantially increase legal and political risks, while generating few, if any, benefits over other options. If, however, the United States wishes to announce an interpretation that riot-control agents and chemical herbicides are covered by the Protocol, a formal understanding might increase the momentum for this interpretation more than an informal understanding. In view of the present political lineup on the issues of riot-control agents and chemical herbicides, such an interpretation would involve little risk of rejection of treaty relations.

An Express Reservation

As a third possibility the United States might ratify the Protocol with an express reservation. The legal effect of a reservation is similar to that of a counter-offer and would present the other parties to the Protocol with several choices. They could accept the reservation, thus according full legal protection to both the United States and the accepting state. Or they could object that the reservation "is incompatible with the

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234 *See* the Vienna Convention, *supra* note 127, Art. 19; Art. 20, para. 4(b); Art. 21, para. 3.

Article 19 of the Vienna Convention provides:

> *Formulations of reservations*
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> A State may, when signing, ratifying, accepting, approving or acceding to a treaty, formulate a reservation uuless:
>
> (a) the reservation is prohibited by the the treaty;
>
> (b) the treaty provides that only specified reservations, which do not include the reservation in question, may be made; or
>
> (c) in cases not falling under the sub-paragraphs (a) and (b), the reservation is incompatible with the object and purpose of the treaty.

Id.

Art. 20, para. 4(b) provides:

> an objection by another contracting State to a reservation does not preclude the entry into force of the treaty as between the objecting and reserving States unless a contrary intention is definitely expressed by the objecting State.

Id.

And Art. 21, para. 3 provides:

> When a State objecting to a reservation has not opposed the entry into force of the treaty between itself and the reserving State, the provisions to which the reservation relates do not apply as between the two States to the extent of the reservation.

Id.

object and purpose" of the Protocol, thus either totally denying legal relations with the United States under the Protocol or, if they prefer, partially denying legal relations with the United States to the extent of "the provisions to which the reservation relates." [235] This latter option would, in the context of a reservation concerning the use of riot-control agents and chemical herbicides, create uncertainty concerning which provisions would be in force. Since a reservation is equivalent to a counter-offer, the United States would obtain full legal protection in its interpretation with respect to all accepting states regardless of the interpretation given to the Protocol among other parties.

The advantages of an express reservation would be considerable if it were widely accepted. A reservation would provide full legal protection, would, at least vis-à-vis the United States and each accepting party, commit both parties to a definite position with respect to the subject of the reservation, and would reduce the range of ambiguity likely to lead to escalation under the no-first-use provision.

The disadvantages of an express reservation would also be considerable. The risk is substantial that many states would reject the United States ratification in whole or in part, thus undercutting the advantages of ratification. In view of the widespread political opposition to the use of riot-control agents and chemical herbicides, this risk would be acute if the United States reserved the right to use such agents. And if the United States does not reserve such a right, an express reservation seems pointless. The desirability of obtaining a conventional restraint on United States use of lethal and incapacitating CB might prove sufficient to elicit at least some acceptances from states which are opposed to the use of riot-control agents and herbicides. Nevertheless, the risk of widespread rejection of treaty relations would remain acute, particularly with those parties with whom we most need relations under the Protocol. A second limitation of an express reservation is that even if the United States obtains bilateral acceptance of its reservation, uncertainties would remain between other parties to the Protocol. Such an approach is also not as flexible as a conference approach in dealing with the full range of ambiguities in interpretation of the Protocol.

An Advisory Opinion From the International Court of Justice

A fourth possibility is for the United States to ratify the Protocol and then to seek an advisory opinion from the International Court of Justice

[235] *Id.*

interpreting the Protocol. The United States might informally indicate prior to ratification that the use of riot-control agents and chemical herbicides is unclear under the Protocol, or that in the absence of an authoritative determination the United States interprets one or both as permitted or prohibited, but that in view of the varying interpretations of the parties, the United States thinks it wise to seek a decision of the International Court of Justice. The most convenient jurisdictional basis for an opinion of the Court would probably be to sponsor a General Assembly or Security Council resolution requesting an advisory opinion from the Court pursuant to Article 96 of the Charter.[236] Advantages of such a policy would be the obvious fairness of submitting the question of interpretation to the Court and the strong impetus toward a uniform interpretation of the Protocol.

The plan, however, is not without disadvantages. The General Assembly and Security Council could prevent the plan by opposing a resolution seeking an advisory opinion or could even refuse to accept the opinion of the Court when rendered. More importantly, an advisory opinion would not be legally binding on parties to the Protocol (though it would be an influential authoritative pronouncement) and could further fragment and entrench individual interpretations of the Protocol. Furthermore the plan would not provide an opportunity to exert diplomatic influence to reach a preferred solution. Though the problem can be couched wholly as a question of legal interpretation of the Protocol, there are in reality several issues, one of which is what chemical agents, if any, should be internationally permitted quite apart from the Protocol. To confine the issue solely to interpretation of the Protocol is to forego this question on the shaky basis that it has already received adequate treatment by the framers of the Protocol. And on the question of whether riot-control, and chemical herbicides should be permitted, the Court would probably not be as useful a decision-maker as, for example, an international conference of government experts. Finally, there is also some risk that such a strategy would create pressure amounting in effect to advance acceptance by the United States of an interpretation that may not command widespread acceptance.[237]

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236 Art. 96 para. 1. Some of the specialized agencies, such as the World Health Organization, also have been authorized by the General Assembly to seek an advisory opinion from the International Court of Justice pursuant to Article 96 paragraph 2 of the Charter. For a recent list of United Nations organs and specialized agencies authorized to request advisory opinions see [1970-71] I.C.J.Y.B. 35-36.

237 There may also be some risk that a United Nations debate or International Court

In a context in which a uniform interpretation is itself an important policy goal, even apart from what that interpretation is, an advisory opinion of the International Court of Justice should be considered a serious option despite its disadvantages. If the judgment of the Court were that riot-control agents and chemical herbicides are included in the Protocol, the strong impetus toward uniform interpretation would be a substantial gain. On the other hand, if the judgment were that riot-control agents and chemical herbicides were not included, the decision would probably serve as a major impetus to a conference solution which would permit a freer policy appraisal of the issues.

An Annex to the Protocol

As a fifth possibility the United States might follow ratification of the Protocol with an effort to obtain international agreement to an annex interpreting the Protocol. The recommendations of the House Subcommittee on National Security Policy and Scientific Developments suggest this possibility[238] and its advantages would be considerable if it were possible to obtain widespread agreement. An annex would afford full legal protection to the acceding parties among themselves, would reduce ambiguities in interpretation and thus the danger of escalating use, and would commit all acceding parties to a definite interpretation of the Protocol. If a large number of parties signed an annex, it would also constitute strong evidence of the subsequent practice and interpretation of the parties which would legally influence the freedom of interpretation of non-signers of the annex.

A major advantage in seeking an annex to the Protocol is that initial agreement could be hammered out by government experts, thus affording greater flexibility than other options. An exchange among government experts, either at a conference or otherwise, would not be restricted entirely to an interpretive function, but could attack ambiguities by seeking compromise on the full range of issues. For example, a conference of government experts could resolve the threshold question of use "in war"; could determine the propriety of using riot-control agents in POW camps; and could decide whether the use of herbicides around one's own base perimeter is a use "in war." Furthermore, such a con-

proceeding would provide the occasion for a propaganda attack on the United States use of riot-control agents and chemical herbicides in Vietnam.

238 REPORT OF THE SUBCOMMITTEE ON NATIONAL SECURITY POLICY AND SCIENTIFIC DEVELOPMENTS, *supra* note 21, at 10. They also support the possibility of obtaining an interpretation from the International Court of Justice.

ference might also decide that the use of herbicides should be broadly prohibited but that riot-control agents, if carefully defined, should be permitted. If the conference determined that riot-control agents should not be totally prohibited, it could carefully define the acceptable agent or agents. Such a conference might also recommend a supplemental agreement prohibiting all use, rather than just first use, of biological and toxin weapons, and would provide an opportunity to commit other states to an interpretation of the Protocol with respect to incapacitating gases. In short, a conference approach would offer greater flexibility and might serve to depoliticize the issues, both internationally and nationally.

A final advantage of seeking an annex is that such a tack would give the United States considerable freedom in attempting to influence substantive results. Such freedom would not exist if the issues were submitted for judicial determination.

Unfortunately, an annex or conference approach, like other options, is not without substantial disadvantages. The principal disadvantage is the political difficulty of obtaining widespread agreement on an annex or even attracting a significant gathering of states to a conference to discuss the issues. The temptation of many states, whether for political reasons or otherwise, would be to decline such a conference with an indication that the Protocol is clear and needs no interpretation. Moreover, it would be particularly difficult to attract representatives of all camps to such a conference while the Indo-China War continues.

A second disadvantage is that such an annex might complicate rather than clarify the issues in interpretation of the Protocol. If some but not all parties to the Protocol signed such an annex, a complex pattern of relationships might emerge between those signing the annex and those not signing the annex, between those with and without reservations to the annex, etc. Though this danger is real, confusion already exists because of the Protocol's ambiguities. The real issue is whether a conference approach is a helpful way to confront and narrow these ambiguities or whether a conference would magnify existing disagreement.

Since a conference approach maximizes the possibility of a meaningful policy appraisal, a preliminary effort to ascertain which states would be willing to attend seems worthwhile.[239] A recent British article evalu-

[239] Judging from their present positions, a conference might receive the active support of Australia, Great Britain and Japan as well as the United States. Possibly France, Canada, Belgium and the Netherlands might also support such a conference. On the other hand, it might be difficult for the Soviet Union and its allies to support

ating the alternatives available to Great Britain in clarifying whether CS gas is included in the Protocol dealt with multilateral approaches as among the more attractive options.[240]

A Delay in Ratification

Finally, the United States could delay ratification pending an international agreement or authoritative pronouncement on interpretation. Normally, it is preferable to know the legal effect of a treaty prior to ratification. Also, a delay in ratification might give the United States greater bargaining power in obtaining an acceptable interpretation. On the other hand, delay might reduce United States influence in interpretation since the United States position would have legal significance for interpreting the Protocol only if the United States were a party.

In any event, delay in ratification has at least two serious disadvantages which strongly suggest that the Protocol should be ratified as soon as possible regardless of resolution of the issues concerning riot-control agents and chemical herbicides. First, to delay ratification because of uncertainty about the coverage of riot-control agents and chemical herbicides is to put the cart before the horse. The principal reason for ratification is to strengthen the barriers against use of lethal chemical and biological weapons, and the United States interest in strengthening such barriers far exceeds any interest in retaining the right to use riot-control agents and chemical herbicides. Regardless of the interpretation which ultimately prevails on riot-control agents and chemical herbicides it is in the national interest to strengthen the barriers against chemical and biological warfare. It should be remembered that some scholars assert that no presently accepted customary international law prohibits the use in war of chemical agents and that ratification of the Protocol would clarify the prohibition against the first use of lethal agents against the United States. Moreover, the new draft biological weapons convention has no use restriction and in that respect is dependent on the Protocol.

Second, there is presently a strong trend toward increased participation in the Protocol. United States ratification would have a major influence in maintaining or increasing this momentum and would greatly

such a conference, particularly in view of their criticism of the United States use of riot-control agents and chemical herbicides in Vietnam. A conference convened by the International Committee of the Red Cross might provide a less politicized and more expert forum for careful policy appraisal than one sponsored by individual states.

240 *See* Carlton & Sims, *supra* note 125, at 338.

strengthen the Protocol regime. Ratification might also increase United States influence in a variety of arms control and law of war negotiations. Continued delay in ratification could be costly in reducing both opportunities for influence.

Since the Protocol would not be applicable to the Indo-China War even if the United States were a party, there seems little reason to delay ratification pending an end to the war. It may be true that a conference to interpret the Protocol would be less likely and more politicized while the use of riot-control agents and chemical herbicides continues in Vietnam. But the possibilities of a conference might also recede as the issues lose visibility. On balance, it would seem wise to ratify the Protocol as soon as possible.

Conclusion

The United States took the lead in proposing the Geneva Protocol and should have ratified it in 1926. The case for ratification is much stronger today. Ratification would strengthen the international restraints against the use of modern CB agents, an arsenal second only to nuclear weapons in potential for devastation. Ratification would also contribute to the present momentum for more comprehensive CB arms control measures and would increase United States influence in arms control negotiations. In view of this momentum and the importance of strengthened legal controls on lethal CB agents, prompt ratification is desirable regardless of the outcome of the dispute concerning the use of riot-control agents and chemical herbicides. In ratifying, the United States should enter a no-first-use reservation limited to lethal and incapacitating chemicals, as suggested by President Nixon in his letter of transmittal to the Senate. This limitation would reenforce President Nixon's pledge that the United States will not use biological weapons under any circumstances.

United States policy concerning riot-control agents and chemical herbicides is neither a purely legal question nor a purely political one. More parties interpret the Protocol to ban riot-control agents and chemical herbicides than interpret the Protocol to permit them. Nevertheless, there is no definitive legal interpretation on these or a number of other important issues which may arise under the Protocol. The issues are in flux and the United States position will affect their resolution. Because of this dynamic interrelation between legal interpretation and policy appraisal, it is important to take the full legal and political context into account. It is wrong to emphasize the humane uses of riot-control

agents, while neglecting the danger of escalation resulting from ambiguous resolution of the lawfulness of such agents. It is equally wrong to try to resolve the issues by legal interpretation without considering whether the humane potential of such agents merits an attempt at agreement permitting them. The United States should also consider the procedural constraints on operationalizing policy under the Protocol regime. In fact, adequate appraisal involves a complex matrix of political and legal factors crosscut by considerations of both content and procedure.

The principal interests of the United States, shared in common with all nations, are to obtain uniform resolution of the issues concerning riot-control agents and chemical herbicides and an international on-the-merits appraisal of the desirability of permitting the use of such agents. If the potential exists for international agreement permitting the carefully circumscribed use of riot-control agents to promote human rights in armed conflict, it would be tragic to lose the opportunity because of an ossified interpretation of a Protocol drafted with ouly episodic consideration of the issues.

In the full context of national constraints and opportunities, it seems preferable to support an interpretation that the Protocol prohibits the use of chemical herbicides "in war." Reasons supporting this conclusion include the strong international consensus against the use of such chemicals, the widely shared interpretation that the Protocol prohibits their use, the dangers to noncombatants of anti-crop programs, the insufficiently understood long run consequences for man and his environment from the use of such chemicals, and the political costs associated with their use. Finally, massive use of chemical herbicides may have such an indiscriminate impact on noncombatants and their progeny as to warrant per se prohibition.

Regarding the meaning of use "in war," there is little international consensus on, or indeed recognition of, the issues raised by the use of chemical herbicides. Probably any use directed against enemy crops, bases, or territory would be a use "in war" within the meaning of the Protocol. Beyond these prohibitions it is unclear whether uses not immediately directed against the enemy, such as the clearing of allied base perimeters, would be a use "in war." Pending greater international agreement on the meaning of this phrase and appraisal of the environmental impact of alternatives to chemical herbicides, it seems preferable to preserve some flexibility in such uses.

Because of their potential for humane use, a decision on riot-control

agents is more difficult than that on chemical herbicides. The potential humane uses of such agents warrant a careful international appraisal of their permissibility. If widespread international agreement permitting such agents can be reached, and if the permitted agents are narrowly and precisely defined to guard against escalation (for example, limited to a chemically defined form of CS), such an agreement may well be desirable. But if most states continue to oppose the use of such agents, and particularly if they interpret the Protocol to prohibit such agents, an opposite unilateral interpretation by the United States would contribute to undermining the effectiveness of the Protocol as a legal restraint—a cost that would outweigh any benefits of reserving the right to use such agents.

In interpreting the meaning of "in war," it is unclear whether the Protocol would apply to the use of riot-control agents against rioting prisoners of war, even if such agents are otherwise included in the Protocol. The strong humanitarian case for the use of riot-control agents as a minimum force alternative to more lethal weapons and the minimal dangers of using such agents in POW camps strongly suggest that such use should be permitted. The uncertainty concerning the permissibility of such use, however, suggests the wisdom of promoting an international understanding that such use is permitted.

The full context of constraints and opportunities also suggests that the United States should support an international conference of government experts (or consideration of the issues at an ICRC conference) for the purpose of promoting uniform agreement on interpretation of the Protocol and careful appraisal of related policy issues. Such a conference might prepare an annex to the Protocol or recommend an alternative procedure for agreeing on uniform interpretation. A conference approach offers a number of advantages. These include full legal protection without the risk of rejection of treaty relations, legal commitment of a maximum number of parties, opportunity for multilateral agreement to minimize the risk of escalation to lethal CB agents, opportunity to resolve the full range of ambiguities in interpretation (and to reach further agreement on, for example, no use of biological and toxin agents), and finally, some degree of de-politicization of the issues.

In view of the position of many parties that the Protocol prohibits riot-control agents and chemical herbicides, it is quite possible that too few states would support a conference to make such an approach feasible. In that event, the United States should consider as an alternative

an advisory opinion from the International Court of Justice on whether the Protocol extends to riot-control agents and chemical herbicides. Though submission to the International Court of Justice has a number of disadvantages—including the non-binding effect of an advisory opinion and limitation of the issue to interpretation of the Protocol—it has real merit in offering fair resolution of the dispute and a chance to promote widespread agreement on interpretation.

It is important for the Executive and the Senate to reach agreement on a policy for riot-control agents and chemical herbicides as soon as possible. As a starting point both might candidly admit that there is no authoritative interpretation on whether riot-control agents and chemical herbicides are included in the Protocol. A reasonable compromise might then be that the United States should promote an interpretation that prohibits the use of chemical herbicides "in war" but that permits the use of riot-control agents if carefully delimited to promote human rights in armed conflict. Both the Administration and the Senate might also agree that in view of the importance of promoting widespread international agreement on interpretation of the Protocol, the United States will support international consideration of the issues, preferably through an international conference but if that proves impractical, through submission to the International Court of Justice. Pending international agreement or an authoritative pronouncement confirming or negating its interpretation, the United States could provisionally maintain that riot-control agents are permitted, but should do so cognizant of the inadvisability of using riot-control agents against another party to the Protocol until the issues are resolved.

The really interesting questions are those that have no good solution. By this standard the issues concerning the use of riot-control agents and chemical herbicides are signally fascinating. Paradoxically, the complexity of these questions suggests a variety of solutions, since trade-offs in costs and benefits make a number of them roughly equivalent. The real danger is not making a mistake on riot-control agents and chemical herbicides, but that the search for a perfect solution will distract from the more important goal of strengthening the barriers against use of an increasingly sophisticated CB technology. Prompt United States ratification of the Geneva Protocol would close a major breach in the most important of these barriers and would be truly a giant step for mankind.