THE OTHER GAS CRISIS — CHEMICAL WEAPONS:

PART I

by

CHARLES H. BAY

> Soviet arms programs proved so difficult to pin down in agreements that we became tempted, some fifteen years ago, to make our own programs the effective target of arms control policy. Arms control, we reasoned, like charity should begin at home. In support of this policy, the theory was propounded that Soviet arms programs were merely a reaction to ours and if we practiced restraint, the Russians would follow suit. But, while we curbed and cancelled some armaments, the Russian buildup continued unabated. Our experiment in unilateral restraint ended in sad failure. The tragedy is that the pursuit of arms control has now become more difficult and dangerous precisely because we have frittered away our margin of safety.[1]

A long-standing national security objective of the United States is to eliminate the use of chemical weapons in war. In theory, US policies to achieve this objective have two major interrelated and complementary aspects. The first deals with chemical weapons arms control and disarmament; the second with military strategies and capabilities to deter and, if necessary, defend against chemical warfare. Essentially, chemical weapons arms control is to be pursued, and appropriate military capabilities are to be maintained, until such time as effective international agreements remove existing and future threats of chemical warfare.

In practice, the situation appears to have worked out quite differently over the last decade. The United States now seems neatly impaled on the horns of a dangerous dilemma with respect to its policies regarding chemical warfare. On the political and diplomatic fronts, the United States is publicly and firmly committed not just to the negotiation of limits on chemical weapons, but to what would be a far-reaching and precedent-setting accomplishment: complete chemical weapons disarmament. This commitment involves helping to develop, and becoming party to, a complete ban on chemical weapons as soon as possible. Frequent reaffirmations of this

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commitment, and optimistic projections as to when an agreement might be attained, have led to heightened expectations and considerable international pressure to produce. Unfortunately, the United States seems to be discovering—belatedly and to its chagrin—that an acceptable disarmament agreement, especially with the Soviet Union, may not be as readily available as some had believed, due primarily to differing views with respect to the degree of verification required.

On the military front, the US position for years has been that chemical weapons should be maintained as a specific and major component of its deterrent to chemical warfare (through the threatened sanction of retaliation in kind) and as part of its overall strategy of providing US and allied forces with effective nonnuclear options for use against chemical attack. However, the US stockpile has recently been described as "inadequate . . . aging . . . becoming obsolete."[2] Further, there is evidence of an extensive and continuing buildup in chemical warfare capabilities by the Soviet Union and its Warsaw Pact allies. It has even been asserted that, coincident with the unmistakable decline in US capability, the Soviets have improved their capability to a point where "now, among all comparisons of US/Soviet military capabilities, one of the most lopsided is that for chemical warfare and operations in resulting toxic environments."[3]

In response to these negative trends, Department of Defense officials have tried repeatedly in recent years to take steps in the direction of redressing the situation. Their objective has been modest. Rather than seeking to produce chemical weapons, they have sought merely a small amount of funds to begin construction of a production facility to insure that improvements to the US deterrent retaliatory posture could be made in a timely fashion should future circumstances so warrant.[4] In every case, the requested construction funds have been denied, largely on the premise that such action could have an adverse impact on attempts to negotiate a chemical weapons disarmament agreement.

Thus, the United States has deliberately—and apparently unilaterally—chosen to restrain an already deficient chemical weapons program on the one hand while attempting to negotiate an acceptable chemical weapons disarmament agreement on the other. The dilemma posed to US national security by the present circumstances derives from the fact that it has become increasingly apparent that an acceptable agreement is not likely in the near future and, indeed, that one may not be attainable at all. It is exacerbated by the alarming military dangers associated with continued self-restraint and the seeming incongruity to some of ending it.

Clearly, unilateral restraint has failed: substantive negotiating progress has not been achieved. Indeed, unilateral restraint itself may be the principal reason for that lack of progress. In any event, it has led to a serious depletion of the US deterrent stockpile. The fundamental question which must be answered is, "How should the United States now proceed with respect to chemical weapons, given the existing and prospective military and negotiating situations?" The answer is important because it is fraught with serious implications for the overall relationship between arms control and defense policies within the wider context of the national security of the United States.

A LONG-STANDING ARMS CONTROL ISSUE

Chemical weapons have so far eluded the repeated efforts of governments to ban their production and stockpiling through formal international agreement since the end of World War I, the first conflict involving their widespread use. The only agreement which has been successfully concluded in this area is the Geneva Protocol of 1925.

Although the Protocol is widely observed, it only declares that the *use* of poison gas and other chemical weapons in war is prohibited. It places no restriction on the development and possession of chemical weapons, and it lacks provision for enforcement. Because of these inherent weaknesses, many parties to

the Protocol, including the United States and the Soviet Union, formally reserved the right to retaliate in kind as a sanction against those who might use chemical weapons against their forces or allied forces. To lend credibility to this deterrent threat, the two superpowers and others have developed and stockpiled chemical weapons. Thus, just as the possibility of war persists despite international commitments to the contrary, the danger remains that some nation might decide to use its chemical weapons in war despite the Protocol.

In order to eliminate this possibility, the question of an outright ban on chemical weapons has been discussed within the United Nations framework for more than 20 years. The problem appeared to be intractable until 1971, when the Biological Weapons Convention was completed. This treaty accomplished two things which gave impetus to efforts aimed at resolving the chemical weapons issue. First, it became possible to deal with chemical weapons as a separate subject; in the 1960's and early 1970's, as well as previously, chemical weapons had been dealt with almost always in conjunction with biological weapons. And, second, the Biological Weapons Convention formally and legally committed the parties to continue to negotiate for a chemical weapons ban.[5] Although this commitment may seem no more realistic nor hold more promise than the commitment to nuclear disarmament which was undertaken by parties to the Nuclear Non-Proliferation Treaty, it is one which has been taken seriously by the United States.[6]

Thus, at the Moscow summit meeting in June 1974, President Nixon and General Secretary Brezhnev agreed to try to formulate a joint initiative on chemical weapons for presentation to the 31-nation Conference of the Committee on Disarmament (CCD), now the 40-nation Committee on Disarmament, in Geneva. The "joint initiative" would be used by the multilateral negotiating body as the basis for elaboration of an international treaty. The CCD had been discussing a chemical weapons ban since the late 1960's but had gotten nowhere. Presumably, the idea was that a joint US-USSR initiative would make the committee's work easier because the United States and the Soviet Union would have agreed, in principle and in detail, on what each could accept in a full treaty. The underlying assumption is that if these two countries, who are generally conceded to have the largest stockpiles of chemical weapons, cannot agree to the terms of a chemical weapons convention, it is unlikely that such a treaty could be successful.

The June 1974 agreement was reaffirmed by President Ford and Brezhnev at Vladivostok in November 1974, and in August 1976 bilateral US-USSR meetings were initiated in Geneva on the subject. Although largely obscured by SALT II and other nuclear arms control activities, the bilateral negotiations on chemical weapons were undertaken in a deliberate and detailed manner. In October 1977, Ambassador Adrian S. Fisher, US respresentative to the CCD and head of the US delegation for the bilateral talks, reported to the First Committee of the UN General Assembly:

> After years of much talk and study, but little concrete action, there has been important movement in the last few months towards a convention prohibiting chemical weapons. . . . We are making measurable progress.[7]

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However, after getting off to a good start, the bilateral talks seem to be tied up in that perennial Gordian knot of arms control and disarmament: verification. In May 1978, Vice President Mondale told the United Nations Special Session on disarmament that "our [bilateral] discussions on chemical weapons are proving . . . difficult. Any agreement on chemical . . . weapons must be adequately verifiable."[8] During the same month, the CCD was told in a joint US-USSR statement that "no agreement has yet been reached on certain important issues," and that those issues included "specific methods of verifying the destruction of chemical weapons stocks and disposition of the means of production for chemical munitions."[9] In January 1979, in conjunction with congressional hearings on the fiscal year 1980 Defense budget, the Organization of the Joint Chiefs of Staff reported:

> Progress in the US/Soviet [chemical weapons] talks during the past year and a half has not been substantive. Although agreement on various minor issues is possible, only a substantive shift by one of the parties on major issues, such as on-site inspection, declaration, destruction, and verification of stocks and facilities, would justify an optimistic outlook in the near future.[10]

A PROBLEM FOR DEFENSE PLANNERS

As previously indicated, the United States and others, although parties to the Geneva Protocol, reserved the right of retaliation in kind as a sanction against enemy initiation of chemical warfare. Thus, for years, the United States has retained a stockpile of chemical weapons and protective equipment and material to lend credibility to this deterrent threat. In recent years, however, maintaining chemical weapons for deterrence purposes, while simultaneously attempting to negotiate them out of existence, has created serious and perplexing problems for defense planners.

During the mid-1960's and into the early 1970's, several aspects of the US program for chemical weapons became highly controversial and politically sensitive. Opposition to the program received major impetus from the use of riot control agents and herbicides in Vietnam, and this opposition was intensified by several unprecedented and widely publicized incidents involving chemical weapons. In particular, the death of several thousand sheep in Utah associated with chemical weapons testing, the disposal at sea of substantial quantities of obsolete or leaking chemical munitions, and the accidental release of a chemical agent at a storage site on Okinawa attracted widespread public and congressional interest. These events, as well as opposition to the Vietnam War in general, generated a significant increase in national and international political pressures for a complete prohibition of chemical weapons. Occurring as they did during a period of increased concern about the environment, these events also resulted in the imposition of numerous legal constraints on virtually every activity associated with chemical agents and chemical weapons, including production, testing, storage, and movement.

Significantly, chemical weapons do not last forever; agents and munitions deteriorate. Delivery systems for which weapons are designed become obsolete and are phased out of the inventory. Julian Perry Robinson has published an interesting account on the US deterrent retaliatory stockpile in which he estimates that it consists of agents and munitions produced during World War II and shortly thereafter, as well as during the periods 1952-57 and 1961-68.[11] If this estimate is correct, most of the stockpile was produced before 1957, a good portion of the agents are in bulk storage (not usable until filled into munitions), and no munitions have been added to the stockpile since 1968. Indeed, a close reading of Robinson's account seems to indicate that the only activity which has taken place with respect to the US stockpile since 1968 has been the destruction or demilitarization of some obsolete munitions.[12]

Apparently the Department of Defense had developed the concept of binary chemical

munitions in the 1960's with a view toward eventually replacing its stockpile of conventional chemical weapons as modernization became necessary. Binary chemical weapons are not a radically new type of weapon: they contain two relatively safe, separate chemical components which combine while enroute to a target to form the same chemical agents found in existing chemical weapons. Although equal in military effectiveness, they offer significant advantages over current chemical weapons in terms of safety in handling, transportation, and storage. They also present a relatively simple disposal problem. They would, in particular, facilitate the accomplishment of essential peacetime activities which have been severely limited by legal constraints upon conventional chemical weapons.[13] However, by the mid-1970's, the Department of Defense found it impossible to proceed with planned binary programs due to the existing political environment.

The Army first asked for funds to construct a production facility in 1974. Although no money or authority for the actual production of chemical weapons was involved, the request was rejected by Congress. In 1975, the House Appropriations Committee deleted funds requested for fiscal year 1976, saying: "If no real progress is made in these negotiations [within the next year], the Committee may have to reappraise its position."[14] No request was made for fiscal year 1977, apparently in deference to the desire of Congress that at least another year be allowed for further arms control negotiations.

The Department of Defense resubmitted the construction request for fiscal year 1978, but that election-year bid was turned down by President Ford before it could get to Congress. In May 1977, shortly after taking office, President Carter directed a review of chemical warfare policy and posture. This review resulted in a Presidential decision stipulating no immediate policy changes but directing that the US stockpile of chemical weapons be "maintained without improvement."[15] It also called for another review of both policy and posture in 1978, pending the outcome of a year of bilateral talks with the Soviet Union on chemical weapons disarmament.

In January 1978, the Chairman of the Joint Chiefs of Staff testified before Congress that despite the condition of the US deterrent stockpile, despite the fact that "there is no evidence to suggest slowdown in Soviet efforts to improve their [chemical warfare] capability," and despite the fact that "little progress has been achieved to date" in the bilateral US-USSR talks, "efforts to improve the [US chemical weapons] retaliatory capability have been halted."[16]

In September 1978, General Alexander Haig, then NATO's Supreme Allied Commander, told the press that NATO's ability to wage retaliatory chemical operations, and hence its ability to deter chemical warfare, is "very weak" and that this situation is "related intimately with ongoing efforts to ban chemical weapons." He went on to say that "at some point in the very near future, this [situation] will have to be reassessed."[17]

In January 1979, the Associated Press reported that, once again, funds for construction of a binary chemical weapons production facility had not survived the budgetmaking process—in this case, for fiscal year 1980. By way of explanation, Secretary of Defense Brown said that "President Carter made a policy decision against it because of US-Soviet efforts to control chemical weapons."[18]

CHEMICAL WEAPONS DISARMAMENT IN PERSPECTIVE

A clear understanding of the distinction between disarmament and arms control is necessary to put the chemical weapons issue in perspective.

> Arms control includes all those actions, unilateral as well as multilateral, by which we *regulate* the levels and kinds of armaments. . . . Disarmament . . . describes a particular kind of arms control—efforts to specifically *reduce* military forces [and weapons] and perhaps ultimately to eliminate them.[19]

It should be obvious to even the most casual observer that arms control is no longer an intermittent enterprise for the United States. The growing number of agreements, active negotiations, and political commitments to it as a goal, and the unilateral actions taken with arms control as the stated rationale, testify to the importance arms control has come to assume in US foreign and national security policies.[20]

What is less obvious, however, is that arms control negotiations and agreements do not always include disarmament. Indeed, while the agreements reached over the last 20 years form an impressive record in terms of sheer numbers, they are conspicuous for their individual and collective failure to result in any palpable reduction in, or elimination of, existing weapons or forces.[21]

The Partial Test Ban Treaty (1963), the Outer Space Treaty (1967), the Seabed Treaty (1971), the SALT I Agreements (1972), and the Threshold Test Ban Treaty (1974)—to list but a few—are illustrative. Many cite them as "progress"; others argue that these agreements have only been in areas where "the superpowers did not deny themselves anything of value"[22] or that not one "has prevented any nation from doing anything militarily significant that it would have done in the absence of agreement."[23] Regardless of how one views them, the fact remains that none of the agreements have produced any substantive disarmament. Perhaps the most that can be said about the arms control agreements of the past decade is that they have placed additional psychological and political barriers in the way of outcomes that were unlikely in any case.

All of this serves to underscore the significance of the current chemical weapons negotiations. Here the possibility of a true disarmament measure—not simply another arms limitation—is being dealt with. An entire class of *existing*—rather than theoretical—weapons is involved. Hence, the destruction of all existing chemical weapons and a complete prohibition of the development, production, and stockpiling of additional chemical weapons would be a significant and historic breakthrough for disarmament, dramatically altering the existing record. In this light, such an agreement could be more significant than SALT II. Successful or not, the outcome of the chemical weapons negotiations is bound to have far-reaching consequences for future disarmament proposals in terms of what is attainable and what provisions the United States is willing to accept with respect to major issues such as verification.

THE ESSENTIALITY OF VERIFICATION

It is a widely accepted view that arms control and disarmament agreements should not rely merely on the good faith of, nor trust in, the parties to them.[24] This means that each agreement must permit an adequate determination as to whether its provisions are being carried out. Verification is the process by which the United States can determine that the Soviet Union and others are not cheating, and vice versa.[25] In fact, a disarmament agreement without adequate verification would seem to be a contradiction in terms: it would not lessen but could increase the risks of conflict; it would not diminish the incentives to producing weapons but could make the temptation stronger. Unfortunately, dispute over verification provisions has been a—if not *the*—major stumbling block to real progress in the disarmament field over the years.

While arms control agreements have been reached, they have featured verification primarily based upon "national technical means"—sophisticated methods of data collection such as photoreconnaissance satellites and other photographic means, radar, electronic surveillance, seismic instrumentation, and air sampling, none of which operate on the territory of the party being monitored. The leaders of the Soviet Union have never permitted actual on-site verification of an arms control agreement on Soviet territory.[26]

In the case of a chemical weapons agreement, the major difficulty is that chemical weapons and the facilities associated with them cannot be adequately

monitored by national technical means. From off-site, chemical weapons cannot be distinguished from conventional munitions and production facilities cannot be reliably differentiated from commercial chemical plants. If the destruction of chemical weapons and the disposition of related facilities could be monitored by national technical means, or if the Soviet Union were an open society in which cheating by a government might be discovered by an alert and independent press, an agreement without provision for on-site verification might be acceptable and even advantageous to the United States.

However, the Soviet Union is not an open society and it, like others, is not fastidious about adhering to international agreements.[27] In its closed society, little is publicly revealed concerning any kind of weapon or weapons development. According to Nobel Peace Prize winner Andrei Sakharov, everything with respect to armaments is hidden behind a mask in the Soviet Union, not only from foreigners but from Soviet citizens as well.[28] Conversely, there are very few chemical weapons secrets that cannot be discovered in the open US society. Congressional reports and open hearings, press reports, and a vast range of published data on US military programs are available to all.

A good example of available information is the research by Julian Perry Robinson which was previously cited. With only unclassified sources, he has been able to construct in great detail an estimate of the US chemical weapons stockpile and related facets, such as production and storage sites, capacities, and dates of production. While it is impossible to evaluate the accuracy of Robinson's estimates without reference to classified information, it is interesting that his attention, in his article as in others, is focused on the Western countries in general and the United States in particular. This would seem to demonstrate the relative availability of information, at least with respect to chemical weapons programs, between the open and closed societies in question.

Moreover, the very nature of US society would make it extremely difficult, if not impossible, for the government to carry out any large-scale evasion or violation of a chemical weapons disarmament agreement, even if it desired to do so. Given the disparate nature of the two societies, it is not surprising that the United States insists upon the need for a degree of verification reliability in a chemical weapons disarmament agreement for which the Soviet Union does not feel a corresponding requirement.

THE DISAPPOINTING SOVIET POSITION

In referring to the bilateral US-USSR chemical weapons negotiations, US Ambassador Fisher said in January 1978:

> The two 'hardest nuts to crack' before the current negotiation is completed . . . concern agreement on how to verify destruction of stockpiles of chemical weapons and disposition of plants for making them. The US wants to see on-site verification measures for these two steps written into an eventual treaty.[29]

In January 1978, Soviet Ambassador V. L. Likhatchev, also referring to the bilateral chemical weapons negotiations, said:

> The Western countries . . . place the main emphasis on the establishment of international control . . . with mandatory inspection on the spot. To meet the Western countries half way, the Soviet Union has proposed that inspection on the spot in the case of any suspicion arising about an infringement of the convention should take place on a *voluntary* basis. . . . The complications arising on the problem of [verification] are being created by the Western countries and . . . artificially.[30]

The Soviet Union and the other "socialist" (a euphemism for "Communist" popular in international forums) countries have proposed what they call:

> . . .a comprehensive and harmonious system of checks on the implementation of [a

chemical weapons] convention by participants. This system provides first and foremost for a measure of national [verification] as well as a number of international procedures.[31]

The Soviet position on verification seems to be this: "first and foremost," verification by "national means," supplemented by "on-site verification on a voluntary basis" should a suspected violation occur. (This latter is a variation of what is sometimes called a "challenge inspection.")[32] While superficially appealing, it is necessary to get behind the rhetoric to understand why this position is, in effect, one of no verification at all. "National means," as differentiated from "national *technical* means," is a code word for self-inspection; that is, each party would be its own policeman. "On-site verification on a *voluntary* basis" seems to mean that the party suspected of a violation, and on whose territory an on-site visit is requested, can "volunteer" to permit it or can simply reject it. Thus, the United States and other potential parties to a chemical weapons convention are being asked, in effect, to accept on faith that the Soviet Union will destroy its stocks of chemical weapons and dispose of related production facilities as agreed, with the prospect that should a question concerning Soviet compliance arise, an on-site visit could be requested, although there would be no guarantee that it would be permitted.[33]

During his Senate confirmation hearing, Paul Warnke, former Director of the US Arms Control and Disarmament Agency, said, "Any agreement which is not verifiable is worse than no agreement at all."[34] It appears that what the Soviets are proposing would indeed be worse than no agreement. The basic and essential justification for the chemical weapons negotiations is that soundly conceived, effective, and verifiable arms control and disarmament measures can contribute to the security of the United States. However, a chemical weapons agreement such as that apparently being proposed by the Soviets, without on-site verification but with the possibility of asymmetrical consequences, could only be justified if the United States feels it can trust the Soviet Union to observe the agreement. Indeed, it could be argued that if the United States could trust the Soviets, there would be no need for the current negotiations, since the Geneva Protocol of 1925 already outlaws the use of chemical weapons. For that matter, as members of the United Nations, both countries are legally bound to its Charter, which prohibits war.[35]

Given the disparity in the positions of the two sides on verification and the apparent advantage that the Soviet Union has over the United States and NATO in chemical weaponry, the question arises as to why the Soviets are negotiating on chemical weapons at all. There are numerous possibilities. Among them certainly is the chance that they are genuinely interested in chemical weapons disarmament. On the other hand, they may simply wish to arrest the chemical weapons potential of the United States. They may see the negotiations as a low-cost effort to discover if something can be obtained for nothing; that is, curtailment of the US chemical weapons program while the negotiations are ongoing and, possibly, an eventual agreement without provision for adequate verification, wherein the United States disarms its capability while the Soviet Union is free to proceed as it chooses.

The stabilizing effect of verification measures is illustrated by experience gained with the Biological Weapons Convention. Without provision for verification, it required destruction of existing stocks within nine months of entry into force of the convention. Although not required by the convention, no country other than the United States gave notice of such an act of destruction. Destruction of all US stocks of biological agents and toxins, with the exception of laboratory quantities of such agents to support defensive research programs, was completed amid much publicity. Biological warfare facilities and laboratories were converted to major environmental and health missions. In

contrast, the Soviet Union simply announced that it "did not possess any biological agents or toxins."[36] Subsequent—although infrequent—news reports of biological weapons activity by the Soviets have led journalists to question if the Soviet Union actually complied with the terms of the Biological Weapons Convention.[37] The treaty, however, does not provide any mechanism for dealing with such destabilizing suspicions.

The method frequently suggested for resolving cases where treaty violations are suspected is the so-called "challenge inspection." Under this approach, a state which suspects illegal activity by another state could ask to make an on-site inspection. While no better approach to dealing with suspected violations has been devised, this challenge inspection has its own weaknesses. Suppose, for illustrative purposes, that suspected violations of an arms control agreement by the Soviets were sufficient to draw up a good—if circumstantial—case for requesting an on-site inspection or for US abrogation of the treaty without evidence to the contrary. What action could be expected from any US administration which had promised "progress" in the arms control field and which was pursuing further agreements in an era of detente? Would it be willing to go public or to terminate an existing agreement in response to a suspected violation that could not be substantiated short of on-site inspection or war? Would it be likely to admit that all the previous comforting statements about an agreement were wrong? Certainly there would be a very great reluctance to do so.[38]

Shortly after conclusion of negotiations on the Biological Weapons Convention, the Soviets and their allies tabled a draft chemical weapons convention in the CCD. The draft was modeled very closely on the biological weapons treaty and provided only for national means of verification.[39] The Soviets may have believed they could persuade others to use the Biological Weapons Convention as a model for a chemical weapons agreement, but it soon became obvious in the CCD that, as the representative of Sweden remarked, "The absence, in the [Biological Weapons Convention], of any continuous verification measures would not be acceptable in a convention on chemical weapons."[40] The Yugoslav delegation noted:

> The problem of verification is emerging as a key issue and the solution of the whole problem will largely depend on whether a functioning, reasonable and politically acceptable verification system is possible.[41]

Nevertheless, the Communist countries have continued to assert that the only solution to the chemical weapons verification problem is in procedures such as proposed in their 1972 draft convention because "on-site inspections would be technically immensely demanding and could not be carried out without negative consequences for the sovereign rights of contracting parties."[42]

Another disappointing aspect of the Soviet position has been the apparent unwillingness of the USSR and its allies to participate in activities aimed at increasing the understanding among countries of the problems associated with the verification of chemical weapons disarmament. The United States hosted a Pugwash Workshop in May 1978. Visits were made to a US Army chemical munitions destruction facility and an industrial pesticide production plant in order to provide the international group with an opportunity to assess stockpile destruction possibilities firsthand to explore questions related to verification of the nonproduction of chemical agents. Respresentatives from numerous countries attended; however, no representative from the USSR or the other socialist countries accepted the proffered invitation. Verification workshops, designed to demonstrate that on-site inspection of commercial chemical production facilities to verify the nonproduction of chemical agents is possible without undue intrusion or revealing the legitimate secrets of the chemical industry, were hosted by the Federal Republic of Germany and the United Kingdom in March 1979. In these instances, of the Communist countries, only maverick Romania chose to participate.

Thus, we come to this: Negotiations for a chemical weapons disarmament agreement have been actively pursued in a multilateral forum since the late 1960's and as a bilateral effort since 1976. Some progress may have been made in narrowing differences on some aspects. However, long-standing positions on verification remain unchanged. The United States continues to believe that on-site verification is essential for such an agreement; the Soviet Union remains adamant in its disagreement. Meanwhile, the United States has deferred action toward modernizing the major component of its deterrent to chemical warfare, its chemical weapons stockpile. Simply by negotiating, the Soviets appear to have effectively tied US hands on binary chemical weapons and have achieved an even greater military advantage in this area. The hope that the Soviets would emulate US restraint has proven to be wishful thinking.

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Part II, the concluding portion of this article, will appear in the December issue of Parameters. *In it, the author discusses the military implications of the chemical weapons crisis, with detailed analysis of the threat posed to Western security.—Editor*

NOTES

1. Fred Charles Ikle, "What It Means to Be Number Two," *Fortune*, 20 November 1978, p. 82.

2. US Department of Defense, *United States Military Posture for FY 1979*, posture statement presented to the 95th Cong., 2d Sess., 1978, by Chairman of the Joint Chiefs of Staff George S. Brown (Washington: US Government Printing Office, 1978), p. 90. Hereafter cited as *Military Posture, FY 79*.

3. Amoretta M. Hoeber and Joseph D. Douglass Jr., "The Neglected Threat of Chemical Warfare," *International Security*, 3 (Summer 1978), 55.

4. A production facility is, of course, a precondition for weapons production. Without one immediately available, the United States could not hope to produce new munitions quickly enough to be of value in the event of a war in Europe—even assuming an optimistic warning time. This is because of the time that would be required simply to construct a production facility. The actual production of new weapons would take still more time. In World War I, for example, it took the Allies 5 months to retaliate with chlorine and almost 11 months with mustard even though both were available commercially. Such delays in modern warfare could not be tolerated.

5. Article IX, "Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on Their Destruction," signed at Washington, London, and Moscow, 10 April 1972:

> Each State party to this convention affirms the recognized objective of effective prohibition of chemical weapons and, to this end, undertakes to continue negotiations in good faith with a view to reaching early agreement on effective measures for the prohibition of their development, production and stockpiling and for their destruction, and on appropriate measures concerning equipment and means of delivery specifically designed for the production or use of chemical agents for weapon purposes.

6. Article VI, "Treaty on the Non-Proliferation of Nuclear Weapons," signed at Washington, London, and Moscow, 1 July 1968:

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

7. "Excerpts of an Address by Adrian S. Fisher, Before the UN General Assembly, October 18, 1977," *Daily Bulletin*, US Mission, Geneva, 20 October 1977, p. 4.

8. Walter Mondale, address to the UN Special Session on Disarmament, text in "ARMS CONTROL: U.N. Special Session on Disarmament Convenes," *Department of State Bulletin*, 78 (June 1978), 33.

9. Conference of the Committee on Disarmament, *Final Record of the Seven Hundred and Eighty Eighth Meeting*, publication number CD/PV 788 (Geneva: Conference of the Committee on Disarmament, 12 May 1978), pp. 6-7.

10. Organization of the Joint Chiefs of Staff, *United States Military Posture—A Supplement to the Chairman's Overview for FY 1980* (Washington: Organization of the Joint Chiefs of Staff, January 1979), p. 42.

11. J. Perry Robinson, "Binary Nerve-Gas Weapons," in *Chemical Disarmament: New Weapons for Old* (Stockholm: Stockholm International Peace Research Institute, 1975), pp. 21-99.

12. The existing stockpile may actually be older. A report prepared for the US Arms Control and Disarmament Agency indicates that production actually took place during the periods 1954-55 and 1961-66. See A. R. Hylton, "The History of Chemical Warfare Plants and Facilities in the United States," in *Studies on the Technical Arms Control Aspects of Chemical and Biological Warfare* (Kansas City, Mo.: Midwest Research Institute, 13 November 1972), pp. 75 and 93.

13. For example, *The New York Times* reports that the Army has been trying for more than a year to move about 900 conventional chemical bombs containing "more than 300,000 pounds of deadly nerve gas" from near Denver to a base in Utah in order to save millions of dollars in maintenance and operating costs. Using a variety of ploys (the possibility of earthquakes, etc.), the Governor of Utah has successfully blocked such a move to date. Binary chemical weapons would alleviate such concerns. See "Army Planning to Shift 900 Bombs With Nerve Gas to a Base in Utah," *The New York Times*, 4 May 1979, p. A17.

14. US Congress, House, Committee on Appropriations, *Report, Department of Defense Appropriation Bill, 1976*, 94th Cong., 1st Sess., 1975, p. 187.

15. *Military Posture FY79*, p. 91.

16. *Ibid.*, pp. 90-91.

17. "NATO Readiness for Chemical Attack 'Still Highly Unsatisfactory,' Haig Says," *The Los Angeles Times*, 23 September 1978, p. 25.

18. "Women Should Register, Brown Says," *The Washington Star*, 30 January 1979, p. 4.

19. US Arms Control and Disarmament Agency, *Arms Control Report* (Washington: US Government Printing Office, July 1976), p. 3.

20. There is a wealth of examples of the American commitment to arms control and disarmament. President Carter made a special trip to the United Nations to emphasize that commitment in October 1977. Vice President Mondale has said that disarmament must be the "moral agenda of our time." Indeed, it would be rare to hear any member of Congress or any political leader speak publicly against the *concept* of arms control and disarmament. That concept has achieved a political status in the United States closely akin to motherhood and apple pie.

21. The Biological Weapons Convention is believed by some to be the single exception. How this agreement should be characterized is contentious, as will be discussed.

22. Samuel F. Wells Jr., "America and the 'MAD' World," *The Wilson Quarterly*, 2 (Autumn 1977), 71.

23. George W. Rathjens, "Changing Perspectives on Arms Control," in *Defense Policy and Arms Control*, ed. by Franklin A. Long and George W. Rathjens (New York: W. W. Norton and Company, 1976), p. 205.

24. Fortunately, only the most zealous seem not to agree. For example, Alva Myrdal says that "verification is no substitute for trust. The sincere willingness of all parties to a treaty to honor their obligations should be the basis for concurrence." She fails to specify how "sincere willingness" can be assured. Alva Myrdal, *The Game of Disarmament: How the United States and Russia Run the Arms Race* (New York: Pantheon Books, 1976), p. 300.

25. Verification is a multistep process. First, there is the acquisition of evidence or data with respect to performance under the terms of an agreement by monitoring or inspection. This is the aspect emphasized here. However, there must also be an evaluation of the physical evidence and data collected, a determination made as to whether a violation has occurred, and, if so, what is to be done about it. This latter aspect is political and subjective, as will be discussed.

26. And, with one exception, they have never become party to an agreement providing for same. The single exception is the Peaceful Nuclear Explosion Treaty, signed in 1976 but not yet ratified by the United States, which is to govern underground nuclear explosions outside test sites. It calls for appropriate notifications and acceptance of observers into an explosion area if the aggregate yield of the explosives is to exceed 150 kilotons. This provision has never been exercised and it is unlikely that it ever will be. In the unusual event that the Soviet Union ever desires to use nuclear explosives for a peaceful purpose, such as fracturing rock to obtain access to minerals or natural gas, several nuclear devices with an aggregate yield below the treaty threshold would suffice to evade the requirement for observers.

27. For example, Luttwak says that although "the Soviet Union has violated many treaty commitments, this has mostly occurred in its dealings with the weak." He adds, however, that the Soviets constantly probe existing agreements to exploit gaps in American vigilance and "the United States has consistently allowed Soviet probing to develop without effective challenge." Edward N. Luttwak, "Why Arms Control Has Failed," *Commentary*, 65 (January 1978), 19-28.

28. Harvey A. DeWeerd, "Verifying the SALT Agreement: Must It Be By Faith Alone?" *Army*, 28 (August 1978), 16.

29. "Fisher Sees Progress in US-Soviet Effort to Produce 'CW' Proposal for CCD," *Daily Bulletin*, US Mission, Geneva, 18 January 1978, p. 3.

30. "International Situation—Questions and Answers," *FBIS Daily Report (Soviet Union)*, 10 January 1978, pp. A2-A3.

31. *Ibid.*, p. A2.

32. *Ibid.*

33. Myrdal says that some nations "fought valiantly" for procedures to assure objective, impartial handling of complaints about compliance during the Biological Weapons Convention negotiations, but "the Soviet Union just stonewalled." Myrdal, p. xxv.

34. "Mr. Warnke's Latest Brainstorm," *The Wall Street Journal*, 11 April 1978, p. 24.

35. It defies belief that the Soviet Union, which would break its UN Charter obligation in going to war, would keep other paper promises not to fight with certain weapons if it had them, saw them as useful in achieving its objectives, and perceived no additional cost or risk from their use.

36. Myrdal, p. 276.

37. The latest of these is "New War Germs 'Bred in Russia,'" *The Times* (London), 31 January 1978, which discusses heavily guarded "biological research and production centers." Similar accounts have been carried in US newspapers.

38. Amron H. Katz notes in *Verification and SALT—The State of the Art and the Art of the State* (Washington: Heritage Foundation, 1979), p.8:

> The threat of abrogation is always held out as a deterrent to violations. But is the threat a deterrent? Political inertia or momentum—the desire to keep things going—and the unusability of evidence are two strong factors, among others, that may inhibit abrogation as a response to a treaty violation. Political inertia is the natural spin-off of a long, hard negotiating process that usually precedes a treaty. 'Keep it going, the treaty is part of a larger picture,' proponents might argue, and with some reason, to those who, having perhaps a narrower—and sharper—vision, may be willing to abrogate the treaty for a single violation. A treaty will have much going for it; evidence of a violation may be downplayed or reinterpreted. Even were it agreed that a violation occurred, it may be judged to be insignificant. . . . Perhaps other negotiations, or tacit understandings, may be imperiled.

39. It is possible to conjecture why the United States became party to a biological weapons agreement without provision for verification. The United States was under intense international pressure to do something about chemical and biological weapons because of Vietnam and US use of riot control agents and herbicides there. Thus, the United States unilaterally renounced the use of biological weapons under any and all circumstances. Having done so, the Biological Weapons Convention became *pro forma*. One is reminded of the old saying about somebody tumbling into a grave he has dug for himself. The United States was simply not in a political position to hold out for effective verification even had it wanted to, and more political mileage could be gained by going along with an unverified agreement than by not doing so.

40. US Arms Control and Disarmament Agency, *Documents on Disarmament: 1973* (Washington: US Government Printing Office, 1975), p. 447.

41. *Ibid.*

42. Conference of the Committee on Disarmament, *Final Record of the Seven Hundred and Seventy First Meeting*, publication number CD/PV 771 (Geneva: Conference of the Committee on Disarmament, 14 February 1978), p. 7.