CHEMICAL WARFARE AND THE MILITARY BALANCE

by

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The great debate over the military balance between the United States and the Soviet Union contains conflicting opinions about which is superior, or intends to be, and about whether the two superpowers have equal, offsetting strengths. If there is something close to a consensus about anything in this area, it is that the ability of either side to use its strategic nuclear forces for other than deterring direct attack on their respective homelands is questionable. That is to say, to choose an example, that war in Central Europe is not likely to be deterred or resolved by either's capacity in strategic nuclear forces—as such. At best, strategic forces are the "threat that leaves something to chance,"[1] an implied last-ditch choice to try to gain what might otherwise be lost on the battlefields of Europe.

The strategic standoff, by definition, works on both sides. The Soviet Union, no more than the United States, can use its strength in strategic forces to intimidate an ally of the opposing superpower. It follows then that the political influence that comes from intimidating military strength is more likely to be found in "usable" capabilities, those kinds of force which would be more likely to meet on a battlefield. One of these—chemical weapons—has largely been ignored in the strategic debate.

THE BASIS FOR CONCERN

Chemical warfare (CW), the use of chemical weapons by one or both sides in war, has not occurred on a significant scale since World War I. Although the lethality of chemical agents and the sophistication of delivery means have changed dramatically since that time, only superficial attention has been given to the implications of CW for the overall deterrent posture of the United States and its European Allies. In military circles, attention seems to be focused on the multitude of pressing nuclear and conventional force issues. Prestigious organizations such as the International Institute for Strategic Studies (IISS), widely considered as studious centers for reliable information and research on

military power and the problems of international security and defense, rarely mention the subject.[2] What passes for debate on CW in the Congress and the media is frequently characterized by attention-getting but sophomoric allusions to such things as "weapons of mass murder" and "the 100 million lethal doses of nerve gas stored at Rocky Mountain Arsenal."[3] None of these contribute to a fuller understanding of CW or to determining what chemical weapons might mean in the context of a US/NATO-USSR/Warsaw Pact confrontation.

An examination of several pertinent questions should illustrate why CW deserves closer attention. First, how militarily effective are chemical weapons? Subsequently, we will want to look at possible roles for chemical weapons in Europe and what they might mean, within the context of rough strategic nuclear parity, for NATO's deterrence and defense strategies.

It must be conceded from the outset that no one can say with absolute certainty how effective modern chemical weapons are or could be, for they have never really been used in battle. Although there are indications that some of these chemical agents may have been used on a small scale in several conflicts since their development (e.g., Yemen, Iraq, along the Ussuri River), the evidence is at best inconclusive and, in any event, generally disregarded. Both proponents and opponents of such weapons have probably overstated their respective cases. However, given what is known about available agents and munitions, together with what can be reasonably well inferred with respect to the future battlefield, it seems possible to develop some useful general estimates in this area.

First, the knowns. Modern chemical agents, especially the so-called "nerve agents," can kill or disable. Their effects can occur within minutes of exposure to casualty-producing dosages (very small amounts, in the case of some of the more toxic nerve agents). Some agents, being relatively volatile, primarily pose an inhalation hazard of fairly short duration (they are often referred to as "nonpersistent" agents). Other relatively nonvolatile agents can effectively contaminate any materiel, buildings, or terrain upon which they settle. These latter, referred to as "persistent" agents, cause casualties by either inhalation or by penetration of the skin or eyes, and thus can present a contact hazard of fairly long duration. The danger that these agents pose is heightened because they can be odorless and invisible and, in volatile form, can penetrate structures, fortifications, armored vehicles, or anything that is not airtight.

It is also known that modern chemical agents can be packaged in a wide range of ground and air munitions. For this reason, they could have application throughout the entire continuum of warfighting categories, from terrorist activities to strategic nuclear war, although it appears likely that it is the tactical aspects of CW which should be of the greatest concern. Because chemical agents can be delivered by a wide range of weapons and delivery systems which include land mines, artillery, rockets, missiles, and aircraft, they can be employed over an extensive area within a theater of operations. Thus, they could be used against deeper support units and facilities or even city/industrial areas, as well as against targets in the immediate battlefield area.

Given these knowns, it would be fairly easy to conclude that modern chemical weapons would invariably be extremely effective. However, there are several factors which must be taken into account before drawing any such conclusion. Weather is one such factor. Wind speed and direction, temperature, and precipitation—for example—bear heavily on the effectiveness of chemical weapons, particularly the more volatile (or nonpersistent) ones. Considerations of troop safety and collateral effects (that is, death or injury to civilians) could also limit their usefulness in some cases. Because a chemical agent cloud can extend the effect of chemical munitions beyond their point of release, the hazard to friendly troops and noncombatants would have to be taken into account before employment. Still another factor to be reckoned with is the level of enemy protection against chemical agents or

weapons. Since it is at least theoretically possible to obtain virtually total protection from the effects of chemical weapons, the status of an enemy's CW defenses obviously warrants some consideration before initiating their use.

The degree to which these factors (weather, troop safety, collateral effects, and especially an enemy's CW protective posture) might figure in the calculations of an enemy considering the use of chemical weapons is a matter of considerable dispute. Some assert that because of them, "no government is likely to authorize initiation of chemical warfare for [such] unpredictable, perhaps marginal, gains."[4] Still others hold that "modern chemical weapons, used massively or on a wide scale and coordinated with overall strategy, fire-planning, and schemes of maneuver so as to capitalize on the advantages to be obtained, have the potential to decisively influence the course of war in a variety of possible scenarios."[5]

What are prudent men, wrestling with the policy and planning issues involved, to believe? Again it seems possible to postulate some usable parameters by synthesizing what is known with what is unknown.

Chemical agents can kill and disable, quickly and—under some circumstances—over fairly large areas. Some can pose a casualty-producing hazard of fairly long duration. They can be employed against any kind of target anywhere from the immediate battle area to the rear of a theater of operations. Their predictability and reliability (hence their effectiveness and their utility) will at times be affected by weather and by troop safety and collateral effects considerations. However, these appear to be independent variables, at least to the degree that they cannot singly or together be depended upon to preclude *any* use of chemical weapons under any and all circumstances. For example, weather does change, and target locations well away from friendly forces serve to reduce troop safety problems. Collateral effects, if one is really concerned about them, may be minimized through the careful application of target analysis procedures and definitive rules of engagement.

The state of an enemy's CW protection similarly appears to be an uncertain factor. It has been argued that the more efficient one side's protection, the less the value of the other side's chemical weapons. (Efficiency as used here means lack of interference with routine activities of the user.) But today's state-of-the-art CW protection seems to be highly inefficient. Wearing protective equipment quickly tires the individual soldier and impedes his ability to use his weapons or to operate instruments or machines. In fact, ordinary matters such as eating, drinking, and body elimination can become complex problems. The collective impact of being forced into a protective posture is to lower the fighting efficiency of combat units. Since a user of chemical weapons does *not* seem to require the same level of protection as a defender against the same weapons, the present state-of-the-art could result in a situation favoring the attacker and be a major consideration in determining whether chemical weapons are to be used. Certainly it would be prudent for the user to be prepared to assume the degree of protection of a defender at a moment's notice (especially if retaliation in kind could be expected) and to exercise caution relative to areas known to be contaminated. However, a user's overall protective stance could be considerably less stringent than the defender's. Artillerymen, for example, would not have to wear protective gear when handling chemical munitions in combat, and the safety of front line units can be taken into account when planning fire missions. Also, it may be assumed that maneuver forces will know where a friendly chemical attack has taken place and can either delay their entry into the area, take protective measures and enter the area, or avoid it altogether. So it would appear that, given present defense technology, the impediments that CW protection can be expected to impose might themselves provide considerable inducement for using chemical weapons. This is in no way intended to understate the importance of CW protective

capabilities in reducing the attractiveness of initiating CW. But on the basis of available evidence, it may be unreasonable to conclude, as some apparently have, that possession of an impressive protective posture would, of and by itself, largely dissuade an enemy from using chemical weapons.[6] Quite the reverse may be nearer the truth.

Chemical warfare is undoubtedly unique, not only for its certifiable killing power, but also because of its potential ability to alter the nature of combat. Perhaps the Stockholm International Peace Research Institute (SIPRI), an organization not known for its advocacy of either chemical weapons or CW, has best described this potential:

> The fact of one belligerent embarking on [chemical warfare] cannot fail to have a profound influence on the future conduct of the war (and, for that matter, on the conduct of future wars):
>
> A battlefield where [chemical warfare] agents are present would differ markedly from one where they were not. The whole process of tactical maneuver, of using weapons and equipments and of supplying forward units would become considerably more complicated. A [chemical] regimen would have to be enforced at all times, with troops either wearing [masks] and protective clothing, or having them immediately at hand. Elaborate arrangements would be needed for the servicing of these equipments, for decontamination, and for the resting of combat troops. Careful reconnaissance by [chemical agent] detection patrols would be necessary before moving positions. Special medical supplies and decontaminants would have to be moved up to all forward areas, and sufficient time for their use would have to be fitted into the scheduling of operations. The latter would also have to take into account the likelihood of reserves being needed earlier than usual, for in a [chemical] environment, the length of time for which a given combat unit can operate effectively will be shortened.[7]

Thus chemical weapons are not just another weapons system. In terms of substitutability, there does not appear to be any other type of weapon or weapons, including nuclear, which can produce quite the same effects. Indeed, it does not seem unreasonable to conclude that any type of weapon or method of warfare which, in addition to being deadly, can give rise to the type of battlefield havoc described by SIPRI could be very effective militarily. Admittedly, as with modern nuclear weapons, there is no historical record upon which to base such a conclusion. All knowledge in this respect must of necessity be inferential. However, and to put it another way, there is certainly no evidence to indicate with a high degree of assurance that chemical weapons could not be employed in a militarily effective manner.

CHEMICAL WEAPONS IN A NATO CONTEXT

What, then, could chemical weapons mean within a context of rough strategic nuclear parity for NATO's deterrence and defense strategies? To answer this question, it is necessary to first review some of the roles CW and chemical weapons might play in the context of a NATO-Warsaw Pact confrontation and then to determine how they might be dealt with by NATO.

One of the best unclassified expositions on how the Soviet Union might use chemical weapons has been set out by Dr. Julian Perry

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Robinson, considered by many to be an international authority on CW matters and certainly a leading advocate of CW arms control:

> The conception of how the USSR intends to use its chemical weapons that is now rooted in the Western open literature on the subject (e.g., Martin, 1973; Finan, 1974; Donnelly, 1976; Volz, 1976) appears to have been built primarily upon an assessment by John Erickson (1971). For the European central front, the general picture presented is this. Soviet forces are structured in accordance with the principle of the primacy of offensive action: they are equipped, trained and organized to fight a very fast-moving type of campaign in which Tank and Motor Rifle armies move forward rapidly on independent lines of advance with open flanks, and in which there are initial mass nuclear strikes in great depth (to 800 km) designed to destroy the enemy's capacity for effective resistance. CW weapons would be used to complement the nuclear strikes against targets for which TNWs [tactical nuclear weapons] would be inappropriate, and in which CW weapons offered surprise or served to protect Soviet forward elements. The types of target thought likely to attract CW attack are both battlefield and interdiction targets. Thus, on the battlefield, CW weapons might be used:
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> (a) in a concentrated, surprise mode close to the forward edge of the battle area (where TNWs might create disadvantageous obstructions) in order to cause heavy casualties at the particular sector or sectors of NATO's forward defense selected for penetration; multiple rocket launcher or tactical-air systems dispensing nonpersistent CW agents would be the weapons of choice;
>
> (b) for the preparation of drop-zones for surprise airborne assaults or to facilitate the establishment of bridgeheads, both being circumstances in which area casualty effects with minimum physical destruction might be sought;
>
> (c) for the destruction of pockets of NATO defense forces bypassed and isolated by rapid Soviet/Warsaw Pact advances; chemical weapons might be chosen for their economy in terms of munitions expenditure and for their absence of collateral blast damage;
>
> (d) in a defensive mode to spread persistent chemical agents so as to protect the flanks of a Soviet advance or to block off particular avenues of possible NATO counterattack; favorable ground would either be denied to NATO forces or be usable only if NATO forces burdened themselves by assuming a full antichemical protective posture;
>
> (e) to assist in imposing tactical discontinuity by isolating forward NATO forces from logistical support and reserves; here, CW weapons might be used in preference to TNWs against shallow interdiction targets that Soviet forces might later need to use themselves: rail and road bottlenecks, airfields, etc.;
>
> (f) for the harassment of NATO supply lines, supply centres and reserve forces; such a use would exploit the major disorganizations that might be wrought by even a light attack with persistent agents.[8]

As Dr. Robinson goes on to note, all of the cited applications of chemical weapons are conceived as part of a nuclear war scenario. He attributes this in part to the dearth of published commentaries on the manner in which Soviet forces might use chemical weapons in support of conventional war, "no doubt because of the long-standing and widely-held view that a conventional war in Europe is even less likely than a nuclear war."[9]

Accepting, for our present purposes, that these are the most likely types of chemical weapons applications, is it possible to assume that they could also be employed independently of nuclear weapons? If, for example, we remove the nuclear component from these applications, could the CW element still contribute to the initiator's success in a conventional war? It seems entirely possible that it could, given what is

known with respect to the killing power of chemical weapons and the "nightmare drag" of the measures required to protect against them. Certainly, as cited, the applications are seen as complementing theater nuclear weapons, facilitating the overall tactical scenario into which they have been designed. The degree of success which might be attained with chemical weapons in these applications does not, however, appear to be contingent solely on the use of nuclear weapons. Their use could be just as militarily successful or unsuccessful if used in similar roles to complement a massive conventional attack. Thus, chemical weapons could have military utility in either a conventional or nuclear war in Europe.

What are the scenarios in which the Warsaw Pact might plausibly initiate CW? Three appear to warrant consideration. First is the familiar "land-grab" scenario wherein USSR/Warsaw Pact forces launch a conventional attack across, say, the Federal Republic of Germany (FRG) border to seize a portion of West Germany. Presumably, the attack would be aimed at territorial and political objectives considerably less than control of a NATO nation. Motivation could be to divert the Western powers from conflict in another part of the world, or to pressure the FRG to renounce a suspected acquisition of nuclear weapons, or to divert NATO from intervention in an East European revolt.

A second plausible scenario is that of a major conventional attack by the USSR/Warsaw Pact, threatening at least the independence of the FRG, if not of all Western Europe. Finally, there is the case of the major attack in which nuclear weapons are also used.

In each of these cases, it appears that chemical weapons could be utilized either at the outset of the attack or later in it, and be assigned contributory, if not major, roles. In the limited land-grab case, chemical weapons could be used, for example, for flank protection to facilitate the rate of advance, as well as in other ways to discombobulate, delay, and otherwise impede NATO forces. In the major conventional scenario, they could be used in a multitude of roles so as to—in conjunction with other major Warsaw Pact advantages (choice as to timing of the attack, favorable advantage in conventional forces)—provide a synergistic effect that would blitz NATO and enable a quick win. In the nuclear case, chemical weapons could be seen as a low cost/no cost option which could provide useful military advantages and speed attainment of objectives. With respect to a scenario involving delayed initiation of CW (subsequent to the outset of the war, it seems plausible that chemical weapons would be a leading candidate for use in breaking a stalemate should NATO forces be successful in delaying or stalling the Soviet/Warsaw Pact thrust.

WILL THEY OR WON'T THEY?

At this juncture, it seems appropriate to point out that numerous reasons are frequently advanced as to why the USSR/Warsaw Pact would be unlikely to initiate CW. Because that likelihood or lack of it bears directly upon the question of whether or not CW should be of great concern, it should be useful to review some of these.

- "The Geneva Protocol of 1925 and world opinion form a formidable constraint to the use of chemical weapons."

> Existing constraints on [CW] are expressions of the intense hostility widely felt toward this form of warfare. Any future constraints agreed upon will represent a further expression of the same feeling. Furthermore, once a legally binding agreement is reached, it will tend to reinforce and amplify the hostility; a treaty transforms what was unpopular action into an illegal one. The nation which chooses to disregard these factors must anticipate substantial political costs.[10]

It is by no means certain that the legal, moral, or similar sources of restraint which can be expected to greatly influence US

actions in future wars can be depended upon to prevent the initiation of CW by others. It is precisely because the Geneva Protocol is flawed (it lacks *any* provision for enforcement) that many nations–including the Soviet Union and the United States–have long reserved the right to retaliate in kind should chemical weapons be used against their armed forces. The strength of laws of war have apparently long been felt to reside in the sanction of reprisal. It is not only ethnocentric to assume that others act and feel pretty much as Americans do regarding such issues as restraint in war, it is dangerously inaccurate. A strong case can undoubtedly be made that the Soviets, whether at home or in the international arena, have not exactly shown slavish regard for American or Western values and institutions. In any event, it may not be prudent to determine the requirements of national and allied security on the basis of a perhaps flawed assumption of Soviet benignity. Of course, only events can ultimately prove such an assumption right or wrong. While unenforceable agreements and public opinion might argue against the use of chemical weapons in a very limited conflict, it seems inconceivable that a "pledge" once taken and deposited in an archive somewhere would have any bearing or standing with a country which had, after contemplation, deliberately undertaken a major war. It is true that such a nation might logically expect to pay a substantial political cost if it loses the war. However, in this nuclear age, it is hard to believe that a nation which undertakes a major war in Europe would be able to visualize itself losing it.

• "There are too many disadvantages associated with CW to justify initiating it."

This argument deals with the practicality or impracticality of CW, the implications being that, among other things, "CW involves considerable technical complexities, requiring much training and skilled manpower"; that the real value of CW is in a surprise first-use, and that subsequent uses of chemical weapons would be likely to have less tactical impact than did the initial surprise attack; and in any event, the probability of any enemy using chemical weapons is significant "only in circumstances where target effects need not be closely predictable," presumably because of concerns about troop safety, collateral effects, and so forth.[11]

This line of reasoning appears to be highly subjective. As discussed previously, there just simply is not enough hard evidence to justify placing total reliance on such assertions. It is true, for example, that some aspects of CW do require substantial training and some skilled manpower. But are the quantities believed to be essential really those required for offensive CW? Aren't a large portion of these requirements protection-related? Would the perceived requirement be lower if retaliation in kind were not a possibility? Certainly the initial surprise use of chemical weapons would have dramatic and substantial effects. But, *assuming* that these were the *only* benefits to be derived, would that possibility preclude the use of chemical weapons for that purpose alone? In any event, uses subsequent to the defender taking protective measures will still produce some casualties, and as we have seen, just forcing the defender to protect himself could have substantial military value. With respect to troop safety and collateral effect concerns, there is no evidence to show that these matters are unmanageable. If one were to conclude, for instance, that circumstances were so uncertain as to preclude the use of chemical weapons along a portion of the front lines during a given period, would this automatically rule out their employment against, say, a large military facility to the rear whose successful operation is highly dependent upon the availability of trained, but perhaps easily terrorized, civilian labor? This line of reasoning seems once again an attempt to impute our values to others which, while they may be nice for our foreign reveries, do not always serve to guide the actions of others.

• "The USSR/Warsaw Pact have not assimilated CW to the degree necessary."

Assimilation in this case means:

> That the [chemical] weapons not merely exist, but are also deployed in sufficient quantities and in the right places; that doctrine for their use has not only been fully worked out, but has also been integrated into overall tactical doctrine, with necessary mutual adjustment; that training in the execution of that doctrine is given, and not only to specialist cadres but also to all other combat elements upon whose assigned duties USSR [Warsaw Pact] [chemical weapons]-use would impinge; that the time devoted to that training is commensurate with the status of [chemical] weapons doctrine within overall tactical doctrine; that command, control, and communications procedures are fully attuned to USSR [Warsaw Pact] CW; and so on.[12]

The idea seems to be that the ability of the USSR to exploit an "advanced" weapons technology like CW is not credible if for no other reason than that the United States has not done so. Has the United States really tried to do so? Does anybody doubt that the Soviets have been able to assimilate tactical nuclear weapons, themselves involving an advanced weapons technology? What does the report that Soviet chemical troops number 80,000—over one-tenth of the total strength of the US Army and compared with an estimated strength of 2,000 US Army chemical personnel—tell us about assimilation?[13] The motives behind a potential opponent's possession of a weapon may well be found in such things as his tradition, his fears, his bureaucratic politics, or his higher politics. But the prudent military planner must always assume that his counterpart believes that the weapons possessed add to his combat potential, that they would make a difference on the battlefield.

- "A good protective posture could so limit damage as to minimize the possible gains from initiating CW and thereby dissuade an attacker from resorting to chemical weapons."

The feeling here is that:

> Optimal utilization of current equipment (if available in adequate quantities) will permit casualties from chemicals to be reduced to the point that the casualty rate would *probably* be much less than that expected from conventional weapons .... In this situation, *much* of the incentive for first use of chemical weapons will have disappeared.[14] [Emphasis added]

Note that this assertion is entirely conjectural—we are once again dealing with unknowns. It would be equally believable to assert that, because of the disadvantages associated with present protective measures, an enemy capable of doing so would probably initiate CW not only for whatever casualty producting effects might be attained, but for the expected degradation effects as well. As evidence of the wisdom in this line of reasoning, it is frequently pointed out that "some of the West European countries believe in this dissuasive effect, and have as a result rested the CW preparedness of their forces solely on an anti-chemical protective posture ...."[15] While it is sometimes acknowledged that the possibility of access to US capabilities for retaliation in kind may have had some additional influence on the position of these countries, little recognition seems to have been given the possibility that this position may more likely have evolved because of the economic costs or the political infeasibility of alternatives. In any event, it does not seem likely that a high level of protection would in itself deter a CW-capable opponent who perceived he had nothing to lose by testing to find out if, in fact, his CW initiation conferred no advantage to him. No military action is likely to be deterred solely because of the survivability of the defender. Rather, it is more likely to be what the surviving forces can do to hurt the attacker that may deter him.

- "A threat to respond with conventional weapons can contribute to the deterrence of CW."

> Retaliation [with conventional weapons] might involve removal of restrictions on

> attacking certain targets or extending the conflict to new areas. Another possibility is a surge in activity, with the bulk of the increase being directed against the units which used chemical weapons. This need not be retaliation in the conventional sense, but rather a staunch defense against exploitation of the effects of the chemical attack.[16]

It is conceivable that a threatened conventional counteraction might well deter the use of chemical weapons in small, geographically confined attacks. But it doesn't hold up as well as a good deterrent to CW initiation in a major war in NATO Europe. Given the size of the Warsaw Pact's conventional forces and the casualties, degradation, and logistic constraints which would probably occur with CW, it is hard to see how exploitation of what might be a drastically changed tactical balance could be prevented by conventional countermeasures or how their threatened use would alter an enemy's perception of the risks to him in his CW initiation. A parallel argument sometimes advanced is that strengthening conventional forces would not only enhance deterrence of a conventional attack by the Warsaw Pact, but would help to stop any attack that actually occurred, to include one involving the use of chemical weapons. There is undoubtedly some merit in this line of reasoning, but it is offset substantially by a suspicion that the nearer NATO comes to conventional parity with the Warsaw Pact, the more attractive CW becomes to the Soviets as a nonnuclear means for upsetting that balance. Another collateral proposition is that other conventional systems, such as improved conventional munitions (ICM) and scatterable mines, could serve the same functions as chemical weapons, thereby eliminating any need to use them. That some of these new systems may have overlapping effects cannot be denied. However, the fact that these "conventional" munitions would probably already be in use regardless of whether or not CW was underway should not be overlooked. And, while some effects may overlap to a degree—for example, scatterable mines would be useful in reducing or channeling the mobility of an enemy force—it is unlikely that their use could have the same net negative impact on individual and unit effectiveness as forcing an enemy to assume a CW protective posture.

- "The threat of CW is substantially, if not completely, allayed by NATO's possession of tactical nuclear weapons."

> In fact, NATO nuclear and conventional forces are the principal NATO deterrent [to CW attack] .... Only in a situation where chemical weapons could significantly degrade NATO's defenses without provoking a nuclear response might the use of CW appear attractive to the Soviets .... The Soviets would probably seek to avoid any action that might push the [United States] toward a nuclear response. They would most likely calculate that any large-scale use of CW on their part would risk nuclear retaliation.[17]

The assertion about NATO's nuclear and conventional forces relative to CW may be realistic in terms of actual military resources in Europe today. It takes both types of force into account and does not pretend that one or the other would have no influence on an enemy's calculations. As a deterrence concept, it seems to be largely—if not completely—consistent with European NATO preferences for emphasizing a nuclear deterrent, while also retaining an alternative to nuclear weapons for other than major attacks. But—and this is a very large "but"—is this enough? In terms of perceived risks to the Soviets, the threat of NATO's tactical nuclear forces (TNF) is already there. What happens under TNF parity? If the Soviets attack at all, will they not have already considered the possible costs? Is there a possibility that NATO's likely use of its TNF may not bother them? If they are willing to risk nuclear retaliation, isn't CW then a low risk/no risk option for them? Aren't there also some circumstances in which they may even doubt that NATO would be either willing or able to

use its nuclear weapons? They might calculate that CW would so greatly speed attainment of their objectives that NATO would be unable to react in a timely or efficacious manner. Or they might, in conjunction with CW, preempt with nuclear weapons in the view that, under the circumstances, CW is again a low risk/no risk means for acquiring additional military advantages. Suppose, finally, that Warsaw Pact forces attacked NATO with conventional and chemical weapons and made a "bulge" in West Germany, announcing at the same time that they would not use tactical nuclear weapons unless and until NATO did. Can we automatically suppose that the United States would permit the use of NATO's TNF to prevent a large part of West Germany from being overrun?[18] More importantly, can the Soviets suppose this?

IF THEY SHOULD

Everything thus far only serves as background to what is perhaps the overriding issue: How might NATO deal with Warsaw Pact-initiated CW within the framework of its current deterrence and defense strategies? It is, first of all, not too clear just what the present NATO strategy for CW is. In terms of national policy, the United States is relatively the most outspoken, having publicly explained its policy several times. Few other NATO countries have done the same with any clarity.

US policy for CW is aimed at the single and longstanding national objective of eliminating the use of chemical weapons in war. This policy has two major facets—one dealing with the arms control aspects of CW and the other addressing military strategy and capabilities. With respect to the former, US negotiators are actively participating in bilateral and multilateral CW arms control efforts, although the near-term prospects for an acceptable agreement are not promising. The principal stumbling block to such an agreement appears to be verification. Previous arms control efforts did produce the Geneva Protocol of 1925 which—although widely accepted—simply declares that the use of chemical weapons is prohibited.

As a party to the Protocol, the military aspect of US policy mirrors it—the United States will not use chemical weapons first in war. But, as previously indicated, because the Geneva Protocol is flawed (dangerously, some have said) in that it lacks any provision for enforcement, the United States and many other nations have long reserved the right to retaliate in kind to an enemy's CW initiation and have developed and stockpiled both chemical weapons and protective equipment and materiel to lend greater credibility to this deterrent threat. Thus, the US position has been to maintain chemical weapons in order to deter by the threat of retaliation in kind and as part of a broader strategy designed to provide the United States with several options for use against various forms of attack. The United States has been loathe to forfeit an entire range of capabilities to a potential aggressor, believing that such an action, which would essentially serve to confine the costs of aggression to the victim of that aggression, cannot successfully deter.

The position of the other NATO countries is considerably more ambiguous. All NATO countries are party to the Geneva Protocol, but only some have reserved the right of retaliation in kind. For nonreservation countries such as Norway, Denmark, the FRG, Italy, Greece, Iceland, Luxembourg, and Turkey, the Protocol may thus be a formal commitment against any use of chemical weapons. Public declarations of CW policy by the European Allies are virtually nonexistent. Those which do surface from time to time seem to emphasize the importance of a nuclear restraint to CW. For example, in May 1970, the British Defense Secretary told the House of Commons:

> NATO as a whole has chemical weapons available to it because the United States maintains an offensive chemical capability. However, I believe that both the former and the present government in Britain were right not to stockpile offensive chemical weapons in the United Kingdom. If the House really considers the situation, I believe that it will

> recognize that it is almost unconceivable that enemy forces would use chemical weapons against NATO forces except in circumstances of a mass invasion—in which event even more terrible weapons would surely come into play.[19]

This was a view which he had expressed in greater detail in July 1968:

> One has to accept that there is a potential threat to this country from both chemical and biological weapons. The view we have taken is that we must maintain . . . an adequate defense capability in both fields . . . . We have not felt it necessary, nor indeed did the previous Government, to develop a retaliatory capability here, because we have nuclear weapons and obviously we might choose to retaliate in that way if that were the requirement.[20]

Beyond and notwithstanding this apparent disparity between the United States and its Allies with respect to declaratory CW policy, some have assumed that NATO as a whole has developed some common strategy or action policy on what to do if attacked with chemical weapons.

> Presumably, . . . this policy is set out in NATO Military Committee Document MC 14/3, which enshrines the current flexible response, forward defence NATO strategy. This is not an open document, but one may safely assume that its CW doctrine is couched in terms sufficiently ambiguous to enable all member states to interpret it as they please, as with its TNW doctrine (Sinnreich, 1975). One may thus take it for granted that the MC 14/3 CW provisions adequately accommodate, at one end of a continuum, the present US CW policy of like-with-like deterrence and optional retaliation in kind if that deterrence fails.[21]

And, although the author doesn't say so, the MC 14/3 strategy presumably also accommodates the views of those NATO members who would not care to retaliate in kind. Therefore, in the absence of hard and uniform information with respect to policy, we can only speculate as to how NATO might react to CW under present circumstances:

> NATO relies for deterrence on the full spectrum of military capabilities including tactical and strategic nuclear forces. Deterrence depends on a credible threat of retaliation at any level of aggression. For this reason, the United States and its NATO allies have continued to reject proposals for a pledge not to use nuclear weapons first. However, NATO has long sought to avoid undue reliance on nuclear weapons and to raise the nuclear threshold. For this reason, the [A]lliance continues to improve its conventional defense capabilities.
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> NATO's conventional forces are both an essential element of deterrence and the primary means of initial defense against conventional attack. NATO's goal is a conventional capability sufficient to hold well forward against such an attack without recourse to nuclear weapons.[22]

The basic goal of NATO is thus to deter a Warsaw Pact attack on Central Europe and, failing that, to control the war and to terminate it on terms acceptable to the Alliance. In 1967, NATO officially adopted the strategy of flexible response, which was designed to meet, with like force and as far east as possible, the full range of Warsaw Pact threats. Europeans, however, have not been completely enthusiastic in their support for this strategy. They have continued to show a marked disinclination to produce the type and numbers of conventional forces that appeared necessary to stop a determined nonnuclear attack. Rather, they have seemed to prefer to rely on the US nuclear arsenal to bring balance to the European military equation.

Given the present situation, NATO then would choose to defend an attack conventionally, at least until such time as that is no longer possible. At this deliberately ambiguous point in time, NATO would then

consider employing its TNF to redress the situation. Obviously, the United States is anxious to delay arrival of such a decision point if for no other reasons than assuring sufficient time to fully determine enemy intentions and for adequate testing of nonnuclear defenses. However, the more basic reason underlying this US attitude really has to do with the uncertainties associated with TNF and the possibility that any use of such weapons might lead rapidly to an uncontrollable escalation, with risks disproportionate to potential gains, and the feeling that a "tactical nuclear defense of Europe would lead to its destruction."[23] Equally worrisome is the possibility that the Soviet Union could be encouraged, if really concerned about a nuclear response by NATO—especially under conditions of TNF parity—to escalate hostilities themselves to the tactical nuclear level, thereby forcing the United States to choose between tactical nuclear defeat and a strategic exchange.

Here, then, is why CW may be so important: it seems to bear directly on NATO's nuclear dependence and the entire Pandora's box of escalation control associated with that dependence. CW could occur at any stage of conflict, either conventional or nuclear, in Europe. It could be limited to the immediate battlefield, or it could involve theater-wide strikes on the full spectrum of military and civilian targets. If CW is initiated in a conventional war and is militarily effective, it could greatly reduce NATO's ability to defend conventionally and dramatically speed up arrival of the circumstances requiring a TNF decision. Further, CW might be initiated in either conventional or nuclear conflict for, among other purposes, the problems it could be expected to create for NATO in actually making such a decision. NATO, and especially the United States, does not wish to be rushed into a decision of this magnitude, yet such a decision must obviously be taken before the defense has collapsed. The problems, then, are that the Soviets might see CW either as a means to attain their objectives quickly before NATO has had the time to adequately consult on the TNF decision or, more simply, as a means to exacerbate such differences as may exist between the Allies with respect to CW so as to, in turn, hinder TNF consultations. The deterrence value of NATO's TNF is logically more credible the less chance there is that it can be overrun. Time for consultation is essential to the present NATO strategy. The idea is not that NATO should never escalate a war, but rather that any escalation should be deliberate rather than forced. There is, of course, the chance—as some have noted—that too many options increase the probability of choosing the wrong one. However, the seriousness and inherent uncertainties associated with any use of nuclear weapons seem to argue for more options for the use of force rather than less.

The major powers have gone to considerable lengths to avoid nuclear war and to avoid being forced into having to make nuclear-use decisions. (The Cuban missile crisis is perhaps a classic example of each side looking for options below the nuclear level.) This is why the United States has favored a deterrence by threat of retaliation in kind—so that it doesn't have to depend solely on a nuclear deterrent, whereby there are no nonnuclear alternatives for responding to CW which cannot be effectively countered by conventional force and against which the use of nuclear force might be premature or too provocative. Indeed, if NATO is to be capable of successfully impeding a nonnuclear assault in order to gain time to mobilize its resources, disperse its forces, and prepare for a possible nuclear exchange, it must have time. If a negotiated settlement under conditions satisfactory to the Alliance is to be the objective, then an attack must be stopped or greatly slowed before one could even hope to get to a serious negotiating state. It does not seem likely that the other side would really be interested in a settlement on other than their own terms if their forces are still moving forward or if they have already made substantial gains of NATO territory. The trick seems to be in balancing off conflict termination under acceptable conditions with escalation, and in determining how much emphasis should be placed on the various

combat elements available to NATO. Do the European NATO countries, for example, really want to put all their eggs—and ours as well—in the nuclear basket?

Ironically, some critics of US policy fail to see any real value to a two-sided CW stalemate scenario.

> . . . for two-sided CW could quickly stabilize and immobilize a battlefield, enforcing a stalemate. In other cases, such a stalemate might itself be desirable, tactically or strategically. But is there any deterrence in this capability? Would the prospect of an immobilized battlefield dissuade the Soviet command from initiating CW, given that the capability might not reduce the immediate impact of the CW first strike?[24]

Or:

> The initial CW attack will compel the attacked force to implement extensive CW defensive measures. If the attacker expects retaliation in kind, he is likely to adopt extensive defense measures in advance, thus largely avoiding agent casualties. In fact, the primary purpose of the retaliation may be to force the attacker to continue this defensive posture.
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> Ideally, retaliation in kind should dissuade the attacker from further use of chemicals. However, once a two-sided chemical exchange occurs, chemical hostilities are likely to widen and intensify. No sector of the battlefront is likely to be spared nor any available agent or munition excluded. Once both sides are burdened by defensive measures, each will feel compelled to keep the other thus encumbered. A chemical war of attrition is likely to result. This is essentially what happened in World War I. If both sides are evenly matched in CW offensive and defensive capabilities, a stalemate may result in which neither side suffers many agent casualties, but both are encumbered by decreased mobility and increased logistical burdens.[25]

The United States apparently believes that the ability to force the other side to incorporate the possibility of retaliation into their planning, to stalemate, and to buy extra time is infinitely more desirable than allowing themselves to be the only protagonist encumbered by CW protective measures and perhaps to be forced into a nuclear-use decision. It is not clear whether the NATO Allies agree on this matter, but it certainly warrants their serious consideration. For while there will undoubtedly be collateral damage with CW, it is unlikely to be greater than that associated with nuclear weapons and, after all, it is the Europeans who will suffer most from NATO's failure to deter. It should be chilling to think about Warsaw Pact intentions to initiate CW if one believes that the prospect of retaliation in kind in Eastern Europe wouldn't deter.

It is also not clear whether the critics of US policy have taken their positions on the basis of what they perceive NATO's present protective and retaliatory capabilities to be and the possibility that NATO would have neither sufficient time to react nor the capabilities to retaliate in an effective manner. It would be interesting to know where the critics would stand if they believed NATO had sufficient retaliatory capabilities, or if it could be demonstrated that the Warsaw Pact would be more encumbered by a CW protective posture than NATO forces, given the efficiencies of each side's existing equipment and logistics systems.

THE STRATEGIC CONNECTION

Chemical warfare for US and NATO forces can be compared to playing chess with the black pieces because their opponents will always have the first move. The principal issues with respect to CW do not have to do with whether or not the United States and its Allies want to use chemical weapons themselves but, rather, how can an enemy's use of chemical weapons be safely and credibly deterred, pending attainment of verifiable, enforceable arms control agreements? And, given the possibility of CW, how can wars be kept limited and a conflict

controlled between nuclear-capable opponents?

The desire to maintain chemical weapons for deterrent purposes on the one hand, while attempting to negotiate them out of existence on the other, has created a perplexing dilemma for US and NATO defense planners. While most CW issues involve matters over which the military has little control and uncertain influence (for example, whether and how chemical weapons are to be used are political decisions), the subjects of CW and the US retaliatory capability are so politically sensitive that they are seldom even discussed. US and Allied decisionmakers seem reluctant to take actions which might have an adverse effect on the more politically acceptable disarmament efforts. Satisfactory solutions do not appear to be within easy reach, even though common sense would seem to dictate that if a weapons system is horrible enough to warrant attempts to eliminate it through special disarmament efforts, it must be important enough to warrant deterrence in the interim.

Chemical warfare has the potential for determining whether or not nuclear weapons will be used on a European battlefield in the future. If any level of Soviet/Warsaw Pact aggression is to be successfully deterred, and the United States is to be reasonably assured that a satisfactory conclusion to a major conflict in Western Europe can be obtained without ultimate resort to a strategic nuclear exchange, the Soviets must not be allowed to perceive chemical weapons as the capability that could make the difference at the battlefield level. Thus, its importance dare not be overlooked, especially by those who view limited nuclear war as an impossibility. Even those holding opposite views should be concerned if they will give due consideration to the proposition that "under conditions of nuclear parity, that power which can force upon its adversary the decision to initiate the use of nuclear weapons enjoys a tremendous strategic advantage."[26]

Why should greater attention be paid to CW, particularly in view of the multitude of other deterrence and defense problems facing NATO? Admittedly, the real potential of CW with modern chemical weapons is an unknown. However, based on what is known about modern chemical weapons, it appears fairly obvious that they could play a variety of roles in a number of European scenarios. Further, it is impossible to assume with any high degree of assurance that the Warsaw Pact would not use them.

Because the United States has such a large stake in the collective defense of NATO, and because its basic strategy has long emphasized flexible force in the deterrence, management, and control of crises and war, anything that can pose a serious challenge to that strategy—such as an enemy's initiation of CW—warrants careful consideration. It is time for the United States and NATO to face up to the issues of CW and the place of chemical weapons in the East-West balance of force. A failure to do so carries a large risk of miscalculation and disaster.

NOTES

1. Thomas C. Schelling, *Arms and Influence* (New York and London: Yale University Press, 1966), p. 121.

2. Indeed, the most recent International Institute for Strategic Studies (IISS) publications, *Strategic Survey 1975* and *The Military Balance 1976-1977*, together provide but one half of one sentence on chemical weapons. Chemical warfare, per se, is not mentioned at all.

3. US Congress, House, Committee on Foreign Affairs, Subcommittee on National Security Policy and Scientific Developments, *Hearings on Chemical-Biological Warfare: US Policies and International Effects*, 91st Cong., 1st Sess., 1969, pp. 347, 378.

4. Robert Mikulak, "Preventing Chemical Warfare," unpublished transcript presented at the American Academy of Arts and Sciences Conference on Policies for Chemical Weapons and Chemical Arms Control, Boston, 21-22 January 1977, p. 22.

5. US Army War College, Strategic Studies Institute, *Chemical Warfare Policy, 1980-90 (CHEMPOL) (U)*, Final Report (January 1977), p. 3.

6. Occasionally a Congressional witness testifies that the impact of chemical warfare protective measures would be minimal; it has been suggested that one's opinion in this area is directly related to the amount of time one has spent in combat-associated activities while wearing protective garments and the protective mask. In any event, the issue is admittedly contentious.

7. Stockholm International Peace Research Institute, *The Problem of Chemical and Biological Warfare* (Stockholm: Almquist & Wiksell, 1973), II, 150.

8. J. P. Perry Robinson, "Should NATO Have Chemical Weapons? A Framework for Considering Alternatives,"

unpublished transcript presented at the American Academy of Arts and Sciences Conference on Policies for Chemical Weapons and Chemical Arms Control, Boston, 21-22 January 1977, pp. 19-21.

9. *Ibid.*, p. 21.
10. Mikulak, p. 33.
11. Robinson, pp. 22, 31.
12. *Ibid.*, p. 25.
13. John G. Appel, "What About CBW?" *National Defense*, 61 (January-February 1977), 293.
14. Mikulak, pp. 21-22.
15. Robinson, p. 46.
16. Mikulak, p. 23.
17. *Ibid.*, p. 27.
18. This intriguing question, although without any chemical warfare connotation, was first asked by General Bruce C. Clarke, USA Retired, in a letter to *Army*, 27 (March 1977), 5. It is, as the General goes on to say, "a very hazy situation."
19. Great Britain, Parliament, *Parliamentary Debates* (House of Commons), Vol. 801 (6 May 1970), p. 389.
20. Great Britain, Select Committee on Science and Technology. *Minutes in Evidence* 18 July 1968 (London: Her Majesty's Stationery Office, 1968), p. 446.
21. Robinson, p. 35.
22. United States Arms Control and Disarmament Agency, *Arms Control Report* (Washington: US Government Printing Office, July 1976), p. 36.
23. Heinz Trettner, "Tactical Nuclear Weapons for Europe," *Military Review* (July 1971), p. 48.
24. Robinson, p. 42.
25. Mikulak, p. 17.
26. Michael Howard, "The Relevance of Traditional Strategy," *Foreign Affairs*, 51 (January 1977), 262.