

THE CWC NEGOTIATIONS AS A FORM OF ARMS CONTROL:
CHEMICAL WEAPONS AND SECURITY IN THE CURRENT INTERNATIONAL
SYSTEM

by

F. Grant Voakes

A Thesis
Submitted to the Faculty of Graduate Studies
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for the Degree of

MASTER OF ARTS

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**A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial
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Abstract

The negotiations on the Chemical Weapons Convention (CWC) lasted from 1980 until 1992, and had their antecedents in negotiations going back to the turn of the century. Does this latest attempt to ban chemical warfare represent a new type of multilateral arms control, and can it adequately ensure security? By reviewing the earlier negotiations, problems which contributed to the weaknesses which allowed for the production and stockpiling of chemical warfare agents are highlighted. Then, by following the course of the CWC negotiations, it can be discerned how the issues, such as verification, security, and proliferation were handled. The result is an ambitious attempt to ban production and use of chemical weapons which, although not as stringent as it could be, offers an good chance of ensuring security for its signatory states. Its multilateral component is only a secondary consideration, and the CWC represents a trade off between the requirements of multilateral and bilateral arms control.

Acronyms

BW	Biological Weapons or Warfare
CCD	Conference of the Committee on Disarmament
CD	Committee on Disarmament (1980-84), then Conference on Disarmament (1984-)
CW	Chemical Weapons or Warfare
CWC	Chemical Weapons Convention
CBR	Chemical, Biological, Radiological
NATO	North Atlantic Treaty Organisation
NPT	Non-Proliferation Treaty
NTI	National Trial Inspection
OPCW	Organization for the Prohibition of Chemical Weapons

Acknowledgement

Nothing, it has been said, ever occurs in isolation; it has certainly been the case for this thesis. From an initial idea some eight years ago, it grew to occupy much of my time, labour, and efforts. That it has reached this point would not have been possible without outside support.

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I would like to dedicate this thesis to a man who, perhaps more than he knows, has influenced me these past few years. Dad, this ones for you.

**The CWC Negotiations as a Form of Arms Control:
Chemical Weapons and Security in the Current International
System**

INTRODUCTION

For the greater part of the Twentieth Century, the spectre of the use of chemical weapons during periods of conflict has been a prevalent concern among both public and military thinkers. No other subject, it has been suggested, has provoked the amount of furore as the use of chemical weapons, one which, it should be added, outweighs the actual capabilities and utility of these weapons.¹

In the decades which followed the first use of chemical weapons, the tendency remains to think of them in terms of the experience of the First World War, perhaps most vividly described in Wilfred Owen's graphic portrayal of chlorine gas victims on the Western Front:

Gas! GAS! Quick, boys! -An ecstasy of fumbling
Fitting the clumsy helmets just in time;
But someone was still yelling out and stumbling
And flound'ring like a man in fire or lime...
Dim, through the misty panes and thick green light,
As under a green sea, I saw him drowning.²

This use during World War I was not the first use of chemicals as a weapon; rather, the scale of the usage of chemicals was far greater than anything that had occurred or, for that matter, been possible until that time. The major difference was the propaganda campaign launched by the British

immediately after its first use at Ypres in April of 1915.

It is the result of this propaganda that has burdened the debate on chemical weapons with an immense emotional baggage. Chemical weapons had, it was believed, been outlawed by several pre-war arms limitation treaties, particularly the Hague agreement of 1899, in which "the contracting Powers agree to abstain from the use of projectiles, the sole object of which is the diffusion of asphyxiating or deleterious gases."³ In the aftermath of that first use, the British government launched an intense propaganda campaign to convince the population that Germany had broken a treaty of law and launched a "new, i.e. an unfair weapon on the Allies who need to defend themselves and retaliate at once."⁴ Within a short period of time, as it was discovered that the conditions for chemical warfare favoured the Allies, the propaganda diminished until a contemporary article remarked that:

Who does not remember the fierce indignation in Great Britain at the news that the Germans had sunk to such unspeakable depths as to use poison gases? ...Today, the use of gas by the British is hailed not only without shame, but with joyous satisfaction.⁵

Nevertheless, this "half-century-old vision of the blue-faced men at Ypres choking to death has left an indelible impression upon the mind of the world."⁶

The aversion to chemical warfare coalesced into strong public opinion that led, shortly after the end of that war, to efforts to ban their use. The Versailles Treaty included conditions under which the Germans were forced to dismantle

their chemical warfare production facilities, and in the next two decades there followed a number of attempts to ban the use of chemical weapons. Of these, the most successful was the Geneva Protocol, signed in 1925.

The Geneva Protocol was not without shortcomings, for without an effective system of verification or enforcement there was no possibility of completely banning chemical weapons at this time. Several of the countries which ratified the treaty did so with reservations; in effect, turning the Protocol into a no-first-use agreement. The Protocol was also limited by the fact that it applied to the use of chemical weapons only in war; thus, the Italian use of gas in the mid 1930s could be justified by the reasoning that a state of war did not exist between Italy and Abyssinia, but that it was a colonial problem and gas was being used in retaliation for Abyssinian atrocities.⁷

The League of Nations also failed to condemn the use of gas in China by the Japanese as there was insufficient evidence to convince all the members of Japan's actions. Thus, as the prospect of another war increased there was an upsurge in writings on the dangers that chemical weapons were to pose, coupled with an increase in civil defence measures against chemical weapons in many countries. The public's imagination was dominated by the vision of mass attacks of chemical weapons delivered from the air. The fact that World War II passed without any major incidents of chemical warfare

"is especially surprising when we remember the ruthless thoroughness with which the strategic air offensive was executed by the Allies and the use of nuclear weapons over Japan.⁸" Post war studies have shown, however, that this non-use was due not to the workings of the Geneva Protocol, but to other factors which influenced the decision-making at the time.⁹

In the post-war era attention shifted away from chemical weapons towards the new forms of warfare that had been demonstrated during the course of the Second World War, and especially atomic weapons. By the mid 1960s, reports of the use of gas in Yemen by Royalist forces, and the use of tear gas and herbicides by the U.S. in Vietnam, forced the issue of chemical weapons back into the public's view. Along with this was also the realization that the new chemical weapons, the nerve agents, which had been discovered during the course of World War II and subsequently improved upon made the use of chemical weapons militarily more attractive.

As a result, the late 1970s and early 1980s saw a revival of the debate over the possession and use of chemical weapons to the greatest extent since the Inter-war Period. The drive to negotiate a comprehensive ban on chemical weapons was advocated in the United Nations and its associated forums, and by countries which had neither stockpiles nor the desire to obtain these weapons. This period has subsequently seen the largest amount of progress on the issue, and led to the

negotiations which ultimately resulted in the Chemical Weapons Convention (CWC), a wide-ranging and extensive document aimed at preventing states from producing, stockpiling, or using chemicals of any sort at any time.

In June of 1992, the Conference on Disarmament announced that it had concluded negotiations on a draft CWC and would be submitting it for final approval. In September, this draft was approved and submitted to the U.N. General Assembly for accession and ratification. Despite this progress, questions as to its effectiveness, and if it will ever enter into force, have been raised.

Adding to the question of effectiveness is the realisation that arms control theory has shifted away from the traditional East-West context to encompass a broader, multilateral forum. With this shift, chemical weapons have become a greater factor in inter-state relations due to their perception of military utility by many nations of the Third World, and because of the potential for their use in conflicts in these regions.

If these weapons are to be effectively controlled, it is necessary to discern how arms control theory might be utilized to formulate a treaty which will ensure that the risk of chemically disarming is minimal for all nations. To this end, in an effort to discern its utility to future negotiations as well as the potential for its success, this thesis will examine the CWC to determine the reasons for the successful

conclusion to negotiations in 1993, and its relationship to arms control theory and the issue of security in the changing international context.

Notes

1. See, for example, L.F. Haber. The Poisonous Cloud: Chemical Warfare in the First World War. (Oxford: Clarendon Press, 1986), 230-237. He reviews the effect that gas warfare had on public opinion, citing several examples of art, literature and poetry which appeared in the aftermath of the Great War. He concludes that "literature, painting, film and radio have done more for gas since 1918 than the military use of chemical weapons up to then would justify." (237).

2. Wilfred Owen, "Dulce et Decorum Est," in Poetry of the Great War: An Anthology, ed. D. Hibberd and J. Onions (New York: St. Martin's Press, 1986), 141.

3. Declaration (IV, 2) Concerning Asphyxiating Gases (The Hague Agreement, 1899) in J. Goldblat Agreements for Arms Control: A Critical Survey (London: Taylor and Francis Ltd., 1982), 121.

4. Haber, The Poisonous Cloud, 231.

5. The New York Times, quoted in LTC Stanley D. Fair, "The Ghost of Ypres" Army 17 no. 2 (February 1967): 52.

6. Hanson W. Baldwin, quoted in LTC Stanley D. Fair, "The Ghost of Ypres.", 52.

7. Ibid., 308.

8. John Ellis van Courtland Moon. "Chemical Weapons and Deterrence: The World War II Experience." International Security 8, no. 4 (Spring 1984): 4.

9. See, for example, Ibid., 3-35, and Frederick J. Brown, Chemical Warfare: A Study in Restraints. (Princeton: Princeton University Press, 1968).

Chapter 1

Security, Disarmament, and Arms Control

The Concept of Security

The negotiations on the CWC were neither an isolated incident nor held in a vacuum. They were part of the larger context of arms control and disarmament, and were thus influenced by previous negotiations and thinking on arms control, both historical and contemporary.

At the heart of arms control and disarmament lies the concept of security. Buzan states that:

While the term itself is in wide use, and appears to be accepted as a central organising concept by both practitioners and academics, the literature on it is very unbalanced...the concept of security is seldom addressed in terms other than policy interest of particular actors and groups, and the discussion has a military emphasis.'

There has been a tendency to define security as "the *relative freedom* from harmful threats", or "in an objective sense, the absence of threats to acquired values, in a subjective sense, the absence of fear that such values will be attacked", or that "(s)ecurity itself is a relative freedom from war, coupled with a relatively high expectation that defeat will not be a consequence of any war that should occur."

These definitions tend to view security as an absolute, with there being security or insecurity, and leave more questions unanswered than are actually explained. Threat perceptions and values which are tied to the concept in two of the definitions tend to vary between the person or the state.

Similarly, Bellamy's definition defines security as the relative freedom from war, but does not indicate if war is the only form of threat relevant to security.

The idea that freedom from, or victory in, war are the essential to security are the result of historical experience. Military strength has been an essential part of the state since the foundation of the state itself, ensuring its well-being and continued survival in what was perceived to be an anarchical international system. Security on an individual level meant that the individual was free from danger. The idea of national security arose as an expression, therefore, of what constituted the essentials to maintain the state, safeguard its citizens and institutions, and ensure its continued existence. As most threats were from outside a state, an armed response was necessary to maintain its integrity, and also safeguard its interests outside of its territory.

What would be considered a threat to national security could then be elaborated. "The greater the threat perceived, the stronger is the desire to acquire greater military power in order to deter aggression against oneself. Threat perception is a function of a potential adversary's capabilities and intentions." While a state might have a specific ideology, threats against this were usually insufficient to provoke action. Where the threat clearly manifested itself was against the institutions of the state:

ideas and institutions are inseparably intertwined...institutions and ideas tend to stand or fall together in the context of any particular state...

The institutions of a state are much more tangible than the idea of the state as an object of security. Because they have physical existence they are more vulnerable to physical threats than ideas.'

Armed force, in the role of ensuring a state's survival, took on an internal as well as external security role. "(F)or many, the principal threat to security comes from within the state rather than from outside it." This may be a valid domestic threat, or it could come from outside the state. Governments are considered legitimate targets because they determine the international activity and orientation of the state. In the hope of causing significant shifts in international behaviour, states tend to interfere in each other's domestic politics. This intervention can occur overtly or covertly.

If a government is under attack by foreign intervention in the domestic policy progress, then it can legitimately invoke national security in its own defence. Drawing the line between indirect foreign intervention and legitimate internal power struggle, however, is not easy.'

The linkage between the security of the government and the state is easily exploitable and, as governments have their own interests, "by importing national security issues into the domestic environment, governments can increase their powers against domestic opponents." Thus, if national security can be invoked, the use of force can then be legitimately applied domestically."

Overall, the use of force to safeguard interests and institutions has had more legitimacy in the international context. Management of this in the international system was, until the beginning of the Twentieth Century, usually done through treaties, accords, and alliances which did not limit the use of force as much as it limited the type of force considered proper. Thus, treaties were formulated which banned specific types of weapons or codified conduct on the battlefield. In many cases, the use of force continued to be considered the only proper response to resolve problems between states.

This changed with World War I. The enormous and senseless slaughter of men which occurred led many to begin viewing military means as a problem in themselves. Despite being written to describe the post-1945 situation, Buzan's statement that "(a)lthough designed to make states feel more secure, modern military means serve that end only by raising state's fears of each other" is relevant to describe the aftermath of the Great War as well.

Military means can cause problems in two ways. The first of these is through what has been called the security dilemma, in which actions taken by a state to ensure security may be seen as threatening by another state. It may lead that state to undertake countermeasures to ensure their security; these, in turn, may make the original state feel less secure and attempt to restore its preferred ratio of strength by further

armaments." There is also what has been termed the defence dilemma. While the means of ensuring security are present, their use may be detrimental to the user; thus, "military means undermine their own rationale by raising the fear of war above the fear of defeat."

The control and management of weapons had been recognised in the decades prior to World War I as a possible solution to these problems. It was hoped that by limiting the destructive power of weapons, the scale of any future conflict could similarly be limited. In the post-war years, with the memories of the destruction still vivid, this took on an increased importance.

Disarmament

Disarmament was advanced as a method by which this could be accomplished. Disarmament approaches the problem of warfare in the international system in a very direct manner. It has its basis in the dilemma created by the existence of weapons needed to ensure security. All states will arm to ensure their security and defend against outside threats. In the process of arming, states will take into account any threats which may be directed against them. This action may be perceived as an indication of hostile intent by other states, who will then arm themselves. As states would prefer to solve their problems in a peaceful manner, reducing arms will also reduce any perception of hostile intent. This logic can be applied to all weapons, the basis of the concept of

general and complete disarmament (GCD), or applied just to certain classes of weapons. Disarmament will always involve reductions in the levels of weapons in order to promote the necessary levels of security.

The success of disarmament is dependent, to a large part, upon the assurance of security against these outside threats. The result of this desire for a guarantee of their security provides one of the major blocks for a successful disarmament agreement, for:

No disarmament agreement can by itself protect possible nations of good faith against the risk of sudden and treacherous attack by weapons of overwhelming power, the secret preparation of which may be very difficult to prevent, makes it certain that they will be ...unwilling to reduce the maximum military effort for their own protection which they are at present free to make, unless they receive other guarantees."

This security is further defined as being the provision "of reasonable safeguards by the joint and common action of the society of states against aggressive attack aimed at any one among them which has not itself been guilty of an international fault or misdemeanour."

This definition assumes that this "society of states" will agree to joint and common action, an ideal which has not occurred in the past in spite of many occasions which have called for its invocation. The example of the League of Nations during the Inter-war years is perhaps the most prevalent example cited in the literature, but the United Nations has also suffered its share of calls for collective

action which have not been met. Similarly, there is disagreement over what may constitute a proper action to take against an aggressor." Finally, there has rarely been a clear cut aggressor in the situations which have arisen in the post-war years.

Even if these problems were not to exist, it is rarely, if ever, possible to assess accurately the degree of military power which a state possesses. The international system is such that war is a possible outcome, and to provide for their security states attempt to balance the military power of their possible opponents. No state will then feel truly secure unless it believes that the balance is tilted in its favour; thus "this balance is essentially a fluid one. This is why states will regard the reduction of their overall armed strength to a fixed ratio, perpetuating a static balance at a low level, as incompatible with their security".

Disarmament proponents advocate that in order to solve this problem, an international body be set up, either in the form of a collective security agreement or some type of overarching institution. The result of any act of aggression could then be met by action taken by these bodies, and that faced with such an overwhelming response no state will resort to aggression. The more utopian thinkers see this institution as the basis for eventual world government. However, the international system is not conducive towards the formation of a body of this type. There are other factors which would also

mitigate against its formation. There is the underlying fear that a preponderance of power vested in any one institution could lead to the corruption of the institution itself; in essence, that left unchecked it may tend towards tyranny. The United Nations, it has subsequently been argued, would be above this, being seen as a neutral player. But, as Hedley Bull points out:

Because the United Nations Organization ...is lacking in power and responsibility, it is conceived of by the public mind as guiltless; that is why UN control as a remedy for international and colonial problems is such a persuasive slogan; it contains the promise of insulation from the guilty exercise of power. But to imagine the UN as a body actually disposing supreme power, is to imagine it smeared with the guilt which, as Machiavelli saw, is involved in all exercise of political power"

Even if the security demands were not so pressing that they could be handled by a collective security agreement, there are still obstacles. The idea of collective security is dependent on maintaining a balance of power, but "the present division of the world between a small band of nuclear, and a large remainder of non-nuclear Powers, gives the doctrine of the overwhelming power of the collective a special irrelevance". Secondly, the doctrine of collective security makes the assumption that states will go to war over issues and in parts of the world which are outside of their interests. This has not proven to be the case, and it seems unlikely that this will change in the near future. There are also other problems involved, such as how to plan to take action against an unknown opponent or opponents, or that when

responsibility is fragmented among all states one will take responsible action."

Finally, any action towards ensuring the security arrangements of a disarmament treaty will entail that, to some degree or another, the state will have to relinquish some of its sovereignty to a higher authority. The willingness to do so will be determined more by the perceived benefits to the state than it will by the benefits to the community of states. Only if the benefits accrued by disarmament outweigh the fears of an opponent cheating, or working around the treaty, will a state agree to voluntarily give up the means with which to defend itself. Obviously, this means that any weapon which is perceived as having military utility will be difficult to negotiate a disarmament treaty on; a fact which appears to be borne out in the history of disarmament itself. Disarmament treaties have been mainly unilateral reductions in arms which either were done to get rid of obsolete weapons, weapons which were generally believed to be of no use, or the situation calling for their use would never arise."

Throughout the 1920s, there was a boom in negotiations aimed at reducing and limiting weapons. Widespread enthusiasm for GCD resulted in the formation of the League of Nations and in negotiations such as those which resulted in the Geneva Protocol and the Washington Naval Treaties. The enforced disarming of the losers after World War 1 was also widely supported, although these measures were not reciprocated by

the winners, who merely demobilised themselves down to peacetime military establishments. The enforced disarming of Germany was to be a major source of resentment, and would precipitate the rearming of the 1930s. As political tensions increased at this time, the pace of rearmament increased and spread to other countries who perceived Germany as a threat, or felt justified in expanding their own spheres of influence. The League of Nations also proved itself unable to prevent this. It had committed its members to the principle that maintenance of peace required "the reduction of national armaments to the lowest point consistent with national safety and the enforcement by common action of international obligations." Efforts to carry out this principle broke down over what came first, national safety or arms reductions. Despite attempts to ensure security through disarmament, it proved impossible to satisfy the fears of some states. French fears of a German military revival meant that without a guarantee of genuine security it could not, and did not disarm." By 1937, any pretence of attempting to prevent or limit war had been abandoned.

Arms Control

The end of the Second World War saw the beginning of a new phase of relations between states caused by the advent of nuclear weapons. Disarming was no longer sufficient, for it was impossible to dis-invent these weapons. Agreements to disarm had been difficult enough to negotiate before World War

II, but "in the nuclear era the implications of war and of poorly drafted or unilaterally broken agreements had become even more profound...the consequences of successful cheating by a nuclear-armed state might mean literal annihilation for the state or states that were its victims."" Attempts to disarm, such as the Baruch Plan, met with failure because it was felt that such a plan would confer a permanent advantage to the US, which already had the knowledge to produce nuclear weapons, while preventing Soviet research. Once the Soviets had detonated their first atomic device in 1949, "the US became prey to a similar lack of confidence in the idea of international control of nuclear weapons.""

What was necessary, therefore, was a method of managing the situation while recognizing the changing features of the nuclear era. To this end, arms control came into being, with its aim being to manage the fear caused by the situation by constructing "an international political environment in which a stable balance of power exists with neither side significantly disadvantaged by it and in which neither is tempted to attack by the weakness of the other."" The emotive appeal of disarmament was harnessed domestically to support the arms control process. Arms control came to be viewed domestically as the same thing as disarmament, as the former came to be seen as a realistic means to achieve the ideals of the latter."

Arms control views weapons not as problems in themselves,

but as part of a greater problem. "The arms control approach believes that wars begin in the minds of men, that peace and stability are as much a function of intentions as they are of military capabilities"." Arms control presupposes an adversarial political relationship exists, but its aim is not to alter this but to work within the current international system in order to achieve stability. Disarmament, on the other hand, is idealistic in that it presupposes a world where the use of arms is only viewed as a last resort; a view which, during the course of the Cold War was seen as extremely utopian. As weapons were needed, the question was not how to reduce them, but at what level they would be needed to deter an aggressor. Arms control thus grew out of deterrence theory. The main goal of arms control, therefore, is that requirements be met to ensure a stable mutual deterrence. Thus, while arms control may involve reductions, it may also lead to a build up of more weapons if it is perceived that these weapons are necessary to ensure stability. Arms control "would serve to restrict weapons developments by seeking mutual agreements to ensure that new developments would not damage either crisis- or strategic-stability"." Defence and arms control were not seen as contradictory; both were to be part of the wider objective of ensuring security. The key was to mutually develop these requirements so that neither side would misinterpret the other's actions.

Arms control was also to be used to limit any future

conflict in order to avoid the chance of escalation. It was assumed that there would be a common interest between the two adversarial powers in avoiding conflict, and especially nuclear conflict. The scope of arms control negotiations, however, ultimately are restricted by the problems caused by acquiring strategic nuclear delivery systems. Conventional weapons are included only to the extent that their use in a conflict might lead one party to attempt to negate any conventional advantage through the use of nuclear force. This point was clearly illustrated by the NATO doctrine of the planned use of tactical nuclear weapons to negate any Soviet conventional advantage in the case of a conflict in Central Europe.

Similarly, avoidance of arms racing would also be a necessary part of arms control and the idea of stability was stressed. The entire basis of a working deterrent force presupposed that neither opponent would gain an advantage that could negate the other's deterrent capability. This could be accomplished by reducing incentives for surprise attack or eliminating force structures that could trigger war; what was called crisis stability. Technological change provided the greatest threat to this stability, or the "balance of terror" as it is referred to in the literature. Thus, some way of limiting military and technological advancement that might trigger a destabilizing counter-response, 'arms-race stability', would have to be ensured. To this extent, arms

control took on technological issues that were not close to being deployed in an operational form, such as ABMs, in order to ensure that one side's technological breakthrough did not have an adverse effect on the balance."

The Requirements for Arms Controls

It was realized that there are a number of basic assumptions behind the arms control process. There had to be mutual identification of a common interest or aversion, or problem, and each side had to communicate its requirements for what it perceived to be mutually stable. Arms control "will depend ultimately on the same kinds of motives and factors as those which underlie the existing 'system' -namely the self-interest of the parties." It was also realised that while it may be in a party's interest to negotiate an agreement, acceptance of it will be based on a different set of interests.

It is assumed that an arms control agreement will offer an improvement to the particular situation. Evaluation of whether or not this is the case varies from state to state but, according to Schelling and Halperin, can be divided into three broad aspects:

(T)hat the agreement will operate as planned; that one or both sides will cheat and get away with it; that at some point in time the agreement will break down and both sides will resume, openly, the prohibited activities, withdraw the concessions, and cease to cooperate."

If the agreement is seen as guaranteeing or enhancing security, the incentive to sign is higher than if a state

feels it will be disadvantaged by doing so at some future time. Even if the treaty were to be violated, it does not necessarily follow that a party's security is threatened. It is possible that the violation may be seen as not constituting a threat to security, in which case the treaty can continue to operate.

Arms control agreements have an impact on each party, and a serious obstacle arises when attempting to equate this impact on each. "Since the armed forces of each nation rely on their own special 'mix' of armaments and men, any restriction of a particular weapon has different impacts on each of them." Technological change and innovation also differ, and each party may have a lead in developing certain fields.

Military experts on each side also inevitably tend to overestimate the harm to their capacity from any proposed restriction and to discount its effects on the potential enemy. Hence, the greater the uncertainty regarding the value and equivalence of weapons and forces, the more likely is the conservative bias on both sides to block agreement on any material change."

Differing views on inspection can also lead to obstacles. The US and USSR, often faced this problem due to their differing societies. Closed societies tend to be more conducive to hiding violations, necessitating more intrusive inspection procedures. The secrecy of a closed society was also viewed by the Soviets as a military asset, and to allow intrusive inspection they believed that they would be making an additional sacrifice of military potential." In the case

of chemical weapons, the chemical industry would perceive similar fears related to inspection.

Inspection was, in the East-West context, the cornerstone for arms control. Because of the mistrust that existed between the two sides in the Cold War setting, a negotiated agreement that outlined the requirements for mutuality would have to include procedures to verify compliance. Inspection, however, is not 'foolproof'; rather, it should be viewed as "a technique for reinforcing and maintaining the self-interest of the parties in the continued effective operation of the system. The restrictions and the related inspections should be considered as a system of deterrence."

Verification is also used to promote public confidence in arms control agreements. This has been crucial in the West, where public opinion plays an important role in governmental decision making. "Doubts, whether legitimate or not about an agreement's verifiability can undermine public support for an agreement; thus, opponents to an agreement have an interest in fostering these doubts."

Deterring violation of a treaty is accomplished in two ways. First, the violation must be determined, and others must be convinced that a violation has occurred. Monitoring and inspection rarely provide clear evidence of cheating. What they do provide is a mass of evidence which must then be analyzed and interpreted. As this introduces a subjective element into the process, it may be difficult to satisfy

another party's scepticism that a violation has actually occurred, and the allegation is not just for propaganda purposes.

Second, if the violation is confirmed, it remains to be worked out what actions could be taken. In this case, the problem is determining what constitutes a suitable response for non-compliance. The use of force, for example, may be viewed as an over-reaction, just as withdrawing from a treaty for failing to declare an activity may not be a suitable response. Activities done by one party, while not meant as a violation of a treaty, may be construed as non-compliance by another. Violations which do not threaten the military balance may therefore be a greater problem than those which do so."

There is also the danger that violations can be missed, or that evidence of a violations is discovered when there has been no violation. This can lead to further problems, such as a tendency to ignore violations, assuming all are false, and thereby missing actual violations; a tendency to view all violations as legitimate, thereby exacerbating tensions, suspicion and irritation; or jeopardizing of the agreement by exaggerated ideas of how much violation is actually occurring."

One possible method of dealing with this is for a party to volunteer its compliance. This can be done by providing direct information on forces, thereby reducing the need to

determine it independently."

Historically, verification procedures in the East-West context have grown increasingly open. Development of verification instrumentation and procedures were developed during the period of detente, although "the most far-reaching measures were applied to civilian activities only, were never implemented, or were on a purely voluntary basis...On-site inspection in sensitive military installations were still taboo."

Domestic Influences on Arms Control

Arms control negotiations, although conducted between states on an international level, also entail a domestic aspect:

There is the debate and bargaining within states both as to the negotiating strategy and tactics to be employed at the international talks and that relating to the domestic wheeling and dealing which is required to produce a majority behind the eventual agreement. It is not always obvious that the international aspect is the more important of the two."

This domestic debate influences the progress of any arms control talks in a number of ways. There will always be domestic opponents to the negotiations. The costs and benefits to negotiating are not only applicable to the state; they may have significance to certain people or activities, or particular governmental departments. "(A) particular option may benefit one grouping and penalize another, in which case interests become vested in both the furtherance and rejection of that option." In order to achieve any progress, these

interest groups may have to be appeased. The end result is that;

The shape and content of the eventual agreement, the international environment in which it is born, the manner in which it is implemented, the spirit in which it is (or is not) adhered to and a host of other factors crucial to the eventual value and effectiveness of an arms control agreement, will be affected by domestic political bargaining rather than the impact of international bargaining."

Domestic bargaining must also take into account the interest groups' perceptions of threat. The military, obviously, may have a different perception of how serious a threat is than that which foreign policy makers might have. There may also be dispute over what one group may feel to be its legitimate territory or interests being infringed upon by another. In the case of the US, the Pentagon, the Arms Control and Disarmament Agency (ACDA), and the State Department all claim that the arms control process is part of their legitimate interests."

Public opinion, as suggested above, also plays a role in the domestic bargaining process. A politician's main goal is to remain in office; the formulation and implementation of policy is, according to Anatol Rapaport, "of secondary importance, relevant only to the extent that it contributes to the success of the professionals." Thus, successful manipulation of public opinion can make the difference to being elected. This can affect arms control in that opposition to a specific treaty may not be the result of actual problems with it, but is political in nature and the

result of posturing to capitalize on public opinion. Such opposition, for instance, occurred when the US Senate attempted to ratify SALT II. The attempt ended in failure when several politicians who had previously supported SALT II changed their position and opposed ratification. "Domestic politics in 1980 meant that arguments over SALT II only rarely related to the substance of the treaty. Far more often they were tangential issues relevant only in so far as the political environment had made them so."

Arms control has also been linked to other issues in East-West relations. "While it is possible for governments to refrain from directly linking progress in arms control to progress in other areas, it is not possible to prevent people's perception from making this kind of linkage." Public opinion has often linked events to arms control, even if no such linkage exists; such was the case in 1980 when public opposition appeared in the wake of the Soviet invasion of Afghanistan, although there was no link between the Soviet's actions and nuclear stability." The Soviet Union, on the other hand, has not attached much importance on linking arms control to other policy issues.

The US also consistently used linkage in attempts to influence the Soviet Union. These efforts introduced a new level of complexity into arms control talks which "have enough difficulty in resolving security problems between states without expecting them to unlock foreign emigration quotas,

empty Soviet prisons or resolve equally complex problems in other issue areas."

Linkage rests on the assumption that the other party requires the agreement more than you do, and was willing to accept these conditions. Historically, this has never been the case. "No agreements have been signed in circumstances by which either side gave the impression that it had to have an agreement at any cost and could not contemplate failure to achieve one."

Finally, political leadership has been shown to be an important factor in the negotiations on arms control agreements. Studies on US arms control negotiations have shown that the President can have a major impact on bringing negotiations to a successful conclusion, although success is not always inevitable. If determined enough, however, it is possible for the president to overcome many, if not all, obstacles that may occur in the domestic bargaining process."

The Changing Role of Arms Control

As early as 1975, a change in the role of arms control had been noted. The bilateral world of the 1950s was becoming more multilateral as the less developed nations and nations with critically required natural resources assumed greater importance. While the technical aspects of verification became less complicated, the negotiations themselves were becoming politically more complex." Similarly, as the influence of the superpowers declined, the demands and needs

of other countries increased. The emphasis on the East-West confrontation had led to the virtual exclusion of countries and interests that fell outside of this area. The predominant theme of the actual negotiations had been the maintenance of the balance through arms control "accompanied by efforts to prevent third-party disturbance in a world in such precarious balance." Thus, the interests of countries in the Third World were only taken into account when they coincided or clashed with the interests of the superpowers. This was no longer satisfactory.

There were also problems that the arms control process itself exhibited. The distrust between East and West had, as mentioned, resulted in the need to codify formally arms control negotiations in a treaty. The result of this approach was that there developed a schism between nuclear and non-nuclear arms control. With nuclear arms control, it was much simpler to agree upon mutually acceptable levels of deterrent forces, although even this was not a simple task. Nevertheless, it was possible to develop a number of agreements, procedures, and organizations for the control of nuclear weapons, primarily between the two superpowers.

Controlling conventional weaponry was to prove to be more of a problem. As mentioned, they were included only to the extent that their control was necessary to prevent escalation of conflict. It was recognised by the late 1960s that the likelihood of a surprise nuclear attack was extremely low. It

was more probable that any nuclear exchange would be the result of an escalating local conflict.

Conventional forces were not as easy to negotiate agreements on due to a number of factors. First and foremost, they had military utility. Their negotiation involved factors which were not easily quantifiable, such as how many men were considered to be the equal of a particular piece of equipment. Finally, the fact that conventional forces were possessed to some degree by all states meant that negotiations usually were multilateral rather than bilateral. This last point posed a particular problem, as "the history of post-World War II arms control and disarmament efforts suggests that the larger the number of negotiating parties, the smaller the probability of reaching an arms control agreement."

The Non Proliferation Treaty can be viewed as a turning point for the change in thinking on arms control. The essential aim of the treaty -limiting the spread of nuclear weapons- was widely approved. The treaty itself, however, did not gain wide acceptance when it was opened for signature. The treaty, despite being global in nature, was essentially a bilateral treaty between the US and Soviet Union. There was also the problem that many of the non-nuclear countries, particularly those in the developing world, perceived the NPT as dividing the world into two groups; the nuclear 'haves' and 'have nots'. A greater burden was placed on the non-nuclear states than on those which possessed nuclear weapons and, as

these states failed to conclude any type of nuclear disarmament or comprehensive test ban treaty, this would lead to deep resentment by the non-nuclear states." Many felt that the NPT was a deliberate attempt to deprive them of nuclear technology, and view the NPT as 'discriminatory', 'monopolistic', and 'hegemonic'."

With the end of the Cold War in the mid-1980s, this sentiment gained in intensity. The end of the traditional East-West conflict did not result in peace. Events elsewhere in the world illustrated that confrontations still existed, and the proliferation of advanced conventional and unconventional weapons into these volatile regions presented new problems.

What resulted was the division of the international system into two groups; the developed and developing states. The developing states had recognised that their security was not based on military force alone; an idea which has only recently gained acceptance in the developed world. Security in the developing world is a concept which:

consists of several 'national values.' These are safeguarding the political and territorial survival of the state, ensuring the organic (physical and collective) survival of the population, establishing the conditions for economic welfare, and achieving and preserving inter-communal harmony. In general, the guiding principle...is that economic and social factors are regarded as forming part of the definition of security, especially as they affect 'national values' or directly influence political and military decision-making in a given country or region."

These states are not considered to be 'mature' -i.e.-they do

not have the self-assurance and self-confidence that the developed states have. "Nowhere in the developed world does the state face an acute or severe crisis of legitimacy. The state rests on long traditions of political existence and a stable record of economic prosperity." The developing states are faced with an array of forces which can undermine its sovereignty. Their response has been to take measures to resist any perceived external threat."

The use of force has nearly disappeared as an instrument of policy in the developed world due to the destructive nature of modern warfare and because it has been found that disputes can be resolved through diplomacy, bargaining or trade-offs. It has continued to be effective for resolving disputes in the developing world, where the constraints imposed by modern military means are often not present. This legitimacy was aided by several conditions. "Lack of democratic structures, unsuccessful developmental policies, sharper ethnonationalist conflicts, and territorial disputes create an environment conducive to the use of force."

Arms control, which had sought to stabilize the nuclear and conventional balance of forces, now faced the challenging of adapting to this new situation. The threat of proliferation had been recognized during the Cold War era, but it was assumed that the superpower's would exercise their influence to prevent this from destabilizing relations between states. The Gulf War in 1991, however, and the threat of arms

being used against those who had initially supplied them, increased the pressure to restrict arms transfers. This restriction was based on the interests of the Western nations; specifically, "the thrust of arms restriction is to manage and advance Western interests by limiting the spread to anti-Western regimes." This control of arms, rather than true management, has a number of effects on states. It tends to "freeze existing distributions which are largely in favour of pro-Western states." It is also considered by those states to be an extension of Western influence under the guise of arms control. The result of this is that this type of arms control "is likely to breed resentment, particularly among states which view the expansion of their military forces as vital for their national security."

There is also the problem that is posed by technology. Western technology, in many cases, has civilian as well as military uses. The traditional spin-off relationship, where military technology was also found to have civilian uses, has been replaced by a complex interrelationship between military and civilian research and development. Currently, many observers have noted that there is a tendency towards a 'spin-on' relationship, whereby civilian research and development is found to have a military application. Attempts to restrict this 'dual-use' technology, however, can hinder industrial development, so that it appears that the West is attempting to ensure its' economic superiority over the developing world.

By its very nature, dual-use technology is available from a number of sources, making attempts to control or monitor proliferation difficult.

What is necessary, therefore, is that as many parties as possible be included in the arms control process. This multilateralism must be recognised as meaning more than just dialogue between two groups, it "actually connotes strategic and tactical complexities beyond simply the number of participants."

How is it possible to reconcile these interests and differences of opinion into a workable treaty? It has been suggested that there are two approaches to arms control. Competitive arms control has been the predominant approach throughout the Cold War Era. Its objective is to stabilize the balance of military forces between political adversaries.

Cooperative arms control aims to improve political relations between states by creating "through an intensive dialogue and habitual co-operation, a set of principles, norms and rules that govern the military dimension of interstate relations." This approach emphasizes the need for states to recognise that their security can be enhanced by actions that increase the security of others. Its objective is not military stability, but "to determine co-operatively those actions that reassure others so as to *remove military force as a factor in interstate relations, thus establishing political stability.*"

A mix of the two approaches would be required in any negotiations, depending on the state of political relations of the parties involved. Thus, competitive arms control will be required where military forces are presumed to retain their value, while co-operative arms control is useful when this utility is no longer apparent or present." In the case of global or multilateral concerns, a combination of the two approaches will be necessary.

If the concerns are global or multilateral, the range of interests that must be considered will be varied, but according to Hermann "the essential features of a multilateral negotiation and resulting agreement can be described in rather simple terms." Three fundamental sets of issues are present; the defining parameters, the qualitative and quantitative context of these parameters, and treaty-servicing processes."

These parameters can be further subdivided. The defining parameters include the geographical region covered, which parties will be subject to the treaty's provisions, what military equipment is to be limited, and the overall nature of the intended agreement." Once these have been determined, it is possible to set qualitative and quantitative content to these parameters and provide operational guidelines for a treaty." Finally, treaty servicing processes, which "create the dynamic mechanisms for moving a treaty into a temporal dimension" would be explicated." This would include such procedures as declarations, inspections, and reductions.

These are, obviously, very general categories, and actual negotiations would have to include many details. The success of the treaty, however, will ultimately be decided by the same criteria which was used for bilateral arms negotiations: is it in the state's interest to sign and adhere to such a treaty?

The Chemical Weapons Convention

The CWC, as a multilateral arms control treaty, has been hailed as a 'success', based simply on the fact that it was successfully negotiated, and without any investigation of how it may reflect a state's self interests. There have been two schools of opinion voiced since the negotiations concluded. Many hail it as an example of GCD, banning a class of weapons and enhancing global security." Others oppose the CWC and argue that it is effectively unverifiable and cannot guarantee security."

If the CWC is indeed a success, then states will be more than willing to ratify it and abide by its terms. This may be a more important point than has been realized. The global nature of the CWC means that if too many states choose not to adhere, the treaty may be undermined to the point that it becomes irrelevant. Assuming that the verification provisions are unworkable places too much emphasis on the technological workings of the treaty. Verification, after all, is only part of the larger package of issues on which negotiations were held, and previous attempts to ban chemical weapons have involved few or no verification measures.

If the CWC is truly multilateral, other problems may become apparent. Taking into account too wide a range of viewpoints and opinions may result in a treaty which has too many 'loopholes' or cannot function effectively. Yet, if it reflects predominantly bilateral interests, it may result in states deciding not to sign on to the treaty.

The CWC provides an important case study for two reasons. It attempts to deal with the problem of proliferation, and the lessons learned in dealing with the problems posed by chemical weapons might be transferable to other situations. Second, the verification provisions may also be utilized as a model for future arms negotiations. Both of these issues have been important in past arms control talks and, in the changed context in which they are now held, can only assume a greater importance.

The CWC attempts to ensure security and stability from a complete class of weapons. While this is, in itself, an ambitious undertaking, it is complicated the fact that: they have been used before, especially in the Third World; it is an attempt to ban a complete class of weapon which may be perceived as having military utility; and the problem of 'technology as a destabilizing force' must be dealt with. If these can be successfully resolved, the chance that other contentious issues, not related to chemical weapons, can also be negotiated on successfully.

The negotiations on chemical weapons are important for a

number of reasons. Past negotiations can be utilized to indicate weaknesses or areas that require further consideration. Current negotiations are important to determine how a consensus can be formed. The early talks on chemical weapons assume new importance when it is recognised that many of the problems faced during the CWC negotiations had been encountered before. The subject of these earlier negotiations and the reasons for their failure will be discussed next.

Chapter 2

Negotiations before the CWC

Early Origins

The impetus behind the CWC can be traced much farther back than the twentieth-century. The use of chemicals as a weapon had been discussed as far back as ancient times, and there are a number of reported instances where noxious fumes or smoke were used against an opponent.' It was not until the science of chemistry expanded during the last quarter of the eighteenth century that the causes behind these fumes and smoke were understood. The military application of chemicals based on scientific principles was thus only possible after this. Suggestions were made to use sulfur to produce sulfur dioxide gas during the Crimean War, and chlorine and hydrogen chloride during the US Civil War, but neither of these ideas were pursued.' It was not until shortly before World War I that advances in chemistry made the use of chemicals significant enough to be perceived to be of military utility.

Prior to this, there had always been an abhorrence of the use of poison in war. The use of poison in food or water supplies and the use of poisoned weapons were considered to be unchivalrous and treacherous. By the nineteenth century, a trend to make warfare more humane was underway, and this led to a series of conferences aimed at setting the rules for the conduct of warfare. Poison was included in these discussions.

The antecedents of modern chemical weapons arms control

occurred between 1868 and 1922. The St. Petersburg Declaration of 1868 stated:

That the only legitimate object that States should endeavour to accomplish during war is to weaken the military force of the enemy;...this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable;...the employment of such arms would, therefore, be contrary to the laws of humanity.'

While this declaration did not deal specifically with chemical weapons, its principles were later cited in condemnation of gas warfare.

In the aftermath of the Franco-Prussian War, the movement to codify the laws of war were given further impetus. In 1874, a conference was held in Brussels concerning the laws and customs of war, and the declaration which was issued included a prohibition of the use of poison or poisoned weapons. This declaration, although it was never ratified, provided the starting point for the Hague Peace Conferences.

The first of these was convened in 1899 by Tsar Nicholas II of Russia. He had been advised that technical progress was bound to affect future wars; thus, the objective of the conference was not merely to mitigate the hardships of war, but to prohibit the introduction of new weapons into war. A wide variety of weapons were discussed, including gas, but a number of obstacles were encountered. In the case of gas, "there was no point of reference, no recorded experience except in science fiction. How to prohibit a non-existent

weapon?" The result was that general agreement could only be reached on a ban on the use of "...projectiles the sole purpose of which is the diffusion of asphyxiating or deleterious gases." At this time, such a ban gained goodwill among the participants without foregoing any existing defence interest. The US representative, the naval strategist Alfred Thayer Mahan, believed that this clause was unrealistic and could see no difference between blowing up people in a ship where there was little chance of escape and choking them with gas on land.'

The Hague Gas Declarations represented the first example of an attempt to outlaw a specific form of chemical warfare and occurred at the time when the military development of chemical weapons was beginning on a significant scale. The declaration was only binding on the contracting powers in the event of war, and only between signatories to the agreement.' It contained no provisions for inspection, nor any for control; "in short, each signatory was in honour bound to do his own policing."

The second Hague Conference was held in 1907, and reaffirmed the abstention clause of Hague I and another on the avoidance of projectile, weapons and materials which might cause unnecessary suffering. It also widened the restraints to include a prohibition on the use of poison or poisoned weapons. These efforts, as far as chemical warfare was concerned, were to have little effect on the actual conduct of

hostilities in World War I, although the moral implications that they raised are still unresolved.

World War I

Despite the attempts to prohibit the use of poisons, World War I saw the outbreak of chemical warfare on a widespread scale, and to a greater degree than the literature on the war usually indicates.

Gas as a weapon did not appear suddenly, despite what many writers tend to present. The path to the German use of chlorine during the Second Battle of Ypres had roots back to the beginning of the war itself. Pre-war preparations for chemical warfare on both sides had, for all intents, been practically absent. Once war had broken out, several proposals to introduce unconventional weapons were made on both sides. The French had experimented with the use of small, gas-diffusing projectiles early during the war. While these were not successful, they did prompt the Germans to investigate the opportunities that gas might present.

These preparations lead to investigation as to whether the use of irritant agents might contravene the Hague Conventions. The British felt that irritants were not sufficiently poisonous to contravene them, but elected not to use them in the fear that it might lead to German retaliation.'

The Germans continued their research, and used irritants on a number of occasions. These were highly unsuccessful; in

many instances the enemy were unaware that irritants were even being used against them." Improved forms of irritants followed, and through the early part of 1915 irritant gas shells were used by both the French and Germans."

The German decision to move beyond irritants was the result of a combination of several factors, although "(o)nce the German Supreme Command had become accustomed to thinking about and using irritants on a large scale, it was probably only a matter of time before it began doing so for more lethal chemicals as well."" The appearance of trench warfare, the diminishing stockpile of high explosives, and the sea blockade which deprived Germany of the raw materials needed to manufacture explosives all combined to facilitate the German acceptance of chemical weapons." They were not intended to replace high explosives; rather, the German General Staff felt that they would be suited for breaking through the stalemate at the front and restoring mobility."

A shortage in shell case production meant that it would not be possible to use artillery to achieve this breakthrough. The artillery was unenthusiastic about the idea of using gas anyways, and was also suffering from a lack of heavy howitzers." The military in general remained opposed to the use of chemical weapons because of their 'unchivalrous nature'." When the chemist Fritz Haber suggested using the release of gas from cylinders, however, the military was receptive because the equipment necessary to carry out the

attack already existed and it appeared to offer the chance to break through the stalemate."

The legal limitations of the Hague Conventions were considered, after investigation by the German High Command (OHL), not to be applicable. The ban on 'poison or poisoned weapons' was considered by the OHL to apply:

only to deliberate poisoning of food or water, the use of missiles steeped in a poisonous substance, and the like, but that it clearly had no bearing on "gas" warfare, since the matter of "asphyxiating or deleterious gases" had been dealt with in an entirely separate agreement."

That agreement was worded in such a way that it was possible for the OHL to maintain that the prohibition did not apply. As the gas would be released from cylinders, it circumvented the prohibition on the use of projectiles whose sole purpose was to release "asphyxiating or deleterious gas." The irritant gas shells were considered dual purpose, as they contained both an explosive charge for fragmentation and a gas-producing compound. There was also the belief among some in the OHL that the French use of irritants had already provided a provocation. Finally, the argument that gas weapons did not inflict "unnecessary" suffering on the enemy was used. This latter point was subsequently used by a number of writers after the war, who argued that the use of gas was more humane than the use of high explosives⁽¹⁾, or that gas

¹ The most noteworthy of these defenders of the humaneness of gas warfare was J.B.S. Haldane, an English chemist who was involved with the British Special Brigade during the First World War. His book, Callinicus: A Defence of Chemical

was used solely for the purpose of breaking the enemy and reducing their ability to fight."

Attempts to discern the effectiveness of chemical weapons during World War I are difficult. Exact casualty figures do not exist, and early reports tend to inflate the figures to enhance the image of gas' effectiveness in the public's minds. It is this latter image which has remained the public's perception of chemical warfare, and largely shaped public opinion in the Inter-war Period. Haber, in studying the figures for gas casualties in World War I found that the majority of gas cases recovered sufficiently to lead normal lives. There does not appear to be anything more than a tenuous connection established between being gassed and the onset of throat and chest diseases later in life, although:

it was enough for people to believe that being gassed was the cause of the illness years later, and thus the special anxiety created by chemical warfare continued into the peace and was kept alive in the public's consciousness."

The Utility of Chemical Weapons

Militarily, most authors agree that chemical warfare was a failure. For a weapon to gain acceptance it must be effective and have utility. These two are not necessarily the same thing. Effectiveness of a weapon is dependent on its physical capabilities. Utility, on the other hand, is

Warfare (London, 1925) presented the case that gas was a more humane method of warfare than conventional explosives were. This argument has subsequently been presented by many groups which have an interest in maintaining a chemical warfare capability.

dependent upon where the weapon fits into a state's military doctrine and what strategic considerations would have to be considered before its use." While utility will vary from state to state, the effectiveness of chemical weapons is dependent upon a number of outside factors. It is these factors which affected the chemical agents used in World War I.

Weather greatly affected the use of chemical agents, and this dependency on weather conditions has persisted for modern chemical agents. Temperature, wind, humidity, and precipitation can all enhance or degrade the effectiveness of chemical agents.

Effectiveness is also limited by chemical defensive measures. After the initial shock of chemical weapons had worn off, protective measures were implemented which were to prove to be effective for the rest of the war. In fact, after the first use at Ypres, "the use of gas was invariably followed by counter-measures, with the result being that the better protection against gas, the greater the failure of offensive warfare." This sequence of events, whereby technological innovation in offensive chemical warfare and improvements in protective measures closely followed one another, characterised chemical warfare for the rest of the war. The result was that neither side was able to gain a clear advantage. This pattern has persisted to this day, so that it is possible to reduce the casualties of even the

deadliest nerve agent with the proper protective measures."

These protective measures impose their own restrictions on movement and activity. Modern defensive suits and masks are cumbersome, especially in warm or hot weather conditions, and troops wearing them can maintain their activity for only short periods of time. These protective measures make all the difference, however. US Army studies have shown that chemical weapons are individually more lethal than conventional high explosives, but "the chemical expenditure rates necessary to produce a significant effect on a well-trained and well-equipped enemy may approach those of conventional fires."

The use of chemical agents also runs the risk of retaliation. The logistical problems posed by operating in a chemically contaminated battlefield are increased, as new protective suits and masks, decontamination measures, and caring for casualties would have to be contended with. The result is a slowdown in the tempo of operations. While this was not a major factor during World War I, in a modern, highly mobile battlefield it could make a major difference. Even if retaliation is not a factor, the area effect of chemical agents requires troops operating in downwind areas to take protective measures."

With these constraints on effectiveness, the utility of chemical weapons among the states of the northern hemisphere has gradually decreased. Their usefulness has proven to be primarily in the Third World or in anti-guerrilla warfare.

World War I, therefore, has been the only conflict between developed states where chemicals were used on any widespread scale. While the limited effectiveness of chemical weapons has been cited as a contributing factor to their non-use during World War II, it must be realized that there were other influences which mitigated against the use of chemical weapons.

The Myth of Utility and Post-World War I Arms Control Measures

The public perception that gas was a useful military tool was developed in the aftermath of the war, and lead to measures being taken to attempt to enforce a ban on their use. In the aftermath of the First World War, gas "in the minds of the soldiers and in public opinion in general...appeared as a particularly repulsive and treacherous weapon, arousing feelings associated with poison". The German use of gas was also associated by the Allies with other acts of aggression, and became a focal point for Allied attention. Denial of any future advantage provided to the Germans by their chemical industry, which was the virtual leader in the world and more advanced than those of the Allies, was believed to be of great importance. During the Versailles Peace Conference, the Allies' demanded an all-inclusive prohibition on German possession of the means of chemical warfare and the destruction of their industrial chemical monopoly."

Agreement was quickly reached on the first of these

points, and it was incorporated into the Treaty.⁽¹⁾ The second point proved to be controversial. The British proposed to end the German chemical monopoly by including an article in the peace treaty which required Germany to divulge details of the manufacturing processes for war materials; a move which would lead to the disclosure of many of the commercial secrets that the monopoly was based on." The British interest in this was stated to be solely for security reasons, and any gas secrets "should be divulged in order to reduce the danger of their use in any future wars."

The US Delegation opposed this amendment. President Woodrow Wilson and Secretary of State Robert Lansing both felt that this amendment was being introduced for economic, rather than military, reasons. They believed that it would give an unfair commercial advantage to rival industries, as well as be impossible to enforce."

American domestic groups, particularly the Chemical Foundation, began applying pressure for acceptance of the British amendment. Their "desire for specific commercial advantages was cloaked in an appeal for national security from the menace of chemical warfare." President Wilson persisted

¹ "The use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden in Germany.

"The same applies to materials specially intended for the manufacture, storage and use of the said products or devices. Treaty of Versailles, Part V, Sec. I, Art. 171, quoted in Brown, CW: Study in Restraints, 52.

in his opposition to the introduction of the amendment.

The British raised the issue again, stating that any German discovery of new gases might enable them to gain a decisive military advantage, despite limited conventional armaments. President Wilson remained opposed to disclosure of the chemical processes, but after discussions between the British and the Americans a compromise amendment was agreed upon. This amendment deleted specific references to the disclosure of the manufacturing of synthetic and nitric acids used to make explosives which the British had wanted, and any provision for inspection." This was then incorporated into the Treaty of Versailles as Article 172.(')

The result of this amendment satisfied no one. Without any inspection or enforcement provisions, there was no way to be certain that the Germans had divulged all their chemical warfare secrets. Civilian industry could not be sure that they had access to the most critical processes. Its primary effect was to antagonize the Germans."

It also resulted in a massive propaganda campaign launched by the British and US chemical industries which lasted from 1919 to 1925. The need for large chemical

' Within a period of three months from the coming into force of the present Treaty, the German Government will disclose to the Governments of the principal Allied and Associated Powers the nature and mode of manufacture of all explosive, toxic substances or other like chemical preparations used by them in the war or prepared by them for the purpose of being so used. Treaty of Versailles, Part V, Sec. I, Art. 172, quoted in Brown, CW: Study in Restraints, 56.

industries to protect the US and UK was stressed by the chemical producers. The US chemical industry sought the introduction of protective tariffs and an embargo on the importation of certain chemical products. To secure these, the chemical industry embarked on an 'educational campaign' aimed at the public, industries and legislators. The British campaign got underway in 1920, a year after the American campaign had begun."

In the US, the industry effort received further support by the US Army Chemical Warfare Service (CWS) which was fighting for its own survival. Promotion from the threat posed by chemical weapons was in the best interest of the CWS; "public recognition of the importance of chemical warfare would provide the CWS with additional ammunition in its efforts to sell itself to the Army and Congress." The tactics used by the CWS were similar to those used by the chemical industries; advocating national chemical warfare preparedness, in the case of the CWS through a strong Army chemical warfare organization."

The effect of the information being disseminated to the public was that it aroused their interest and opinion. It resulted in protective tariffs and embargoes which the chemical industries had wanted, and ensured the survival of the CWS in the US. This mobilization of public opinion also had unforeseen circumstances. The vast amount of information on the dangers of unpreparedness, warnings of what future

conflict might bring, and allegations of advances in chemical agents and discoveries of new and deadlier agents, made the issue of gas the subject of immediate postwar concern:

The characteristics and effects of the use of gas in war were spotlighted and magnified at a time when responsible decision-makers were searching for ways to minimise the effects of war. Thanks to the determined efforts of the chemical industries, aided by the CWS, gas was no longer considered one among many hardships of war. By 1921, it had become the *bete noir* of World War I, a symbol of the inhumanity of modern war."

There were calls for a clear-headed reappraisal on the issue of chemical warfare. While there were those who urged continued preparations for chemical warfare, calls for an international ban on chemical weapons were also being sounded.

The Washington Conference, 1921-1922

The Conference on the Limitation of Naval Armaments had been called in response to the perceived threat of an impending arms race in the Pacific and rising public and congressional demands to limit newly developing weapons systems. Chemical weapons were not to be one of the subjects of the conference, but public opinion assured its inclusion. The issue was referred to a sub-committee for further consideration of its inclusion on the agenda. After considering it, the sub-committee took the view that research, development, and the manufacture of chemical weapons could not be controlled, and that:

the only limitation practicable is wholly to prohibit the use of gases against cities and other large bodies of noncombatants in the same manner as high explosives can be limited, but their can be no

limitation on their use against the armed forces of the enemy, ashore or afloat."

This position was identical to that which the US War Department, influenced by the CWS, advocated. The US delegation also adopted this initially, but when the issue was brought up at the conference, the delegation reversed its position and strongly opposed such limited measures."

At the basis for this shift was a report issued by the Advisory Committee to the American Delegation. This Committee consisted of 21 senior officers and Senators, including Herbert Hoover, General Pershing, and the Secretary of War, J. Mayhew Wainwright, who had been appointed by President Harding to represent public opinion at the conference." This committee found that there could be "no actual restraint of the use by combatants of this new agency of warfare, if it is permitted in any guise." It urged the total prohibition of the use of chemical weapons, whether they were toxic or non-toxic, and that such methods should be classed with other unfair methods of warfare, such as poisoning wells or germ warfare. Several reports had also been prepared for them before the meetings by the Advisory Committee on Land Armaments. This group, chaired by General Pershing, had recommended that "chemical warfare should be abolished among nations as abhorrent to civilization. The General Board of the Navy concurred in a separate report."

The position against maintaining readiness for gas warfare had also been greatly influenced by a national poll conducted

during December 1921, in which the public had voted overwhelmingly against gas warfare." Thus armed, the US delegation introduced a proposal to prohibit chemical warfare completely, despite the fact that the means to do so at that time were non-existent.

The proposal itself was a slightly modified version of Article 171 of the Treaty of Versailles. Both the French and British delegates observed that the lack of any type of sanction against use meant that security against the threat of gas warfare could only be ensured through national readiness." The US delegation felt that public opinion would be sufficient to provide a deterrent for any would-be aggressor."

This argument was subsequently used during the US Senate debate on ratification. Somewhat optimistically, Senator Lodge stated during the debate that:

If the world is cursed with another such war I dare say they will break out and use poison gas again; but there is always the hope that the opinion of the world may be so crystallized that it will prevent it, as public opinion alone has practically prevented the poisoning of wells or the giving of no quarter to prisoners."

The treaty was ratified by the US with no dissenting votes. It never entered into force, as unanimous acceptance was required and France never ratified because of concerns over limitations on submarines."

The effect on the Washington Treaty on US chemical warfare policy was to have unforeseen implications for the CWS. The propaganda campaign which the US chemical industries and

CWS had unleashed had lead to public opinion being shifted towards total prohibition. The CWS, which had been established by Congress in 1920 suddenly found its role undergoing a change. Originally tasked with ensuring that US forces were instructed and trained in offensive and defensive gas warfare, it was now limited to a purely defensive role. While the Washington Treaty did not require chemical disarmament, the opinion within the US War Department had shifted to emphasize that the US would not initiate the use of, and might not retaliate with, gas." This lack of readiness to wage offensive gas warfare would not be rectified until the final years of World War II.

The US example, while perhaps the best documented, was not isolated. The British military also reduced its chemical warfare preparations to concentrate on defensive measures." Only in the late 1930s, after the Italian use of gas in Abyssinia and the threat of another European war appeared, did the British government begin to make considerable preparations for offensive gas warfare and for protection of the civilian population."

The Washington Treaty did encourage further work on chemical weapon prohibition. The US:

desired to be the moral leader in the worldwide quest for security through disarmament; a tangible and available manifestation of this desire was to offer to prohibit the employment of chemical warfare. Simultaneously, post-war administrations became increasingly aware that deterrence of future use of gas required more than the sanction of world opinion; the United States had to retain a modicum

of insurance in case the declared deterrent failed."

The Geneva Protocol

The public hostility towards chemical weapons during the Inter-war Period reached its zenith in 1925, with the signing of the Geneva Protocol. The topic of chemical weapons was only a part of the larger scope of discussion which was held during the Conference for the Supervision of the International Trade in Arms and Ammunition and in Implements of War, which convened in Geneva in May of 1925 as a result of an initiative that had originated in the League of Nations.

The Conference's original purpose was to elicit support for proposals on regulating the international arms trade, and although the US delegation's provision to include chemical weapons in the discussions went beyond the original agenda, the idea was accepted. The US desire to include these weapons in the talks was motivated, in part, by the failure of the Washington Treaty and the desire to further strengthen the prohibition on chemical weapons."

The US representative, Theodore E. Burton, presented a draft convention which prohibited the use of chemical weapons by states, as well as "prohibit(ed) the export from their territories of any such asphyxiating, poisonous or other gases, and all analogous liquids, intended or designed for use in connection with operations of war"." The difficulty of distinguishing between gases used for industrial and military purposes was recognised, as was as the problem in resolving

the problem of equal treatment of the producing and non-producing countries. While most countries supported the US, there were fears which were immediately raised.

The Brazilian representative, while agreeing with the US proposal in principle, pointed out that:

if the producing states remained free to manufacture gases and to employ them, the result would be to create an inadmissible inequality between the producing and non-producing states. He recalled that at the Santiago Pan-American Conference the delegates of Colombia and Uruguay had pointed out that these new methods of warfare were an excellent means of defence for weak countries in view of the facility with which they could be procured, and their terrible effects."

Other countries, such as Hungary, believed that the means for defence against chemical weapons should be excluded from the prohibition. The Polish delegation, while finding the US suggestion useful, believed that the prohibition should be extended to cover bacteriological weapons as well.

The US then offered an alternative text, which stated that the contracting parties agreed to control the traffic in poisonous gases:

by prohibiting the exportation of all asphyxiating. toxic or deleterious gases and all analogous liquids, materials and devices manufactured and intended for use in warfare under adequate penalties, applicable in all places where such High Contracting Parties exercise jurisdiction or control."

The Hungarian proposal was formulated as an addition to the US text, stating that:

...it being understood that such import and export prohibition shall not apply to methods of defence against asphyxiating, poisonous, or other similar

gases employed as a means of warfare."

The texts were then referred to the Military and Legal Committees of the Conference.

A subcommittee of the Legal Committee examined the question of chemical and bacteriological warfare and advised that there were two ways of dealing with the question; a special provision inserted into a convention supervising the trade in arms, or a separate text under which all states would prohibit the use of gas. Of the two, the latter method was found to be preferable, as it went beyond just a prohibition of export. The Hungarian representative raised the question of placing no restrictions on defensive weapons, although this was met with objection from the Romanian delegate, who stated that the effect of this amendment would be to re-introduce gas warfare."

The Military Committee then examined the issue. The main issue which arose during the course of discussion concerned the question of producers and non-producers. It was felt that a prohibition on trade would place non-producing countries in a position of inferiority, as they would be deprived of a means of defence. A prohibition of exports would have to be preceded by the establishment of security guarantees; otherwise if gas-producing countries did not vow not to use these weapons the non-producers would have to find a way to manufacture gas for themselves."

Even with a defensive capability, this problem remained.

The Hungarian representative clarified the issue by stating that, by defensive measures, he referred to personal means of defence, and not the defensive use of gas weapons. Both the Romanian and French delegates objected to this, as to have an effective means of defence would require testing with gases in order to ensure their effectiveness. This could only be accomplished through the importation or manufacture of the gases, and would defeat the purpose of the prohibition. The British delegate also objected, but on the basis that prohibiting the export of gases would not prevent its use in future wars. Instead, it would force all countries, in order to ensure a credible defence, to begin manufacturing gas. This view was shared by the majority of the Committee. Even applying the prohibition would be difficult, as it was practically impossible to discriminate between chemicals used for military purposes, and those with legitimate civilian uses." In the end, the Military Committee adopted the joint proposal suggested by the British, Polish, and Italian delegations, which read in part:

Considering that the prohibition of the export of chemical and bacteriological arms is, in most cases, practically impossible, and would, moreover, be of no effects until all nations undertook to abstain from chemical and bacteriological warfare of all kinds;

Proposes that this larger political issue, namely, the prohibition of chemical and bacteriological warfare should be considered by a special Conference which should be convoked at an early date and at which all States would be represented."

This opinion was supported in the subsequent discussion

of the General Rapporteurs of the General Committee, although they suggested that a resolution be included in the Final Act of the Conference, calling for a universal convention to deal with the issue. The Swiss representative suggested that a text be included in the Final Act of the Conference, which reaffirmed the universal prohibition on use and from which rules as to the application of that principle could be drawn. While this was opposed by some, the US countered with its own proposal that Article 5 of the Treaty of Washington be adopted and opened for signing; a suggestion which was adopted by the General Committee.

The Protocol itself was drafted and adopted with only minor changes. The Polish delegation advocated that explicit reference be made to the inclusion of bacteriological weapons in the Protocol; a move which was accepted with little hesitation. The representative of the Irish Free State proposed that all powers sign the Protocol, and that the words: "so far as they are not already parties to treaties prohibiting such use" be omitted. This suggestion was opposed on the grounds that all powers represented at the Conference, whether bound by previous treaties or not, would have to sign the Protocol."

The Protocol, after some minor amendments, was approved by the Conference on 17 June 1925, and opened for signature. Despite the US desire to negotiate the Protocol, the US failed to ratify the treaty until 1975. This failure was due, in

part, to a suspicion of Europe and a growing isolationism which was occurring in the US at this time. There were increased reservations about ratifying treaties that had no inspection or enforcement provisions." There was also a debate which occurred in the Senate over the logic of limiting development of a weapons system which the US might be able to use to its advantage; this was a continuation, it should be realized, of a long-standing policy of using unlimited force, once action had been initiated against them, to defend the US and obtain the unconditional surrender of the aggressor." Finally, opposition from the Chemical Warfare Service and the American chemical industry played a role in the decision not to ratify the Protocol." General Fries of the CWS presented the fight against ratification as "a fight for general military preparedness, an argument that no military officer could fail to support."

The US failure to ratify the Protocol had repercussions among other states. Japan followed the US example and refused to ratify, while the European countries carefully examined their positions. France was the first of the major powers to ratify, followed two years later by Italy and the Soviet Union, but "it was not until Germany ratified in 1929 that Britain felt able to do so."

The Problems with the Geneva Protocol

The fact that the Geneva Protocol did not act as a deterrent to chemical warfare was not the result of the

perception of a diminished utility of chemical weapons. The Geneva Protocol can only be seen as an obstacle to assimilation because it cannot effectively prohibit possession or all use of chemical weapons. This is the result of a number of factors which resulted from problems with the Protocol itself.

Upon ratification, most of the major powers entered reservations in order to qualify their adherence to the terms of the Protocol. Most notable among these were Britain, France, and the Soviet Union. All three states reserved that their commitment only applied with regard to other states which had ratified the Protocol, and that this commitment would cease should an enemy, or its allies, cease to respect the Protocol. These reservations, in effect, transformed the Protocol into a ban only on the first use of chemical or biological weapons; it legitimated the use of chemical weapons in reprisal to an earlier attack. The result of this was that the norm of non-use outlined in the Geneva Protocol could not be made into an effective anti-chemical weapon regime, for rules cannot be drawn from it which will preclude any resort to chemical warfare:

The norm of abstention from CW has not been, nor could it ever be, guaranteed by a rule which simply restates the norm as a prohibition of international law. Such a rule can only operate by positively legitimizing forms of chemical warfare which it is necessarily incapable of prohibiting, namely the use of chemical weapons in reprisal and perhaps retaliation in kind."

The result of this was the need for states to continue in a

chemical weapon development program to ensure that they maintained this ability to retaliate. This would also lead to other states investigating the option of chemical armaments as a deterrent to those states which already possessed them, leading to proliferation rather than the prohibition which had been hoped for.

The Geneva Protocol was also limited, in that the prohibition of use covered only conditions of war instead of the conditions of armed conflict in general." While this ambiguity did not appear to be of major concern at the time, it would cause problems in the 1960s. As it was pointed out in December 1967 by the Maltese representative at the ENDC:

...use for hostile purposes in peacetime was not prohibited. This was a fatal omission in contemporary conditions, when wars were seldom declared and when some of the most dangerous chemical and biological weapons in the arsenals of states were eminently suited for use in circumstances in which no overt conflict existed."

While the ability of the Protocol to prevent retaliation with chemical weapons was a major flaw, equally serious was the lack of any major mechanism to ensure compliance with the Protocol or investigate allegations of use. The fact that most chemical weapons at this time were dual-use in nature meant that prohibiting their manufacture would be impossible to verify. This led states to rely on either deterrence or the threat of sanctions to provide for their security.

The idea of applying sanctions against alleged users was also problematical as there was no agreed upon measures to

investigate allegations of use. While discussions were held on this matter in the World Disarmament Conference during the 1930s, these did not result in any binding or widely accepted sanction mechanism. Sanctions were applied against Italy following complaints about the use of gas in Ethiopia, but these were uncoordinated and due to the effort of the League of Nations rather than the result of a provision of the Geneva Protocol." These sanctions were "extended half-heartedly, and never extended to include military measures. They failed to stop aggression and the use of chemical weapons."

International control to prohibit completely chemical warfare was also recognized as being useful, but such an agreement would not be able to provide sufficient security. "The possible disadvantages and dangers of applying international control outweighed any advantages it might offer." Certain technical problems were examined by the Preparatory Commission of the World Disarmament Conference. This did not result in any concrete results although their work would resurface in the post-war debate. The most important idea expressed at the time was that an international organization be set up in conjunction with the disarmament conference prohibiting preparations for chemical warfare. Its role would be to collect all information found in official trade statistics or provide statistics relating to the manufacture of chemical substances in the territory of each signatory state and of trade between states. This

organization could also request, on its own initiative or at the request of other states, additional information and/or explanations." It was felt that, at this time, it would not be possible to enforce a prohibition against preparations for chemical warfare by examining the commercial statistics of chemical industries in all countries. While such control was conceivable in theory, it would be impossible "to exercise control by entrusting national or international bodies with the duty of inspecting chemical factories and of making public the character of the products manufactured, the existing stock and the production capacity."

A proposal for the establishment of an international cartel of chemical industries to ensure that chemical weapons were not privately manufactured was also dismissed. Similar objections were raised to this proposal, although there were "indications that the business community believed more in this idea than did the politicians."

Finally, the scope of the Geneva Protocol was believed to be limited. While the Geneva Protocol banned "asphyxiating, poisonous or other gases and all analogous liquids, materials or devices," it did not use the term "chemical weapon" at any time. This was due to the fact that the concept of chemical weapon was still in the early stage of its evolution. There was no clear definition of what might be considered to constitute a chemical weapon incorporated into the treaty after the fact, nor were attempts made to tighten up the

existing definition of what was banned." This lead to attempts to include items such as incidenary devices or smoke screens in the classification of chemical weapons.

There was also discussion over whether lachrymatory agents (tear gases) and other irritating agents and herbicides were included in the prohibition. This issue first came to the forefront of discussions in 1930 when the British government submitted a memorandum stating that, in its opinion, lachrymatory gases were prohibited by the formula of "other gases". The US offered the sole dissenting opinion on the grounds that tear gas had a humane purpose in war and it would be wrong to prohibit the use, against an enemy in war, of the same agents used in peacetime to control civilian populations. The Americans later indicated that while there was no question of tear gas being used in war, they did not want to give up the preparation and employment of gas for domestic police purposes."

The Utility of Chemical Weapons: World War II

The fact that chemical weapons were not used during World War II on a large scale cannot be attributed to the prohibition embodied in the Geneva Protocol. There now exists a substantial body of evidence which supports the proposition that the non-use of chemical weapons between the major belligerents was due more to national restraints and deterrence than to international prohibition.

The Americans, as mentioned above, were unprepared to

wage chemical warfare. Although President Roosevelt, like his predecessors, remained opposed to the use of chemical weapons, it was recognised that resort to their use in a future conflict was a possibility. It was not until 1943 that President Roosevelt actually announced that US forces would retaliate in kind. The decision to initiate chemical warfare, however, was a different matter. Shortly after the outbreak of war, the British had sought assurances from Germany that they would abide by the Protocol; this was received two weeks later. The use of chemical weapons, however, was considered by the British in the event of a German invasion." Once this threat had passed, the British continued to retain a deterrent stockpile. Finally, in 1942 the American and British combined Chiefs of Staff entered into a formal agreement, whereby either state could retaliate unilaterally but both would have to agree to initiate chemical warfare."

At the basis of this decision was the recognition that British and Commonwealth territory was at greater risk for retaliation than the US. As the war progressed, and the chance that the Germans could launch an effective chemical attack decreased, the possibility was raised of using chemical weapons in retaliation for continued V-1 and V-2 attacks. This was eventually decided against because it was feared that while the Germans could not retaliate on any significant scale, initiation of chemical warfare in Europe could lead to initiation in other theaters which were not as well-prepared."

The Americans also explored the option of using chemical weapons against Japan. The use of the atomic bomb and the subsequent surrender of Japan occurred before much planning on this could be done. Even if the decision to use chemical weapons against the Japanese had been agreed upon, the supply of chemical weapons available in 1945 was sufficient only for one concentrated attack on an area the size of Iwo Jima." Logistical problems also made the transportation of chemical weapons into the Pacific Theatre problematical; simply put, the chemical weapons stockpiles were maintained in the US and were not a high enough priority to be shipped into the Pacific."

Another impediment to Allied use of chemical weapons was the assumption that initiation in one theatre would unleash chemical warfare on a global scale. "This assumption implied an agreed Axis war policy. However, Germany and Japan never adapted a unified strategic policy. Any decision to initiate chemical warfare would have been taken independently."

At the beginning of the war, the Germans were the best prepared to wage offensive chemical warfare as they possessed new types of agents which were far deadlier than those used during the First World War: the nerve agents. Throughout the war, however, they over-estimated Allied preparations and believed that the Allies knew about the nerve gases and could produce them rapidly." Despite their qualitative advantage, the Germans remained unprepared for chemical warfare; a fact

partially attributed to the deep-rooted disdain which the General Staff felt for chemical warfare." Hitler himself was strongly opposed to the use of chemical weapons, probably due to his experience of being gassed during the First World War.

Several other factors dictated against the use of gas by the Germans. Their blitzkrieg style of warfare was dependent on speed and mobility. Taking protective measures against chemical attack would only slow this down." It has also been suggested that the German Army, which remained dependent on horse transportation throughout the war, was vulnerable to chemical attack because of this. Had gas been used against rear areas and supply routes, it could have caused the collapse of the German logistics system." As the war progressed and air superiority had been lost, initiation of chemical warfare could only lead to massive retaliatory strikes."

Japan was the only major belligerent during the Second World War to use chemical weapons to any extent. Even then, it was against the Chinese, who were largely unprepared to defend themselves against chemical weapons. These attacks occurred early in the war against China and were tactical in application, but failed to impress the Japanese Army leadership." This resulted in Japanese forces being specifically ordered not to use gas in attacks on the Western

Powers in 1941.(') The preoccupation with the development of a battlefield chemical weapon would also lead to "an almost total neglect of the CB defence of the civilian population, a neglect which was to prove a grave liability during the latter part of World War II."

As the tide of war turned against the Japanese, discussion on the benefits of using gas against the Allies occurred at the Army General Staff, and were forwarded to General Tojo. A number of factors dictated against the initiation of chemical warfare. The Japanese defending the islands were subject to chemical attack with little chance for retaliation. Japanese troops were poorly trained and equipped for chemical defence. The civilian population might also be subject to retaliation by Allied bombers. Like the Americans, the decision to initiate chemical warfare would place constraints on the shipping of supplies at the expense of other materials. Finally, once CW was initiated, the Japanese would not be able to maintain their advantage over the Allied forces. American production of chemical agents and defensive equipment would have given them the advantage within a short period of time."

Thus, in 1944, once these factors were appreciated and it appeared that the Americans might be prepared to use chemical

' Japan, it should be recalled, was not bound to the no-first-use provisions of the Geneva Protocol, as it had not ratified it and was a party only to the Hague Conventions (SIPRI, The Control of Chemical and Biological Weapons, Vol 1:, 289.).

weapons as well, the Japanese leadership went to great lengths to make it known that they would not initiate chemical warfare against the Allied forces, despite being evasive on earlier attempts by the Allies to discover their position on the subject. Then:

(u)nwillingness to support the Geneva Gas Protocol early in the war indicated that the Japanese had not decided against the use of toxic agents. A precipitous declaration given in 1944 in response to a newspaper article, after Japan had obviously gone on the defensive, could only be interpreted as a sign of concern that the United States might employ toxic agents. Concern could be interpreted as an indication of weakness, a poor image to present to an opponent."

Furthermore, Japanese chemical munitions were removed from all troops in the field except those operating in areas adjoining the Soviet Union. Here, the assumption was that the Soviets might initiate chemical warfare "in spite of coalition ties with the United States, and that the use of gas could be limited to the Russo-Japanese theatre of war." The Japanese began unilateral chemical disarmament, relying on the US declatory policy to avoid chemical warfare rather than the deterrent effect of military force."

Chemical Weapons and Assimilation

In retrospect, therefore, the non-use of chemical weapons during World War II was due to factors other than the prohibition outlined in the Geneva Protocol. Legal restraints were not what inhibited widespread chemical warfare. Neither were the physical problems associated with the use of chemical weapons sufficient to inhibit their use. During the First

World War, this latter point had been a factor as "realization of the potential effectiveness of gas was impeded due to the unavailability of a delivery system...commensurate with the capabilities of the weapon." By the start of World War II, the supporting infrastructure required for chemical weapons to be effectively employed had been developed.

There is general agreement that the non-use of chemical weapons during World War II was primarily due to the deterrent effect exercised by the opponents' perceived chemical warfare capability. "Churchill, Roosevelt and Hitler all advertised their chemical weapons in just such terms." The fact that this retaliatory capability did not exist is not important; there was sufficient reason for the opponent to believe that it did. Thus, while a retaliatory capability would have taken time to acquire, both sides believed that one already did and that they were vulnerable to any retaliatory action. "Historical evidence thus supports the case of deterrence through possession of balanced chemical defense and retaliatory capabilities."

While the deterrent capability of the opponent played a large role in decision-making regarding chemical weapon, other factors also had an influence. As we have seen, limited capability and the problems that the introduction of chemical weapons would have caused in military operations also were taken into account. These factors are also applicable to the post-war environment. The lack of chemical warfare in this

period cannot be considered proof that the prohibition of the Geneva Protocol is effective, for as Julian Perry Robinson points out "it is not inconceivable that, in many other wars where chemical weapons have not been (and are not being) used, circumstances favouring use have simply not obtained."

These circumstances could be overcome, however, through sufficient technical competence, field intelligence, logistical flexibility and advanced planning. These would require large amounts of prior preparation:

If sought on anything other than a trivial scale, these allocations would be at clear cost to other programmes of military preparedness and would entail significant organizational changes, the more so since chemical warfare lies well outside the mainstream of military theory and practice. The necessary preparation would therefore have to overcome not only the inertia of any military bureaucracy but also the active opposition of its disaffected components. Mechanisms can thus be described whereby the various operational constraints on use of chemical weapons become transformed into institutional constraints on the acquisition of chemical-warfare capability."

As previously mentioned, military forces have tended to view chemical weapons with some disdain. This has, in itself, acted as an inhibition to assimilating chemical weapons into a state's military capability." The Geneva Protocol, it has been suggested:

aggravates the institutional constraints...Because of the international and domestic political ramifications of chemical-warfare armament that stem from its legal status and peculiar emotiveness in public opinion, all but the most routine matters for decision tend to be pushed up into the highest reaches of intragovernmental politics; where, for a variety of reasons, neglect, deferment, or carry-on-as-before are more likely outcomes than positive

action necessitating institutional change."

The strength of the Geneva Protocol, therefore, has been on this political level. The ramifications of engaging in chemical armament, both domestically and internationally, are great, and can only be justified during periods of general rearmament, or if there are especially strong institutional or technological interests in it.(') Thus, the Protocol "constituted a major obstacle to the assimilation of chemical weapons into national force postures."¹⁰ However, the longer that assimilation proceeds, the greater the chance that the Geneva Protocol will no longer be able to inhibit the expansion of a nation's chemical weapons ability.

A declaration that a state will not use chemical weapons first cannot, in the present day, provide absolute assurances that an enemy will not initiate chemical warfare. "The significance of such a declaration lies in their constraining influence not upon wartime behaviour, but peacetime

' As an example of this, the interests of the US Army Chemical Corps have played a role in the perceptions that the US administration has had towards chemical weapons. This is clearly seen in the post-WWII position that the US government took towards these weapons, where as the influence of the service grew, the US position moved away from the policy of retaliation to one of preparedness for use at the discretion of the president.

Similarly, technological innovation may aid the assimilation of chemical weapons into the force structure, either through making them easier to use or by opening up other modes of chemical warfare. The discovery of the nerve gases is a good example of the former, and the discovery of the anti-plant agents of the latter (Perry Robinson, "Chemical Arms Control and Assimilation," 525-527).

behaviour."¹⁰⁴

Assimilation is also affected by the perceived utility of chemical weapons. As long as they are considered to be of limited military utility, the impetus to assimilate remains low. As their utility increases, the threat to security can come from two sources. It may "manifest itself either as an overt conventionalization of chemical weapons within the arsenals of the advanced industrialized countries, or as a proliferation of the weapons to other parts of the world."¹⁰⁵

The Geneva Protocol could not, by its nature, resolve this problem. At its very least, it acts as a no-first-use agreement. At best, the opinion has been expressed that "its prohibition has now become a rule of customary international law, binding upon all states whether or not they are Parties to the Protocol."¹⁰⁶ Not all states subscribe to this interpretation.

The Considerations for Chemical Arms Control

Events during the 1960s and onward lead to calls for the Protocol to be strengthened. While these events will be examined in the next chapter, some of the broader considerations will be examined here.

It must be assumed that most states are in agreement that security is best guaranteed by negotiating an arms control agreement. Obviously, this has not always been the case. The US, for example, maintained the position throughout the 1960s and early 1970s of relying on national means to safeguard

against chemical attack by stating a policy of no-first-use, but reserving the right and capability to retaliate in kind. Had they maintained this position, any negotiations on a CWC would have followed a very different course.

Chemical weapons have also been classed as "weapons of mass destruction." Their inclusion in this category came about as the result of their great casualty causing power against unprotected personnel, especially civilians, and the potential for their indiscriminate use. Classed along with biological and nuclear weapons, the use of chemical weapons is "thus an escalatory step in military terms, while also having significance as a political signal of determination." This concern over escalation has lead many to feel that the use of chemical weapons can only be deterred through the threat of retaliation in kind; threatening to use nuclear weapons to respond would only represent further escalation." This linkage between nuclear and chemical weapons, however tenuous, would lead to further considerations, mainly in the Third World. These will be discussed shortly.

By focusing on deterrence by maintenance of a retaliatory capability, emphasis was placed on the utility of chemical weapons. This would lead to further problems. Writing in 1986, Julian Perry Robinson noted that;

The world at large sees the West as the leader of military technological fashion. This means that, if the West moved to acquire additional CW weapons, it would have to expect others, and not only Iraq, to follow its example."

This proliferation would, it was feared, introduce a destabilizing factor in certain volatile regions, such as the Middle-East, that might affect the security of the wider international community.

Any CW stockpile can have either a retaliatory or initiatory role. The only difference is in the intentions of the possessor:

Stockpiles built up as deterrents may thus have the effect of sustaining, even inducing, the threats they are supposed to deter; and once accepted as necessary components of a state's military posture, they may become enmeshed within the apparently ceaseless spiral of modernization and counter-modernization, whereby assimilation must sooner or later result."

It is recognised that the concept of deterrence rests on more than the threat to retaliate. Deterrence requires that a state maintain a capability to prevent an enemy from taking action. Obviously, this capability would include protective measures against chemical attack. But these measures, by their very nature, further contribute to the problem as they are also "dual use"; necessary for protection as well as offensive CW use. In response to this problem, it was decided to pursue chemical disarmament as the best way to increase security for all states while avoiding the instability and insecurity that would accompany individual states pursuing a chemical deterrent.

Not all states would have wanted to acquire such a deterrent. This lack of desire does not mean that they would automatically acquiesce to a chemical disarmament treaty. The

NPT example would not work for chemical weapons. The chemical industries are much more widespread than the nuclear industries, and chemical processes have a much wider application. Attempting to limit the trade in chemicals would cause further complications, especially among the Third World and developing countries. Thus, while:

countries such as India, Brazil or Indonesia might not have the slightest intention of acquiring CW weapons...it would surely take an immense amount of coercion to persuade them to accept another international treaty whose object was to perpetuate their technological inferiority in such an area, an inferiority which one day might conceivably be exploited against them."

The problem which faced negotiators was that the technology required by any modern chemical industry can also be applied to the development and manufacture of chemical weapons, just as it had in the 1920s. The number of chemicals which had a dual use in manufacturing and as weapons had increased in this time. Thus, attempts to monitor and control the trade in chemicals and technology appeared to be just as difficult as it had at that time. Any state which wanted to secretly acquire chemical weapons could still conceivably do so unless a way was found to verify effectively compliance with a treaty. But a fine line had to be balanced between ensuring that the treaty's security requirements were upheld and avoid needlessly infringing on a state's economic, military, or industrial security in the process. Finally, if a prohibition on possession and use is to be effective, the majority, if not all, states must agree that chemical weapons are unnecessary

either as a deterrent or a weapon. Regional bans would be of limited utility, as they did not preclude chemical weapons being moved in by an outside source. A global chemical weapons non-armament regime, therefore, would be required.

In the chemical weapons arms control debate, the European experience dominated much of the early history, and has thus influenced the negotiations. In the modern context, the East-West conflict meant that chemical disarmament could not take place unilaterally. It was believed that the loss of NATO's CW forces would place the alliance in a vulnerable position which its adversaries could exploit. What would be required was some form of negotiated agreement. The security demands by both sides would be high; mutual distrust and suspicion of cheating meant that stringent verification procedures would be necessary to build the confidence that disarmament was taking place and that the subsequent state of chemical weapons non-armament was for real." The greater the amount of assurance required, the further the CWC disarmament regime would have to intrude into a state's society.

This intrusion creates its own demands on a state. As mentioned in the last chapter, verification requirements will vary between states for a variety of reasons. Thus, "adequacy can be no more than a matter of opinion -resolvable, therefore on the basis of which opinion commands the greater political power." Lax verification measures run the risk of putting the CWC in the position of prohibiting chemical weapons , but

with no effective method to ensure security. The more that an intrusive verification regime is identified with security requirements, the greater the chance that there will be resistance to such measures. The problem of security within the chemical industry has to be addressed if their compliance is to be expected. The developing countries, which have viewed security in its broader context, must also be assured that by accepting the CWC verification regime, it will not place them in a situation where their economic security is compromised. Thus:

the problem confronting verification is...that of significantly increasing the transparency of the military industrial milieu within which illicit activities might be taking place without at the same time exposing other activities which might legitimately be kept secret."

The verification regime would be influenced by these two contradictory requirements. Finally, it must be realized that acceptance of the verification regime would indicate the acceptance of "some abrogation from the sovereign rights of the collaborators." Not all states may find this acceptable.

Countries agreeing to join a CWC signal their intention to forego any chemical weapons stockpile or offensive capability. It does not automatically follow that such action pre-empts taking protective measures. The CWC must take into account the dual nature of these measures and formalize which activities will or will not be permitted. Allowing states to retain anti chemical warfare countermeasures would mean that "the security risks of disarming...could be very substantially

reduced. One might even judge retention to be an essential precondition for agreement." It would act as a deterrent to any would-be violator, as the advantage of using chemical weapons on an unprepared or unprotected state would be negated. Retaining such a capability involves some risk taking, however, as it would allow states to return to full CW capability in a reduced time period."

A New Treaty or Strengthened Protocol?

At the outset of negotiations during the 1960s, there was discussion over whether a new treaty was necessary or if it would be more practical to append verification and investigation provisions onto the Geneva Protocol. The problem that surfaced with a strengthened Protocol focused on the scope of the original.

As mentioned, the scope of the Geneva Protocol is limited to the non-use of chemical weapons in war. While it is possible to interpret this as a no-first-use ban, it cannot be interpreted as a total and complete prohibition on use. To extend it to include a prohibition on possession and development would require extensive reworking.

Non-possession requires that states agree to forego the acquisition of chemical weapons. What can then be defined as constituting a chemical weapons would then be required as a basis to proceed upon. Too narrow a definition might discriminate against those states who see lesser forms of chemical agents as a threat. Comprehensiveness of scope is

required to ensure that all forms of chemical weapons are prohibited. This means that agents which might not at first be considered a chemical weapon, such as tear gas or herbicides, must be examined to determine if they will be included in the discussions.

Prohibition of possession necessitates that some action be taken to prevent activities that could facilitate resort to chemical warfare. These activities include, but are not limited to, research, testing, transfer, stockpiling or production of CW agents. As these activities are also applicable to peaceful purposes, the possibility of getting a consensus to agree on what should be permitted appeared unlikely. It would be impossible, if not impractical, to outlaw all activities that could facilitate the use of chemical weapons. What is required is an indication of the "willingness to forswear all activities intended to facilitate resort to chemical warfare.""

Recognition of all these factors at an early stage made extending the Geneva Protocol impractical. A new treaty would be required which incorporated the spirit of the Protocol and affirmed its intentions, but went beyond it to prohibit chemical warfare, verify non-possession and non-production, and investigate any allegations of use.

The Global Context

Finally, the negotiations on the CWC had to take into account a changing global situation. While the next chapter

will examine specific incidents which directly affected the negotiations, some general observations can be made.

By the time the negotiations began in Geneva, chemical warfare had generally been dismissed as a militarily useful weapon by those states in the Northern Hemisphere, although the debate between its opponents and proponents would continue for some time yet. This argument was followed with great interest in the Third World. There, chemical weapons were perceived to have retained their utility. Most uses of chemical weapons had occurred in the Third World, demonstrating their effectiveness against unprepared or unprotected populations. This had established a strong case for the value that chemical weapons could have and may have prompted a number of states to develop and stockpile them.

This threat of proliferation, as already mentioned, threatened to destabilize the regions into which chemical weapons were introduced. For states in these regions, an absence of efforts to begin negotiations to abolish chemical weapons could mean that "there may be certain forces which point...in the direction of chemical weapons proliferation."

Tied to this proliferation, and offered as a possible justification for development of chemical weapons, was the concept that they provided a plausible deterrent to the threat of nuclear weapons -the "poor mans atom bomb." Despite some

problems with this idea('), it has proved to be an enduring image and one which would reappear at various times during the CWC negotiations.

The shifting of emphasis from the Northern Hemisphere to those countries in the South would contribute much to the overall shape of the final agreement. An agreement which was suitable to control chemical weapons in the US-Soviet relationship would not automatically be suitable in the Third World. Among the states of the Middle East there was a greater amount of mistrust between them than had existed between the superpowers. This would place further complications on the verification regime if it was to be accepted by the states in this region.

The CWC would also have to allow states in the developing and Third World the opportunity to develop their national chemical industry without outside influences preventing this.

' While the ability of chemical weapons to cause mass casualties has caused it to be classed with nuclear weapons as a weapon of mass destruction', it is an over-simplification to assume that chemical and nuclear weapons are interchangeable. Nuclear weapons, in their strategic role, act as a deterrent through their 'assured destruction' role and as a counter to an opponent's strategic forces; the function called 'damage limitation'. Chemical weapons cannot perform either of these roles to the degree necessary for them to be considered strategic weapons. The destructive effects of nuclear weapons are precise and immediate; chemical weapons are slow to take effect, are dependent on a variety of factors, and are unpredictable in their results. Chemical weapons cannot perform the damage limitation role at all; they are incapable of physically destroying an opponent's strategic weapons systems. (Hedley Bull. "Chemical and Biological Weapons: The Prospects for Arms Control," in Hedley Bull on Arms Control. (New York: St. Martin's Press, 1987), 252.)

As already mentioned, a treaty along the lines of the NPT would not be the solution; there could be no division of the world into those states which were "possessors" and "non-possessors".

The overall aim, therefore, of the CWC in the Third World was to convince these states that it could guarantee their security at a time when proliferation and a lack of Western concern about the use of chemical weapons appeared to be the norm. It was against these states that chemical weapons constituted their primary threat. Security for those states in the Middle East and Far East appeared to be best obtained through national self-reliance rather than a global agreement. It would be necessary to turn this opinion around if a CWC were to have any chance of success in these regions.

The problems faced by those countries in the developed world, such as ensuring and verifying compliance, security in the chemical industry, and institutional interests, are exacerbated and enhanced in the Third World. How they were met, and the influence that they had on the CWC, will be examined next.

Chapter 3

The Negotiations on the Chemical Weapons Convention:

1960-1986

Early Negotiations: 1960-1974

The negotiations which were to result in the Chemical Weapons Convention (CWC) had their antecedent to events as far back as the early 1960s. The US use of harassing agents and defoliants in Indochina was a highly contentious issue. In March 1963 the US denied had denied Soviet allegations that they were involved in chemical warfare in Vietnam.' The stigma of these allegations persisted, and as further instances of the alleged use of CW in Vietnam became known there was tremendous public outcry. Such use, it was widely believed, violated the US position, stated by President Roosevelt in 1943 and never rescinded, that the US would not initiate chemical warfare.' The controversy diminished after a short time, but resurfaced as public opinion about the war in Vietnam became increasingly negative.

The effect that these allegations had were two-fold. It led the US government in the late 1960s to reaffirm the renunciation on the first use of lethal chemicals, extend this renunciation to the first use of incapacitating chemicals, and provide the impetus required for the Geneva Protocol to be finally ratified.' It did not refer to harassing agents or defoliants, and it was later announced that these were not included. This was to be the basis of a problem which was to

plague the CWC negotiations. While the majority of states viewed the Geneva Protocol as all inclusive, no state had entered reservations limiting the type of weapon to which it applied.

Second, there was the fear that the US use of harassing and herbicidal agents had demonstrated the utility of CWs. "The widespread use of chemical agents by the world's most powerful country, without regard to the Geneva Protocol, or to other moral or conventional restraints was seen as likely to encourage other countries to use chemical weapons".'

Included in the US re-affirmation of the no-first-use of CWs was a renunciation of the use of biological weapons, a unilateral destruction of the US stockpile, and research for defensive measures only. Biological weapons had always been included with CW in disarmament negotiations. It was recognised that while CW was perceived to have some military utility, BW appeared to have none. Over the next two years, a number of draft conventions on CBW were proposed which would extend the ban on use to cover a ban on possession as well. In the spring of 1971, difficulty over verification procedures that would be suitable, as well as a desire by both the US and Soviet Union to reach agreement in other areas of arms control, led the Soviet Union to abandon its insistence that biological and chemical weapons be dealt with together.' A ban on BW followed fairly soon thereafter, and included a clause that called for a treaty covering the elimination of

chemical warfare agents as soon as possible. The Biological Weapons Convention (BWC) would also be significant for other reasons; its lack of adequate verification provisions was a flaw which would have serious consequences before the end of the decade.

Despite the success in negotiating the BWC, little progress was made on a CW convention over the next few years. Discussion in the Conference of the Committee on Disarmament (CCD) centred on the scope of the prohibitions, agents subject to prohibitions, and verification of compliance. On these subjects the Western and Eastern Bloc had two separate ideas.

The Eastern Bloc supported a comprehensive treaty that banned, in one step, the use, development, production, stockpiling, acquisition, retention or transfer of chemical agents, munitions, equipment and means of delivery. In 1972, they tabled a draft which proposed such a comprehensive ban, but made no provisions for the international verification measures desired by the Western nations.'

The other alternative to a comprehensive treaty was that of a phased, multi-step one, prohibiting certain kinds of activities or agents in the initial stage. In general, a phased approach usually distinguished between the destruction of existing stocks and the prohibition of future development or acquisition. During the later part of the 1970s, the West favoured this approach. The UK proposed a draft convention in 1972 which advocated reaching agreement on stockpile

destruction, with a freeze on production, followed by elimination of production capacity.'

This was followed a year later by a Japanese proposal which limited the ban to development and production of super-toxic chemicals while verification procedures to cover less toxic agents and stockpile destruction were negotiated. While this proposal was favourable to the US and USSR, non-aligned countries opposed such partial measures "which they felt discriminated against non-possessors of chemical weapons". On April 30, 1974, the Japanese proposed a ban on development, production, stockpiling and transfer of all CWs, and provided for their immediate destruction under international observation. Certain less toxic agents were not included in the immediate ban, but it was promised that negotiations to eliminate these would continue.'

The Japanese draft treaty also introduced the concept of an International Verification Agency, which would be responsible for analysis and evaluation, and would produce periodic reports. It would also request explanation from the states parties and conduct inspections and investigations of suspected breaches."

Reaction to this was mixed. The US commended the basic principle of gradual prohibition, but felt that the verification provisions were not stringent enough. Technical methods of inspection would provide enough assurance that disposal of stockpiles was being carried out. The Soviet

Union remained opposed to any foreign inspection or observation on its territory, preferring national or self control." Problems over which chemicals would be banned, including those which could be used in binary weapons, also remained.

The US-Soviet Bilateral Negotiations: 1974-1980

While talks at the CCD continued, the US and Soviet Union agreed in July 1974 to begin bilateral discussions on chemical weapons. It would be two years, however, before these talks began. In August 1976, the two countries met in Geneva to begin preliminary discussions. These talks were held independent of the CCD, which was briefed at the end of each set of talks.

At this time, the UK also introduced a new draft treaty. It called for the immediate declaration of information on stockpiles and production facilities, and cessation of production. A phased destruction of stockpiles, with international on-site inspection would take place at a later date. A Consultative Committee would also be established to implement control procedures and exchange information. While these proposals were discussed by the CCD, little of substance was accomplished."

It was in the US-Soviet bilateral talks that any progress was made. Talks got fully started in 1977 and continued until 1980. In all, there were 13 rounds of talks during that time. They yielded progress on, and agreement over, the scope of the

convention, and an improved understanding of verification."

By their end in 1980, the US had agreed that a convention should be comprehensive in coverage. It had given up its phased approach and had agreed to ban all 'super-toxic lethal chemicals', or other lethal chemicals, or harmful chemicals. There had also been common agreement on what these terms would mean." While this was a step forward, they had not been defined with the precision that a CWC would require.

What chemicals would be prohibited, and especially how to deal with those which had dual-use, had also not been defined. The US still considered that tear gas and herbicides fell outside the scope of the convention." It was clear that different degrees of prohibition and limitation would have to be applied, although how this was to be done was unclear. The Disarmament Committee had put forward the idea of a catalogue of outlawed chemicals, but this idea was not taken up by the two powers."

Both countries had agreed to the destruction of stockpiles within 10 years, and to a ban on production. The 10 year period would allow states to work through the problems involved with the destruction of their stockpiles. It would also reduce any military advantage a non-party to the convention might achieve, as states which were a party to the convention would continue to retain a chemical warfare capability for some time."

Verification remained a major obstacle. The Soviets had

accepted, in principle, on-site inspection on a voluntary basis. The idea of a Consultative Committee to oversee verification was also accepted, although its exact operation remained to be negotiated." Mandatory international on-site inspection remained a controversial issue. The US considered this type of inspection indispensable to monitoring that the terms of the convention were being carried out." The Soviets, fearing this type of inspection would be used as a cover for illegitimate intelligence gathering, opposed it." Even on the subject of voluntary inspections, the Soviets refused to be committed as to under what circumstances they would permit such inspections."

Work in the CD(') during this time had been effectively blocked by the bilateral talks. The CD had been invited by the UN to continue negotiations, but had never been allowed more than a secondary role by the Superpowers." Instead, they concentrated on discussing some of the more technical aspects of the convention.

This limited role was resented by many in the CD. In 1977, Italy had proposed the creation of a working group which was to seek agreement on a convention." As the bilateral talks began to stagnate, the West saw the advantages to allowing the CD this wider role.

Within the CD, the Group of 21 - neutral and non-aligned

¹ The CCD changed its name to the Committee on Disarmament in 1980, and to the Conference on Disarmament during the 1984 session.

countries - were becoming increasingly restive about the limited role allowed to them, particularly in the field of nuclear disarmament. The Group of 21's main objective was to see negotiation on a Comprehensive Test Ban Treaty (CTB). Negotiations between the US, UK, and Soviet Union had reached a standstill over the issue of verification, but "also because of growing doubts in the US and UK about the desirability of a ban, and because of a lack of political will on the part of all three negotiating states". They were determined to keep nuclear arms control negotiations out of a multilateral forum. While the CD had been allowed to consider technical issues relating to a CTB, this had been primarily for effect. The Group of 21, dissatisfied with the slow progress, led calls for a moratorium on nuclear testing."

Under these circumstances, the West saw giving the CD a part in the chemical disarmament negotiations as the lesser of two evils. It was felt that doing so might appease the Group of 21's dissatisfaction. NATO members, who had either renounced the possession of CWs or imposed a unilateral moratorium on production, felt that they had a propaganda edge over the Soviets, who were believed to possess a greater stockpile of chemical munitions and agents. The CD was also not sympathetic to the Soviet's reluctance to accept intrusive verification. Once the West had made known their willingness to allow the CD a greater role in negotiations, the Soviets could do little except go along with the proposal." These

multilateral negotiations were to be the only source of negotiation which would take place; before the 14th round of bilateral talks began, the US withdrew over Soviet intransigence on verification and their aggression in Afghanistan."

The Start of CD Negotiations: 1980

The Ad Hoc Working Group on Chemical Weapons was established in March 1980 with a carefully restricted role. It was to "define, through substantive examination, issues to be dealt with in the negotiations on such a convention, taking into account all existing proposals and future issues"." It was not to negotiate the actual treaty, but to define the main issues that would have to be dealt with in negotiating the convention.

Despite this limited mandate, the Working Group managed to reach agreement on activities to be banned and items to be prohibited. The scope of the CWC was also defined. A 'general purpose' criterion, where the item would be prohibited depending on what it was intended or designed for, was agreed upon. Agreement was also reached on the declaration and destruction of stockpiles and production facilities, and discussion began on the issues surrounding verification. Thus, the main framework of the convention was established. All points of view were noted on an issue, and no effort was made to resolve differences. This pattern was repeated during the 1981 session.

During the 1982 session, the mandate was changed to allow the CD to begin actual elaboration, but not the drafting, of the convention. The US had proposed that based on the success the Ad Hoc Committee had with identifying the areas of agreement and disagreement, the mandate should be expanded to allow it to harmonise views on major elements of the eventual agreement."

External Factors Affecting Negotiations

Throughout the latter part of the 1970s and into the 1980s, the Soviets were widely regarded by the Western military community as actively engaging in preparations for chemical warfare. In the aftermath of the 1973 Arab-Israeli conflict, inspection of captured Soviet equipment had revealed that they possessed CBR protection superior to that available in Western Armored Fighting Vehicles. Little was known about the Soviet Union's intentions regarding chemical warfare." What was obvious as the 1970s progressed was that the Soviet Union possessed chemical munitions and the delivery systems for them, had developed a doctrine integrating their use on the battlefield, and had a large infrastructure dedicated to training Soviet forces for operation in a CBR environment."

The Soviets also regarded CBR weapons in a different manner than they were in the West. Soviet military doctrine assumed that, based on the precepts of Marxist-Leninist ideology, there must be a 'decisive' clash between the socialist and capitalist systems. If the socialist system was

to survive, it would be necessary to use all weapons at its disposal to ensure victory." Thus, chemical warfare against NATO was a distinct possibility. The fact that NATO had only a limited ability to wage chemical warfare made Soviet use that much more attractive to them. Alleged use in Afghanistan after the Soviet invasion, and by Soviet client states such as Laos, Cambodia, and Somalia, would also raise fears that the West was unprepared.

This meant that NATO was faced with the dilemma of deterring a potential threat without the proper response. The possibility was raised that NATO might find it necessary to resort to the use of nuclear weapons to deter Soviet chemical attacks. Such use, however, would signal an escalation to a higher level in the conflict. If the hope had been to contain the conflict to Europe, such escalation raised the spectre that inevitably the US might find itself targeted.

The other option was that NATO begin intensively training to operate in a CBR environment, and acquire its own chemical deterrent. By the beginning of the 1980s, pressure to replace the aging US stockpile of chemical weapons was growing. Institutional interests, such as the US Army Chemical Corps, pushed for the acquisition of binary weapons; weapons which used two chemicals, by themselves not lethal, to create a lethal agent after it had been fired. Thus, while the Western states attempted to move chemical disarmament forward throughout the 1980s, they also found themselves faced with

the prospect of rearming with those very same weapons.

During 1982, there was another reason for the renewed interest in the West on the subject of CW. This was the result of allegations of CW use in Afghanistan and Indochina, and later during the Iran-Iraq conflict. The first reports of CW being used in Laos had originally emerged in the mid-1970s from refugees arriving in Thailand. By 1978, the number of these allegations had begun to attract press attention. US government hearings into the allegations further fuelled the growing distrust that the US had of the Soviets. The US did not take any action at this time; it has been stated that the Carter Presidency, which was attempting to get SALT II ratified, did not want to take any actions which might prejudice the process. The Administration was also attempting to persuade Congress of the necessity of modernising the US chemical warfare capability."

Beginning in 1980, the US government was faced with an increase of reports emanating from the region and, facing domestic political pressure to take action, took the allegations to the UN. Debate over whether CWs were actually used in Laos have never been satisfactorily put to rest.

Allegations about CW use in Afghanistan have been slightly less contentious. The first reports began as early as mid-1979, and direct Soviet involvement with CW shortly after the start of the war. The reported use of CWs in the Afghan conflict was notable in that it upheld the view that

the Soviets were determined to use any weapon at their disposal. Of greater concern, however, was the fear that Afghanistan might be used as an operational testing ground for several new CWs, as reports of new CW agents began to appear around the beginning of 1982." By the end of 1982, the Soviets appear to have reduced their use of CWs, and to have halted their use after 1986."

This use by the Soviets did provide further impetus to those who wished to see the US begin rearming with CW. It was feared that, regardless of the truth to these claims, these allegations might start a whole new CW arms race.

It was in the Persian Gulf region that incontrovertible proof of the use of CW was found. The first reports of Iraqi usage of CWs had occurred shortly after it invaded Iran in September 1980, although there had been allegations that they had used them against Kurdish rebels as far back as 1965." Throughout the early 1980s, Iran continually alleged that Iraqi forces were using CW against them, although these reports were probably not true. In 1982, as the Iraqis found themselves being pushed back, this seems to have changed. Facing the pressure to 'hold at all costs', Iraq resorted to CW. Initially, these reports were of tear gas being used to great effect, and "perhaps encouraged by this success, Iraq began to use lethal chemicals against the Iranians late the same year".

As the debate around the use of CW grew, the pressure to

negotiate a CWC also increased. The US and Soviet Union both tended to use the CD negotiations as a forum to accuse the other of wrongdoing, or apply pressure on the other. Thus, the US moved ahead with its binary program while accusing the USSR of being inflexible on drafting a CWC, and of using CWs.

The progress that was achieved at the CD was minor. The Soviet Union put forward a draft of basic provisions that agreed, in principle, to the concept of systematic international on-site inspections as a useful verification tool. It did not elaborate under what conditions this would be allowed." Questions from the US about other aspect of verification also received no further elaboration. In November, the US put forward a new set of basic provisions which were more demanding in their verification requirements. CW stockpiles were to be monitored until destroyed and procedures for fact-finding investigation of undeclared stockpiles or facilities were to be elaborated."

Slowness in the CD negotiations allowed some countries to begin investigation of possible partial measures to control CW. These regional approaches, originally proposed in the Palme Commission report, drew a favourable response from the Eastern European countries. Such a regional approach would, it was believed, "forestall a plunge into a chemical weapons race between the United States and the Soviet Union".

Many in the West reacted negatively to this suggestion. West Germany saw the idea of CW free zones as undercutting a

worldwide ban on CW. By declaring an area a CW free zone, it did not preclude the possibility of CWs being moved into the zone. It did nothing to address the issue of the threat of CW use from outside the zone. Finally, if a CWC were negotiated the existence of CW free zone could pose possible problems to the workings of the treaty. There was the chance that both treaties would have differing verification systems, with differing obligations. They would also represent two contractual systems, with divergent consequences, that would have to exist side by side. Thus, the West German view was that CW free zones would hinder, rather than enhance, a CWC."

The Beginning of Substantive Work: 1983

In February 1983, US Vice-President Bush addressed the CD and informed it that the US wished to see negotiations on a treaty banning CW. Six days after his speech, the US delegation presented a detailed view on the contents of a CWC. It laid out the official US position; one which was not markedly different from the previous administration. This view did set out "outer bounds within which a potentially worthwhile compromise might be negotiated." It also proposed a complaints procedure that allowed a party to request *ad hoc* on-site inspection in order to resolve any concerns about non-compliance. Any party receiving such a request would have strict obligations to permit the inspection."

Western concern over verification methods had been increased by the reports of a release of Anthrax in Sverdlovsk

in 1979. Although this incident involved biological, not chemical weapons, it had a number of ramifications for a future CWC. Biological weapons had been covered by the BWC, which had very weak verification provisions to ensure that states were complying with its terms. The release of Anthrax was tied, through reports of emigres and the Department of Defence, to a Soviet medical compound which was undertaking research into BW. The belief that development of a weapon banned by a treaty was taking place led to a tremendous debate within the US. Coming at approximately the same time as the reports of chemicals being used in Laos and Afghanistan, it appeared to many in the US administration that;

The policies of our nation cannot be based on a benign view of the Soviet Union and its intentions...It is not that arms control is pointless, but that we have to do a better job of it...if arms control is to work, agreements of this kind must be fully and effectively verified."

In the immediate aftermath of Vice-President Bush's statement, the US representative made it very clear that while the US was willing to negotiate, its position was that "the key to an effective convention is the firm assurance of compliance through effective verification...effective verification is an absolute necessity for any future agreement."

Once the mandate to continue working on the CWC for the 1983 session had been established, three working groups were formed to focus on three of the more contentious issues of the CWC; destruction/elimination of stockpiles, challenge inspection, and use and scope.

The US position had favoured destruction of all CWs covered by the convention to begin no later than 6 months after entry into force, and completed no later than 10 years after that date. This destruction was to be verified throughout the process, and carried out according to an agreed upon schedule. The US, in a document presented in July 1983, emphasized that verification procedures for the destruction of designated stocks should be designed to confirm the quantity and identity of the materials to be destroyed, as well as confirm their actual destruction." Yugoslavia extended this by proposing that these stocks should be declared immediately or as soon as entry into force of the convention. This declaration should specify the existence and location of stocks, types and quantity of agents, and propose how these stocks were going to be destroyed. Precursors would also be declared at this stage."

The Soviet Union supported the idea in general terms, but with some substantial differences. They proposed that all CW, both filled and unfilled be declared, along with precursors and components of binary weapons. This was to be done by their chemical name, toxicity, tonnage, and chemical munitions were to be declared by types and calibers. The idea of declaring the stockpile's location was considered unreasonable, as it did not take into account that the facilities may have other uses and it might affect defence interests not connected with CW. Instead, it was proposed

that store houses be created at the facilities used for destruction, and that the location of these would be declared. Verification at these facilities would be based on a 'quota' system; the number of inspections was to be agreed upon. Frequency of inspection would be based on quantity of the stocks, toxicity, capacity of the facility, and other relevant factors."

The GDR, echoing a position which was advocated by the Eastern Bloc as a whole, suggested that binary weapons should be destroyed first." The US opposed this on the grounds that such a proposal was one-sided and aimed at preserving the Soviet chemical capability, while eliminating that of the US."

Tied with the issue of CW stockpiles was that of production facilities. The US proposal favoured an immediate cessation of activity at CW production or filling facilities. These were to be closed, rendered inoperative, and inspected and monitored until they were destroyed. Like the weapons themselves, destruction was to begin no later than 6 months after entry into force and completed no later than 10 years after that date. No other facility was permitted to be modified or built for purposes proscribed by the convention, although conversion of an existing facility to a destruction facility was permitted, provided the facility was itself destroyed once destruction of all CW stocks was completed. Yugoslavia favoured declaring location and ownership of these facilities, technical information on the facility and its

capability, and a proposal for its destruction."

The Soviet Union's position on production and filling facilities was not as stringent. They proposed that elimination of these facilities should begin no later than 8 years after entry into force, and their location would need to be declared only 1 year before that date. The initial declaration, therefore, should state only that the party had the capability to produce chemical weapons."

To ensure that the chemical industry of a country was not producing precursors or dual-purpose chemicals for use in chemical weapons, it had been recognised that these facilities would have to undergo some type of inspection. Depending on the type of chemical produced by the facility, the UK proposed on-site inspections as a means to verify that these were abiding by the terms of the treaty. However, what purposes were to be permitted, what quantity of these chemical would be allowed, or what chemical would be covered had yet to be decided." The amount of monitoring had also not been resolved. Challenge verification had been advanced by Sweden as a means of ensuring compliance after the destruction period had expired and if allegations of non-compliance could not be resolved through consultation. Since verification could be arranged to ensure that sensitive information was not uncovered, any refusal of challenge inspection was a tacit admission of violation." The Soviets opposed this suggestion, on the basis that automatic acceptance could not be demanded."

The main issue was the fear that, in an industry where secrecy was important for economic reasons, inspection might lead to sensitive information being uncovered. Once again, opinions on this matter were divided, although the division was between the developed and developing states at the CD. Among the developed states, on-site inspection was considered essential:

How much, how intensive and how often are questions awaiting answers and elaboration, but the principal is a fundamental one. On-site inspection, strengthened as necessary by remote sensors and other non-intrusive technological means, is the key to achieving a chemical weapons convention."

This inspection, in the view of the developing countries, was permissible provided that it did not inhibit the growth of the civilian chemical industry:

The legitimate desire of these countries to develop their chemical industry for the benefit of their peoples and as a contribution to bridging the technological gap and developing self-reliant economic structures must be respected. Moreover, the verification regime which is ultimately agreed upon must be non-discriminatory in character and should be accessible to all States parties to the convention. Finally, we should be careful to ensure that the procedures for verification of compliance remain fair to the civilian chemical industry and do not put an unnecessary burden on it."

Finally, the US had advanced the idea of prohibiting the transfer of chemical weapons to anyone other than another party to the convention, and only for protective purposes. Advance notification and a limit on the amount which was to be transferred were required. This proposal remained to be discussed.

The second working group on challenge inspection did meet for discussion. The Soviet Union and other East Bloc countries remained reluctant to accept mandatory inspection; thus the working group was able to accomplish little during the 1983 session. It did manage to outline the complaints procedure which had been presented in the US draft proposal.

The main accomplishments occurred in the working group examining the scope of the convention. As mentioned before, a general purpose criterion had been agreed upon to define the scope of the convention. There were still a number of issues that had to be resolved. For a general purpose criterion to be affectively applied, terms such as 'hostile activities' and 'hostile purposes' had to be clearly defined. What activities or purposes constituted 'hostile' was open to discussion. Similarly, 'intention' to use chemicals as a weapon was also difficult to verify. Training in chemical protection, for example, was necessary for both defensive and offensive purposes. To launch a chemical attack without this type of training would be risky. Banning it, however, opened the possibility that a chemical attack by a state which remained outside the treaty could seriously endanger the security of a State party. CB protective equipment is also used for radiological protection."

Agreement over what constituted a chemical weapon was also un-resolvable at this time. A number of countries suggested moving away from the concepts of super toxic and

lethal, other lethal, and other harmful chemicals which were being used to define what was a chemical weapon. These categories were useful, but only if defined under the general concept of chemical warfare agents:

not all the super-toxic and lethal, other lethal and other harmful chemicals can be used for hostile or war purposes. Therefore, using the three types of chemicals alone - which are classified according to their toxicity categorization - cannot define the scope of the prohibition of the convention in a correct and precise manner."

The issue of what constituted a chemical warfare agent could be solved, it was suggested, by a list of agents which were known to be used primarily for weapons purposes. This listing:

should become an accepted common understanding by the States parties to the convention...There probably is a need to provide for the constant updating of such a list, but without it, it will be extremely difficult to proceed to declaration, destruction, and other steps just on the basis of generalized categorical definitions."

These lists could also resolve the issue of which key precursors would be considered important enough to be monitored, and limit unnecessary interference with the chemical industry. It was important that these lists:

be incorporated in the convention in a way which would (1) give them the necessary authority as an obligatory provision of the treaty, and (2) allow for their appropriate revision in the future.

An annex, revised in the course of the review conference on the convention, might be a reasonable way to meet both requirements mentioned."

Also under discussion within this group was the issue of whether the CWC should include a prohibition on use. The

Geneva Protocol only prohibited the use in war; thus, armed conflict in general lay outside the scope of the treaty. It also stated that it governed the relations between signatory powers.⁽¹⁾

In theory, states which were not party to the treaty were open to chemical attack, or were free to pursue chemical armament. There is evidence that Japan, which had not been a party to the Geneva Protocol, had felt that it was free to use chemical weapons in China from 1937-1942 on these grounds." However, some states put forward the argument that the Protocol had become part of customary international law, binding upon all states whether they were parties to the treaty or not. This view was not shared by all governments."

Many governments had reserved the right to retaliate with chemical weapons if they were used against them first; in essence, this transformed the Protocol into a no-first-use agreement. Finally, any allegation of use could not be investigated because there were no provisions in the Protocol to do so.

These flaws led many states, especially those of the non-aligned, to insist that any future convention should include

¹ That the High Contracting Parties, so far as they are not already Parties to Treaties prohibiting such use, accept their prohibition, agree to extend this prohibition to the use of bacteriological methods of warfare and **agree to be bound as between themselves to the terms of this declaration** (emphasis mine). See Protocol for the Prohibition of the Use in War of Asphyxiating Poisonous or Other Gases, and of Bacteriological Methods of Warfare, 1925.

a prohibition on the use of such weapons. Such a clause would make any future convention truly comprehensive:

Its inclusion in the future convention will both permit the possibility of the verification of non-use, which was not provided for in the Geneva Protocol, and also extend the scope of the prohibition to cover situations of hostilities not considered as cases of war or foreseen in 1925."

The Soviet Union and its allies had originally opposed including this prohibition of use in a CWC, claiming that it would prejudice the Geneva Protocol rather than strengthen it." However, early in 1983 they reversed their position and agreed to extend the scope of the negotiated convention. To ensure compliance, they proposed that the convention's verification mechanism should be used, including on-site inspection on a voluntary basis. Any state which did not become a party to the convention would still be obligated under the Geneva Protocol, while parties to both would be obligated not to use chemical weapons under both agreements."

Not all countries were in favour of this inclusion, believing that it was inappropriate or that such a prohibition repeated solely in the context of chemical weapons might break the connection them and biological weapons in the Protocol. It was suggested that this could be resolved by a clause of non-interference with the relevant international treaties." A number of other aspects remained to be resolved in connection with the issue. Chief among them was if the prohibition on use should be extended to cover riot control agents and herbicides. As mentioned, the US strongly opposed

classifying these as chemical weapons.

It also remained to be seen how the CWC, which would ban the possession of chemical weapons, could be rectified with the Protocol, which allowed retaliatory use. While it was possible that the reservations contained in the Protocol could remain in effect until destruction was complete, it remained to be seen if this would be the case should those states who were parties to the Protocol, but not the convention, decided to maintain their reservations."

The Fear of Proliferation: 1984

As the negotiations at the CD began anew in 1984, outside events once again exerted an influence over them. There were renewed allegations of use in Indochina and Afghanistan levelled at the Soviet Union and its allies. The Soviet Union, in turn, accused the US of obstructing progress in the CD by negotiating a CWC while simultaneously working towards rearming with binary weapons. Relations between the two superpowers were strained, although the CWC negotiations were the least affected by those strains. This was due to the fact that it was "generally recognized that the need for a ban on possession of these weapons is more than a simple bilateral US-Soviet concern; in one form or another chemical weapons are accessible to many states."

The use of chemical weapons, verified by the UN during 1984, underscored the necessity of the negotiations. The UN investigating committee had announced in March that Iraqi use

had been verified. This event, possibly more than any other, raised public awareness of the danger of proliferation of chemical weapons. By the end of 1984, the number of alleged possessor states had risen to 30, according to US Department of Defence officials." This was an increase of 14-16 states in recent years, and was further evidence that chemical proliferation seemed to be occurring. Those states which allegedly possessed chemical weapons were also predominantly among the developing and Third World states. These events:

had the effect of publicizing an aspect of CW which has long been evident in history: that the military attractions of CW weapons bear an inverse relationship to the level of technology at the disposal of those against whom the weapon might be used."

The Iraqi use and the threat of further proliferation posed problems for the international CBW arms control regime. One commentator noted that:

Politically, the Iraqi use of chemicals poses great challenges to the non-aligned movement. If the political costs of using chemical weapons are seen as minimal, and as affordable, the military incentives for chemical weapons would multiply globally...Once the chemical weapons spread and are seen as legitimate, the advanced and interventionary powers...would most certainly use them in their conflicts in the Third World."

Another influential issue which, although not directly connected with the CD negotiations, was the disposal of old stocks of chemical weapons. A number of countries, not necessarily chemical weapons possessors, were faced with the problem of disposing of old stocks of chemicals weapons which were discovered in or near their territory. This problem was

most significant in Europe and China, where munitions had been buried, left behind, or disposed of during the course of the two World Wars. A number of countries also faced the problem of dealing with chemical munitions which had been disposed of by dumping at sea. This issue had been raised previously at the CD, as discovery of chemical munitions after each state declared its stocks would be problematical. The responsibility for the destruction of these munitions also had to be determined. During the course of 1984, this issue began to receive attention on a greater scale than it had before.

The US Draft Treaty: 1984

When the Ad Hoc Committee resumed negotiating that March, it resumed elaborating the convention and set up three working groups. These dealt with the issues of scope of the prohibitions, elimination of chemical weapon stocks and production facilities, and compliance with the treaty's obligations.

The US had announced in January that it would be presenting a new draft treaty at the CD in the upcoming session. The Soviet Union, however, moved ahead in the interim and, in mid-February, announced to the CD plenary a new position on stockpile destruction. They were prepared to consider a permanent presence by representatives of international control at the facilities for destruction of stocks, as well as allow monitoring equipment to be stationed at these facilities." This change in position was considered

to be significant as "it concerned one of the most important provisions of the future convention." However, the Soviets did not expand on this statement with any details, stating that it would do so "in due time...in the subsidiary body of the CD."

In April, Vice-President Bush introduced the new draft treaty to the CD. It codified most of the earlier American position which had been contained in the detailed view it had submitted at the beginning of 1983. It did change its position to accept a ban on use of chemicals in war in the treaty, instead of referring to the Geneva Protocol. It also defined toxic chemicals in a way which took into account the points of view raised by China and other members of the CD."

Its major new feature was contained in Article X, dealing with 'special on-site verification,' and was clearly motivated by suspicions that the Soviet Union might not fully comply with a CW ban. The US proposed that each party must consent within 24 hours to inspection of one of the sites that systematic international on-site inspection was authorized for, or any location or facility owned or controlled by the government of a party, including military installations. The purpose of these inspections would be to resolve any matter which might cause doubts about compliance. No party could refuse this inspection. For facilities outside the provision of Article X, Article XI provided for ad-hoc on-site inspections. These could be refused, but the party in

question would have to explain its refusal and suggest alternate means of demonstrating compliance.

Article X proved to be the focus of the ensuing debate. The Soviet Union, with its state run chemical facilities, rejected the concept, believing that it was far too intrusive and would lead to the disclosure of political, scientific, military, economic, commercial and other state secrets." This concept was also criticized on the basis that it was discriminatory "against parties with state-owned or partly nationalized industries in that it put them in an unfavourable position compared to states with predominantly private enterprise." It was not just the Soviets who balked at Article X, rejecting it and claiming that it would set back negotiations. According to one British official, Article X was far too intrusive, and this view was shared with other European allies."

As a result of the furore created by the draft treaty, the US responded by reiterating that this was not presented as a final position; it only provided the basis for the US negotiating position. It was further clarified that, in their opinion, the entire US chemical industry was considered to be under government control through regulations administered by either the Occupational Safety and Health Administration or the Environmental Protection Agency. Government contractors were also included by extension."

These statements were to lead to questions in the years

ahead over whether the US chemical industry "which jealously defends its constitutional freedoms, including the right to protect its production and commercial secrets, and which usually resists government pressure, will be willing to throw its doors wide open to foreign controllers." The possibility was raised that such inspections might violate the Fourth Amendment of the US Constitution, which assured the right of the people against unreasonable search and seizure. Thus, it would be possible for a company to block an inspection if it feared that such an inspection might result in the loss of trade secrets or confidential competitive information." This fear could be extended to cover situations where any inspection might be seen as constituting a threat, and not necessarily just intrusive on-site inspections. The Fourth Amendment required a warrant for a search to take place unless firms subject to inspection are part of a 'pervasively regulated' industry, and must be carried out according to a "carefully delineated inspection scheme embodied in law, which assures that inspections are both certain and regular." This requirement meant that "two of the three types of on-site inspection(')...appear to be constitutionally defective under the pervasively regulated exemption to the Fourth Amendment warrant requirement." While no solution to this problem was immediately foreseen, it was recognised that it would have to

' The two types would be the special and *ad hoc* inspections.

be dealt with before the CWC was acceptable to the civilian chemical industry.

Internationally, the problems posed by Article X also remained unresolved. In an attempt to work through the issues raised by Article X, the US offered to resume bilateral talks with the Soviet Union. These talks would not take the same form as the previous talks; they would not be held separately, but would be held informally on the margins of the CD. These talks were to be a delicate issue, as several NATO and neutral governments questioned whether initial progress should be left to the two Superpowers." The US insisted that negotiations were to be focused in the CD, but recognised that such discussions were necessary to allay any fears that the Soviet Union might have." The Soviet Union eventually accepted the offer, but on the condition that they were not to be 'negotiations'.

Negotiations between the East German Socialist Unity Party (SED) and West Germany's Social Democratic Party (SPD) also began outside the context of the CD. These focused on the creation of a chemical weapons free zone in Central Europe. Opposition to the stationing of chemical weapons by outside powers had increased in Germany due to the recognition that their use would mean the civilian population would suffer enormously. Many resented that these weapons were stationed in the Germanies, although both had espoused policies of non-possession. There was also a definite lack of enthusiasm in

both countries over the US binary weapon programme." During the course of 1984, three rounds of talks were held, and reaction to the proposed CW free zone by their respective allies was lukewarm. These negotiations did not have a direct impact on the CD, but their existence did support the viewpoint that a regional approach might provide a means of preventing chemical weapons proliferation.

Through the rest of 1984, negotiations slowed so much that the Ad Hoc Committee had to continue its session in 1985 to complete unfinished business. What progress that was made was confined to non-controversial aspects of the convention. These included non-production, where a better understanding of the issues emerged, and in definitions where progress towards a consensus was made."

The Formation of the Australia Group: 1985

As the new year began, progress on a CW ban remained stalled even as further use occurred in the Iran-Iraq conflict. Although most governments privately condemned its actions, Iraqi was not formally condemned, nor were sanctions applied; due mainly to the fact that in the war Iraq was viewed with considerably less fear than Iran. Many Western states had privately supported Iraq's arms build up; a fact which many commentators, especially in the Third World, had remarked on and had led to the observation that the political cost of resorting to chemical warfare might not be considerable after all." Private companies in the West had

also taken an active part in developing the Iraqi CW capability. Discovery of this fact had caused the US in early 1984 to place export controls on a number of chemicals which could be used to develop weapons; a move which several other countries followed. In 1985, these efforts would be coordinated by Australia, who would set up the Australia Group. Its aim was to create a list of possible precursors or other chemicals, whose shipment to certain countries might set off an alarm. By control of the supply, it was hoped that the proliferation of chemical weapons could be halted or sufficiently slowed.

Even as these attempts were being made to control proliferation, the US moved further towards CW rearmament. In the Spring of 1985, after years of debate in Congress and the Senate, Congress agreed to allocate funds to begin production of binary weapons and begin upgrading the US chemical capability. Funding was conditional on being endorsed by NATO's political leaders, and would only be made available in October 1986." Reaction from the USSR to this was, as was to be expected, generally negative.

This pessimism over events extended to the CD itself. Progress on the CWC had slowed drastically, with little substantial work being accomplished, and both the US and USSR attempting to use this forum to present their political views.

Despite the slow progress, a number of working papers were presented during the course of the regular session.

France outlined a schedule of destruction for stockpiles. Overall parity in stockpiles was to be reached five years after the treaty's entry into force, and states would maintain a militarily significant stock until the eighth year." Sweden proposed grouping chemicals; each group having a different regime of declaration, elimination, production and verification applied to it." The US was opposed to both these suggestions. Informal consultations continued to be held throughout the fall.

The Shift in the Soviet Negotiating Position: 1985-1986

There were also subtle shifts in the position the USSR had adopted. The election of Mikhail Gorbachev to General Secretary and President marked the beginning of a new openness. In late August, the USSR announced that it was ready to declare the location of munitions to be destroyed at the same time as the location where they would be destroyed." Informal negotiations between Soviet and American officials took place, with no progress being made. These contacts, however, provided a basis for higher level discussions. Gorbachev, in a speech to the French Parliament early that October suggested that chemical weapons proliferation might be controlled in the same way that nuclear warheads were; an announcement which surprised the US, but which considered this possibility only as a interim measure until a complete ban could be negotiated." Problems with maintaining a chemical non-proliferation regime, plus the developing countries

dislike over the Superpower's method of dealing with nuclear proliferation, made such a ban unlikely.

During the Geneva Summit in November, Presidents Reagan and Gorbachev touched on the issue of the CW negotiations. In a joint statement, they agreed to intensify discussions on all aspects of a chemical weapons ban, and to discuss methods of preventing proliferation.

The goodwill of the summit carried over into the new year. Early in 1986, Gorbachev announced that the USSR favoured an early ban on chemical weapons, and was ready to name the location of CW factories and begin destruction of stockpiles and production facilities. These measures were to be carried out under strict international control, and would include international on-site inspections."

A new round of bilateral talks was announced shortly after this. Once again, these were to be held outside the CD. When the spring session began, any optimism that there was quickly faded. The Soviet Union stressed the need to negotiate a Comprehensive Test Ban, while the US urged negotiations to ban CWs. These bilateral negotiations, therefore, made little progress.

Then, early in the Spring of 1986, the Soviet Union announced to the CD that they were willing to accept systematic on-site inspection of the dismantling and destruction of production facilities. This statement did not recognise the fact that definitions of what constituted a

production facility as well as verification procedures had not yet been agreed upon."

The change to the Soviet position came at a time when NATO was preparing to meet to discuss the Alliance's Force Goals, including the modernisation of the US's chemical warfare capability. Although the exact text was secret, it invited "the United States to modernize its CW-weapon stocks with binary munitions." The Soviet move appeared to British officials to be a direct attempt to pre-empt the Force Goal, providing "a 'discernible speeding up' on the part of the Soviet Union."

The NATO approval to modernise the US chemical warfare capability also carried with it some trade-offs. West Germany, in return for its support, required that the US stockpiles in German territory be removed before the end of 1992." The new binary weapons were to be stored in the US until needed, and could only be moved into Europe with the assent of the host country and alliance-wide consultation. A number of NATO countries remained firm in their conviction that they would not allow CW weapons onto their territory, even during time of war."

Thus, what may be considered as the first phase of the CWC negotiations ended with little progress beyond what the two superpowers had previously agreed upon. There was hope that the new thinking by the Soviet leadership might translate into improved relations between the two and, at very least,

joint measures to stem the proliferation of CW. With the pressure on the US to modernise their chemical warfare capability, the chances for progress towards a complete ban looked very bleak indeed.

Chapter 4

The Beginning of Progress: 1986-1990

CD Negotiations: 1986

The Spring session of the CD, like that of the previous year, failed to provide much progress on the CWC. A number of trial inspections of chemical plants were undertaken during this time, which provided the CD with information on how a CWC could prevent misuse of the civilian chemical industry. It was found that additional inspections should not be particularly burdensome, as the chemical industry was already used to intrusive inspection. Many states believed that methods to protect commercial and production secrets could be developed which would satisfy both the treaty and industry requirements. Overall, a "well-developed system of routine on-site inspection would diminish the need to inspections upon request."

Challenge inspections continued to provide a major obstacle, with the US insisting on mandatory inspection and the Soviets and their allies maintaining that they should have the right of refusal. In an attempt to break this impasse, two proposals were put forward in the CD. Pakistan suggested that the right of refusal should be allowed in special cases, but the refusal would have to be accompanied by a detailed explanation or reason. If this explanation was unsatisfactory, the request for inspection could be renewed. If there were repeated refusals, an extraordinary session of

the consultative committee was to be convened to consider the situation.'

The British in CD/715 also recognised that a state might have a valid reason to refuse inspection, and that in limited circumstances it should have the right to do so. They proposed that if the inspection was refused, the challenged state had to propose alternative measures to resolve the matter. If these were unsatisfactory, the challenged state was still obligated to demonstrate its compliance. A time limit of seven days was allowed for this to be done. After this time, if the requesting state was still not satisfied it could transmit its request to the convention's executive council. There, measures to take against the suspected party could be decided upon, including the right of other parties to take unilateral action, up to and including withdrawal from the convention.'

Although the Soviet Union did not give a formal response, they indicated that they broadly accepted the proposal. The US opposed CD/715, believing that if it were to be accepted no timely inspections could be carried out. Without this short notice inspection, it was feared that the CWC could not effectively deter non-compliance.' It has been suggested that US opposition with CD/715 might also have been the result of frustration; during the bilateral talks the Soviet Union had hinted that they were preparing to make further concessions on challenge inspections. The White House stated that the Soviet

Union had "indicated that stricter procedures could apply to certain challenges (although) they have yet to explain fully how these would work."

The Soviet Union did make concessions, however. Early in 1987, the Soviet Union acknowledged for the first time that they possessed a chemical warfare capability. A few weeks later, General Secretary Gorbachev announced that the Soviet Union had ceased production, and begun construction of a destruction facility. He also confirmed at this time that the other Warsaw Treaty countries had never produced or stockpiled chemicals.'

This shift in attitude was the result of more than just international condemnation of chemical weapons. Beginning in 1985, a rethinking of Soviet military doctrine had lead to an increased emphasis on defensive capability and improved conventional weaponry. Many Soviet military thinkers had come to recognise the increased role that the improved conventional weaponry had on the modern battlefield. In the past, chemical weapons had been viewed as a useful support to a non-nuclear European Theatre offensive. The new conventional weapons were believed to be far more destructive than their predecessors, and were closer to weapons of mass destruction in terms of effectiveness. Chemical weapons, which had been viewed as a substitute for tactical nuclear weapons, were thus given a decreased role on the modern battlefield.'

The utility of chemical weapons was also questionable in

view of the conditions that it was believed would exist on the modern battlefield. Chemical weapons are best when used against an unprotected enemy, against static targets, or to deny terrain to the enemy. The modern battlefield would be fluid, and the need would exist to fight under varying and demanding conditions. The use of chemical weapons would place disadvantages on both attacker and defender. "If the purpose was to be as flexible as possible, to keep as much speed as possible and to avoid any additional encumbrance, then it seems reasonable to assume that the Soviet Army saw less utility in employing chemical weapons."

Their utility was further decreased by a shift from an aggressive, offensive-based strategy to one based on war avoidance and strategic defence. Preparation of this began in 1987, and would influence the future Soviet position on chemical weapons. Henceforth, any standstill in progress in negotiating a CWC would not be the result of the Soviet Union; they were to become major supporters of the convention.'

The Soviet Acceptance of Challenge Inspection: 1987

The extent of the Soviet support became clear that August. Soviet Foreign Minister Eduard Shevardnadze announced at the CD that their delegation would proceed from the position of negotiating "to make legally binding the principle of mandatory challenge inspections without the right of refusal."" They also extended an invitation at this time for all participants at the negotiations to visit the military

facility at Shikhany.

The Soviet move stemmed from the recognition that "the procedure of challenge inspections must securely ensure that no fact of violating the Convention, and the consequences of such violation, can be concealed by a state." Acceptance of mandatory challenge inspections did not resolve this issue completely. American delegate Max Friedersdorf pointed out that the Soviet announcement only closed the gap with the American position; there were still the views of thirty-eight other negotiating partners that had to be taken into account. Reaction to the issue of challenge inspection from these countries had been mixed. Some countries had favoured the idea of 'managed conduct' suggested by the US, whereby provision would be made to protect sensitive types of installations and facilities. Others, such as China, India and France, had concerns. France, for example, had concerns relating to security aspects of challenge inspections, and favoured the British position over the more intrusive American position. Nevertheless, the Soviet decision marked the beginning of true progress towards the CW ban.

Other aspects of challenge inspection remained unresolved, and it would be necessary to determine how they would be handled in the treaty. It was generally recognised that while any state party should have the right to initiate a challenge inspection, there was no way to prevent the abuse of them through frivolous requests. It was agreed that a

screening mechanism would slow the process down, and allow the offending party the chance to conceal any non-compliance. The challenge should state the site to be inspected and the matters on which reassurance was sought, as well as the nature of the suspected activity and the relevant provision of the convention." The Soviet Union suggested that, as a deterrent against abuse of challenge inspection, a state should be liable for losses caused by an unjustified inspection." Egypt expanded on this and suggested that compensation be made for damages resulting from the abuse of inspection."

The issue of alternative procedures to challenge inspection was also discussed. While it was agreed that these measures should occur as quickly as possible, agreement over which alternative measures would be acceptable remained elusive. France favoured leaving the alternative measures out of the convention, so it would not limit a state's options." The inspection procedure itself, whatever form it might take, should be administered by the international organization. A final report would be issued by this body and the burden would be on the challenged state to ensure that it respected the convention."

Any denial of access to a facility was, in the US opinion, an admission of guilt. In such a case, the Netherlands suggested that the offending party be declared in violation of the convention."

To this end, the organization set up by the CWC had to

have political authority. The general form had been established earlier during informal discussions held in 1985. Differences existed over the composition of the executive body and the decision making process. Each country favoured an approach that would allow its own participation on the executive council, although it was currently envisaged as containing only 15 members." The US, USSR and France had insisted that all members of the UN Security Council have a seat on the CWC's Executive Council, although this was opposed by a number of states and especially by the Group of 21. The UK had proposed two levels of membership; those elected annually by the Consultative Committee according to geographic representation, and those parties with the largest industrial chemical base." Mexico, sharing the view of several non-aligned countries, preferred an equitable political and geographical distribution of seats."

Even more controversial than the formulation of the executive committee was how it would make its decisions. The Soviet Union had favoured having all decisions made by consensus, although this "would be tantamount to introducing the right of veto, which could paralyse the operation of the convention." In August, they suggested having decisions approved by a two-thirds majority on decisions on substantive issues, and a simple majority for all other matters." Other countries remained firm on their respective positions, deadlocking this aspect of the convention.

The convention's entry into force was also discussed during the 1987 session. Ideally, any global arms control or disarmament treaty should have as wide an adherence as possible in order to be truly effective. Not all states will agree to be bound by the terms of the treaty; thus, they may not sign it, such as France and China had done with the NPT. In recognition of this, the treaty enters into force only after a specified number of states have signed and ratified it. In the case of the CWC, what this number should be remained undecided. The participation of the chemical weapon possessing states was seen as a necessity. The US, wanting a 'global' ban, remained undecided on the number of ratifications they would consider as satisfying that requirement. The UK proposed that entry into force should require at least 60 ratifications." The Soviet Union felt that a lower number of ratifications would be sufficient; they felt 30-40 would be satisfactory, making the number comparable to the NPT which had required 40 ratifications before entry into force."

It was recognised that a treaty worked out by 40 CD members would not be automatically accepted by all, or even most, of the remaining states. This acceptance would come with security risks as well as obligations. France had grown increasingly anxious about ensuring the security of states during the 10 year period of destruction.

The problem of guaranteeing security in the first 10

years of the treaty's operation had been recognised by the French back in 1985 and outlined in CD/630. The idea was revived early in 1987 in the concept of security stocks. These stocks were not only to ensure the state's security, but were seen as necessary to maintain the balance and security of all states." The proposal was also in line with the French announcement, made in November 1986, that they would begin production of chemical weapons for deterrence purposes."

The idea was further delineated in the CD in June 1987. The 10 year period could not, in the French opinion, be a time of diminished security; "It is the first phase of the application of the convention, the development of which, in conditions of security acceptable to all, is indispensable in order to reach the second and final phase of the convention."

The CWC did not call for stockpiles to be declared until 30 days after entry into force. As chemical weapon capability was recognised as being unevenly distributed, some states would have no CW capability, while others would retain a capability over the entire 10 years. In order to ensure equality, there were two possible solutions.

The first of these called for a prior US-Soviet agreement to reduce their stockpiles until they were at a level comparable to those of other states. Entry into force would be delayed until this occurred."

The other option was that all state parties would be entitled to maintain a security stock of chemical weapons.

This stock would not be declared until the end of the eighth year, and would not have to be destroyed until the ninth or tenth year. The stockpiles would be limited in size, but would still be a militarily significant quantity; in the 1000-2000 ton range and would consist only of nerve agents. In order to renew and modernise the stockpiles, each state would be allowed a single production facility which would be declared upon entry into force and maintained under international control."

The idea of security stocks met with criticism from many states. The Soviet Union objected on the grounds that by allowing states the right of a security stockpile, it also allowed those states which did not have chemical weapons an opportunity to acquire them. In essence, such measures would sanction proliferation and lead to increased insecurity. Pakistan also felt that the secret stockpiling of chemical weapons among parties, "even in limited quantity, would deepen suspicion among states and undermine confidence in the convention."" France countered this criticism by insisting that this proposal did not constitute sanctioned proliferation, for the stockpiles had to be verifiable and under strict control."

Acceptance of the convention was also envisioned as an indication that a signatory party accepted certain obligations. Among the developing nations at the CD, the demand that these obligations should not place too much of a

burden on the state was being voiced to an increasing degree. The cost of operation of the treaty, and especially the verification system, was feared to be so high "that finally very few countries will be in a position to defray them, with the result that the number of countries willing to be parties to the treaty, will be very small, which in turn will limit the effectiveness of the instrument."

As mentioned, it was also believed that the CWC should not be another NPT; it should guarantee "in no uncertain terms, to the non-chemical-weapon Powers, the right to unfettered development of their budding chemical industries for peaceful purposes." It was also accepted that the convention would include a statement to the effect that a military ban on certain chemicals should not hinder civilian production using those same chemicals. What would not be acceptable would be another situation like the NPT, where a handful of countries were seen as preventing the spread of nuclear technology in order to maintain their monopoly." Egypt suggested that a pledge of assistance to the developing world to develop their chemical industry be included in the convention." This proposal met with mixed reaction in the West; a US source stated that "(t)his is a security treaty, not a foreign aid agreement. It is not a price for enhancing the security of the nonaligned countries."

There were also discussions on Article X of the draft treaty, which dealt with assistance in the event of an attack

upon a state party. Iran took a strong position on the need for states to provide assistance. It felt that "ultimate confidence in the convention would not be provided unless international punitive measures against any serious and deliberate violations of the convention would also be provided." Frustration within Iran had been building, as little action had been taken by the international community against Iraq's continued use of chemical weapons except for condemnation in the UN; statements which, according to Iranian Foreign Minister Velyati, had little or no impact."

Pakistan had suggested that a threatened state should be able to call for assistance against any state whose actions posed a threat to the objectives of the convention, whether they were a party to it or not. This request would be addressed to the Executive Council who would investigate and, should they find a threat existed, decide on concrete measures of assistance. Individual states could also offer assistance to the threatened party." The Consultative Committee would be responsible for enabling states to develop a protective capability if they so desired, and individual states would encourage the free exchange and transfer of "equipment, material, and scientific and technological information relating to protection against chemical weapons." The proposal received little reaction. The West and USSR would only generally agree to assistance in the event of the attack. Rolf Ekeus, chair of the CD, stated that the issue was

"tricky. It relates to the United Nations Charter, and we have to be careful not to infringe on the charter."

Non-production of chemical weapons, according to Ekeus, remained the most difficult of the issues which had to be resolved. Problems posed by dual purpose chemicals, and ensuring compliance by the chemical industry had been intensively worked on but, as one diplomat noted, the longer the problem was examined the more complicated it became." Definitions also remained an outstanding issue, although the need for a precise definition of what was considered a chemical weapon "may become less acute with the establishment of agreed schedule specifying chemicals subject to different verification regimes." Work in this aspect had already begun, although these lists were in rudimentary form. It also remained unresolved whether herbicides and riot control agents were to be considered chemical weapons. 'Chemical weapons production facility' also remained undefined, although the method for destruction of these facilities had been agreed upon. The US did propose that a distinction be made between those facilities or establishments that specialize in CW development and those which have only indirect or one-time involvement."

Late in the fall of 1987, an informal ad-hoc committee session, as well as further American-Soviet bilateral talks, were held. Chemical weapons were also discussed during a summit held that December, and both President Reagan and

General Secretary Gorbachev reaffirmed their intention to negotiate a truly global and verifiable convention.

CD Negotiations: 1988

When the CD formally reconvened in early 1988, there was a renewed sense of optimism that a CWC could be negotiated in the foreseeable future. Much work had been done during the inter-sessional period on toxicity determination, although determination of which toxic chemicals were suitable for commercial use and which had military value had not been made. Rolf Ekeus, who had chaired the inter-sessional period, also recognised that "although we define toxicity in terms of toxic to humans or animals, we have not yet defined which animals we mean."

The issue of future non-production had also been dealt with, especially in dealing with those activities which would not be prohibited by the convention. It had been recognised that some production of prohibited chemicals would be necessary for medical or research purposes. The West wanted an unlimited number of laboratories to be able to synthesize these small amounts; the USSR preferred that only a single, small scale facility be used for both military and commercial research. In April, the US tabled a paper setting threshold levels for monitoring Schedule 1, 2, and 3 chemicals. Some delegations expressed concern that the amounts of Schedule 1 chemicals below 100 grams would not be subject to international monitoring. The US felt that monitoring would

be ineffective; the government could not be responsible for laboratories and they felt that concern about laboratory synthesis was actually a concern about the development of new agents."

The Soviet Union still held firm to permitting only a single facility, although they did concede that they might move from this position if the West agreed to stricter verification in the laboratories, regardless of the amount." Two compromise positions were also put forward. Mongolia suggested that a special exception to the convention be made for nitrogen mustard, which had medical utility. Its production facilities would be subject to the same verification procedures as the small-scale facility." The GDR suggested that an exception be made for special pharmaceutical needs, and another for fundamental or medical research. Verification would ensure that the products were used only for their designated purposes. Laboratories would be licensed by the government, and production would be declared to the Technical Secretariat."

To ensure that chemicals with a high toxicity were not used as weapons, a new Schedule 4 was added which proscribed them regardless of their effectiveness. The US "supported such a list as a means of obtaining details of production capacity. The USSR expressed fears that these chemical agents could become weapons in the future."" It was recognised that if there was "a good, swift system for updating Schedules 1,2,

and 3, Schedule 4 is unnecessary."

Verification, however, remained the central issue at the CD negotiations. Some US officials had come to the conclusion that on-site inspection could not effectively verify a CWC because of the possibility of undeclared production or storage sites." The issue of allowing access to civilian facilities under the provision of challenge inspection remained unresolved, although the US reiterated the view that its revised Article X covered government, military and private dedicated facilities where a search would be considered reasonable. Article XI, which permitted a refusal of inspection, was understood as covering all other circumstances and allowed a private party to refuse a search of the facilities without reasonable cause." Many countries had not accepted the idea of challenge inspections; either because they were opposed to the idea or because they had not thought about it too much, expecting that the USSR would never accept the provision."

Other aspects of challenge inspection had yet to be discussed. Who ultimately would be responsible for deciding whether or not a violation had occurred remained unclear. Some countries favoured having the Executive Council make this decision; the US wanted the challenging state to decide." Procedures for preventing abuse of challenge inspections were also necessary. A paper was put forward by Rolf Ekeus in April 1988 which indicated that challenge inspection should

only be initiated in extreme circumstances. Many states felt that this would create a 'gap' between challenge and systematic verification, however.

As a possible solution to this perceived gap, West Germany suggested the idea of *Ad hoc* inspections. These inspections would not be related to any allegation of breach of the convention, but would be carried out randomly at all production facilities listed on a national registry. The number of these inspections would be regulated by a quota. In this way, *Ad hoc* inspections would permit inspection of suspicious areas without having to resort to the challenge inspection procedure."

In an effort to develop procedures for inspection, it was agreed to hold a number of national trial inspections (NTI). Several countries had already held trial inspections, most notably the Netherlands. These trial inspections were perceived to be useful as they would allow the preparation and testing of guidelines for the international inspectorate." Some countries feared that this procedure could cause more problems than it would solve, in that it could lead to a dozen different inspection systems proposed by a dozen different countries."

There were also calls for an exchange on data to take place. The USSR had agreed in November 1987 to exchange data on its chemical weapons and production facilities before the convention was signed." In February 1988, they proposed a

multilateral exchange of data. Each state would submit, at an agreed upon time, information on the size of its stockpile, past transfers or acquisitions of chemical weapons, technology and equipment for production, the number of production facilities, development laboratories and commercial facilities involved in the production of key precursors."

The US and Britain both believed that it was necessary to disclose not only the overall size, but details on the number and location of storage sites and production facilities. This information would be presented in terms of the percentage of the overall stockpile. Any additional data, it was believed, would have revealed the exact quantity of stocks in each of the depots. An attachment to the US proposal also gave detailed information on each weapon in the US chemical arsenal which the Soviets had seen during their November 1987 visit to the base at Tooele, Utah."

The US also agreed to exchange data based on a proposal from the FRG that April. This required multilateral provision of essential data prior to signing the convention. These data exchanges could also be made bilaterally between states." The UK supported this position, although they felt that negotiations on data exchange were unnecessary. Each state should unilaterally provide as much data as soon as possible."

In the following months, a number of states made declarations that they did not possess chemical weapons, although nearly one-fourth of the CD members did not indicate

whether they were possessor states or not. These included a number of countries which had significant chemical industries."

Bilaterally, the eighth round of the US-Soviet talks had led to an agreement that March that any future data exchange would be accompanied by three inspections of designated sites and three other inspections. In April, the two countries also agreed on a text on the destruction of production facilities. The USSR had wanted to convert some facilities to peaceful uses, but had dropped this in the face of US opposition." It did not define a chemical production facility, but had achieved basic agreement on the language to be used in the rolling text for a definition. Facilities that could synthesize no more than 1-2 metric tons were excluded, provided they were not used to produce chemical weapons. Both countries were also permitted a single, small-scale facility for production for defensive research."

Work on the order for destruction proceeded slowly. More progress was made on the timetable for destruction. The USSR agreed to the principle of levelling out all participants CW stocks by the next to last year of the destruction schedule." If the convention stated that those states with the largest stocks had to destroy these first, it would be necessary to know which these states were." The timetable for destruction remained at 10 years at maximum, with destruction to begin no later than 12 months after entry into force. In order to

ensure security during this period, France reiterated its proposal for security stocks. The CD continued to oppose this, provoking the US and USSR to suggest that stockpiles be levelled off over eight years. The FRG and Italy suggested that this be done over a five year period, but this was not supported by the US or USSR."

In an effort to meet French concerns, the US suggested in the bilateral meetings with the USSR that production facilities be kept mothballed. In this way, some time would be required to bring them into production."

The issue appeared to resolve itself when French President Mitterand, in a speech before the UN General Assembly on September 29, announced that France would drop its demand for security stocks and the maintenance a production facility, providing all countries agreed to close their chemical weapons plants when the CWC entered into force and opened them up to international inspection. He also announced that France would renounce any possibility of producing chemical weapons as soon as the convention entered into force." It was also disclosed that France had no chemical weapons, although prototype binary weapons were in the developmental stage."

September also saw a call in the UN General Assembly for states who had not signed and ratified the Geneva Protocol to do so. President Reagan called for a conference of signatories and other concerned states to consider actions to

only be initiated in extreme circumstances. Many states felt that this would create a 'gap' between challenge and systematic verification, however.

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halt proliferation and strengthen the Protocol."

The Renewed Threat of CW Proliferation: Iraq, 1988

The need to halt proliferation had become quite obvious. Although the Iran-Iraq conflict ended in a cease-fire, "the frequency and intensity of the chemical-weapon attacks by Iraq seemed to increase before the cease-fire." There were also new reports of Iraqi chemical attacks on civilians, particularly the Kurds of Northern Iraq. The worst of these, the March 1988 attack on the city of Halabja, killed an estimated 3000-5000 Kurds."

Halabja accomplished what the previous years of CW use had not; it polarized world opinion against Iraq. In April 1988, the US Senate introduced Resolution 408 which explicitly condemned Iraq for its use of CW." Despite the hostile reaction, there were reports Iraq renewed chemical use against the Kurds in late August as part of an effort to depopulate hostile areas in Northern Iraq." Attempts to investigate these allegations were resisted by Iraq, which insisted that chemical weapons were not being used in military operations, and that action was taken only against those traitors collaborating with the enemy and against those who had committed crimes against their own people." UN attempts to investigate were also resisted, on the grounds that this was a question of sovereignty." Those investigations which were carried out, mainly by physicians working among displaced Kurds in Turkey, were not felt to provide conclusive evidence.

Turkey officially declared that no CW victims had been treated in Turkey."

The alleged attacks after the cease-fire provided a further impetus in the US and UK to not only condemn Iraqi actions, but to also take action to bring sanctions against Iraq. The US felt that they had sufficient proof of Iraqi chemical weapons use, based on intercepted radio transmissions and Turkish accounts of poisoned victims." The US Senate passed economic sanctions against Iraq, although these were watered down by the House of Representatives "in obvious deference to domestic trade pressures. The Administration opposed the legislative measures arguing that they might not contribute to getting Iraq to cease the use of chemical weapons."" As they had in the past, efforts to move beyond rhetoric were to fail. The US House and Senate failed to agree on a bill for economic sanctions, and it did not go to a vote." The UK also took the position that the evidence was not conclusive, and sanctions would not be effective. In retrospect, these actions can be seen as an indication of the West's intention to curb the threat Iraq now posed to the region, rather than due to humanitarian concerns.

The main effort to stem the proliferation of chemical weapons had, as mentioned, come from the efforts of the Australia Group. It continued its efforts to identify and reduce the export of sensitive chemicals and technologies which could be used in CW production. "

Thus, by the end of 1988, progress had been achieved on a CWC but it was feared that a treaty would come too late. The use of chemical weapons in the Iran-Iraq conflict had, according to one expert, proven to many countries in the Third World how effective CW use could be. The Iraqi experience "promoted gas from a useful backup to conventional forces to a powerful strategic weapon...This is the atomic bomb of the poor, it's cheap and it works."

The Paris Conference: January 1989

This sentiment was to be given new attention early in the new year. In January 1989, the Paris Conference was held. Arranged after President Reagan's speech at the UNGA the previous September, it brought together 149 nations in an attempt to galvanize world opinion against chemical weapons and extend coverage of the Geneva Protocol. From the outset, it was made clear that the conference was not to be an international tribunal. Progress was made in some areas, specifically in drafting a 'no-use' declaration, giving support to the UN to investigate future charges of CW use, and urging early completion of a CWC. Ten more states also became signatories of the Geneva Protocol."

The final document issued by the participants omitted any mention of export controls or economic sanctions against states which used chemical weapons. The US had favoured taking a strong stand on this, but was opposed by many Third World and developing countries. Argentina and Brazil had both

argued against export controls, believing that these could be used to hobble developing chemical industries." Sanctions also proved to be contentious. According to one senior US official, "the Third World sees an issue like sanctions as a red flag...They believe it is aimed at preventing their economic growth." The US had pushed for language referring to 'appropriate and effective steps' to be taken against violators, meaning sanctions. This interpretation was disputed by some Third World diplomats, who felt that these steps might only be investigations." In the end, opposition from the Arab countries and their major economic trading partners in Western Europe killed the idea of sanctions."

There was also opposition to the use of the word 'proliferation' in the final communique. It has been stated that "(f)ailure to include this word in effect puts possession of chemical weapons by the United States and other developed nations on the same level as acquisitions by Libya or similar nations in highly unstable areas."

The Paris Conference also highlighted some of the problems that could occur in gaining acceptance for the CWC. The Arab countries in particular attempted to shift the emphasis towards Israel's nuclear status. As mentioned above, the idea that chemical weapons might have a deterrent value against nuclear weapons was gaining acceptance. The Arabs felt that CW disarmament should be linked with progress in nuclear disarmament, although this position may "have little

to do with chemical weapons but may rather have been a political attempt to rid Israel of its presumed nuclear capability."

Attempts to incorporate this linkage between nuclear and chemical weapons was resisted by the US, UK, France and the USSR. In the final communique, this linkage was not explicitly spelled out, although it did call for "the need to pursue...efforts to secure general and complete disarmament under effective international control." French Foreign Minister Roland Dumas interpreted this as creating the link that the Third World had sought; the US and Soviet Union rejected this interpretation."

Iraq and Syria also declared at the conference that they should be allowed to participate in the CD negotiations. Iraq Foreign Minister Tariq Aziz stated that "like all sovereign states, (Iraq) would not think of subscribing to an accord whose drafting it is not authorized to participate." Iraq also stated that it was not interested in spreading its chemical warfare experience to other states: "There was a terrible threat to our country, and we did our best to protect ourselves. Now we want peace, and we are not very fond of exporting our experience in this respect." Nevertheless, there were allegations that Iraq met with many Third World delegates at the conference who were more interested in purchasing chemical agents from Iraq than in halting their proliferation and condemning Iraqi use."

The USSR also used the Paris Conference to announce that it would begin unilateral destruction of its CW stockpile during 1989, although it did not state whether these would be current or obsolete munitions. The US welcomed the announcement, but it remained unclear what its military impact might be as the US routinely destroyed old munitions while producing new ones.¹⁰⁰ Previously, the two countries had also informally agreed on a 10 year destruction schedule. After eight years, 90% of the stocks would be destroyed and the two countries would then pause to assess the global level of stocks and decide if it was safe to continue and destroy the rest.¹⁰¹ This pause at eight years was later to be denied by Nikita Smidovich, the chief of the Foreign Ministry section on CW and BW.¹⁰² Kenneth Adelman, former ACDA director, indicated that in the view of the ACDA, such a pause was necessary.¹⁰³

In the aftermath of the Paris Conference, it was believed that the attention focused on CW would provide an impetus to the CD negotiations. This was not to be the case.

CD Negotiations: 1989

Work during the interim period had focused on a limited agenda; challenge inspections, maintaining the confidentiality of information obtained during inspections, and non-production in the civilian chemical industry.¹⁰⁴ While no major breakthroughs had been achieved, much technical work had been done. The CD formally convened early in February 1989 and immediately ran onto problems. The Group of 21, the socialist

states and China all wanted to extend the mandate of the CD negotiations to include working on the final draft of the CWC.¹⁰⁶ This met with opposition and eventually the mandate was adopted which included the wording "except for its final drafting."¹⁰⁶ Attempts by Sweden and other countries to expand the mandate to include a prohibition on use was also not successful.¹⁰⁷

It was suggested that the Paris Conference did lead to an increased number of states who were interested in the CD negotiations, and were invited to participate as observers to the CD. Five working groups, instead of the usual three, were set up to work on verification, legal and political questions, and institutional, technical and transitional issues. A technical working group on instrumentation was also established.¹⁰⁸

Early during the session, a number of countries presented the results of their NTIs. These showed that a set of guidelines needed to be negotiated which would address which inspection activities could be undertaken, as well as additional experience and development of testing procedures and equipment, especially for Schedule 1 chemicals. Much of the experience gained during the NTIs was to be beneficial, if for no other reason than they "served as a learning process and disseminated information about the CWC."¹⁰⁹ The NTIs had taken longer to complete than had originally been thought necessary. It was suggested that this was the result of some

countries not wanting to expose parts which had gone badly, or lessons had been learned that the country did not want to pass on to the CD." Both Belgium and Brazil, in their respective reports to the CD, had deemed the inspections not to be intrusive, although it was recognised that the question of confidentiality needed to be dealt with in greater detail."

At the end of the Spring session Working Group 1 had, in the view of Sweden, spent a disproportionate amount of time working on confidentiality. France had introduced a paper that proposed a specific article on confidentiality and a special annex in the CWC." Sweden preferred that the issue be dealt with by the Technical Secretariat, and thus there was no need for a special article in the convention."

Challenge inspection had not been formally discussed since the end of the 1988 CD session, although the topic had been discussed in relation to ensuring confidentiality. A number of states, particularly China, still had concerns about the mandatory nature of challenge inspections. China feared that challenge inspections, by their very nature, could prove to be confrontational. It was important that challenge inspections be carried out in such a way that the legitimate rights and interests of the challenged state be respected and protected, but reasonable requests of the challenging state should be satisfied. Abuse of challenge inspections should be prevented, and they should not be carried out for purposes outside the convention or used to excessively disrupt the

chemical industry. In the event of the discovery of non-compliance, the challenged state would assume full responsibility; otherwise, the challenging state would bear the political and economic responsibility." The US maintained its position that challenges to the CWC were essential, and that mandatory inspection should be carried out by any member of the fact-finding panel."

Despite intensive work through this session of the CD, little progress on challenge inspections was achieved. Among other issues, agreement could not be reached over alternative measures; the UK preferred managed alternative measures, as opposed to simply alternative measures, of inspection."

The majority of the work accomplished during the Spring session had focused on the proposal for *ad hoc* inspections introduced by the UK. The FRG proposal on this subject had been made in 1988 and remained on the table at the CD. The UK proposal was similar to that of the FRG, in that it called for inspections to be carried out without any allegation of breach of the convention. It allowed inspection not only at facilities listed on the national register, but also in military facilities and 'elsewhere'. The inspection could be initiated at the request of a State Party, but would be carried out by inspectors of the Technical Secretariat. The number of active and passive inspections would be governed by quotas; the exact number of which were open to discussion."

A number of problems with the concept of *ad hoc*

inspections were raised. Both proposals assumed that *ad hoc* inspections would not be seen as confrontational. Indian Deputy Head of Delegation Rakesh Sood agreed that, bilaterally, these inspections might not seem confrontational but, regionally, avoiding the perception of confrontation would be difficult." The FRG proposal had also envisioned a register which required facilities to be listed in order of priority, but it was unstated who would decide upon these priorities." A Western diplomat also pointed out that such a register would include some 50,000 to 100,000 facilities; this would make checking them each year difficult as it would require each inspector to do 2-3 checks per day. This would not happen, and these checks could not provide a deterrent. It was also unclear how such a register would be updated. The UK proposal, which dispensed with the register, was seen as an improvement in this area." The US, USSR, and Sweden questioned the entire idea of the gap. The US also argued that challenge inspections should not be viewed as a last resort."

Ad hoc inspections, however, were not intended to replace challenge inspections. The UK saw *ad hoc* inspections as evolving from the CSCE experience. They were meant to build confidence in the convention as they would be a frequent occurrence, unlike challenge inspections. They would also occur over a shorter period of time, and would not include an observer from the initiating state."

Support for the UK and FRG proposals came slowly. The US was opposed to *ad hoc* inspections being part of challenge inspections, as well as *ad hoc* inspections being extended to cover military facilities and other areas. They liked the concepts, particularly the lists proposed by the FRG and the quotas proposed by the UK. They agreed to work with both countries to attempt to combine the two proposals." The USSR also moved to general acceptance on the concept. They felt that the UK proposal could provide a good basis, but wanted a passive quota of only about five inspections per year."

In August, the US gave into mounting domestic political pressure and introduced a paper on selective inspections in the Western group, but insisted that each country review the issue and give their bilateral response so that it would be possible to table a position early in January. Attempts by the other states in the Western group to expand the bilateral responses into a general discussion when they met at the UN in October were opposed by the US, who felt that a general discussion would take up too much time."

The other working groups at the CD had also managed to make some progress on their respective issues. Working Group 2, which was dealing with legal and political questions, had covered a broad range of topics, including discussing sanctions for the first time. The US and UK both preferred that the decision to implement sanctions be left up to the individual state. Iran wanted the convention to have harsh

penalties for non-compliance; their position was that an organization like the Security Council could not be relied upon to vote for sanctions. The remaining countries remained between these two views. It was agreed that the convention required sanctions for administrative violations such as non-payment of dues, but they preferred not to infringe on the Security Council's responsibility for international security. Most countries also favoured incorporating general language into the treaty that would allow the organization to meet and discuss in the event of serious violations."

The options available for the make-up of the International Organization were also laid out, with many of the broad aspects being agreed upon. The Executive Council was envisioned as being composed of 25 members, although the exact breakdown of seats remained undecided. Those States which possessed chemical weapons would not, however, receive a permanent seat or seats, as some countries had wanted. The West preferred a breakdown which favoured them, allowing five seats to the five most chemically industrialised states, and the rest distributed geographically by a formula. This would give a breakdown of 7 seats for the West; the socialist states, 5; Africa and Latin America, 4 each; and Asia, 5, with China accounted for in some way." Other states advocated having five seats from each of the UN's five geographical areas; this was felt to provide balance and each region could include some of the chemically advanced States found in that

region." In all, there were 9 different options available to determine the make-up of the Executive Council.

A chemical annex was also formulated which clearly established the schedules of chemicals and tied them in with specific declaration, monitoring and verification regimes. Agreement was reached on language which permitted limited production for research, medical and pharmaceutical purposes, although work was still required on this."

The final Working Group examined the transition period from the entry into force until the end of the 10 year destruction period. This group proceeded smoothly because they were not involved in negotiating, but in discussing measures that fell in the category of confidence building measures." Work on the subject of assistance and protection resulted in a new text which allowed states to develop and produce protective measures and exchange information and equipment. Economic and technological development were also examined. It became apparent that, while there was little objection to the principle, exact obligations still differed. The consensus was moving towards the position that the CWC would facilitate exchanges and not put restrictions in place which would impede the development of chemical industries."

This was also highlighted during a conference held in September 1989 which examined the connection between the CWC and the chemical industry. Sponsored by Australia, the Canberra Government-Industry Conference on Chemical Weapons

was convened with the aim of promoting co-operation and understanding between governments and the chemical industry on the practical issues of the CWC and its implementation. The Group of 21, in a working paper in the CD, had stated that this conference should not undermine the efforts on the CWC, but it should not support measures which could hamper international co-operation for peaceful purposes.¹³²

The conference clarified many of the issues and increased the understanding of the problems that both sides faced. A number of decisions made at the conference were to have implications for the CWC. Australian Foreign Minister Gareth Evans announced that Australia would be setting up a national authority to oversee implementation of the CWC. A number of other states indicated that they had either taken similar measures or intended to do so.¹³³ There was also a formal pledge made by the private manufacturers "to participate in national measures designed to facilitate early implementation" of the CWC.¹³⁴ The need for confidentiality was recognised, and it was determined that the costs of verification to the chemical industry did not appear to be too excessive. The chemical industry also announced its intention to participate more actively in the CD negotiations so that it could assist in working out technical problems.¹³⁵

Thus, by the end of 1989 it appeared that the concern that the chemical industry would resist the restrictions a CWC would place upon it would not come to pass. The improved

dialogue between industry and government meant that concerns and problems could be quickly addressed. In the case of the US, the Chemical Manufacturing Association (CMA) had been "ahead of the US" in setting the chemical weapons arms control agenda." The US chemical industry, according to a number of experts, could live with a CWC provided the inevitable costs and disruptions were minimised."

The US-Soviet Bilateral Talks: 1989

Bilateral US-Soviet talks had continued as well throughout 1989 and were to produce concrete results towards chemical disarmament. Early in 1989, the US conducted a policy review process for President-elect George Bush. As President, one of the first actions that Bush took was to speed up the withdrawal of old CW stockpiles from the FRG." While this unilateral action was generally welcomed, it raised serious questions about the ability of the US to meet the deadline for destruction and safety issues.

When the 11th bilateral session ended, substantial progress had been made. Agreement had been reached on the order of destruction, with a 'mathematical formula' prescribing the amounts and types of chemical weapons which would be destroyed over a 10 year period. Both countries had also agreed to exchange data on their chemical weapons, including production and stockpile sites. The US preferred that this exchange occur before signing any treaty so experts could conduct trial inspections; the USSR preferred that this

exchange occur after signing." According to senior US diplomat Max Friedersdorff, the two countries had "an agreement in principle, but we don't have all the details worked out."

Work done that August managed to resolve many of these details. Procedures for destroying stocks and facilities were completed. There was also further agreement on how stockpile data was to be exchanged and verified. A draft paper on challenge inspection had also been completed."

This paper, according to one CD diplomat, appeared to be a step in the right direction. The US appeared to be moving away from its 1984 position and recognise the need for multilateralism and preventing politically motivated inspection requests. Managed access or conduct to a site was considered to be adequate in some instances. Inspectors could also decide if the alternative measures a state proposed were adequate. The role of the observer from the challenging state was downplayed." This draft paper was not tabled at the CD, however. The two sides preferred to circulate it among their Western and socialist allies, according to a US administration official, and then do further work on it after getting initial reactions."

In September, US Secretary of State James Baker and Soviet Foreign Minister Eduard Shevardnadze met at Jackson Hole, Wyoming to discuss order of destruction, challenge inspection and data exchange. While it was not possible to

complete that papers on order of destruction and challenge inspection, the two sides did sign the Memorandum of Understanding on a bilateral verification experiment and data exchange. This agreement was, according to a leading US analyst, "the biggest breakthrough in bilateral negotiations on chemical warfare in three years.""

This Memorandum of Understanding called for two phases during its implementation. The first phase would involve the exchange of general data on their respective chemical weapons capability and a series of visits to relevant facilities. This exchange of data would occur no later than 31 December 1989, with the visits beginning no later than 30 June 1990. Phase II would begin not less than four months before the conclusion of the CWC. A further, more detailed data exchange would take place and on-site inspections would be allowed to verify the data, with each state using its own national means to do so. Five planned inspections would be permitted, as well as five challenge inspections."

The two sides agreed not to exchange estimates of the total stockpile. The USSR had wanted this estimate, but the US feared that the exchange might be seen as acceptance of the Soviet figure of 50,000 tons. The Department of Defence still believed that this total was too low, while some State Department officials argued that receiving the figure would not interfere with later findings that the figure was incorrect."

The Memorandum was also viewed as useful for building confidence in the CWC. One State Department official stated that:

This is a major step towards a treaty that many people have claimed the Soviet Union will violate. We are going to address that concern by trying to find out if we can verify -before signing anything. This should alleviate that concern."

Two days after the signing of the Memorandum, President Bush proposed that the USSR join with the US and cut 80% of their respective stockpiles before a CWC was completed. The US would also, within the first eight years of the treaty, destroy 98% of the stockpile, provided the USSR joined the ban. The remaining 2% would be destroyed by the end of the 10 year transition period provided all nations capable of producing chemical weapons had signed the CWC. He also stated that the level of verification required could be achieved in order to provide the US with the confidence to go forward with the ban."

There were a number of reasons behind this proposal. It was felt that it would allow states to get a head start on reducing their CW stockpiles, and Soviet adoption of the proposal would help the multilateral negotiations. A Soviet cut would also alleviate the chemical threat to NATO. The 2% residual was necessary because it was believed that Congress would not approve a treaty that would allow some Third World countries to stockpile chemical weapons while the US had none." US representative to the CD Stephen Ledogar later

stated that the 2% also was "intended to provide incentive to hold-out states to become parties to the convention.""

The USSR welcomed this proposal and agreed to assume mutual obligations with the US prior to completion of the CWC. They proposed ceasing all production of chemical weapons, including binary weapons, reduce stockpiles, renounce the use of CW under any circumstances and institute rigorous verification of the cessation of production of CW." The US opposed the proposal for complete elimination. President Bush felt that the residual CW stock was necessary for "a certain sense of deterrence and we need some leverage to get other countries to ban them."

These proposed undertakings, it was soon realised, were nothing significantly new as both countries had previously made similar commitments. The US Army was required to destroy all its unitary chemical weapons before 1997, leaving only binary chemical weapons which had been produced before the CWC entered into force." This latter condition, however, was being re-thought, and there were reports that President Bush had decided to continue binary CW production after the convention was signed.

This decision had been the result of a national strategy review during which opponents and supporters of the CWC had made their views known. The Pentagon had favoured maintaining a retaliatory capability, as well as keeping options open to withdraw from the treaty, and a 'firebreak' during the 10 year

transition where the US could re-evaluate the treaty's prospects. The State Department was in favour of a convention, but one faction within it favoured complete elimination of the stockpile only if all CW capable states signed, while the other faction favoured not placing any conditions on destruction. The Joint Chiefs of Staff favoured only a bilateral accord with the Soviets, and withdrawal from all multilateral negotiations. It was eventually decided to pursue a compromise position; continued binary production with no firebreak and signing the convention only after all CW capable states did so." The US later stated that this binary production would continue only if adequate supplies of binary munitions had not been produced by the time the CWC took affect." The underlying reason for this decision was the fear that US national security might be endangered without a chemical deterrent. Then, during the December 1989 Malta Conference, President Bush offered to halt binary CW production upon entry into force of a CWC, provided the USSR accepted the proposal to cut stockpiles by 80%. According to a White House spokesman, this modification was made in response to Soviet complaints."

By the beginning of 1990, there was the realization that CW destruction might take longer and could cost more than was originally thought. Environmental issues were also raised. In the US, attempts to begin destruction were hampered by the fact that the environmental regulation of the destruction

program had been left up to the nine states where CWs were stockpiled, imposing costly, time-consuming and complex licensing requirements. Attempts to move the chemical weapons to one or two sites for destruction were deemed to be too costly and dangerous. Local populations were also upset over the prospect of storage and destruction."

The USSR faced similar problems. The pilot destruction facility was prevented from opening by protests from the local environmental movement. Changes in the leadership that occurred at this time also meant that decisions relating to the program were not made. The costs of destruction also appeared to be a major obstacle to starting the program."

Despite these obstacles, bilateral negotiations had progressed to the point that, by early February 1990, completion of an agreement on the 80% cuts seemed probable. During a Moscow ministerial meeting between Secretary of State Baker and Foreign Minister Shevardnadze, agreement on a framework for the elimination of stockpiles was completed. Both sides agreed to work out reciprocal obligations to reduce their stockpiles to equal low levels of 5000 metric tons, or 20% of the US stockpile as of September 1989." They would continue their efforts to conclude a CWC and, upon entry into force, sign and ratify the treaty. The CWC would also contain the provision that all production of chemical weapons would halt upon its entry into force." The US did reiterate its position that it wished to retain 2% of its stockpile until

all CW states signed on."

Negotiations picked up during the 14th round of the bilateral talks. The USSR and US jointly tabled a paper on the order of destruction. Throughout it, the central principle was the idea of levelling out stockpiles and production facilities. Chemical weapons were to be destroyed in equal quantities during the first eight years, so that by the end of this period stockpiles would be at an equal level, proposed to be 500 metric tons. Production facilities would be destroyed during three separate periods, and at the end of the eight year period production capacity would be at a level yet to be agreed upon. Standard maintenance of stockpiles and production facilities would be permitted during this time. At the end of the eight year period, a special conference of state parties would be held to discuss the convention's implementation."

The 2% stockpile retention remained contentious. The Soviet Union opposed retaining this amount, and believed that it would provide a disincentive to other states, although it was agreed that certain 'essential states' must join the convention." The US refusal to drop the reservation to retaliate was also considered a stumbling block, although it was slightly less important. Continued production, according to US Representative Martin Lancaster (D, North Carolina), was a less critical impediment. During discussions held on a trip to Geneva, he found:

Two of our closest allies at the negotiations indicated that our chemical weapon modernization program has been an important factor in bringing the negotiations to this point, but even they did not think that continued production was helpful in concluding the negotiations."

By the beginning of April, tentative agreement had been made to reduce stockpiles to the 5000 ton level. The issue of halting production and when destruction was to be completed by remained unresolved." Formal agreement on the 80% cut was reached during the 15th round of the bilaterals." Non-production continued to be the major obstacle, and it was only after Secretary of State Baker offered to agree to halt binary production on a specified date in return for support for the 2% retention position that the impasse was broken."

The Bilateral Accord: June 1990

On 1 June 1990, President Bush and General Secretary Gorbachev signed the Bilateral Accord. The key provisions were (a) to begin destruction of their CW stockpiles by the end of 1992; (b) destroy 50% by the end of 1999; (c) reach the 5000 agent ton level by 2002; (d) permit on-site inspection during and after the destruction process to ensure destruction has taken place; (e) annually exchange data on stockpile levels to facilitate monitoring of declared stockpiles; (f) work out details for an inspection procedure by 31 December 1990; (g) co-operate in developing and using safe, environmentally sound methods of destruction; (h) cease CW production upon entry into force of the agreement instead of waiting for entry into force of a CWC; and (i) take steps to

encourage all CW-capable States to become parties to the CWC."

There was also agreement to accelerate their CW destruction under a CWC, so that by the end of the eighth year their declared stockpiles would be at no more than 500 agent tonnes. A special conference would also be held at this time to determine if CW elimination should proceed." A majority of parties to the convention would have to 'affirmatively decide' to proceed to total elimination at this time. Those states eligible to attend this conference would have had to declare their stockpiles before 31 December 1991, sign the CWC within 30 days after it was opened for signatures, and become a party no more than one year after entry into force."

This proposed convention proved to be the most controversial aspect of the Bilateral Accord." It had been envisioned as a method of allowing countries which had as-yet undeclared stockpiles, or old stockpiles, to be in a position to veto their elimination." Many saw it as encouraging proliferation, inducing a state to acquire a CW capability before the December 31 deadline. The non-aligned and the Group of 21 also opposed it on the grounds that it was discriminatory, as it allowed some countries to possess chemical weapons and excluded others."

The Accord also came under criticism by some in the US. The decision had been made to treat the Accord as an executive agreement. The White House viewed the Accord as a 'stepping

stone' to a full CWC; thus, it did not require Senate ratification and only majority approval in the House and Senate. Key Senate leaders objected to this lack of ratification, as well as to the possibility that the Soviet Union could cheat and hide part of their CW stockpile, as no right to check for clandestine stockpiles existed in the treaty and the verification provisions were considered by some to be very weak."

Bilateral discussions continued throughout the rest of 1990. Inspections were undertaken by the two sides to fulfil the terms of the 1989 Memorandum. Work continued on the inspection protocol during the 16th and 17th rounds held over the rest of the year.

CD Negotiations: 1990

Work in the CD had also continued during this time. For the first time, the CD agreed on a mandate which allowed it to negotiate a CWC, including its final draft. No reference to 'use' was made in what it would be prohibiting." The Group of 21 and China had attempted to get the mandate to include the prohibition on use, but it was not accepted by the US which still retained its right of retaliation." With the re-establishment of the mandate, three working groups dealing with verification, technical, and legal and institutional issues were set up, as well as a technical group to deal with verification by instruments and other technical means."

Challenge inspection procedures had been agreed upon to

a great extent, although the principle itself remained contentious. China firmly opposed the idea because of fears of political misuse. In an effort to resolve these fears, they submitted a working paper which proposed limiting the scope of challenge inspections to "any facility, location or installation relevant to compliance and implementation of the convention." NATO and the WTO had favoured the 'anywhere anytime' scope, but this had not been accepted by most other countries." The US was also beginning to feel uncomfortable with the 'anywhere' aspect of challenge inspection, and that March had begun working on its own paper on challenge inspection." This change had been the result of national security, propriety protection, constitutional provisions and the need to fit in with other arms control verification procedures. One Canadian diplomat noted that under the terms of the START agreement, challenge inspection was limited. There existed the fear that the Soviet Union could initiate a challenge inspection under the CW regime and enter a facility which would have been banned under the START regime. He also noted that, in the case of the Canadian Constitution, an 'anywhere anytime' provision might be illegal as the Constitution, like that of the US, barred unfair searches."

Attempts were made by Sweden to reduce the confrontational aspect of challenge inspections. Many countries felt that the word 'challenge' connoted confrontation, and suggested calling them 'inspections on

request'. The Swedish paper also re-instituted the language on alternative measures as a way of limiting access, although most countries had been favourably inclined towards using managed access, especially after the UK and FRG trial inspections had shown that these could protect confidential information."

Sweden also proposed that the observer from the requesting state be made optional." Western states had considered this observer mandatory, while the non-aligned opposed the observer, feeling that the requesting state was influencing and judging implementation of the inspection. It was believed that an observer showed distrust of the inspectorate team." The Swedish proposal was felt by many to be a response to India and China, both of whom had problems with intrusiveness, rather than as advancing any radical new ideas."

China also renewed the idea of challenge inspection requests being reviewed by a fact-finding panel." This option had not been discussed in some time, and most countries had considered this 'filter' to be too time consuming and would allow a country to hide evidence of non-compliance. The US had not abandoned the concept, but had considered giving it up if the challenge inspection procedure had means of controlling frivolous inspections or could assure states that no frivolous challenge inspections would take place."

What would be done after an inspection had been concluded

was raised. The US and UK both favoured that the international body should do nothing except investigate the allegation of non-compliance, and any further action would be up to the inspecting state." China had spoken out strongly in favour of the decision being made by the Executive Council:

only at the initial stage of making the request is there somehow a bilateral dimension to challenge inspection... (N)o country should be allowed to be an omnipotent arbitrator playing at the same time the role of plaintiff, prosecutor, judge, and investigator, while putting other countries in the position of defendants to be presumed guilty and sentenced without any right of appeal."

As a result of this, the Working Group focused its work on procedures and left the language on any action to be taken not very explicit.

Ad hoc inspections received little work in the CD, mainly due to the fact that it was late in the session before anything was tabled for discussion. The US paper on Ad hoc inspections, which had been circulated to members of the Western group, had become enmeshed in the overall American review of challenge inspection and was not ready for the Spring session. The Western group had become tired of waiting for the US, however. They had promised the Ad Hoc Committee a paper that Spring, and on 6 April the Western Group, minus the US, met to discuss a new paper. It was prepared by France and Japan and on 9 April 1990, Australia, speaking for the group, tabled a discussion paper on 'Ad Hoc Visits'."

This paper drew heavily on the American paper which had been tabled the previous August. It would apply only to those

facilities listed on a national register. It allowed a limit on the total number of visits that a state party could request annually. It also allowed the Technical Secretariat to request *ad hoc* visits."

The idea of the register proposed in the discussion paper had been updated by the FRG. It would include all plant sites, whether civil or military, based on agreed characteristics. All industrial sites which carry out chemical reactions would be registered, with some exceptions. Plant sites which exclusively produced iron smelting products, cement, glass and ceramics were not subject to declaration. Physical processes, such as crystallization and extraction, and plants involved in product formulation and mechanical processes of chemical were also excluded. Biochemical processes, such as toxins, were left out of consideration, as it was felt that they posed quite distinct verification problems."

Twelve days after the Western group tabled its' paper, the American delegation received one from Washington that was almost a duplicate of the Western paper." Discussion on the concept of *ad hoc* visits was delayed until the second part of the 1990 CD session, where it became a subject of discussion for Working Group A. Experts from the chemical industry also provided views and comments on both *ad hoc* verification and national registers."

As was to be expected, the idea of *ad hoc* verification

was supported by the Western countries and the USSR and opposed by some delegations from the Group of 21. Another form of verification was seen as being unduly intrusive, costly, and unnecessary as compliance and non-production in the chemical industry could be verified by existing regimes." Thus, no consensus could be reached, although some delegation felt that further discussion was necessary.

Working Group B, meeting on technical matters, made progress in a number of areas. The Spring session had been spent discussing the Soviet-American paper on order of destruction. It was agreed that stockpile levels at the end of the eighth year should be 500 tons or 20% of whatever is declared, whichever was less." This was the first time that the delegates had agreed on an exact number. There was also agreement for the order of destruction for facilities which had been suggested in the US-Soviet paper.

There was no agreement on whether a conference should be called at the end of the eight years. The US and USSR continued to insist on the conference; a provision that one Group of 21 delegate labelled a "killer amendment." It was seen as giving possessor states a veto power, and this idea was also not supported by the Western allies."

Specific language on binary chemical weapons was also included, primarily due to the insistence of Iran. The USSR had been convinced by other states that binaries did not need to be listed separately in Schedule 1. In April, however,

Iraq had begun to make hostile overtones to Israel and had also announced that they possessed binary weapons." Iran felt that this claim should be taken seriously, and insisted that binaries be specifically mentioned in the treaty. The US obviously opposed any separate reference to binaries and disputed its inclusion." Nevertheless, a section on binary destruction was included in the Annex to Article IV, which included a formula to ensure that when a particular key compound is destroyed, a corresponding quantity of the other key compound is also destroyed, based on a weight ration calculation.²⁰⁰

Procedures for investigating allegations of use were negotiated. These were to be carried out by an inspectorate team dispatched by the Technical Secretariat in the case of State Parties to the convention. If the State were not a party to the CWC, investigation would be conducted in co-operation with the UN Secretary General.²⁰¹

One sticking point continued to be the question of use. The Group of 21 reaffirmed its position that the use of chemical weapons should be prohibited under any circumstances. The US retained its right of retaliation; thus, the issue appeared irreconcilable.²⁰² The question of use also bore directly on Article XII (Relations to Other Agreements). Canada, the GDR, USSR, and Sweden all felt that this article was not needed. Canada had stated that once the CWC was completed, it might withdraw its reservation to the Geneva

Protocol; a move which other countries could also follow.” A Western diplomat also pointed out that, under the Vienna Law of Treaties, if two international agreements covered the same subject, a later one which was wider in scope superseded the earlier one. Thus, the ban on use in Article I superseded the Geneva Protocol.”

Working Group C managed to make progress, especially on three legal problems that had been seen as intractable. In the Spring, the issue of sanctions had been raised. They were now considered to be part of Article VI and were called 'measures to redress the situation'. The chair of the group, Walter Krutsch of the GDR, had moved to incorporate language on sanctions into existing texts on the Conference of States Parties and the Executive Council. These bodies would only be permitted to make recommendations, and it would be up to individual states to take any action. Upon introducing this language, Egypt, Nigeria and Pakistan protested. Egypt felt that the language was not severe enough. Nigeria favoured more dramatic language, including a separate section on sanctions, although these were not to be mandatory. Pakistan had favoured strong action.” Egypt announced that it would draft a paper of its own on the subject, although it did not do so in 1990.” The US did not say anything on the topic, having initially been sceptical of such measures. During the summer session, however, US delegate Stephen Ledogar implied that these provision might be usefully included.”

The subject of amendments was also moved into the main body of the convention, although it had not entirely been agreed on. The general procedure for amendments had been formulated, with amendments being effective if approved without a negative vote and ratified by all states which cast a positive vote. Some articles would be open to a simplified amendment procedure, although which these would be remained to be decided." It was realized that the amendment procedure would require further work, for "allowing as little as one negative vote to prevent the adoption of a proposal for an amendment might in practice make the Convention unamendable."

A clause on the settlement of disputes had run into problems. The US, once again, was sceptical of the need for such measures, but did concede that they might be useful. The exact method of settling disputes was not resolved."

A number of consultations were held outside the working groups. The topic of old stocks of chemical weapons which had been left behind on a state's territory was examined. The issue of who was responsible for these abandoned munitions was recognised as an important point. It was not agreed whether this was a secondary issue, or a central issue. China took the latter position, wanting to include in the declaration whether a country might have left chemical weapons behind on another state party's territory without their knowledge or consent." How this issue would be worked into the CWC

remained unresolved, but it was obvious that it would have to be dealt with in some way and measures would have to be taken to ensure that assistance in disposing of them was available."

Assistance in the event of CW use was also examined. The Group of 21 had advocated mandatory measures and contributions, while the West preferred both to be voluntary." The idea of a fund for assistance was also discussed. The West supported this idea, provided it would be on a voluntary basis. Pakistan, one of the idea's advocates, indicated that in its opinion the fund would not need to be more than one million dollars; a figure which eased many of the concerns that the West had."

The process for assistance itself remained unresolved. The relationship that the investigation of allegation of use would have with the other areas of the CWC remained undefined." The Group of 21 favoured an approach which rendered assistance automatically; some countries which preferred accountability opposed this." It was possible for the chair of the group, Roberto Garcia Maritan of Argentina, to narrow some of the differences in opinion, but this was rendered ineffective when the US brought up the issue of retaliatory use; a manoeuvre which caused one Group of 21 delegate to comment that "(i)n this context, that was a bad move."

The final area examined outside of the working groups was

that of jurisdiction and control. There were new concerns raised about the responsibility of states for activities on their territory, for their nationals abroad, and for old chemical weapons. Further consultations were recommended on this matter."

Little progress was made on the other aspects of the convention. Consultations on the make up of the Executive Council and on ensuring universal adherence produced little movement. Outside of the CD, some 20 countries had carried out NTIs by the end of 1990. A study of at least 6 of these, prepared by the UK, concluded that the concept of managed access might provide the key to establishing the balance between protecting legitimate secrets and the necessary intrusiveness to ensure effective verification."

The period from 1986-1990, therefore, had seen a large amount of substantial work towards a CW ban. With the impasse between the US and Soviet Union broken, and concrete steps taken by the two countries to begin reduction of their CW stockpiles, it appeared that the CWC was closer than ever. A number of important details remained to be worked out, although negotiators were optimistic that the issues could be resolved satisfactorily. From this point onwards, however, events in the CD would increasingly be dictated by the dialogue between North and South, which would introduce a new complexity into the negotiations.

Chapter 5

The Final Phase: 1990-1993

New Threats of Proliferation: Libya and Iraq, 1990-1991

The final phase of negotiations were characterised by the bargaining between the developed states of the North and the developing states of the South to a much greater extent than the previous two. This phase, appropriately enough, began with two incidents which focused attention on the North-South aspects and the problems introduced by the proliferation of chemical weapons into the developing world which, once again, would underline the fact that action to ban chemical weapons was necessary.

In February 1990, the US accused Libya of producing chemical weapons at a plant at Rabta; a claim which Libya disputed, insisting that the plant produced pharmaceuticals. The plant had been built with the assistance of a West German company. After the US allegations, the West German government started investigating the involvement of this and other companies in the construction of the Rabta plant and another that was under construction. This investigation resulted in charges and the eventual conviction of the director of the company for tax evasion and for providing aid to Libya.¹ China was also alleged to have supplied chemicals to Rabta; a claim which the Chinese denied.² Other states moved to tighten export controls to ensure that materials shipped to certain countries would not be used in CW production.

The sale of chemicals and equipment by companies acting out of commercial interest was also to be a factor with Iraq. At the beginning of August, events involving that country overshadowed government and public interest in Libyan CW production.

Early in April, Iraqi President Saddam Hussein had threatened Israel with the use of chemical weapons, stating that "whoever threatens us with the atomic bomb, we will annihilate him with the dual chemical." This threat, coupled with the proliferation of missile technology in the region, did little to ease tensions which had been building since February. As mentioned, the threat of binary weapons had caused Iran to insist on specific mention in the treaty during the CD negotiations that spring.

On 2 August 1990, Iraq invaded Kuwait and subsequently annexed the country. The UN condemned this move, and a coalition led by the US began deploying military forces to the Persian Gulf region to thwart any attempted move by Iraq into northern Saudi Arabia. These forces were faced with the prospect of having chemical weapons used against them, and prepared for such an eventuality. Immediately after the invasion, a number of countries began moving gas masks and protective equipment into the region. Israel and Saudi Arabia both took steps to protect their civilian populations.'

During the early stages of the conflict, US intelligence sources reported that Iraqi forces had moved chemical weapons

into Kuwait, and had practised loading and unloading them onto aircraft.' Preparations of chemical decontamination sites along a line north of the Kuwait border were also noted.' There was also speculation on whether or not Iraq's modified SCUD missiles were capable of carrying a chemical warhead. Although there was no definite conclusion, it seemed likely that they were CW capable. According to a leading Arab official, Western intelligence had monitored a successful test of a chemical-warhead missile in northwest Iraq in 1987.'

Throughout the fall of 1990, men and material began flowing into the Persian Gulf region in Operation Desert Shield. Most of these armies had an organic chemical defence capability, although the effects of wearing protective clothing for long periods in the desert was cause for concern among military planners. Czechoslovakia also contributed a chemical defence unit, after being invited to do so by Saudi Arabia.'

At the political level, the appropriate response to an Iraqi chemical attack was being debated. The US, despite reserving the right to retaliate, had ruled out using chemical weapons by mid-August 1990, stating that it could not conceive of a situation in which the US would use CW.' It was assumed from the outset, however, that the Iraqis would not hesitate to use them; it was only a question of when.

In the late fall, according to one source, the CINC of the coalition forces, General Norman Schwarzkopf, urged that

the US let Baghdad know that the use of chemicals against coalition forces would be met by the use of nuclear weapons. This was not considered to be a proper response, as an "overzealous retaliation with American chemicals or even nuclear bombs...would morally corrupt the coalition and bring disastrous political consequences in the Middle East." Failing to respond adequately was also not an option, as it "could demoralize the allies and encourage other Third World autocrats to pursue the 'poor man's nuke' provided by a chemical arsenal."

It was eventually decided to follow a policy similar to that which the US had used during World War II; threats.

The Pentagon deliberately publicized American preparations for chemical combat, while Bush and the others warned of the gravest consequences. In his prewar meeting in Geneva with Tariq Aziz, Baker cautioned that a chemical attack could cause the allies to amend their war aims and put the Ba'athist regime's existence at risk. Cheney even hinted publicly that Israel could be expected to retaliate with nuclear weapons. The threats were vague, and the question of a proper response remained unresolved through the end of the war. But ambiguity had its virtues; if the American leadership was undecided on its path, Saddam could feel equally unsettled."

Materially, Iraqi chemical, biological and nuclear facilities were targeted to be destroyed early in the bombing campaign, to assure destruction even if Iraq complied early with the UN resolution to withdraw from Kuwait."

The issue of chemical warfare during the Persian Gulf crisis caused many of the developed nations to reassess some of their trading practices. The Iraqi chemical weapons

program had been assisted primarily by US and FRG chemical companies, although many other countries had companies which had supplied material, equipment, or expertise. In the immediate aftermath of the invasion, the West German government arrested seven process technicians and began investigations into the involvement of West German companies with the Iraqi CW production facilities." Other countries also began investigating the actions of their national companies.

On 17 January 1991, coalition aircraft and missiles struck 28 CW plants, BW plants, and storage areas. Most of the Iraqi production facilities were damaged or destroyed, along with 11 storage areas." The ground war began on 24 February and ended four days later. Throughout the course of the war, there were no official reports of chemical attacks launched by Iraqi forces."

Iraq's apparent non-use of its CW stockpile cannot be explained by a single factor. It is believed that coalition forces had rendered Iraq's primary delivery systems - aircraft and artillery - ineffective during the course of the bombing campaign. Iraq's army was also not trained or equipped to fight in a chemically contaminated environment. The Iraqi chemical weapons were also unavailable for use, being held in reserve behind the lines. This was due to the fact that Iraqi nerve agents were not purified and, thus, were not stable in hot weather. The stockpile of artillery shells was also

limited; the 46,000 shells could have been expended in less than 30 minutes by the Iraqi artillery deployed in the KTO." Coalition command of the skies would have made transportation difficult, and bombing of storage facilities may have made some of them inaccessible. Coalition preparedness for chemical warfare and the mobility of their forces might also have been factors which precluded CW use."

Political factors may also have been important, although it is not clear that these deterred battlefield use:

Radio intercepts reveal that Saddam Hussein had authorized CW use and in fact ordered it in the last hours of the war. Prisoners interrogated during the air war indicated that the use of CW was planned, and Iraqi decontamination and protective kits were fielded in Kuwait. Some battlefield commanders might have been deterred from calling up chemical munitions because they anticipated imminent surrender and knew that the coalition would hold them directly responsible for any CW use."

As one of the terms of the cease-fire, Iraq was forced to declare its stockpile of chemical weapons, allow international inspection of it and international overseeing of its destruction. The disarming of Iraq was to provide useful experience in inspection and destruction procedures, despite the fact that the Iraqi case was unique. The United Nations Special Committee on Iraq (UNSCOM) conducted highly intrusive operations, as Iraq was intent on concealing as much as it could. This environment "was thus very different from the traditional arms control and disarmament case."

UNSCOM provided a large number of operational lessons

which could be transferred to the Organization for the Prohibition of Chemical Weapons (OPCW).

These include team size and composition, technical and support skill requirements, operational security, database management and assessment, mission planning and execution, training, and team leadership. In each of these areas, a wealth of directly applicable lessons is available as to what worked and what did not."

The UNSCOM experience also discovered that the key element to detecting violation was gaining access to the site." It was in this way that the UNSCOM inspection team, while failing to find weaponized biological weapons, were able to determine where the Iraqi BW program was and where it was headed. This led one member of the UNSCOM inspection team to conclude that this situation demonstrated "identifying a situation for which there remains serious doubts will focus the OPCW's monitoring efforts and thwart a would-be proliferator's efforts."

The aftermath of the Gulf War provided a short term boost for the cause of chemical disarmament. One account, written shortly after the end of hostilities, saw that the threat of chemical warfare in the Gulf had:

cast a shadow over the utility of CW for military purposes, and demonstrated the risks associated with CW proliferation...It increased diplomatic interest in the CD, while also raising questions about the usefulness of retaining US chemical weapons for regional contingencies."

CD Negotiations: 1991

The CD completed its work for 1990 on 18 January 1991, and opened the 1991 session four days later. For the first time, the chair of the Ad Hoc Committee on Chemical Weapons

was occupied by a delegate from one of the two Superpowers, Sergei Batsanov, head of the Soviet disarmament delegation. As had been the case in the past, three working groups were set up to deal with security, verification, and legal and institutional issues. Consultations were also held on technical issues related to schedules, guidelines, definitions, CW stockpile and production facility destruction, and 'old chemical weapons'." Its mandate was also re-established using the same wording as the 1990 mandate. The Group of 21 did join the consensus adopting the mandate, but had wanted it to be expanded to include a specific reference on use. As usual, this met with opposition from other members of the CD."

One week after the session opened, Sweden proposed a system for monitoring the chemical industry based on a qualitative approach. Facilities using Schedule 2 and 3 chemicals were to be inspected based on their ability to perform relevant chemical processes, rather than on the basis of actual production. Facility agreements would not be required, and this system would replace systematic on-site inspection with selective on-site inspections on short notice. On-site inspections could also take place at facilities producing Schedule 3 chemicals. Declarations of planned activities would be used as a basis for verification. Thus, inspections could focus on ongoing activities instead of past activities. Verification efforts would be based on the

resources available to the Technical Secretariat, and could be proposed by states parties in a non-confrontational way, maximizing the cost effectiveness of the inspection effort without introducing accusations."

The Swedish proposal was clearly aimed at the non-aligned countries who were resisting the idea of *ad hoc* inspection." This proposal did appeal to many countries, but it did have its problems. Britain wanted to further expand the list of chemical processes. The scope of the processes to be included, however, was felt by some countries to already be too broad, and critics pointed out that it would cover petrochemical processes and food processing. Inclusion of this type of unrelated processing could mean that in countries which had little or no chemical industry, only facilities outside the chemical industry might be inspected. It was generally agreed that these types of unrelated facilities had to be excluded from the criteria for inclusion." The US also wanted to retain facility use agreements for some Schedule 2 facilities and Schedule 1 facilities. These would receive systematic on-site verification and instrument monitoring."

The chair of Working Group B, Sylwin Gizowski of Poland, attempted to move the issue closer to a consensus. On 25 March, he issued a 'non-paper' which retained the concept of 'facilities capable of producing such chemicals', but did not define how to determine which facilities would be included. All Schedule 2A, 2B and 3 chemicals, as well as facilities,

would be subject to international verification on short notice. Routine inspections would be eliminated, but each facility would receive an initial, mandatory visit. Each state party could propose any ten facilities for inspection. The Technical Secretariat would decide the total number of visits to be conducted annually and randomly select which facilities would be inspected."

On 27 June, eight of the Group of 21 ⁽¹⁾ agreed to accept the principle of extending controls to civilian factories capable of producing schedule chemicals." India had previously stated that it had no problem with the concept of *ad hoc* or challenge inspection, provided they were multilateral, inclusive and effective." Argentina preferred a further simplification of the verification system under Article VI, focusing on actual production and production capacity, and not on the material flow or balance of chemicals."

On 13 August, the UK proposed a simple quantitative criteria to define thresholds of Schedule 2B chemicals. Based on a militarily significant quantity considered to be a billion times the effective dose, it was possible to divide Schedule 2B chemicals into five categories, based on the amount needed to affect one person. Once the quantity produced exceeded one billion times the toxicity amount, the

¹Egypt, Ethiopia, Indonesia, Iran, Kenya, Nigeria, Pakistan, and Yugoslavia.

nation producing the chemicals would have to declare them."

The end of the summer session found the issue of inspection of the chemical industry still unresolved. According to US delegate Stephen Ledogar, the 27 June statement by the eight members of the Group of 21 closed certain loopholes that would have allowed relevant facilities to escape detection, and allowed the Ad Hoc Committee to almost reach a consensus to extend monitoring provisions to all CW capable facilities." Work remained to be done to determine which facilities would be included, and to work out the inspection regime. This latter point was a major obstacle; many of the non-aligned countries, especially China, were hesitant to join the negotiating process or rejected the idea because of uncertainty over how Article VI inspection should proceed."

The procedure for initiation of the inspection procedure was also problematical. At issue was to what extent an individual country would be able to trigger *ad hoc* inspections. The Western group favoured a great deal of national input, while the hardline countries felt that this would make routine inspections just like challenge inspections." By early December, negotiations had narrowed the differences in opinion to three options that were being considered: the Technical Secretariat could pick and choose; the state party could have some input; or a computer would do a random selection."

Different inspection regimes were also under consideration for facilities producing Schedule 2 and 3 chemicals. Schedule 2 chemical facilities would be required to have at least one inspection. Facility agreements would not be required, but could be done on a voluntary basis or if the OPCW wanted one." Schedule 3 facilities would also be subject to some kind of inspection."

The issue of challenge inspection appeared stalled through the 1991 negotiations. At the end of March, the US formally shared its new challenge inspection proposal with its allies. Motivated by security concerns, and reflecting fears of defence and intelligence agencies that abuse of the system might allow unfriendly nations access to sensitive facilities unrelated to chemical weapons, it moved towards the British proposal for managed access. It allowed the inspected country to bar access to a particular site, or remove equipment from the inspected site. The American proposal also allowed an extension of the time for challenge inspection if the inspection team wanted to expand the inspection site beyond the declared facility. Under the old proposal a request for such an extension by the inspection team, and subsequently denied, could be re-requested by the state which issued the challenge. Under the American proposal, denial of the inspecting team's request would result in the team leaving the state and presenting the decision to the Technical Secretariat. The Secretariat would ask the inspected state to

explain the reason for refusal and, if not satisfied, could appeal to the Conference of States Parties. Following the appeal, the inspection team could make a second visit to up to 20% of the expanded site, cordoned off from the balance. This entire process might take up to six months."

According to a Canadian diplomat, no country would accept this proposal as written." India also felt that challenge inspections should move quickly, and not have a possible six month delay." The concept of managed access was believed to be an effective way to ensure security of sensitive facilities. as it placed the burden on the inspected party to prove it was in compliance. The UK had, during its challenge trial inspection, utilized managed access and found it appeared to be an effective way to determine if clandestine CW production had taken place. The US, on the other hand, had never carried out a challenge trial inspection, and thus had no practical basis to determine what would be effective. The proposal also did nothing to ensure that there was no clandestine stockpile; under its terms, such a challenge inspection could be blocked."

Peru suggested a two part challenge inspection. The first part would be carried out by the Director General of the OPCW, who would send out an inspection team within 48 hours of the receipt of a request to undertake a confidential and technical inspection of the facility or installation in question. If the doubts remained after this inspection, the

Executive Council would meet within 48 hours to consider an extension of the inspection site, within the scope of the request. This second stage would be utilized as a weapon of last resort before further actions, including possible sanctions, would be taken."

In mid-July, after a re-working of the American proposal, the US, UK, Japan and Australia tabled a new proposal on challenge inspection procedures in the CD. The US agreed to abandon its position of barring inspectors from particular sites in favour of alternative arrangements. A challenged state party was obliged to provide access to the requested site, although the time frame that this access could be negotiated and accepted was extended from 48 hours to 168 hours."

Under the terms of the proposal, a challenged party was given 12 hours notice of inspection. A challenged party could propose alternative arrangements. The challenging party then designated a perimeter in which inspection would take place, and the challenged party had up to 60 hours to accept it, in which case the inspection party had up to 12 hours to be transported to the site. If the perimeter was not accepted, the challenged state had to propose an alternative perimeter. If agreement could not be reached, the inspection team and challenged state had to agree on a provisional perimeter. Negotiations would continue at this provisional perimeter, which would become the final perimeter if no agreement can be

reached after 96 hours. This site would be secured no later than 24 hours after that, with the challenged party identifying all exit points and providing evidence of all exit activity. The inspection team would be permitted to monitor exits, although the challenged party would be permitted to shroud any equipment. During the actual inspection, it was up to the challenged party to demonstrate compliance with the convention. The challenged party was allowed to shroud equipment, employ random access, or allow only individual inspectors access to certain parts of the site. Access to the perimeter could also be provided by alternative means, such as aerial access, sensors, or observation from an elevated platform. Observers from the challenging state would also be permitted, although the challenged party could bar some areas to the observer, but not to the team,"

Reaction to this proposal was mixed. Australia and Japan had supported this proposal, according to some sources, only because they recognised that a ban was impossible without the US, and its security concerns had to be taken into account." Argentina and Poland both considered that the proposal offered a workable solution to the problem of challenge inspections." The Western nations remained split. France made a number of suggestions for amendments to the proposal which would give the inspectors much more intrusive capabilities. These were supported by Germany, Italy, the Netherlands, Belgium, Canada, and the Soviet Union." By the end of the year, the US and

France were still at odds over this proposal. There was also criticism that under the proposal, the "obligatory character of the challenge inspection would become voluntary and control of the actual inspection would be shifted from the international inspection team to the inspected state party."

The US move away from 'anytime anywhere' inspection signalled that they were more concerned with their own national security than with detecting possible violations of the CWC. According to one source, this shift had been coming after a mistake in defining the INF inspection system lead to highly sensitive information being revealed. It was also believed that the Senate might not ratify the CWC if it allowed other countries to pry into American military secrets." Stephen Ledogar stated that the US position was that cheating could be detected through questioning, challenges and national technical means (NTM). Short notice inspection would never expose cheating, but could detect traces of activities which could confirm cheating."

The proposed changes to the challenge inspection regime were also feared to have repercussions on the routine inspection system. Elisa Harris of the Brookings Institute stated after a trip to Geneva that August:

(s)ome Western and Third World delegations are arguing that if we're going to have a meaningless challenge inspection, we shouldn't go to the trouble of building a very intrusive and expensive infrastructure for inspecting the commercial chemical industry. So you may see in the next months an attempt to cut back the routine inspection regime."

While the US retraction of the 'anytime anywhere' position seemed to signal a step backwards in their negotiating position, other decisions made in 1991 moved the CWC closer to completion. In May, President Bush announced that the US would renounce the right to retaliate against any state with chemical weapons once the convention entered force, and would destroy all its chemical weapons within ten years of entry into force." This move made a comprehensive CWC now possible." He also called on the CD to conclude the convention within a year, recommending that it stay in continuous session if necessary in order to meet this target.

The change in position on the question of use was the result of a number of factors, mainly political. The US position had been widely unpopular, with only the USSR offering any support for the idea of retaining a retaliatory capability. It was also recognised by US officials that this position encouraged proliferation and supported those who had already acquired chemical weapons in retaining them. Of greater importance may have been the lesson derived from the Gulf War; chemical weapons no longer appeared to have any military utility. Conventional firepower had proven to be sufficient enough to win and, as mentioned, even if Iraq had chosen to use CWs, the US led coalition had already decided not to respond in kind. According to one European official, "(o)ur forces would have proceeded to win with conventional weapons and then punished the Iraqi leadership for ordering

the use of chemicals.""

The new US position allowed the CD negotiations to move forwards on negotiating a number of areas. The first of these was adoption of a new mandate which allowed the Ad Hoc Committee to intensify the negotiations to complete a convention by 1992 on the prohibition of that development, production, stockpiling and use of chemical weapons and on their destruction."

The extension of the mandate to prohibit use led to calls by several states, notably Austria, to withdraw any reservations made to the 1925 Geneva Protocol." This had already been done by some countries, but what was needed was a provision in the CWC that all states with retaliatory rights renounce them when they signed the convention. This idea was endorsed by others, and Brazil believed that withdrawing any reservations would enhance the convention regime and help to promote universal adherence."

Ensuring universality continued to pose a dilemma. Early in the 1991 session, an informal paper had been issued covering possible incentives to join the CWC. Generally, the issue of universality was of greater concern to the Western states than to the developing states. According to the Group of 21, they did not make universality a priority because they did not possess chemical weapons. The US, which was concerned with other CW possessor states, felt that it was important that all were included as they themselves would be giving up

a component of their security." In the Middle East, the aftermath of the Gulf War had changed many countries reluctance to join the CWC; one Western delegate believed that, as a result of this, they might all accept the convention."

Methods of getting states to join the CWC took two routes; incentives, such as technical assistance, and disincentives such as trade restrictions. In August, the US tabled a proposal for action against non-parties. States would be allowed a reasonable period of time to join. After this period, "arrangements for trade in CW-related chemicals should discriminate against non-parties. Our proposal will require parties to refuse to trade in CW-related materials with all states that do not become parties to the CW convention." The US approach was unworkable, as one diplomat pointed out, because it would require inspectors in non-party states at a time when they would be attempting just to get to state parties. Second, the US proposal would require the individual states to pass legislation to enact this embargo, and to tell states what legislation to pass in order to implement the convention was considered to be too interfering."

It was also noted that this proposal could have unintended consequences. If one state decided not to sign and this prompted others to also remain outside the CWC, such as North and South Korea, both countries would be subject to the

embargo. Israel might also find itself subject to embargo. In the case of the European Community (EC), should an EC member not become a party, other EC countries would be forced to embargo imports and exports, in contravention to the EC agreement."

Also linked with the question of use was that of assistance. With the US dropping the right to use chemical weapons in retaliation it became possible to place Article X into the rolling text. Specific assistance measures which were to be taken were not outlined. The US and UK preferred to have a full range of options, including the right to do nothing. The non-aligned nations wanted a limited range of options, with the requirement that some type of action be taken." By the end of the year, the issue had been resolved. Each state could elect to contribute to a voluntary fund, to conclude an agreement to provide assistance, or to declare what type of assistance it might provide. Even if a State were unable to provide the type of assistance envisaged in its declaration, it was still obligated to provide some type of assistance."

The US also dropped its objections to Article XI after President Bush's statement. Prior to this, the West had wanted to resolve the verification issue first, while the Group of 21 wanted the security issues, and particularly Articles X-XII, resolved first. Members of the Group felt that the issue of assistance would be neglected once progress

was made on other issues." In President Bush's statement, it had been recognised that joining the CWC should provide some incentive for assistance to developing nations. Pakistan had suggested that any discriminatory mechanisms should be dismantled once the convention entered into force." However, some of the non-aligned states insisted that all export controls should be lifted to state parties. The Australia Group found this to be unacceptable. Italy proposed a compromise which did not require the lifting of export controls, only that a review of national regulations be undertaken in order to render them consistent with the object and purpose of the convention."

There were other areas where progress was made in the 1991 session. The issue of jurisdiction and control was examined by Working Group C. The problems posed by multinational corporations on territory outside of the state were recognised. Originally, a state's control had extended only to its territory. New language placed in Article VII (National Implementation Measures) gave states legal jurisdiction for their nationals outside the country." A state party and its citizens were forbidden, therefore, to produce chemical weapons anywhere in the world. The USSR and some of the non-aligned countries had been afraid that the US might contract with a foreign subsidiary of a US company to produce CW outside the US. After the report of the Ad Hoc Committee was written, the USSR reversed its position and

stated that it could not accept the resolution. One Western official believed that this was because they still feared extra-territorial production, or wanted to use the issue as a bargaining chip to get their way in other areas of the conference."

The organisation to oversee the CWC regime received further attention, primarily on the estimated cost of the organisation. The developing countries were especially sensitive to the cost which might be incurred. There were two options on how the organisation could be financed. If the cost were found to be manageable, delegates could agree to cost-share, as they currently did with the UN. If the costs were too high, delegates had the option of instituting user fees. In this way, those who had to destroy chemical weapons would have to pay more, or those who requested inspections would assume their cost." One estimate of the cost, prepared by the US, envisaged an organisation of 225 people and was estimated as having an annual budget of \$164 million."

The composition of the Executive Council was also the subject of consultations. It was generally agreed that it would consist of between 20 and 30 members, and that seat allocation had to be balanced:

between the undeniable interests of those States which have substantial chemical industries...the equally undeniable interests of those States which are situated in particularly sensitive regions or those who have specific threat perceptions, and the overall and overriding need for a democratic and regionally representative membership."

The question of what to do about old chemical weapons remained basically a bilateral problem between Japan and China. Japanese forces had left chemical weapons behind in China at the end of World War II, and the question of who was responsible for their disposal remained an issue between the two states. It remained unresolved at the end of 1991, but at that time it appeared likely that Japan would agree to pay for the cost of destroying any chemical munitions which might be found." The problem also existed in Europe, although there the issue was not as contentious as it was in the Far East. The problem of destruction did exist, and in 1991 information on the dumping of chemical weapons into the Baltic Sea prompted the nations bordering it to begin a search for a method to recover and destroy them."

When the CD ended its 1991 session the rolling text contained, for the first time, a complete outline of the draft CWC, although there were many points still outstanding. Some of the more important ones which had yet to be resolved were the use of herbicides, military preparation for chemical warfare and, as mentioned, old chemical weapons.

US-Soviet Bilateral Talks: 1991

While the CD had made progress, the US-USSR Bilateral Accord had stalled. This was not due to lack of effort, but rather was indicative of the unsettled conditions inside the USSR and the difficulty involved in destroying old chemical weapons. At the beginning of 1991, delegations from the US

and Soviet Union had visited a stockpile or storage facility, under the terms of the Memorandum of Understanding. Shortly after these had been completed, the internal political situation in the USSR entered a period of upheaval which found the country locked in a leadership struggle. The result of this, added to the other problems present in the country, meant that the Soviet negotiating team were left without instructions on how to proceed." Problems with destruction, as mentioned earlier, also stalled elimination of the stockpiles.

The breakup of the Soviet Union posed new problems. Russia, according to sources, was the only former republic which possessed chemical weapons on its territory." President Boris Yeltsin made it clear that Russia would assume all responsibilities of the former USSR in both bilateral and multilateral negotiations." The US did not officially recognise Russia as the successor to the Bilateral Accord at first; it was only in July 1992 that this was done."

US concerns were focused primarily on Russia's inability to begin destruction. At the beginning of 1992, President Yeltsin announced that the framework for CW destruction had been set up, and it was planned that this would begin in April 1993. The main obstacle was the lack of funds to accomplish this. In an effort to allow destruction to begin, the US Congress allocated \$400 million to support chemical and nuclear disarmament obligations in the former Soviet Union; in

July, it was announced that approximately \$25 million would be allocated specifically towards CW destruction." President Yeltsin had also invited other countries to assist in the destruction of the Soviet CW stockpile."

The Final Negotiations: January-March 1992

The 1992 CD session re-opened on 21 January, and the Ad Hoc Committee was re-established with the mandate to proceed with the negotiations on the CWC "with a view to achieving a final agreement on the Convention during 1992." Adolf Ritter von Wagner was appointed as chair, and he appointed six friends of the chair to assist in resolving the outstanding issue; legal and organizational questions; Article XI; technical questions; old and abandoned chemical weapons; Seat of the Organization; and the Executive Council."

Within the first few sessions, China presented two working papers on old chemical weapons. The first of these listed known sites in China where the Japanese abandoned chemical munitions at the end of the war. The second, CD/1130 outlined how China wished the problem to be dealt with. As expected, China favoured the position that the state which abandoned the chemical weapons would bear the responsibility of declaring where the CW was left and their destruction:

If responsibility were imposed on the victim State, it would not only be a great injustice to the victim State, but also tantamount to allowing and encouraging a chemical-weapon-State to use chemical weapons against, and abandon such weapons in, another State whenever it pleases regardless of the consequences."

Japan preferred that the abandoning country not automatically be given responsibility for any old chemical weapons discovered. They felt that it might not be possible to establish the identity of the abandoning state, or the state might not be a party to the convention, creating a loophole where no one would destroy the weapons. The quantity of CW discovered might also be small and not pose a hazard and, therefore, could be dealt with as an environmental hazard. In the event that assistance on destroying abandoned and old chemical weapons was sought, they preferred that the country where they were discovered ask for assistance, and such arrangements should be provided for in the Convention. Where the abandoned CW could not be identified, the Technical Secretariat could provide assistance with their disposal."

An Attempt at Consensus: CD/1143, March 1992

Before much more work could be done on this issue, actions taken by the Australian delegation shook the CD negotiations. Australia, on its own initiative had been working on a compromise draft treaty. The need for this had become obvious to the delegation after the 1991 session had ended, when it was felt that unless the negotiations received such a shake up, they might continue indefinitely. The idea of establishing a select, representative negotiating group of CD to conclude a final draft was discussed, but rejected because of problems in determining which states should participate." It was decided to attempt this draft as an

internal exercise, partly to move the negotiations ahead and partly to satisfy to Australian officials the "validity of the claim that a convention, which we want very much for our own national security reasons, was indeed within our grasp. Was it really close enough to justify a major diplomatic effort to help close the remaining gaps?" It was not to be an attempt to formulate a treaty outside the CD negotiations, but would be an attempt to prompt some movement on contentious issues. It was handed out informally at the beginning of March."

On 19 March 1992, Australia formally presented CD/1143 to the CD. The majority of the compromise text, some 80%, was drawn "directly and unambiguously from agreed language in the 'rolling text'. Moreover, no part of the 'rolling text' -save in cases of redundancy or repetition -has been omitted from our text." The remaining 20% represented Australia's answer to the outstanding issues: "our text here advances a model for the kind of compromises which it will be necessary for all parties to make if agreement is to be reached."

The CWC, as envisioned by the compromise text, consisted of 24 Articles and 5 Annexes. Riot control agents and herbicides were not treated as chemical weapons as long as they were used for their designated purpose. Old stocks of chemical weapons were dealt with by defining CW produced before 1925, recovered from ocean burial sites, or abandoned after 1925 on the territory of another state but before entry into force of the convention as "other toxic munitions and

devices." Responsibility for the destruction of pre-1925 munitions lay with the finding state, while munitions abandoned after 1925 were the responsibility of the abandoning state who was obliged to provide assistance." None of these munitions were subject to the declaration provisions of Article III, as were munitions dumped at sea or buried on land, provided they had been disposed of before 1 January 1975.

Verification of the CWC would be handled in a relatively simple fashion. While the rolling text verification procedures had a cumbersome structure, the Australian draft text streamlined this. The rolling text's Article VI had included an annexes for each of the 3 Schedules which had described the inspection regime for that Schedule, as well the Annexes on Chemicals which described the chemicals covered by the Schedules. Article VI in the Australian text laid out the regime of schedules and verification, the Annex on Chemicals described the contents of the schedules, and the Annex on Verification described how to verify each schedule. Article VI also included a proposal that information on a state party's protective programs be made to the Technical Secretariat on an annual basis. This was seen as a way to increase the transparency of and increase confidence in the convention.

The verification regime for Schedule 2 and 3 chemicals called for on-site inspection of plants producing more than a

certain amount of scheduled chemicals. Schedule 2 (A and B) plants which produced more than 10 tons of chemicals and Schedule 3 plants producing more than 100 tons had to be declared. Schedule 2 plants, following an initial inspection, would become subject to routine on-site inspections until such a time as they were no longer producing a Schedule 2 chemical or were producing less than 10 tons. They would then be subject to the inspection regime for Schedule 3 chemicals." The Secretariat, which had formally been known as the Technical Secretariat, would make the decision on which plants were to be inspected based on the risk posed by the chemicals produced, the characteristics of the plant, and the nature of the activity carried out there."

Schedule 3 plants included plant sites which produced, or were expected to produce "more than 100 tons of discrete organic chemicals, except those that only produce chemicals containing only carbon and hydrogen and those that only refine petroleum." These sites were subject to random inspection, and were selected from nominations from both the state party and the Secretariat.

Challenge inspection procedures did not offer any radical new developments. The Australian text permitted the inspecting party to propose an alternative perimeter which (1) did not extend to an area significantly greater than that of the requested perimeter, or (2) was a short, uniform distance from the requested perimeter, or (3) allowed at least part of

the requested perimeter to be visible, or a combination of these. The alternative or the final perimeter could be secured immediately upon the arrival of the inspection team at the alternative or final perimeter, whichever occurred first.

The challenge inspection procedures also outlined a shorter timeline, allowing access no more than 120 hours after the initiation of the challenge. Managed access procedures were also strengthened. No inspection could last longer than 96 hours, and no state party would receive more than 12 challenge inspections at undeclared facilities in a 12 month period, and no more than 3 inspections per 12 month period at any one undeclared facility. No more than 3 challenge inspections at undeclared facilities were permitted at the same time. Declared facilities were not limited as to the number or frequency of challenge inspections.

To eliminate possible abuse, the Executive Secretariat would meet at the same time that the challenge was issued to discuss the circumstances of the challenge and decide, after the inspection was completed, if the challenge was within the scope of the convention."

The Australian text also proposed that under Article XI, all restrictions on export controls be applied in a way which did not impede the trade in chemicals or technical information between parties." The Executive Council was proposed to consist of 30 members, with six elected by the Conference of

State Parties which had the most significant chemical industry. The remaining 24 seats would be divided according to region; 4 from the Americas, and 5 each from Europe, the Middle East and South East Asia, Africa, and North and East Asia and the Pacific. Each of these groups would contain the party in the region with the most significant chemical industry which was not among the first six.¹⁰¹ Cost would be based on the UN contribution formula.¹⁰² Entry into force would occur two years after the convention opened for signature, or 30 days after the date of deposit of the 60th instrument of ratification, acceptance, or approval, whichever date would be later.¹⁰³

Reaction to the Australian text was generally positive. It did place an enormous burden on the Chair of the Ad Hoc Committee, Ritter von Wagner who, it has been suggested, was forced to take hastier action than originally planned and produce a compromise draft treaty of his own.¹⁰⁴

The verification regime outlined by the Australian text was intensively scrutinized. The US CMA felt that the scope of the inspection regime was too narrow. In their opinion, all relevant facilities should be subject to inspection, although intrusion should be kept to a minimum.¹⁰⁵ A US arms control official felt that the scope, however, was broader than was necessary.¹⁰⁶

At the end of March, the US and France submitted a non-paper on challenge inspection. It followed the basic

proposals of the Australian text, but with three basic exceptions. The French-US paper required at least two of the three methods for proposing an alternative perimeter. The US was also unwilling to accept analysis of chemicals; they wanted the inspected state to be able to limit analysis of chemicals to element analysis only. Access to the site was also contingent on conformity to constitutional procedures, reflecting US concerns."

At the beginning of May, the US position on challenge inspection was stated before the Senate Foreign Relations Committee as recognising mandatory access to any challenged site, with up to five days to prepare and retaining the right of the inspected state to determine how much and what kind of access would be given." It was also reported that there was no consensus on the need for quotas or duration of the inspection. Conceptual differences were noted with some of the non-aligned delegations, particularly Pakistan, China and Iran, over whether inspections should be subject to political decision-making and how much of a role or presence the challenging state should have. There was also no consensus decision on inspection of commercial facilities; China continued to maintain its position that there should be no inspection of their industrial sector."

The von Wagner 'Vision' Text: May 1992

When the spring CD session opened in mid-May, Ad Hoc Chair von Wagner distributed his draft text to the CD. It

included the 'visions' for compromise solutions to outstanding problems. He proposed working on this text in a two step approach. In the first, the delegates would go over the 75% of the text which was seen as non-controversial. The second stage would see private and open-ended consultation on the other areas which had not been decided upon." The majority of these issues had to do with matters on which North-South consensus had yet to be achieved; verification, challenge inspection, export controls and the composition of the Executive Council." On 4 June, a set of proposed amendments were jointly submitted by the principal less developed countries. Although these were controversial, "their submission carried the clear implication that the rest of the draft was acceptable."

The revised von Wagner text was presented to the CD on 22 June. It did not mention herbicides, but did bar the use of riot control agents as a weapon. The idea of old chemical weapons was introduced to cover those produced before 1925, or those produced between 1925 and 1946 but which had deteriorated and could not be used as chemical weapons. These, along with abandoned chemical weapons, had to be destroyed like current chemical weapons." It also allowed for an extension of the 10 year deadline for destruction, provided it was permitted by the Executive Council. Conversion of CW production facilities could also be permitted by the Executive Council."

Verification procedures were loosened in the new text. Declarations had to cover all plant sites which had produced Schedule 2 chemicals since 1 January 1946, as well as all facilities which produced or would produce certain amounts of Schedule 2 chemicals. These would receive an initial inspection, and subsequent inspection would be at the choice of the Technical Secretariat.

Schedule 3 chemical facilities would be declared if they produced 30 tonnes or more, and would be subject to data reporting and on-site inspection if they produced more than 200 tons above the declared threshold. A new section was included which set up a verification regime for 'other Chemical Production Activities,' and covered all plant sites that produced by synthesis more than 200 tonnes of non-scheduled discrete organic chemicals during the previous calendar year, or had produced by synthesis more than 30 tonnes of an unscheduled discrete organic chemical containing the elements phosphorous, sulphur, or fluorine during the previous calendar year.'" Plant sites which exclusively produced explosives or hydrocarbons did not have to be declared. The choice of which facilities would be inspected would be based on equitable distribution, information available on listed plant sites, and proposals by states parties.'" Reporting on defensive measures under Article VI was retained.

Article IX in the draft text preserved the limitations

outlined in the US-French non-paper on challenge inspections; control of the perimeter by the inspected state, the use of managed access, retention of the reference to constitutional restrictions, and restriction of sample analysis to determination of the presence or absence of scheduled chemicals or appropriate degradation products. The inspected state had the right to exclude an observer completely, or limit their access to restricted areas." The Executive Council was permitted to rule on whether a request for inspection was within the scope of the convention, and could veto such an inspection by a three-quarter majority vote of all its members."

The Executive Council itself would be set up according to the five UN geographic regions, with 40 seats allocated between the States Parties. Asia would receive 9 seats; Africa, 8; Latin America, 7; Eastern Europe, 5; Western Europe and others, 10; and 1 which would rotate between Africa, Asia, and Latin America. Each region would be required to elect some state parties on the basis of industrial criteria."

Parties to the convention would not be permitted to restrict or impede trade and the development of scientific and technological knowledge. The text did not provide for trade restrictions with non-parties in order to force adherence to the convention."

The CWC itself would enter into force 180 days after the 65th ratification, and no earlier than two years after it was

opened for signatures. No part of the convention would be subject to reservations."

Reaction to the compromises in the text was mixed. A number of states felt that the challenge inspection procedure was weakened by the filter mechanism, the longer time-frame, and the measures taken by the inspected state to manage access or secure the site. The verification regime of Article VI was also considered to be too narrow, specifically the definition of 'capable facilities.'"¹ Despite these misgivings, the majority felt, like Italy, that:

the draft Convention in no case jeopardizes the security interest of any State...For these reasons, the Italian Government is ready to join all those who have so far indicated their readiness to endorse WP.400/Rev.1 as a compromise text."

Twelve of the developing countries⁽¹⁾ did raise objections to specific areas of the compromise text, feeling that it did not take into account many of the suggestions that they had submitted in their proposed amendments. These included the belief that the regime for Schedule 3 and capable facilities was too broad, would place a burden on the chemical facilities of the developing world, and would include facilities irrelevant to the Convention. There was also objection over declaring a state's protective programs."² The language on export controls was considered to still be discriminatory towards some parties, as was the allocation of

¹Algeria, China, Egypt, India, Indonesia, Iran, Kenya, Mexico, Myanmar, Pakistan, Sri Lanka, and Zaire.

seats on the Executive Council." The entire concept of permanent seats on the Executive Council was also unacceptable to many parties."

Challenge inspection remained contentious. The Group of 14 had proposed amendments which would provide safeguards against misuse or abuse of the verification regime. The draft text, as it was currently worded, was considered by them to give intrusiveness and deterrence a much higher priority than safeguards against abuse. The watering down of the role of the Executive Council in preventing abuse was also resented. The reference to the observer's right to make recommendations, and to have these taken into account by the inspection team, was also seen as an unnecessary intrusion on the inspection team and it was felt that this should be deleted from the treaty."

The extension of the destruction period was viewed as having an adverse effect on the entire convention. The non-chemical weapon possessing states would have to forego their option to develop CWs at the start, and their security would be at stake over the entire 10 year destruction period. The addition of a possible 5 year extension "was made in a totally non-transparent manner, without taking into account the views of non-chemical-weapons possessors who are likely to be affected the most by its provisions."

The CMA also had problems with the von Wagner text, preferring that the verification provisions were broader.

They accepted the text, however, feeling that even with these shortfalls they would still cover nearly all commercial chemical facilities. It was seen as an acceptable compromise between the broad net that the CMA had wanted to cast and the narrow net that the Group of 21 had supported."

Despite the Group of 14's misgivings, the opening of the third part of the 1992 CD session saw numerous statements supporting the acceptance of the draft text. The US statement was typical of many of these. The US believed that the conditions for conversion of CW production facilities were strict enough to ensure that they would not be misused. The filter on challenge inspection would also be enough to prevent abuse, but without unduly interfering with the regime. The position on export restrictions was interpreted by the US as allowing export bans to state parties in order to prevent the development or production of CWs. Finally, allowing two years before entry into force would allow the Preparatory Commission time to set up and train inspectors." Thus, the US delegation stated that it could accept the draft text, although "in many respects...preferred positions have been substantially watered down or are completely absent." Many countries similarly felt that the balance achieved by the convention adequately protected security interests. Changes to the draft convention were still technically possible, although von Wagner insisted that any further change had to be made by consensus.

Requests for changes to the draft CWC were forthcoming, primarily from the group of 12 states which had earlier submitted CD/CW/WP.415, plus Cuba and Ethiopia. This led to a new paper being distributed to the CD which contained suggested changes. Herbicides were still not to be included in the prohibition, but the issue of riot control agents was reexamined. This resulted in a section on assistance and investigation in the cases of the use of riot control agents as a method of warfare being added to the text. In the opinion of von Wagner, this would permit the use of riot control agents to rescue downed aviators or stop rioting prisoners of war; both examples which had been originally outlined in US Executive Order 11850, which restricted their use in war to defensive military modes to save lives."

The issue of stockpile destruction was also amended. Russia had requested that the Executive Council permit bilateral verification providing certain conditions were met, and this was agreed to. The Group of 14 had also requested that the Conference be permitted to decide upon the conversion of CW production facilities and decide upon any extension of the time for destruction." The Executive Council would also be expanded by one to 41 seats, with Africa receiving it. By doing so, the rotating position would be decided among between Asia and Latin America."

Other proposed changes included a request by Cuba that objections to the designation of inspectors or inspection

assistants be in writing; the creation of a stockpile for emergency and humanitarian assistance to be maintained by state parties; and different language on export controls in Article XI.2 (c). This new language disallowed the maintenance of restrictions which were incompatible with the obligations undertaken by the Convention which would restrict or impede trade. New language was also proposed on the transfers of Schedules 2 and 3 chemicals."

The day before these revisions were distributed to the CD, the Australia Group issued a statement which pledged their support for lifting trade restrictions under Article XI. They announced that they would fully comply in facilitating "an increase in commercial and technological exchanges between States" and:

to review, in light of the implementation of the convention, the measures that they take to prevent the spread of chemical substances and equipment contrary to the objectives of the convention, with the aim of removing such measures for the benefit of states parties to the convention acting in full compliance with their obligations under the convention."

The End of Negotiations: August 1992-January 1993

On 19 August, a new text was introduced which incorporated the revisions. This text was deliberated over for the next two weeks. Pakistan, which had signed a joint declaration with India prohibiting the development, production and deployment of chemical weapons on 18 August, expressed several concerns about the new draft. They felt that the definition of chemical weapons was still too broad; that some

verification provisions would place an unnecessary burden on the chemical industry and would look like challenge inspection; and that the procedures for challenge inspection were not sufficiently safeguarded against abuse, nor did they protect confidential information." As a result of these concerns, Pakistan felt that they could not associate itself with any recommendation concerning the draft treaty:

We have ended with a draft text which ignores the legitimate concerns of some delegations, and with an adverse impact on their security...However, despite the reservations and concerns, my delegation will not stand in the way...to transmit the draft text of this convention to the General Assembly of the United Nations for its consideration."

Egypt noted similar concerns, but also announced that it would not stand in the way of the decision to transmit the draft text to the UNGA."

China, which had consistently advocated a hardline position, also did not object to a consensus agreement on the text. They did feel that the text subjected an extremely large number of chemical facilities which were not relevant to the CWC for declaration and verification. It was feared that this "will create grave difficulties for and interferences in the chemical industry of developing countries and adversely affect the effective verification of chemical facilities truly relevant to the convention." Challenge inspection procedures were also considered by the Chinese to be unduly intrusive and ignored the danger of abuse. This was unacceptable, as "no sovereign State will allow its vital

security rights and interests of no relevance to chemical weapons to be harmed in any way." Finally, the draft text, by allowing an extension of the timetable for destruction, permitting conversion of CW production facilities, and modifying the order of destruction, did not serve the fundamental objectives of the convention and detracted from the security of non-chemical weapon states. Thus, while China would not object to consensus agreement, it would still need to consider whether or not it would sign the convention."

Russia's main concern centred on the cost of destruction and on inspection of this. It preferred to leave the solution to the Preparatory Commission, although it was investigating three options to finance this: a return to the UN scale of contributions; creation of an external system to provide financial support; and on using some of the US funds allocated to destruction for inspection." They were also apprehensive about future monitoring of non-development of chemical weapons and the wording of the convention on herbicides." Nevertheless, Russia indicated that it intended to sign the CWC.

Most of the remaining states at the CD either supported the draft text outright, or supported it despite any concerns they might have. Only Iran voiced strong opposition to the draft, mainly on the subject of the Executive Council. At the beginning of August, they had agreed to support the transmission of the draft to the UN, depending on the

allocation of seats within the Asian group. At the heart of the problem was the content of the text "which grants privileged seats to more than a third of the members of the Executive Council. State parties must have an equal chance to serve on the executive council and no country should have special privileges." According to Iran, each European state had a 20% chance of being elected, while there was less than a 10% chance for an Asian state." On 3 September at the final CD session, Iran again opposed permanent seats for China, Japan, India and South Korea on the basis that they were the principal chemical producing countries in the region. On this basis, they could not agree to the inclusion of Article VIII in the final report. A crisis was averted when a recess in the proceedings were called to allow the Asian subgroup the chance to meet to discuss the problem. After the recess, Japan, on behalf of the Asian group, put forward a formula for arriving at an acceptable solution based on sub-regional groups. Iran then agreed to the transmission of the final report to the UN."

It was necessary for the CD report to the UNGA to be amended due to the reservations of several delegations, primarily Pakistan. While it was not acceptable to Pakistan that the CD recommend that the UNGA commend the CWC, there was consensus agreement to adopt the convention and transmit it to the UNGA."

In early October, France agreed to hold the signing

conference in Paris, possibly in January 1993. A number of countries, mainly the Arab states, indicated that they might not sign the CWC. They felt that it was necessary for Israel to destroy other weapons of mass destruction, and not just any chemical weapons it might possess. Once this had occurred, they would be willing to sign." The US also believed that 10 of the 20-odd CW possessors might not sign the convention."

On 12 November 1992, the UNGA First Committee adopted the resolution supporting the CWC without a vote, and adopted by the UNGA by consensus on 30 November." It was opened for signature on 13 January 1993 in Paris, where 130 nations signed, including many of the Arab countries, India, Pakistan, and Iran. At the end of 1993 this number had risen to 154 states, with 4 ratifications, and entry into force was expected to be in 1995."

Chapter 6

The Future of the Chemical Weapons Convention

Current Status

Despite early optimism at the conclusion of the treaty, 1995 came and went without the CWC entering into force. Indeed, as of 1 January 1996, one year after the treaty was to have entered into force, of the 159 states which had signed the CWC only 47 countries had ratified it.' Foremost among those who had not ratified were China, Russia, and the US.

The US failure to ratify the treaty has far reaching implications for the treaty. The US efforts to finalize negotiations that led to the treaty were expected to lead to early ratification. The US chemical weapons stockpile, effect of the treaty on the chemical industry, and the fact that the US would be responsible for 25% of the cost of the OPCW meant that accession be important for the eventual success of the treaty.' US leadership, therefore, was expected and, for many states, required before they acceded to the treaty. It was expected that:

with the United States on board, a landslide of other parliamentary approvals will occur, increasing pressure on the Russians to move forward. US and Russian participation thus will anchor the new behavioural norm against chemical weapons. Without both countries firmly behind the CWC, other states may continue to stockpile these weapons with impunity.'

That this ratification did not occur was the result of a number of factors.

Despite strong support in both Congress and the Senate

for the negotiations, the Clinton Administration failed to capitalize on the initial support and secure Senate ratification for the treaty. President Clinton's preoccupation with domestic policy meant that foreign policy matters, such as the CWC, were either not dealt with or were handled in a haphazard manner. The administration failed to find a suitable champion for the treaty; an approach which "ignored decades of experience about the strategy required to acquire arms control treaties through the Senate successfully."

Despite the delay in ratification, preparations for when the CWC enters into force are underway. In the aftermath, the urgency which fuelled the negotiations has faded. A number of questions as to the effectiveness and timing of the treaty have been raised.

Why Was it Possible to Conclude Negotiations on the CWC?

The conclusion of the CWC negotiations is the result of a number of factors. The thaw in East-West relations; political will to conclude negotiations, especially in the US; ability to reach a general consensus among delegates at the CD; agreement over the majority of the draft treaty: all coincided and allowed the delegates to give their final approval to the CWC.

Without the thaw in US-Soviet relations between 1985 and 1988, and especially after 1987, it is highly unlikely that any treaty could have been successfully negotiated with the

support of the two Superpowers. Even if one had been negotiated, it would have assumed a much different form than the present CWC. Soviet acceptance of challenge inspection provided the breakthrough to negotiations between the two countries that would ultimately lead to the 1990 Bilateral Accord and, in the long term, to the CWC itself. That this occurred was the result, as mentioned above, of the reappraisal of the military utility of chemical weapons by the former Soviet Union in the mid 1980s. While this reappraisal was, in itself, not a major event it appears to have sent a signal to NATO, allaying many of their fears about the Soviet chemical warfare capability and allowing a relaxation of tensions which made both sides conducive to the prospect of seriously negotiating chemical disarmament.

To proceed with this disarmament required that institutional interests in maintaining the status quo be overcome. These interests, in the case of the US, had been strong enough to delay ratification of the Geneva Protocol in the 1920s. With the prospect of chemical rearmament already apparent by the mid 1980s, any movement towards disarmament would require a reversal of the institutional impetus which was in operation. This move towards disarmament would also be construed as being a major threat for it would, in essence, remove the US Army Chemical Corps raison d'etre. The political willpower of former President Bush, an advocate of chemical disarmament for many years, can be seen as

instrumental for pushing the draft treaty forward to completion. It is also highly likely that, had he been re-elected, the CWC would be ratified by now, and most likely would have entered into force at some time in 1995.

Former President Bush's contribution should not be allowed to overshadow that made by others, particularly General Secretary Gorbachev. Had he and Foreign Minister Shevardnadze not been likewise interested in a chemical weapons ban, it would have made any positive action in the CD difficult, if not altogether impossible. The Soviet reappraisal is instructive, if for no other reason that it indicates the proponents of chemical warfare within the Soviet military had also been overruled. Although the exact debate which occurred is unknown at this time, it is highly likely that it mirrored that which occurred between the US military and political leadership.

With the two main possessor states working towards an agreement, the importance of outside events influenced the negotiations. Proliferation of chemical weapons, as illustrated by the Iran-Iraq conflict, indicated the necessity of encouraging as many, if not all, states to join the CWC. The work which had been going on in the CD had been largely overshadowed by the bilateral talks, but once the US and USSR were in agreement over the basics of a ban, the focus began to shift from the East-West discussion to North-South. States which had been active in the CD in discussing the issues, such

as China and Australia, now moved to the forefront.

To gain consensus in the CD required a major effort, enormous willpower, and two more years after the Bilateral Accord was signed. At issue was a split, roughly along North-South lines, of the importance of verification versus the requirement for provisions for aid, assistance, and access to markets and technology. That consensus could be reached at all must be attributed to the efforts of the Australian delegation and the Ad Hoc Committee's final chairman. The shock of the Australian draft treaty served as a vivid illustration of how close complete consensus was, and led to the final effort to conclude the treaty. This effort, coinciding with the renewal of interest in chemical weapons arms control in the aftermath of the Gulf War, added the necessary impetus to the final negotiations.

The final treaty incorporated enough incentives for all involved, while remaining stringent enough to ensure it had a chance for success. By moving from a bilateral to a multilateral treaty, however, it moved beyond the original scope of what had been originally envisioned and required compromise solutions for most of its major points. It incorporated interests outside that of disarmament; as a package, it committed its signatories to serve the requirements of the international system rather than their own self interest.

To conclude that the CWC was possible solely because of

good timing, as some writers maintain, overlooks the fact that the political will to complete a draft treaty was present, and there were enough common points among the negotiating parties to make it possible. The CWC negotiations did benefit from the timing of events occurring around it. While the thaw in US-Soviet relations is the most important of these, the effect of the debate on chemical weapons rearmament, proliferation, and the allegations and evidence of its use all had an impact. They tended to raise the public's perception and awareness of chemical weapons, just as previous events in the aftermath of the First World War and the 1920s had turned public opinion against chemical weapons and had ultimately lead to the Geneva Protocol.

In fact, there are many parallels between the CWC negotiations and those which occurred for the Geneva Protocol. Both sets of negotiations occurred at a time when the threat posed by chemical weapons was perceived to be high. Both would ultimately involve negotiations taking place in a multilateral forum, and would be faced with attempting to find consensus among the differing viewpoints which would be expressed. Among these views, institutional interests in the US would be pushing for a retaliatory chemical warfare capability. Both the Geneva Protocol and the CWC were supported by strong willed US Presidents who pushed for a ban. Yet, while the Protocol was hampered by the fear that verification could not adequately ensure security, the CWC was

assisted by the fact that verification technology and practice had been improved in the interlude. The improved assurance that this verification capability provided to states allowed the CWC to move beyond the limitations of the Geneva Protocol and accomplish what had been discussed some 60 years before; not just the non-use, but the non-possession and acquisition of chemical weapons.

Can the CWC Ensure Adequate Security?

Questions have been raised about the CWC's effectiveness, especially in regard to verification. Critics of the treaty have pointed out that it is not verifiable, will be extremely expensive, and could lead to the loss of commercial secrets or national security information.' It must be conceded that many of these fears are possible. The fear about the loss of information which would affect national security was behind the US retrenchment on its 'anytime, anywhere' position on challenge inspections. Focusing on these issues, however, means that the underlying point of the CWC will be overlooked.

It has been stated from the very beginning that no treaty will be 100% verifiable; this was never the goal of the negotiators. Their aim was to negotiate a treaty which was acceptable to states and which balanced the need to ensure security through domestic means with the security that disarming could bring to the international system. That the majority of states have signed the CWC can be seen as a clear signal that the majority of these states believe that the

CWC's verification measures are capable of guaranteeing their minimum security requirements. That more have not ratified is not an indication that they feel that the CWC is flawed, or are planning to pursue a chemical weapons capability. The US failure to ratify, coupled with the Russian hesitancy to ratify, have acted as a brake on the process moving the treaty towards entry into force. Once these two countries, as the main chemical weapon possessor states, ratify the number of ratifications by other states should increase.

This should not be interpreted as meaning all states will agree to be bound by the terms of the CWC. Most states have no interest in chemical weapons, and have never felt the need to acquire them. For these states, especially in the developing world, the CWC represents a choice between the security risk of remaining outside the treaty, or the risk that joining may endanger their economic security.

It is this latter point which may provide these countries with the reason for their abstention. In those regions where the threat of chemical proliferation is not a concern, states may feel that there will be no benefit to accede to the treaty. Security will be interpreted in a wider sense encompassing economic aspects, rather than resting on military means alone.' While the CWC does include measures which are meant to safeguard a state's economic secrets, it cannot ensure that there will never be any negative economic repercussions. Overall, this should not provide a major

obstacle to their accession. The negotiations have incorporated these fears into the treaty, as well as many of the benefits that the developing world wanted. The costs of joining the CWC, therefore, should be outweighed by the benefits that it provides to these states.

Those countries which possess or are working towards a chemical weapons capability will weigh the CWC differently. As long as a state feels that chemical weapons have some military utility and are part of their security, the cost of acceding to the treaty will be outweighed by any possible benefits. In a number of regions, such as South-East Asia or the Middle East, the chance that a regional adversary may possess an offensive chemical warfare capability makes retention of a domestic chemical weapons programme for deterrence or defence that much more attractive. For states pursuing a chemical warfare capability for these reasons, the CWC must ensure that their unilateral disarmament will not mean a corresponding reduction in their national security. If the CWC's provisions for aid, assistance, and sanctions are seen as a viable alternative to maintaining chemical weapons, or if the inspection and compliance provisions are believed to be effective against the military threat the opponent poses, the chance that a state can be persuaded to renounce their chemical weapons increases.' Likewise, if the opponent's chemical capability is perceived as being ineffective, or a state's protective measures are believed to be adequate enough

to deter or render any chemical attack irrelevant, the necessity for maintaining a deterrent capability declines. Finally, if the CWC is ratified and enters into force, the cost of possession will increase. Internationally, a state may find itself isolated, both politically and economically. The political costs may also be felt domestically; public support for a democratic government which supports a weapons programme condemned by the rest of the world may diminish and erode the domestic basis for that government, while nondemocratic governments competing for elite support may find a chemical weapons programme risky.'

While these may mitigate a state's attitude towards chemical weapons possession, very little can be done to change a state which plans to use them to compel the actions of other states. Thus, the CWC must operate in such a manner as to raise the costs of possession to the point that, ideally, a state will abandon its chemical weapons programme and accede to the treaty. Obviously, this will be dependent on the detection of non-compliance and the application of economic sanctions, the effectiveness of both of which are viewed with scepticism by some in the international system. The forced disarmament of Iraq after the Gulf War is, after all, the exception to the rule. States in the past have shown a reluctance to take concrete measures unless they felt that the consequences of not doing so would be detrimental to their own security.

At the core of the above arguments is the assumption that chemical weapons retain their military utility. Historical experience has shown that, for the developed world, the utility of chemical weapons has been steadily decreasing and it appears that the majority of states in the developing world have come to the same conclusion. Relatively few states have pursued a chemical warfare capability, and the two major chemical weapons possessor states are destroying their stockpiles. Even among the most staunch supporters for the retention of a chemical warfare capability the applicable arguments have been diminishing. Conventional weaponry, especially the newer technology, appears to offer a wider range of options and uses than chemical weapons. Similarly, this conventional weaponry appears to provide an effective deterrent to the threat of chemical attack.

Among the developed states the CWC's impact would be more economic than military. Both the US and Russia are committed, regardless of the status of their ratification of the CWC, to reduce and destroy their stockpiles. The major obstacle that both have faced is the high cost associated with destruction. In the case of the US, the destruction of its stockpile was originally estimated in 1985 at \$1.7 billion dollars, with disposal scheduled to be completed in September 1994. Environmental issues, problems with disposal technology, and other obstacles have increased the cost. In September 1995, it was estimated that it would cost \$11.9-12.2 billion and

would not be completed until April 2004.' Russia, as has been noted, has also faced its share of problems relating to the destruction of its stockpile."

Concerns have been raised, especially in the US, over the disruptive effect that the CWC may have on the domestic chemical industry. The CWC will impact on these industries, and thus, it is in the best interest of those involved to attempt to minimise this impact. Each individual country will set up a national authority to determine how the provisions of the CWC will be met." The eagerness of the chemical industry and manufacturers to participate in the negotiations appears to indicate a willingness to ensure that the implementation of the CWC is done in such a way that they will be able to live with it. Many experts believe that the CWC will ultimately benefit national chemical industries by providing a freer marketplace, while those outside the Convention will lose access to the trade in dual use chemical. There are those who feel that, despite such a ban on trade, a country intent on arming will still be able to obtain the required materials. Iraq is frequently used as an example of this. The CWC cannot ensure that proscribed material will never get through, only reduce the likelihood of it happening. To use Iraq as an example, however, overlooks the fact that the Australia Group's export control policy failed because by the time it was enforced, Iraq was already self-sufficient."

It should also be noted that the verification provisions

may provide states with another source of information, outside of national means, to verify compliance with the CWC:

Experience gained in verifying declarations, uncovering undeclared capabilities and using the input of interested parties to bolster the ability of the organization (i.e.- the OPCW) to monitor compliance will establish more clearly the possibilities and limits of long-term verification of the Convention. States will have gained a clearer sense of the adequacy of their own intelligence assessments in plugging holes in the multilateral regime."

The experience of implementation and monitoring will also allow the Convention, through periodic review and refinement of verification technology, to improve the chance of detecting evidence of non-compliance. There may also be the benefit that, through the use of inspection and verification, suspicious behaviour can be investigated and a state's intentions clarified before others feel threatened enough to seek the means to ensure their own security.

In the West, the general consensus of opinion is that Russia could no longer gain a military advantage by violating the CWC. There have been allegations that offensive chemical weapons production continues in Russia, a charge which Russia denies." Even if Russia has continued production of chemical weapons, it could not pose a threat even after the CWC enters into force, for:

the military advantage ensuing from this violation might be negligible with a view to a possible European war scenario. In the absence of an invasion capability in the centre of Europe during peacetime, the Soviet Union would need considerable time to reconstitute its threat capability, thus leaving enough time for the West to react."

In the current situation which Russia and the former republics find themselves in, there is a greater chance that any use of chemical weapons will be internal, rather than against an external opponent such as NATO.

Russian reluctance to accede to the CWC should not be viewed as evidence that they will not comply with it. The Russian scientist who made the original allegation about the development of chemical weapons, Dr. V. Mirzayanov, has stated that hardliners in Russia still view chemical weapons as a useful tool for intimidation. As these hardliners are the same people who had run the Soviet Union's offensive chemical weapons program, the argument can be made that current non-compliance is due to a continuation of past interests rather than formulation of new policy. With US ratification, the Russians may find themselves forced to follow, caught between their stated intention to sign and ratify the CWC and international disapproval of their current actions. Once they have acceded, the provisions in the CWC could be used to undertake an investigation to determine whether this alleged production is fact. Mounting external pressure should provide the support to reinforce the reformers in Moscow who support the treaty.

Security against a chemical weapons threat is also possible through the continuing research into, and development of, protective measures. This presents its own problems, for it is difficult to separate offensive and defensive

intentions. To neglect protective measures, however, is to provide added incentive for a state to violate the CWC by developing novel or more lethal agents. That such events may occur are, at this time, only speculation.

Thus, on an international level, the CWC appears to offer a viable alternative to further proliferation. This does not mean that there are not problems which the treaty must surmount, or that these problems can be resolved to everyone's satisfaction. It cannot guarantee absolute security, full compliance, or complete acceptance by all parties involved. Indeed, the exact effect that the CWC will have on international security is unknown at this time. Past experience has shown that a treaty's influence is often more significant politically than materially. The NPT, for example, has not rid the world of nuclear weapons; its effect has been that "it has forced many nations to confront analytically the regional risk of nuclear war and some potential nuclear weapon states to refrain from the open deployment or significant expansion of nuclear capabilities." The effect the CWC has, therefore, may be that it changes perceptions about the nature of security and conflict, the purpose of armaments and the benefits and limitations to international cooperation." With the shift in the international system to North-South and South-South dimensions, the CWC may provide useful in helping redefine the concept of international security.

At the very least, the CWC recognises the fact that the nature of national security has changed. The idea of national security resting solely on military strength appears to be fading, especially in the East-West context. Among the states of the developing world, this realisation has been longer in taking hold. Ultimately, however, these states will be faced with making decisions about weapons and the use of the military. Those states which opt for a chemical weapons program will have to justify their reasoning. International pressure, rather than military force, may therefore act as a deterrent to the acquisition of chemical weapons.

The developed world has also been faced with the realisation that security requirements in the developing world are often perceived differently. A greater understanding of what these states may feel is threatening may lead to measures to relax tensions, reduce areas of conflict and, ultimately, a better understanding of each other.

To this end, the proliferation of weapons in the developing world may undermine the stability of the international system. The CWC is only one example of an attempt to control weapons which are seen as useful to the developing world. Other weapons of mass destruction and their delivery systems, especially missile technology, pose a serious threat to states outside of the regions where they are introduced. This ability to expand the threat beyond the immediate boundary or region increases the threat that

"anarchy and chaos may well prevail over the tendency towards more orderly affairs compelled by an increasingly interdependent global economic and political system."

The CWC, as we have seen, is the continuation of an idea first expressed in ancient times. Based on historical experience, it extends chemical weapons arms control by reintroducing the international norm against use which had been severely tested by events in Iran and Iraq, and advocates the norm of non-possession and acquisition. More importantly is that this norm is shared by people of different faith, values and orientations and transcends cultural divides:

If the CWC emerges with the wide support of countries of the developing world and the norm is firmly established against CW possession that reinforces the basic notion that some weapons pose unacceptable risks in terms of stability and human consequences for the international community, the world will have set in place what might prove to be one of the most important ingredients of international security in the twenty-first century."

Does the CWC Represent a New Form of Arms Control?

Finally, the CWC must be evaluated as to where it fits into arms control theory. Can the CWC be viewed as a new form of arms control, or does it represent a modified form of the bilateral talks which predominated the Cold War and discussions in the East-West context.

The truth appears to lie between these two views. As an arms control treaty, the CWC can be construed as an evolutionary step, rather than a revolutionary new form.

The CWC is, at its least, a bilateral treaty between the

US and the former Soviet Union, expanded to incorporate the interests of other parties. This appears to have been done for two reasons; to avoid the sense of 'haves' versus 'have-nots' that occurred in the aftermath of the NPT negotiations, and to bring about universal accession, thus avoiding the proliferation of CW to regions where the interests of the two superpowers might be threatened. Through the negotiations, the US and its Western allies were concerned with the threat of unopposed proliferation in developing regions, either through the Soviet Union or through technology transfer unless it suited their interest. To credit these countries with humanitarian instincts are not supported by the historical evidence; lack of support for victims of the Iran-Iraq conflict makes this all too clear. This should not be construed as meaning that there were no humanitarian impulses shown. Many Western states did eventually condemn the use of chemical weapons or offer aid. The US experience during the Gulf War appears to have brought the lack of utility of chemical weapons to the forefront; technology and the new weaponry was more than a match for any Iraqi chemical threat.

Obviously, complete disarmament would be the ideal. To bring about universality, a number of features would therefore be necessary. It is these which move the CWC beyond being a purely bilateral instrument. As a disarmament treaty (one of the few which can be viewed as completely banning a complete class of weapons), it requires and incorporates highly

intrusive verification measures to ensure compliance. These verification provisions are among the most intrusive ever negotiated; this in itself would make the CWC different than those treaties which preceded it. What makes it unique is that, for the first time, arms control will have an effect on a major element of the civilian economies of the developed world -the chemical industry. The imposition of higher costs and risk of losing competitiveness are factors which are bound to affect the perception of the CWC's effectiveness. This problem highlights what may occur in other industries in the future as arms control moves to resolve the problems caused by other dual use technology. This problem "is relatively new to arms control and has not been, and may never be, satisfactorily resolved."

The CWC also required enough incentive, as mentioned above, to attract those wary of signing an agreement which would limit aspects of their sovereignty. In the developing world this means ensuring that economic security would not be threatened and that the CWC was not a repeat of the NPT. This meant that as the developing countries began to push for improving their access to aid, markets and technology as a reward for joining the CWC, a new dimension was added to the negotiations.

A negotiation which began as an exercise in superpower rivalry...metamorphosed into an exercise in preventive diplomacy aimed at the countries of the developing world...A carefully managed bipolar chess match became an unruly brawl in which any number of combatants could try their luck.

Verification ceased being a game of one-upmanship and became instead a two-edged sword, an instrument to be scrutinized with care for its negative as well as its positive potential."

To this end, the CWC saw the inclusion of Articles which were formulated as a direct result of the demands of the developing world. Unlike previous treaties, the CWC incorporates provisions for assistance and protection against chemical weapons, a pledge to improve the transfer of material, ideas and technology among state parties, and provisions for sanctions in the event of non-compliance.

The dramatic change in the international system has meant that the old style of arms control negotiations may no longer be relevant. To agree to dismantle a specified number of weapons or confine acquisition of weapons systems within agreed upon limits may not be sufficient in the future. In the East-West context, the protracted bargaining between the two sides has been replaced by unilateral reductions which may or may not be reciprocated. The proliferation of advanced weapons to unstable regions, or weapons to regions where long pent-up hostility has been replaced by open conflict, has imposed new standards of conduct required to resolve problems. Treaties may no longer be seen as a requirement; restrictions on technology transfer and equipment or regional agreements may be sufficient.

Yet, the CWC negotiations offer a prototype of what future arms control can become. To deal with the problems on a region by region basis may be impossible, for the simple

fact that regional hostilities may preclude any meaningful discussion. Universal, multilateral negotiations may be necessary, or even preferred, in negotiating future arms control agreements. An universal approach allows pressure to be generated by creating a situation where most states have joined forces and placed the hold outs in an isolated position. This universal approach may also help prevent any future confrontation between North and South by allowing all sides to have their opinions aired and work towards a mutually agreeable solution.

It has been stated that "the Chemical Weapons Convention reflects the real post-Cold War world in its multipolar complexity." It is neither bipolar nor regional; its fate is likely to be determined by several parties to regional disputes, sensitive issues such as intrusive verification will probably remain sensitive, and any of the state-parties are likely to have their own opinion on how it is to be managed. Its implementation and success will be dependent on the ability of states to adjust to its provisions, their willingness to carry them through, and the ability of diplomacy to reach consensus on issues involving international, and not just national, security. All of these features appear, at this time, to be necessary requisites for any dealings in the future international system.

Whether the CWC will succeed remains to be seen. The negotiations which lead to its conclusion, however, stand as

a legacy to an ideal which was expressed centuries ago; the aversion to the use of poison in war. Perhaps of greater importance, the CWC negotiations are a tribute to the vision and the perseverance of the large number of diplomats, negotiators, politicians and other interested parties who have worked to turn an ideal into reality.

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16. Ibid., 1 March 1991, 704.E-2.31. The US government has stated a number of times that Iraqi forces did not use chemical weapons against coalition forces during the liberation of Kuwait. There is evidence that there were chemical agents released. Nerve gas was detected in the aftermath of the air attacks, but it was assumed that these were agents released by the destruction of the CW facilities and, according to French military spokespersons, were at levels too low to trigger an alert (Ibid., 15 February 1991, 704.E-2.27). A report issued by the Czech Minister of Defence disputes this claim. Czechoslovakia had dispatched a 200 man chemical defence company to the Gulf to provide protection for Joint Forces Command-North, and specifically the Saudi 4th Armoured and 20th Mechanized Brigades. It was stationed at King Khalid

Military City, south of the Saudi-Kuwait border. On the night of 17 January 1991, it detected airborne concentrations of Sarin and Yperite high enough to warrant issuing an alert and donning protective equipment. After two hours, the levels had dropped low enough to no longer be a hazard (Czech Minister of Defence. "Vyseldky setreni moznych nasledku ucasti Cs. jednotku ve valce v Perskem zalivu." [Result of the inquiry and possible consequences of the participation of the Czech init in the war in the Persian Gulf], 29 July 1993).

The initial SCUD attacks against Israel were also thought to be chemical, until it was determined that an Israeli civil defence team had drawn erroneous readings from a SCUD fuel tank (Atkinson, Crusade, 83). Reports of chemically armed SCUDs being used have persisted. Two US units both reported hearing loud explosions overhead on two separate occasions, the 17th and 20th of January, and experienced a variety of symptoms afterwards similar to those induced by low levels of Sarin (Bill McAllister. "Riegle suggests Iraq Conducted Chemical Warfare." Washington Post. September 10, 1993, A18). Many of the veterans involved suffer from what has come to be termed 'Gulf War Syndrome'. There are also reports of British and Canadian Forces members suffering similar symptoms. In December 1993, a French officer revealed that nerve agents and Mustard Gas had been detected in the area where coalition forces had been deployed (SIPRI. "Chemical Weapons Developments," in SIPRI Yearbook 1994. [Oxford: Oxford University Press, 1994], 329).

The US government has also maintained that chemical weapons were not introduced into Kuwait. US military sources have stated that a limited stock of CW artillery shells were found in the Kuwait theatre of operations (Arms Control Reporter, 1 March 1991, 704.E-2.31). US Marines also uncovered 250 gallons of Mustard Gas inside Kuwait; a claim the Pentagon denies and insists that the material recovered was Iraqi rocket fuel (Gulf War Syndrome, 60 Minutes, 12 March 1995). Some Marines have also stated that Mustard Gas was twice used to attack, but administration officials again dispute this claim (Arms Control Reporter, 1 March 1991, 704.E-2.31).

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