NAVAL WAR COLLEGE
Newport, RI

ULTIMATE BRINKMANSHIP: IRAQ'S USE OF WEAPONS OF MASS DESTRUCTION TO RAISE THE STAKES

By

JACKSON D. SELF
MAJ, USA

A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Author:

Signature: [signature]

Date: 12 FEB 98

Advisor:

Signature: T. M. Doyle CDR, USN

Date: 12 Feb 98

12 February 1998

Security Classification This Page : Unclassified

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED	
2. Security Classification Authority:	
3. Declassification/Downgrading Schedule:	
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.	
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT	
6. Office Symbol: C	7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207
8. Title (Include Security Classification): Ultimate Brinkmanship: Iraq's Use of Weapons of Mass Destruction to Raise the Stakes (U)	
9. Personal Authors: Major Jackson D. Self, USA	
10.Type of Report: FINAL	11. Date of Report: 10 February 1998
12.Page Count: [redacted] 24	
13.Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.	
14. Ten key words that relate to your paper: Weapons of Mass Destruction; Chemical Warfare; Biological Warfare; Regional Terrorism	
15.Abstract: This paper discusses the ability of regional powers, such as Iraq, to challenge the United States militarily within their specific region using Weapons of Mass Destruction (WMD). It looks at the US's readiness to counter proliferation of these weapons and our adversaries desire to have them to tip the balance of influence with the threat of use or actual use of WMD. This paper also looks at the reasons for the potential use by regional powers due to the erosion of traditional restraints in the international community. (Full Abstract Attached)	

16.Distribution / Availability of Abstract: Attached	Unclassified X	Same As Rpt	DTIC Users
17.Abstract Security Classification: UNCLASSIFIED			
18.Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19.Telephone: 841-6461		20.Office Symbol: C	

ABSTRACT

In the future, with the increase in counterproliferation efforts, there may be fewer acts of terror, but that these terrorist acts may be more lethal than terrorist acts in the past and may work their way closer to US territory. The world may also see more terrorist attacks using Weapons of Mass Destruction (WMD) due to a lack of regard for traditional restraints such as International Treaties, the end of the superpower stalemate and as a new breed of terrorist groups begin to assert themselves. Sponsor states of terrorist groups may become more aggressive and antagonistic towards the U.S. and may use WMD attacks on U.S. territory to hinder our ability to project forces abroad. Our national survival may not be at stake, however, these new "warriors" could complicate U.S. engagement in an overseas conflict and may have a dramatic impact on the will and determination of the U.S. and our allies through the use of weapons of mass destruction. This paper addresses the issues leading to this increase in WMD as a weapon of terror by countries such as Iraq to increase their influence within their region or to obtain the capability to stand toe-to-toe with more powerful nations like the United States. The factors contributing to the potential use of WMD discussed in this paper include: current validity of WMD treaties, weakened international resolve against WMD use, proliferation due to dual technology and escalation as a means of deterrence.

ULTIMATE BRINKMANSHIP: IRAQ'S USE OF WEAPONS OF MASS DESTRUCTION TO RAISE THE STAKES

INTRODUCTION

For those who play poker, there are basically two ways to win. You must either have the best cards on the table when the betting is done, or you must make the other players think you do and have them decide not to play any further. Saddam Hussein and others like him know how to play this second type of game quite well. Unfortunately, as all indications seem to show, he's quickly gaining the cards necessary to play the first type of game. Success in this high stakes game of international terrorism may depend on knowing when a good bluffer has transitioned from a bluff to actually having a strong set of cards in his hand. Further, when the other guy feels he has nothing to lose, the game may become impossible to win.

In the future, with the increase in counterproliferation efforts, there may be fewer acts of terror, but that these terrorist acts may be more lethal than terrorist acts in the past and may work their way closer to U.S. territory. The world may see more terrorist attacks using Weapons of Mass Destruction (WMD) due to a lack of regard for traditional restraints such as International Treaties, the end of the superpower stalemate and as a new breed of terrorist groups begin to assert themselves. These terror groups, similar to the Aum Shrinkyo Cult, pose a particular concern as they base their beliefs on fulfilling religious and apocalyptic goals. Many of these groups also possess a deeply held hatred of the U.S. and have no aversion to mass casualties. Further, sponsor states of these groups may become more aggressive and antagonistic towards the U.S. Our national survival may not be at stake, however, these new "warriors" could complicate U.S. engagement in an overseas conflict and may have a dramatic impact on the will and determination of the U.S. and our allies through the use of weapons of mass destruction.

PROLIFERATION AS THE PROMINENT SECURITY TREAT IN THE 1990's

The 1993 Report on the Bottom Up Review stated that 25 nations either have or are attempting to acquire weapons of mass destruction including nuclear, biological, and chemical weapons.[1] These

proliferators include a high number of countries from the Middle East, where the U.S. has a vital strategic interest, and where some countries, such as Iraq, have shown a willingness to use such weapons. In most areas where U.S. forces could potentially be engaged, our likely adversaries already possess chemical and biological weapons. Several conditions that have contributed to the spread of WMD include: alternative suppliers of WMD technologies and delivery systems, the continuous improvement in capabilities of the countries involved, and finally, the challenges associated with controlling dual-use technologies.[2] A recent comprehensive report, the Commission on America's National Interests, concluded that it is a vital national interest to "prevent, deter, and reduce the threat of nuclear, biological, and chemical weapons attacks on the United States."[3] The dominant security threat for the United States, as identified by the Clinton Administration in Presidential Directive 39 and the Report on the Bottom Up Review, is the proliferation of chemical and biological weapons and the missile systems designed to deliver them.[4]

HISTORICAL BACKGROUND OF CHEMICAL AND BIOLOGICAL WARFARE

Chemical and Biological Warfare (CBW) is nothing new. The world has been wrestling with their use and trying to keep these tools out of "conventional" warfare for almost as long as warfare has been around. In fact, within the last 300 years alone, the world has tried on several occasions to establish formal agreements that controlled CBW. The Strasbourg Agreement of 1675 between France and Germany forbade the use of poisoned weapons and bullets followed by agreements such as the 1874 "International Declaration Concerning the Laws and Customs of War", and the Hague Convention of 1899.[5] Each of these documents was written with the hope of controlling the potential mass destruction to soldiers and civilians offered by these weapons of terror. Yet, even with these declarations, there were increasingly toxic gas exchanges between France and Germany during WWI, both ratifiers of the 1899 Convention and signatories to the gas declaration.[6] Though there were some infractions of the 1925 Geneva Protocol after WWI, the international norm against their use largely prevailed and it was not until the Iran-Iraq war in the 1980s that a large-scale extended violation of the Geneva Protocol took place.[7] At least two conclusions can be drawn from this. First, an international treaty does not provide an absolute guarantee of deterrence. Second, the potential for use of WMD by a country (like Iraq) may

depend more on that country's current geopolitical situation and not necessarily on the treaties and declarations it agrees to.

THE DECLINE IN THE STRENGTH OF TREATIES

The moral authority of treaties and world opinion have also been a factor that helped deter the use of chemical or biological agents throughout several decades. However, as the twentieth century ends, an unpleasant paradox has emerged. More countries than ever are signing international agreements to eliminate chemical and biological arms yet more are also developing these weapons. In 1980, about a dozen countries possessed chemical weapons. Since then, the numbers have ballooned and now, "more than 25 countries are now suspected of having chemical weapons or the ability to produce them", observed John D. Holum, director of the U.S. Arms Control and Disarmament Agency, in 1994.[8] The number has more than doubled in 14 years.

In 1980, only the Soviet Union had been named by the United States as violating the Biological Weapons Convention. By 1995, 17 countries had been named as biological weapons suspects. Four of those countries (Iran, Iraq, Libya, Syria) have signed the Biological Weapons Convention. The moral authority of treaties seems to only reside on the printed page and not displayed in the signatories actions. As Iran's president said in 1991, "Although the use of such weapons [CBW] is inhumane, the [Iran-Iraq] war taught us that international laws are only drops of ink on paper."[9] With this brief history as a backdrop for the past use of WMD, let us now examine the current threat.

CURRENT THREAT

The technology to build Weapons of Mass Destruction is readily available today. As recently as the December 1997 Report of the National Defense Panel, the proliferation of nuclear, chemical and biological weapons and the means to deliver them was listed as a serious and growing threat to the people and interests of the United States.[10] Further, the U.S. and the world recently received three wake-up calls: the Aum Shinrikyo Cult attack on the Tokyo subway that crossed the threshold from terrorist bombings to WMD use; the World Trade Center bombing that ended the U.S. sanctuary of safety from foreign terrorism; and the Oklahoma City bombing displaying the threat posed by domestic terrorists.[11] The potential for further WMD use is evident even in the today's daily news involving the threat from

Iraq and North Korea. Finally, the Aum Shinrikyo cult's attack in Tokyo's subway system that killed 19 and injured 6,000.[13] Unfortunately, the next attack with a WMD by a terrorist organization may be even more deadly. However, the potential use of these weapons isn't just a foreign threat; it also threatens security at home. Recently, two Minnesota militia members were convicted of possessing ricin (ricin is 6,000 times more toxic than cyanide and has no antidote) and an Ohio man was arrested for attempting to purchase bubonic plague culture by mail.[12] These examples, however, only serve to show us that WMD may be used in today's environment. The real question is *why* would a terrorist use CBW.

TIPPING THE BALANCE OF POWER WITHIN A REGION

Many developing nations view CBW as a force multiplier which may be easily obtained or produced. Recent history (within the past 30+ years) is replete with examples of regional opponents conducting CBW: Egypt used CW during the Yemeni Civil War (1963-67), the Soviets used CW in Afghanistan (1980), Iraq used CW during the Iran-Iraq War (1980-88), Libya used Iranian supplied CW agents against Chadian troops in 1987.[14] Chemical and Biological agents have been used effectively as deterrents to regional aggression and have also proven to be effective offensive weapons as well. The instability in Eastern Europe, the Middle East, and Southeast Asia will most likely encourage even more nations to develop CBW capabilities. Regional instability, modern technologies, and the ever-increasing flow of goods, information, and experts across national borders continues to place the deadly capabilities of WMD in many more hands, including those of unstable countries.[15] For these reasons, there may be an increase the likelihood of countries in a specific region resorting to weapons of mass destruction.

Some rogue leaders, including Saddam Hussein and Muammar Al-Qadhafi, have stated that they seek WMD and missile delivery systems as a means of deterring U.S. intervention in their region. U.S. efforts intended to deter these leaders may be insufficiently credible if someone like Hussein believes that U.S. military operations can be deterred by Iraq's own WMD threats to U.S. forces or territory. Once Hussein invaded Kuwait, he felt the U.S. would not dare to attack him, in part due to his possession of chemical warfare agents. The United States could once again find itself confronting third world or rogue state adversaries on a battlefield which would be asymmetrically skewed by threatened

WMD use. The present danger lies in the obvious willingness of nations to continue to build their CBW arsenals lending credibility to the value of continued proliferation of these WMD and terror.

There are several reasons for investing in WMD capabilities: to counter threats to homeland security, to project power regionally, to deter or counter great power influence or intervention, and to gain status as a global power. Chemical and biological weapons have become the poor man's atom bomb. A nation's possession of WMD can provide that nation with an asymmetric warfare capability giving it greater influence within a specified region. This type of asymmetric warfare can even dramatically tip the balance of power within a region. In some cases, it may allow a country with a much smaller defense budget to be able to stand toe-to-toe with a more powerful adversary like the United States. The Iran-Iraq War proved that the use of WMD can be a relatively inexpensive way to tip the balance of power, if not within a region, then at least within a conflict.

CONTINUING PROLIFERATION IN GEOGRAPHIC REGIONS

The Chairman of the Joint Chiefs of Staff Counterproliferation Missions and Functions Study gave the geographic CINCs principal responsibility for CW/BW readiness in their areas.[16] The main threat that these CINCs must deal with is regional opponents who have the capability and inclination to use WMD. Further complicating the problem of proliferation is the growing attempts at deception by our enemies, the low signature of the threat, technology transfer and smuggling, and the use of underground, hardened and covert facilities used for production and storage. But why would a terrorist group or state use chemical or biological agents versus a more conventional means? The short answer: CBW agents are cheaper and easier weapons to produce and use than nuclear weapons, and provide virtually the same terror effect, and may kill just as many but over a longer period of time.

"Weapons of mass destruction and related materials and technologies are increasingly available from worldwide sources. Technical information relating to such weapons is readily available on the Internet, and raw materials for chemical, biological, and radiological weapons are widely available for legitimate commercial purposes."[17] Conventional counterproliferation efforts can do little to detect or prevent the capability to rapidly manufacture several hundred chemical or biological weapons with little more than common commercial supplies and equipment. The emerging weapons of choice for terrorists

appear to be those that can be manufactured readily from commonly available chemicals and contagious pathogens in ordinary surroundings. Further, this can be done at a low cost, especially compared to the cost of a standing conventional force capable of inflicting damage equal to the effects of CBW. Dual-use technology is also a hindrance to nonproliferation measures. Both biological and chemical agents can readily be developed by terrorists. Each requires a college-level knowledge of biology or chemistry, about $20,000 in supplies, and the forged documents or accomplices needed to obtain "seed " bacteria or precursor chemicals.[18]

LACK OF DETECTION ASSETS

Technical detection of WMD assets is difficult. Facilities required for production of biological and chemical weapons are much smaller and harder to detect than nuclear weapons facilities. Traditional arms control inspections require large national efforts with detectable manufacturing programs and weapons production programs, but are ineffective in monitoring and controlling smaller, though potentially more dangerous, unconventional proliferation efforts. Since these weapons do not require a sophisticated manufacturing infrastructure, production facilities readily avoid detection by satellites. Weapons may be transported, concealed, and moved again within a country by individuals operating anonymously and may even cross increasingly open borders to keep their capabilities concealed. These methods of "hide-and-seek" have been a continuing challenge for inspectors during the continuing search in Iraq for chemical and biological manufacturing facilities and stockpiles. The U.S. must get better at monitoring all the potential "hot spots" around the world today and keep up with the massive amount of information required and collected by intelligence sources to support this task.

A terrorist nation doesn't necessarily need advanced delivery means. Biological and chemical weapons can be deployed by various alternative delivery means that do not require long-range ballistic missiles. Covert or unconventional means of delivery of WMD include cargo ships, passenger aircraft, commercial and private vehicles, and commercial cargo shipments routed through numerous ports. A rogue state might penetrate the American homeland and release an agent clandestinely to achieve plausible deniability. Verifying and determining responsibility are difficult enough with an overt attack such as terrorist bombs; and may be near impossible with a covert attack using CBW. Even so, once the

determination that an attack has in fact occurred and blame has been fixed on a specific state or group, the U.S. must then make the decision whether or not it is feasible to retaliate or perhaps to escalate.

WEAKENED INTERNATIONAL RESOLVE

Though the Persian Gulf crisis did not involve the overt use of chemical or biological weapons, the threatened use by Hussein highlighted a trend that began during the Iran-Iraq war. That trend is the erosion of the traditional distaste for use of biological and chemical weapons in a conflict. Not since World War I had the possibility of a large-scale gas attack against Western forces seemed so imminent. Many of the casualty estimates briefed by key U.S. military leadership allowed for a considerable number of losses due to chemical or biological warfare. This erosion of the resolve by warring parties to refrain from CBW use was partially caused by Iraq's use of CBW in the Iran-Iraq War. Like most of the international community, the United States offered no substantive protests against Iraq's use of CW in the Iran-Iraq war. In fact, the U.S. tilted toward Iraq in fear of Khomeini-inspired Islamic attacks. Both Iraq and Iran were parties to the 1925 Geneva Protocol, which prohibited the use of chemical or biological agents in war. Nevertheless, Iraq began using chemical weapons in 1982 and neither the U.S. nor the UN protested this fact. Further, in November 1984, the U.S. reestablished full diplomatic relations with Iraq. This acknowledgment of Iraqi chemical attacks while dealing with Iraq as though the attacks never occurred, continued through the end of the war and created an international environment, intentional or not, where WMD use was accepted. By the time Iran agreed to a cease-fire in 1988, Iraq had accomplished something no other nation in history had. Not only did it use CW for more than four years with impunity, it created a perception that these weapons helped determine the outcome of the war.[19]

Iraq's liberal use of chemical weapons had dampened the Iranian volunteers' usual enthusiasm for combat and forced many to retreat; a fact acknowledged by Iranian authorities. To one observer, it seemed, "as if the fervent Republican Guards, who had so long proclaimed their readiness to die for Islam, had lost their will to fight, and slowly the Iranian war machine ground to a halt."[20] The apparent message sent and received by countries that had begun to develop CBW was the *effectiveness* of Iraq's chemical attacks and the *erosion* of moral objection to using chemical weapons on an enemy.

EFFECT OF THE END OF SUPERPOWER STALEMATE

Another event that has led to increased proliferation is the end of the superpower stalemate. In the past, the United States and the Soviet Union engaged in what was known as Mutually Assured Destruction (MAD) through the threatened use of nuclear weapons. In concert with this MAD theory was an alignment of individual nations under one of these powers. As a consequence of the disintegration of the former Soviet Union, the capability of potentially hostile nations and terrorist groups to acquire nuclear, biological, and chemical weapons is greater than at any time in history. [21] Much of the technology, knowledge, and equipment needed to produce WMD has found its way into the hands of third world and unstable nations. Concurrently, violent political groups previously held in check by their Cold War masters have become free to operate on their own. During the Cold War, there were restrictions (including limitations on the types of weapons they would provide) that were designed to prevent terrorist activities from escalating out of control. Once freed from these Cold War constraints of Soviet control, terrorist groups also rejected limitations on the ways and means appropriate to meet their strategic ends. With these new conditions and the proliferation of missiles and weapons of mass destruction to a growing list of regional powers, the world faces the volatility and potential instability of simultaneous regional conflicts.

IRAQ AND THE GULF WAR

The recurring question of why CW was not used in the Gulf War plays a key role in this discussion. Critics point to the fact that Saddam's one 'trump card' was not played and if there was any point in history where it should have been played, his retreat from Kuwait may have been the time to use it. Was Saddam deterred, and if so, why? In reality, there is no clear cut reason why Saddam refrained from CW. What we know for sure is that Saddam did not use chemical weapons but we can not categorically tie that fact to the nuclear retaliation threat. General Schwartzkopf stated, "Some felt it was out of fear of nuclear retaliation while others felt it was because we destroyed his capability to employ his weapons. Still others feel that it was a fear of a massive conventional response."[22] Several statements made by senior U.S. leadership could have caused the Iraqi leader to refrain from using CW. President Bush sent a strongly worded message to Saddam Hussein, stating, "Let me state, too, that the

United States will not tolerate the use of chemical or biological weapons....The American people would demand the strongest possible response. You and your country will pay a terrible price if you order unconscionable acts of this sort."[23] And finally, Secretary of Defense Cheney linked U.S. nuclear threats even more explicitly to Iraqi use of WMD, "[Hussein] needs to be made aware that the President will have available the full spectrum of capabilities. And were Saddam Hussein foolish enough to use weapons of mass destruction, the U.S. response would be absolutely overwhelming and it would be devastating."[24] Given the intensity of the conventional strikes that did occur, threats of conventional escalation may have had only marginal impact on Saddam's conduct of the war. Saddam may have also had a fear of expanded war aims including but not limited to destruction of his regime and long-term occupation of Iraqi territory. The last option often cited is Saddam's operational limitations of his CBW capability and his ability to employ those assets. Whatever the reasons for Saddam's decision not to employ chemical weapons, the fact remains that U.S. forces were grateful for the decision and potentially massive casualties were avoided. This begs the question that must now be asked, "If threats of nuclear deterrence or massive conventional attack are the only viable alternatives, is the U.S. prepared to respond accordingly?"

ATTACKS ON COALITION PARTNERS AND ALLIANCES

A coalition partner incapable of exercising effective passive or active defensive measures may prove a liability for the CINC and this will need to be calculated into any force planning. Should the U.S. respond with the belief that an attack on a partner is an attack on the U.S.? If so, the U.S. must determine whether a nuclear response by the U.S. to a CBW attack on an ally is appropriate. The political ramifications of exploding a nuclear weapon in response to anything but an overt nuclear provocation may be diplomatic suicide with some of our other allies in a highly volatile area such as Southwest Asia. The diplomatic baggage associated with nuclear weapons present nearly universal distaste for their use. The U.S. must deter use or threats of use by regional proliferators when our interests or those of our friends and allies are threatened using a full spectrum of responses, not solely limited to nuclear retaliation. The former Deputy Secretary of Defense, the Honorable Mr John Deutch, stated, "There is not a threat in the world today or a vital interest that can not be met and/or protected by

conventional weapons".[25] It appears then, that our "response-in-kind" theory may not be the current choice for a course of action.

There is also a significant and growing threat of attack by weapons of mass destruction on targets that are not considered military targets in the usual sense of the term. The threat posed to the citizens of the United States by nuclear, radiological, biological, and chemical weapons delivered by unconventional means is significant and growing.[26] The March 1988 Iraqi chemical attack on the Kurds in Halabjah, and the muted world response to the use of gas on civilians serves as just one illustration of this growing threat.[27] As Senator Richard Lugar observed, "Americans have every reason to expect a nuclear, biological, or chemical attack before the decade is over."[28] The bombing of the world Trade Center in New York illustrated that our homeland is no longer immune. The potential for chemical and biological terrorism against the U.S. is perhaps the threat of most concern, and it is finally receiving substantial attention by our government. In fact, one senator that believes the U.S. is not prepared to deal with chemical and biological terrorism has warned, "An attack of this kind is not a question of 'if', but is a question of 'when'."[29]

CURRENT DOMESTIC RESPONSE

The two agencies with primary responsibility for reacting to terrorist employment of a CBW within United States territory are the FBI and the Federal Emergency Management Agency (FEMA). FEMA is tasked to respond to any domestic disaster situation, regardless of cause.[30] However, neither of these organizations has a robust technical capability to manage an incident involving the use of biological or chemical agents. The only agency with the technical means and assets available to respond to the use of a chemical or biological attack with significant capability is the Department of Defense. The Department of Energy has established a Nuclear Emergency Response Team which is available in case of nuclear or radiological emergencies, but no comparable units exist to deal with emergencies involving biological or chemical weapons or related materials.[31] The Honorable John Deutch stated, "The ability of our country or any other country in the developed world to protect their infrastructure from a terrorist attack based on nuclear, chemical, or biological weapons is very, very small indeed."[32]

Timely response is dependent on the location of the attack in relation to the forces positioned to react. However, an incident will most likely occur where the military does not have forces pre-positioned to react to the attack. Even with an established response force, terrorist can be expected to choose a target which will not lend itself to easy response. A second consideration is that the intent of the terrorist in using CBW can be reasonably assumed to cause casualties and panic amongst the civilian population, embarrassment for the government and most of all, media attention. Fear of retaliation becomes much less of a deterrent when chaos, paranoia, and internal distrust can be created in the target country without a linkage to the perpetrator.

CURRENT DEFENSIVE MEASURES

In the case of a biological attack, an enemy is unlikely to reveal in advance which bacteria or virus it will use. The biological agent would most likely not be detected for hours or days. Therefore, unfortunately, the first indication we may get that there has been a WMD attack is reports of massive casualties. Chemical attacks would yield almost immediate casualties and probably would not involve persistent agents. This would cause a more immediate workload on medical personnel but few additional casualties. Due to their lack of equipment (the protective mask in particular) and training, civilian targets are much more susceptible to CBW attacks than are their military counterparts. Biological attacks have a potential for producing very large numbers of casualties, in the range of 90-100 percent as a function of the type of pathogen and medical treatment available. By the time casualties appeared and we learned there had been a biological weapon attack, it would be too late for vaccination to be effective for victims of the primary exposure and would be strictly consequence management.

AMERICA'S DETERRENCE

Going back to our analogy of the poker game, a player may win the game without having the best cards in the deck. He may only need the best cards in a particular hand. It is here that Saddam has gained an advantage. He has shown on more than one occasion that he is willing to test American resolve and push the world's patience to the extreme. Ever since Operation Desert Storm, standoffs with Saddam have played out with a kind of unthreatening predictability. He huffs and puffs; the United States lobs a few cruise missiles into Iraq, or threatens to; the crisis flares and then passes.[33] The vast

coalition that ousted Iraq in 1991 has dissolved and except for Britain, few of America's friends have any stomach for another round of fighting in the gulf; all within a seven year span.[34] Most nations just want to wish away the problem and believe this round and the next round will continue to pass. However, the real threat isn't that Saddam has discounted the American will to challenge him, the real threat comes is that he may have good reason to do so. American military forces may not have the cards necessary to win this hand. And even if we have a few trump cards on display such as carriers in the gulf, we may not come out of the next dispute unscathed. With the continued proliferation of weapons of mass destruction acting as the great equalizer, a powerful regional nation, such as Iraq, may be able to hold the last great superpower in check.

COUNTERING U.S. CONVENTIONAL FORCES

If an opponent armed with CBW judges a U.S. conventional threat to be insufficient to alter his decision to employ them, and judges the U.S. nuclear threat as too politically sensitive to be used, an effective U.S. military deterrent may not be possible.[35] The U.S. military may be too large and unwieldy to pose a threat to some potential adversaries. A key element of U.S. strategy that might create an incentive for early use of CBW by an adversary is our need for time for a force build-up and the need for the U.S. to fight using coalition warfare.

As America has returned the majority of its forces to the continental United States, these forces have become even more dependent on strategic mobility—they can't fight and win if they can't get there. Without a robust strategic transportation system, as was demonstrated during the Desert Shield deployment, America's armed forces would be a paper tiger, unable to defend America's security interests or those of its allies.[36] The vast majority of military forces in any large conflict, up to 95% of all tonnage, will be transported by sealift.[37] Also, in a major conflict more than half of the air mobility fleet and virtually all of the sealift fleet will be dependent on civilian crew members. Most in-theater port operations will also be dependent on civilian personnel. Therefore, an attack on key, in-theater air and sea ports would most likely disrupt a major deployment to such a degree that it might ultimately result in the defeat of U.S. forces. America's defense transportation system's high level of dependence

on the commercial/civilian sector, may ultimately prove to be the "Achilles Heel" of America's defense forces.

LACK OF NBC-TRAINED FORCES

Another deficiency that Saddam may attempt to capitalize on is the military's lack of trained soldiers. The experience of the United States military during the Gulf War was sobering. Generally unprepared for CBW attack, most U.S. forces received preparedness training in the desert during the six month build-up of Operation Desert Shield. Without this training time, the U.S. forces may not have been able to fight as well in a contaminated environment. Gen Norman Schwartzkopf said in a statement delivered in February 1991, "You can take the most beat-up army in the world [Iraq], and if they choose to stand and fight, you're going to take casualties; if they choose to dump chemicals on you, they might even win."[38] A General Accounting Office (GAO) report issued in January 1991 summarized the overall dismal state of readiness that existed up to the time of the Gulf War.[39] To be a credible threat, a demonstrated capability to fight and win in a dirty environment is essential.

Additionally, an Army field manual predicts that 25 percent of the casualties in a chemical environment will be caused by the claustrophobia and panic created by wearing full chemical protective gear for extended periods and a total of 50 percent casualties could result because the soldiers are not prepared for chemical warfare.[40] Soldiers will not be able to perform combat operations in full gear for extended periods because they have not trained in the gear long enough to build endurance. Adding to this training deficiency is the fact that much of the support workforce in a theater of operations will be civilian which have almost no training in a chemical environment. This lack of readiness has been an issue in past years and may cause an adversary such as Saddam to believe the cards he holds are better than our own.

NEW WARRIOR CLASS

To this point, we have discussed nations and the rules that exist to govern those nations. However, the only way to truly understand the possible actions that may come into play is to gain an insight into the leadership. Ralph Peters suggests that in the future, America "will face [warriors] who have acquired a taste for killing, who do not behave rationally according to our definition of rationality,

who are capable of atrocities that challenge the descriptive powers of language, and who will sacrifice their own kind in order to survive."[41] Knowing that there are those who wish us significant harm and that they have both the ability and the will to use weapons of mass destruction to cause that harm, we clearly have a problem. As one member of the Hezbollah noted, "We are not fighting so that the enemy recognizes us and offers us something. We are fighting to wipe out the enemy."[42]

The acquisition or the development and use of weapons of mass destruction is well within the capability of many extremists and terrorist movements, acting independently or as proxies. Foreign states can transfer weapons to or otherwise aid extremist and terrorist movements indirectly and with plausible deniability.[43] Retired Ambassador Morris Busby, former Counterterrorism Coordinator for the U.S. government, warned that rogue states and subnational groups may now be more inclined than previously to "punish" us with WMD simply for being who we are.[44] An irrational opponent could respond in an unpredictable manner to our threats of deterrence. Further, deterrence will not work if the opposing leadership places supreme importance on a particular goal, and believes a specific course of action to be essential to the attainment of that goal. When leaders are wholly committed to achieving a goal "at any cost", then deterrence will not operate as intended because no threatened "cost" will be sufficient to deter the actions deemed essential to achieving that strategic goal.[45]

RECOMMENDATIONS

The United States must do all it can to strengthen the Biological Weapons Convention. The Convention makes it illegal to employ Biological Weapons. If the Convention were strengthened and ratified by more countries, it would provide legitimacy for responses against those employing biological weapons. Also, it needs to include procedures for challenge inspections similar to the inspections allowed by the Chemical Weapons Convention. The U.S. should include in this effort the outcome of having more of the nations of the Middle East (including Israel and Iraq) become signatories to the Conventions.

The United States should invest in and assist other nations in their Biological and Chemical Defense Research and Development. The U.S. has a vast knowledge of CBW and should use this knowledge to assist others countries prepare for a potential CBW strike. The world has frowned on

research and development in the past due to its perceived belief that the research could be quickly transitioned into offensive uses. Education of potential benefits derived from continued research and development defensive in nature is critical.

Since the CINCs have been given the responsibility for WMD counterproliferation in their respective areas, the necessary funding and expertise needs to be made available. The "rightsizing" of the military needs to be considered when additional tasks are placed on the CINC, especially tasks that are as high priority as this one.

A high level of expertise is available in the Army's Technical Escort Unit, which is trained to identify and contain incidents involving WMD. Also, the Marine Corps has a battalion-sized unit that was activated in April 1996 and trained in time to support the Atlanta Olympic Games. The unit is the Chemical-Biological Incident Response Force (CBIRF). The U.S. needs more of these type units that can move quickly to control a situation involving WMD and stabilize the situation for follow-on governmental agencies and military forces.

More focused and intensive training should be emphasized. Military forces must conduct training according to the established standards to ensure they can conduct their missions in an CBW environment. This must be a joint requirement as well as an interagency requirement. If U.S. forces are not prepared to deter and counter NBC proliferation—or are not perceived to have these capabilities—the strategy of readiness will not be credible.

As we have seen played out in the world stage recently, Iraq's success in obtaining materials from foreign suppliers taught a dark lesson. Libya's chemical procurers watched closely. Not only was there no apparent attempt to stop the Iraqis, but arms merchants eagerly offered their wares for sale.[46] The world, led by the U.S., must not only denounce the use of WMD, but also follow-up that talk with direct action to halt the flow of materiel into unstable nations.

Preparation of the U.S. population for the potential consequences of a WMD attack is also essential. Education versus panic is crucial to success in meeting this threat. Use counterproliferation methods to the greatest extent possible, but plan for a worst case scenario. We must strengthen our

fragmented public-health and disease-surveillance systems so we can quickly detect episodes of biological terrorism and respond to them in order to prevent additional illness.[47]

CONCLUSION

One of the most significant lessons learned from the Gulf War was that few nations, perhaps, no nation, can defeat America's armed forces in a head-to-head conventional war. Therefore, our future adversaries may want to level the battlefield by conducting a war on their own terms. One method of leveling the battlefield and neutralizing America's superior technology, training, and personnel may be through the use of weapons of mass destruction. Penny-for-penny and pound-for-pound, chemical and biological weapons are the most lethal and easily obtained weapons of mass destruction. The deterrents against such use of CBW during the cold war, primarily a nuclear retaliation, is in most cases, no longer valid. The CBW control regime is filled with loopholes and not effectively verifiable. Further, despite claims that a gentlemen's agreement or rational actor model will prevent the use of CBW, it did little to deter Iraq from using chemical weapons against the Iranian army and Kurdish civilians. The fact that the West expressed little outrage for these acts seems to have further weakened this argument. The bottom line on the threat is clear: the incentives for use have increased while the deterrents against use have decreased. The probability of use against U.S. forces is on the rise. While there is some debate concerning the effectiveness of CBW against well-trained, well-equipped, disciplined forces, there is no question these weapons would be devastating against civilian populations and other soft targets such as sea and air ports. Further, the American military has been shown to be deficient in its ability to fight in a chemical or biological environment. The American public will not tolerate needless casualties and a chemical or biological strike resulting in large numbers of American casualties could decimate the public's will to engage in a conflict; especially one not threatening our vital interests. If another government realizes we are not fully ready to fight this type of war and that we are not willing to use our full spectrum of capabilities in response to their use or threatened use of WMD, then that nation may be more likely to acquire and use WMD. Regardless of the final outcome of the conflict, exploitation of this vulnerability may permit an adversary to raise the stakes and achieve a strategic victory without our ever knowing the true nature of the cards he holds in his hand. America must not let this happen.

NOTES

[1] Les Aspin, Secretary of Defense, Report on the Bottom-Up Review, (Washington: October, 1993), 73.

[2] Ibid, 73.

[3] America's National Interests, The Commission on America's National Interests, July 1996, p. 21

[4] Aspin, 5.

[5] America's National Interests, 21.

[6] Congress, Senate, Committee on foreign Relations, Chemical-Biological-Radiological Warfare and its Disarmament Aspects, Study (Washington: U.S. Government Printing Office, 1960), 6.

[7] Paul Bernstein, "Weapons of Mass Destruction in Historical and Contemporary Perspective," Lecture, U.S. Naval War College, Newport, RI: 4 December 1997.

[8] Leonard A. Cole, The Eleventh Plague, (New York: W.H. Freeman and Company 1997), 36.

[9] Seth W. Carus, "The Poor Man's Atomic Bomb?" Biological Weapons in the Middle East, Policy Paper, (Washington, D.C.: The Washington Institute for Near East Policy, Number 23, 1991), 35.

[10] National Defense Panel, Transforming Defense, Report of the National Defense Panel, (Washington: December 1997), 15.

[11] Bernstein.

[12] "Terrorism's Next Wave," U.S. News and World Report, 17 November 1997, 28.

[13] Edward M. Spiers, Chemical and Biological Weapons—A Study of Proliferation, (New York: St. Martin's Press, 1994), 170.

[14] Bernstein.

[15] Congress, Office of Technology Assessment, Proliferation of Weapons of Mass Destruction: Assessing the Risks, Staff Report, (Washington: U.S. Government Printing Office, 1993), iii.

[16] William J. Perry, Annual Report to the President and the Congress, (Washington: March 1996), 54.

[17] Public Law 104-201, Title XIV—Defense Against Weapons of Mass Destruction, (Washington: September 23, 1996), 2715.

[18] "Terrorism's Next Wave," U.S. News and World Report, 17 November 1997, 30.

[19] Cole, 19.

[20] Ibid, 42.

[21] Public Law 104-201, 2715.

[22] Nina Tannenwald, "Nuclear Weapons in a Changing Security Environment," Nuclear Weapons after the Cold War: Guidelines for U.S. Policy, ed. Michele A Flournoy, (New York: HarperCollins 1993), 59.

[23] Keith B. Payne, "Deterring The Use of Weapons of Mass Destruction: Lessons from History," Comparative Strategy, Volume 14, October 1995, 355.

[24] Ibid.

[25] Congress, House, Committee on Foreign Affairs, U.S. Nuclear Policy, Hearings, (Washington: U.S. Government Printing Office, 1994), 8.

[26] Public Law 104-201, 2716.

[27] "Violence: A Buyer's Market," Jane's Defense Weekly, 12 May 1990, 910.

[28] William C. Mann, "Terrorist with Doomsday Weapons a Growing Threat, Experts Warn," The Atlanta Constitution, 1 November 1995, A6.

[29] Barbara Starr, "Chemical and Biological Terrorism," Jane's Defense Weekly, 14 Aug 1996, 17.

[30] Federal Emergency Management Agency, Federal Response Plan, 22.

[31] Public Law 104-201, 2716.

[32] John Deutch, Director of Central Intelligence, 21 march 1996.

[33] "Saddam's Dark Threat," Newsweek, 24 November 1997, 26.

[34] "Dealing With Saddam," Newsweek, 17 November 1997, 31.

[35] Payne, 353.

[36] Randall J. Larsen, "Biological Warfare: A Post Cold war Threat to America's Strategic Mobility Forces," Ridgway Viewpoints, Number 95-4, (Pittsburgh: Matthew B. Ridgway Center for International Security Studies, 1995), 14.

[37] Ibid.

[38] Cole, 24.

[39] General Accounting Office, Chemical Warfare: Soldiers Inadequately Equipped and Trained to Conduct Chemical Operations, Report to Congressional Requesters, (Washington: May 1991), 3.

[40] Ibid, 6.

[41] Ralph Peters, "The New Warrior Class," Parameters, Volume XXIV, No. 2, Summer 1994, 24.

[42] Marvin J. Cetron and Owen Davies, "The Future Face of Terrorism," Futurist, Volume 28, November 1994, 12.

[43] Public Law 104-201, 2715.

[44] "Testimony of The Honorable Morris D. Busby," U.S. Senate, Permanent Subcommittee on Investigations, Committee on Governmental Affairs, 27 March, 1996, 22.

[45] Payne, 349.

[46] Cole, 37.

[47] "The Silent Killers," Newsweek, 17 November 1997, 33.

BIBLIOGRAPHY

Publications

Aspin, Les. Secretary of Defense. Report on the Bottom-Up Review, October 1993.

Campbell, James K. Weapons of Mass Destruction and Terrorism: Proliferation by Non-State Actors. Monterey, CA: Naval Post Graduate School, 1996.

Carus, Seth W. "The Poor Man's Atomic Bomb?" Biological Weapons in the Middle East. Policy Paper. Washington, D.C.: The Washington Institute for Near East Policy, Number 23, 1991.

Carus, Seth W. "The Proliferation of Biological Weapons." Biological Weapons: Weapons of the Future? B. Roberts and G. Browder, eds. Washington, D.C.: The Center for Strategic Studies, 1993.

Cetron, Marvin J. and Owen Davies. "The Future Face of Terrorism." Futurist. Volume 28, November 1994.

Clinton, W.J. A National Security Strategy of Enlargement and Engagement. Washington, D.C.: The White House, 1995.

Cole, Leonard A. The Eleventh Plague. New York: W.H. Freeman and Company, 1997.

Cordesman, Anthony H. Weapons of Mass Destruction in the Middle East. London: Brassey's, 1991.

"Dealing With Saddam." Newsweek. 17 November 1997.

Hoffman, Bruce. Responding to Terrorism Across the Technological Spectrum. Carlisle Barracks, PA: Strategic Studies Institute. U.S. Army War College, 1994.

Larsen, Randall J. Biological Warfare: a Post Cold War Threat to America's Strategic Mobility Forces. Ridgway Viewpoints. Pittsburgh, Pa: Matthew B. Ridgway Center for International Security Studies. University of Pittsburgh, 1995.

Mann, William C. "Terrorist with Doomsday Weapons a Growing Threat, Experts Warn." The Atlanta Constitution, 1 November 1995.

May, Michael T. The Proliferation of Chemical Weapons and the Military Utility of Chemical Warfare: A Case Study of the Iran-Iraq War. Ann Arbor, MI: University Microfilms International, 1996.

Mercier, Charles L. Jr. "Terrorists, WMD, and the U.S. Army Reserve." Parameters: Journal of theU.S. Army War College. Carlisle Barracks, PA: U.S. Army War College. Volume 27, Issue 3, Autumn 1997.

Moodie, Michael. "Arms Control Programs and a Biological Weapons", Biological Weapons: Weapons of the Future? B. Roberts and G. Browder, eds. Washington, D.C.: The Center for Strategic Studies, 1993.

National Defense Panel. Transforming Defense. Report of the National Defense Panel. Washington, D.C., December 1997.

Newing, Edward W. Counterproliferation: the Emperor has No Clothes. U.S. Army War College. Carlisle Barracks, PA., 3 April 1995.

Office of the Secretary of Defense. Proliferation: Threat and Response. Washington, D.C.: U.S. Government Printing Office, April 1994.

Payne, Keith B. "Deterring The Use of Weapons of Mass Destruction: Lessons from History." Comparative Strategy. Volume 14, October 1995.

Perry, William J. Annual Report to the President and the Congress. Washington, D.C., March 1996.

Peters, Ralph. "The New Warrior Class." Parameters. Volume XXIV, No. 2, Summer 1994.

Roberts, Brad. Biological Weapons: Weapons of the Future? Washington, D.C.: Center for Strategic and International Studies, 1993.

"Saddam's Dark Threat." Newsweek. 24 November 1997.

Spiers, Edward M. Chemical and Biological Weapons—A Study of Proliferation. New York: St. Martin's Press, 1994.

Starr, Barbara. "Chemical and Biological Terrorism." Jane's Defense Weekly. 14 Aug 1996.

Tannenwald, Nina. "Nuclear Weapons in a Changing Security Environment." Nuclear Weapons after the Cold War: Guidelines for US Policy. ed. Michele A Flournoy. New York: Harper Collins, 1993.

"Terrorism's Next Wave." U.S. News and World Report. 17 November 1997.

"The Silent Killers." Newsweek. 17 November 1997.

U. S. Congress. House. Committee on Foreign Affairs. Proliferation and Arms Control in the 1990's: Hearing Before the Subcommittee on Arms Control, International Security, and Science of the Committee on Foreign Affairs, House of Representatives. One Hundred Second Congress. Second Session. Washington, D.C.: Government Printing Office, 3 March 1992.

U.S. Congress. House. Committee on Foreign Affairs. US Nuclear Policy. Hearings. Washington: US Government Printing Office, 1994.

U.S. Congress. Office of Technology Assessment. Proliferation of Weapons of Mass Destruction: Assessing the Risks. Staff Report. Washington: US Government Printing Office, 1993.

U.S. Congress. Public Law 104-201. Title XIV—Defense Against Weapons of Mass Destruction Washington: 23 September 1996.

U.S. Congress. Senate. Committee on Foreign Relations. Chemical-Biological-Radiological Warfare and its Disarmament Aspects. Study. Washington: US Government Printing Office, 1960.

U.S. Congress. Senate. "Testimony of The Honorable Morris D. Busby," U.S. Senate, Permanent Subcommittee on Investigations. Committee on Governmental Affairs. 27 March 1996.

U.S. General Accounting Office. Chemical Warfare: Soldiers Inadequately Equipped and Trained to Conduct Chemical Operations. Report to Congressional Requesters. Washington: May 1991.

"Violence: A Buyer's Market." Jane's Defense Weekly, 12 May 1990.

Vogel, Frederick J. The Chemical Weapons Convention: Strategic Implications for the United States. Carlisle Barracks, PA: U.S. Army War College. 1997.

Presentations

Bernstein, Paul. "Weapons of Mass Destruction in Historical and Contemporary Perspective." Presentation at Naval War College Unconventional Warfare Elective Course, Newport, RI, December 1997.