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NATIONAL MILITARY STRATEGY IN THE POST COLD WAR ERA: NUCLEAR DETERRENCE OR AN ALTERNATIVE

BY

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NATIONAL MILITARY STRATEGY IN THE POST COLD WAR ERA: NUCLEAR DETERRENCE OR AN ALTERNATIVE

AN INDIVIDUAL STUDY PROJECT

by

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INTRODUCTION

Since the end of World War II, the hold of the Soviet Union on Eastern Europe posed a major threat to the vital national interests and security of the United States. American national policy makers and strategists came to believe that the Soviets were committed to the domination of the European landmass. Unchecked, Soviet free access to Western Europe would isolate the United States on the North American continent. Thus, the individual freedom secured by America's democratic form of government would be threatened with an equal or superior military/industrial complex. To counter this threat, U.S. policy makers gradually developed a grand strategy of containment comprised of subordinate political, economic and defense strategies. All three elements were closely coordinated and integrated to create a multi-disciplined national security strategy. Nuclear deterrence became the defense strategy.[1]

The foundation upon which the effectiveness of a strategy of nuclear deterrence is based resides within the realm of human psychology. It is the perception of one man's or, in this case, one nation state's ability to impose its will upon another that results in the vulnerability of the inferior participant. Ultimately, this vulnerability results in the imposition of the superior state's will upon the other. Thus, it is the inability to devise or sustain an effective defense against the awesome destructive power of nuclear weapons, coupled with the perception

of the opponent's ability and political will to use them,[2] that ultimately produces vulnerability, validating the strategy of nuclear deterrence.

However, the startling changes in world events since 1989 - the fall of the Berlin Wall, the elimination of the Warsaw Pact as a functioning military alliance, the breakup and reordering of the Soviet Union as the Commonwealth of Independent States, the emergence of new regional powers and the Gulf War - all impact our national security strategy as a whole. Therefore, we must ask ourselves whether it is still valid, or whether a revision, or complete overhaul, is required. While the implementation of the national security strategy requires the coordinated application of political, economic and military strategies, this analysis will be confined primarily to the issue of nuclear deterrence and its viability as an element of U.S. national military strategy over the next twenty years.

To engage in such an endeavor we must consider three factors; (1) the current and evolving world situation and the resulting impact on international relations, (2) the possible threats against whom our national military strategy might be applied in the evolving world, and (3) the impact the evolution of technology may have upon weaponry.

EVOLVING INTERNATIONAL RELATIONS

In 1980, Charles W. Taylor, predicted in his paper, The

Validity of Deterrence: 1980 to the Twenty-First Century, that the strategic nuclear stalemate existing between the two superpowers could only produce continuing peace as long as it was generally "...believed that any Soviet-US conflict would escalate to [a] full strategic exchange." He argued that it was not in the interests of either country to attempt to alter this balance due to the "wide range" of possible, but unpredictable outcomes. Nevertheless, he predicted, "As a minimum, it is likely that such alteration would result in one nation perceiving the other as an increasing threat which would induce a spiraling weapons competition."[3]

We now know, of course, that Mr. Taylor was precisely correct. Ronald Regan's election to the presidency in November of 1980 initiated an era of hard line policy toward communism and arms proliferation. Nine short years later, the economic and political bankruptcy of communism and the ultimate disintegration of the Soviet Union resulted, ending the Cold War. Many observers, however, believe the end of the Cold War will be the beginning of an era of turmoil and conflict. Bjorn Moller, a European scholar of political science, recently wrote, "The post-bipolar world in the making may be characterized by patterns of cooperation and confrontation along both the military and the political dimensions, which may well be transient and fluctuating, and almost certainly different from the rigid ones of the recent past."[4]

A brief examination of current events and international relations today will bear this out. For example, the US and Russia are discussing cooperation in collective security for the first

time since World War II. Discussions are underway concerning the joint development of early warning and global protection systems. Russia is particularly interested in cooperation on anti-tactical ballistic missile system developments due to her perception of the great threat from countries like China and Iran.[5]

However, in spite of the new era of cooperation, the death of communism and the deterioration of the Soviet Union creates a new set of political, economic and defense challenges which, if not addressed effectively, could lead to international catastrophe. Economically, the states of the former Soviet Union and its satellites are bankrupt. Industry and agriculture is inefficient and cannot compete with the West in the free market. Void of state regulation and subsidies, essential goods and services are not available. Inflation is rampant. Such conditions set the stage for political and social upheaval. In Russia, political turmoil is already a reality. Boris Yeltsin is engaged in a make-it-or-break-it struggle for his political survival with the Russian parliament; a struggle which could result in the ascendancy to power of a leader antagonistic toward the west, the return of communism, or worst case, civil war leading to anarchy. Similar political instability exists, to varying degrees, throughout the rest of the former Soviet states and eastern Europe. Militarily, a single, relatively predictable, stable and familiar adversary no longer exists. Instead, sixteen politically volatile countries must now be factored into the strategic equation. Three of these countries besides Russia - Ukraine, Kazakhstan and Belarus - exercise

fragmented control over the former Soviet Union's legacy: a nuclear arsenal on the magnitude of some 30,000 warheads at its peak.[6]

Throughout the rest of the world examples abound illustrating the transient nature of the patterns of cooperation and confrontation. In Europe, there is the example of the ongoing conflict in Bosnia-Herzegovina. In the Middle East, the recent invasion of Kuwait by Iraq illustrates this point. In this conflict, the coalition of previously non-aligned nations that was formed to provide "collective security," was comprised of forces cutting across ethnic, religeous and nationalistic barriers. On the Korean Peninsula, lingering tensions persist between North and South Korea and in central Asia, a standoff exists between India and Pakistan. The continuing struggle between Israel and the Arab World rounds out a substantial list of flash points around the world with the potential to explode over the next twenty years. These examples illustrate conflicts among nation states revolving around issues of nationalism, territorialism and religion, as well as conflict regarding ideology and sociopolitical systems. They call our attention to the fact that, as the nations of the world seek to transition to a new equilibrium, the absence of focus and unity of purpose provided by the Cold War is allowing unresolved inter-alliance conflicts to surface, significantly affecting post Cold War international relations. The Cold War, for all its tension, posturing and arms proliferation, both conventional and nuclear, provided a sustained equilibrium resulting in a relatively high degree of predictability and security. It was always clear

where allegiances existed and who was on which side of each issue. Due to this relative stability, insured through a strategy of nuclear deterrence, the threat of large scale conflict remained relatively low throughout the Cold War period.[7] Whether nuclear deterrence will continue to play a major role in sustaining relative peace throughout the world is the issue at hand.

ARMS CONTROL AND NUCLEAR PROLIFERATION

Arms control and nuclear proliferation will be a serious problem over the next two decades. Nuclear weapons are likely to remain in the arsenals of the great powers for some time and proliferation is possible to a certain extent in other aspiring countries, for example, Iraq, North Korea, Iran, Libya and Algeria. Of equal concern are the Soviet weapons which now remain in the hands of the fledgling governments of the former Soviet states. China is also involved in nuclear proliferation. Although, not signatory to the missile technology control regime, China has agreed to abide by the principles of this agreement. Nevertheless, both China and North Korea "..... have sold other countries short- and medium-range ballistic missiles and the technology to produce them." The conversion of space launch vehicles for use as nuclear capable long-range ballistic missile delivery systems is also a possibility, although remote. India, Israel and Japan currently have such a space launch capability and Brazil will be ready to test launch a space launch vehicle it currently has under

development within the next five years.[8]

In June, 1992, President Bush and Boris Yeltsin agreed to work toward an endstate of about 2,000 to 2,500 single warhead strategic weapons. This goal is to be achieved by 2003 and is to include the elimination of the entire fleet of Russian SS-18's. These negotiations will be tedious and time consuming with countless conflicting interests requiring compromise solutions. Final ratification of such an agreement is tenuous at best given the current internal instability within the Russian Republic. In the mean time, the Russians will most likely continue developmental work on strategic weapon systems and some analysts believe as many as two new systems will be flight tested and deployed within the next ten years.[9]

North Korea has been involved in and can support every phase of nuclear weapons development and production. In a positive development, in December, 1991, North Korea agreed with South Korea to keep the Korean peninsula free of nuclear weapons. Three on site inspections at the Yong Byon nuclear reactor site in North Korea by the International Atomic Energy Agency have thus far demonstrated the North Koreans to be abiding by their agreement at this facility.[10] However, there are no guarantees that North Korea is not continuing its nuclear weapons program at other sites on the peninsula or in other countries in spite of the fact that there is no firm evidence that they are.

Solutions to the issues of arms control and nuclear non-proliferation lie within conventions like the Nuclear Non-

proliferation Treaty and the Missile Technology Control Regime. Twenty-two countries currently participate in the Missile Technology Control Regime. Participants agree not to transfer unmanned delivery systems to third parties. This transfer ban includes complete ballistic missile systems, space launch vehicles and related technologies. China, Russia and Ukraine possess such capabilities and technology however, are not signatory to this convention.[11]

Control of nuclear weapons systems, components and technologies remain a serious concern. There are uncorroborated reports of former Soviet nuclear weapons materials and technologies being offered for sale on the Black Market. Shrinking defense budgets and the need for hard currency may make the sale of strategic nuclear defense related equipment, services and materials in the international market place attractive to the defense industry. Space launch services and rocket engines are already being marketed by the Russians and tens of thousands of scientists and engineers associated with nuclear weapons programs are potentially available to the highest bidder if sufficent controls are not implemented.[12]

If we are to evolve to a nuclear free world, these conventions must be subscribed to universally and inforced by strict on site inspections. National attitudes must be firmly in support of these programs and violations must be dealt with severely.

THE THREAT

A straight forward consideration of the world situation as it exists today quickly leads to the conclusion that the most dangerous threat of a hostile nuclear detonation would materialize if such a weapon were to fall into the hands of a terrorist organization.

The threat of nostile nuclear detonation by one of the first tier nations (United States, Great Britain, France, China and Russia, Ukraine, Kazakhstan and Belarus of the former Soviet Union) is highly unlikely except in the case of the states of the former Soviet Union. Here, the likelihood of a nuclear detonation is probably on par with the risk in the Middle East and in India and Pakistan, as discussed later. Instability and confusion within the emerging governments of the former Soviet Union provide the foundation for such a potential catastrophe. While all former Soviet States have agreed that centralized command and control of strategic nuclear weapons must be maintained, much disagreement and confusion exists regarding the extent of control each state will exercise over strategic weapons on their soil.

Currently Russia and Ukraine have serious disagreements concerning this issue. In spite of the fact that Ukraine pledges to be nuclear free within seven years after ratification of the Strategic Arms Reduction Treaty (START), Ukraine jealously guards its newfound independence. It is vigorously resisting efforts to bind the states of the Commonwealth more closely.

Anton Buteiko, Ukraninian President Kravchuk's chief foreign policy advisor, recently stated "Ukraine cannot accept the transition of the Commonwealth of Independent States into a new supra-national structure. It would be little more than a revival of the Soviet Union". Although quite understandable, this position is complicating the question of ownership, as well as the exercise of command and control, of 176 nuclear capable missiles left in the Ukraine after the disintegration of the Soviet Union. Currently Russia exercises absolute physical control over all launch facilities and activities, while Ukraine can theoretically veto any launch from its sovereign territory. Ukraine's Deputy Defense Minister, Ivan Bizhan, argues for the status quo, acknowledging Russian operational control, while insisting, "They should remain under the administrative jurisdiction of Ukraine." The danger of this arrangement, however, is pointed out by The Commander-in-Chief of the Russian Armed Forces, Marshal Yevgeny Shaposhnikov. He warns, "At present there are weapons, they are functioning, but there is no jurisdiction of any state over them."[13] The result is a classic violation of the principle of unity of command. Thus, the potential for confusion is created, due to conflicting national interests, in an area where the slightest degree of uncertainty, misunderstanding or disagreement over an action could lead to dangerous instability with cataclysmic results. While it is highly unlikely, the potential fragmentation of political and military authority within the former Soviet Union raises concern over the possibility of an unintentional or unauthorized launch of nuclear

weapons.[14]

While ratification of the START treaty would eliminate nuclear capable ICBM's from Ukranian soil, providing what would appear to be a satisfactory solution to the dilemma, this appears to be unlikely in the near term (perhaps 5 - 10 years). In a recent round of START negotiations, the Ukrainians took the position that ratification would be impossible without inclusion under the United States' security umbrella and provision of a source of outside funding to dismantle its nuclear arsenal. Security and economic interests are a valid concern for a fledgling independent nation. However, the power and prestige possession of a nuclear capability provides may, in the minds of the owner, if not the rest of the world, provide an environment conducive to promoting at least the security interests.[15] Therefore, Ukraine's current position may indicate a shift in policy toward the intention to retain an ICBM launched nuclear capability in the future.

In addition to the potential for fragmentation of political and military authority within the former Soviet Union, leading to the inadvertent detonation to a nuclear weapon, the fragmentation of command and control over the nuclear arsenals within the CIS could lead to a possible breech in security at weapons storage sites. Such an event would set the preconditions for a terrorist raid to seize a nuclear weapon. Such an eventuality will be discussed later in this section.

Still other possible dangers exist in an environment of inadequate security. Unconfirmed reports suggest that weapons

grade uranium and plutonium and possibly even several complete tactical nuclear artillery shells may have been sold on the black market for badly needed hard currency to buyers in the Middle East.[16]

Nevertheless, in spite of the danger of proliferation and detonation of nuclear weapons from within the former Soviet Union, a significant reduction of this threat can be achieved through the promotion of internal stability and security. A large measure of economic and political stability can be restored in Russia and the other nations of the Commonwealth of Independent States with Western assistance. Economic and security assistance is essential to facilitate the transition of these nations to free market economies and democratic forms of government which began with the demise of communism. Thus, as long as Western assistance is forthcoming, and anarchy can be avoided, then the threat is only slightly greater than it is within the rest of the first tier nations.

China is also considered by some to pose a threat of hostile nuclear detonation. In fact, China does possess the capability to project a nuclear threat with its current arsenal of intercontinental ballistic missiles throughout the world. Even so, according to the CIA's National Intelligence Officer for Strategic Programs, China continues its research and development programs associated with nuclear weapons delivery systems and is expected field a new generation of mobile ICBM's during this decade.[17] While this may seem threatening, China is probably engaged in this

development program hoping to add a high demand product to its already substantial line of military hardware available to buyers in the international arms market.

Like the CIS, China is suffering from a dismal economy. The lucrative arms trade, especially in the Middle East, provides a source of much needed cash to bolster a sagging economy. China's soaring population and declining economy creates an exceptionally strong dependence on the West for trade and developmental assistance. This, in conjunction with the fact that the Soviet Union no longer threatens China's national interests, indicates China is unlikely to use nuclear weapons in the foreseeable future.

Likewise, the reduced threat to France, Great Britain and the United States posed by China and the CIS make it equally unlikely that one of these states would find it necessary to resort to use of nuclear weapons.

Initiation of nuclear hostilities by one of the second tier nations (Israel, India, Pakistan, and South Africa) is perhaps only slightly less remote than is the case among the first tier nations.

Israel may be the nation with the greatest potential to initiate nuclear warfare, however, would probably do so only if Israeli survival interests were threatened. The Israeli government has shown remarkable restraint in the face of recent aggression by Iraq and a constant wave of terrorist attacks waged by Moslem extremists. When finding it necessary to respond with force, Israel's overwhelming conventional capability has proven to be sufficient, effectively neutralizing the threat of nuclear

proliferation in the Middle East.[18] Additionally, dialogue and negotiation regarding the Arab/Israeli conflict continues to achieve progress even if this progress is painfully slow.

The threat of nuclear war between India and Pakistan, resulting from misunderstanding and subsequent miscalculation, is heightened by protracted confrontation and intermittent conflict over the past fifty years. Both countries have developmental programs for ballistic missiles and nuclear warheads, and although not declared as nuclear states, probably have the components necessary to assemble nuclear weapons and launch them aboard an appropriate delivery system in short order.[19]

The existence of these weapons, although on a much smaller scale, in many respects, establishes a condition similar to the nuclear standoff that existed between the Soviet Union and the United States during the Cold War. The mere existence of these weapons on both sides is the insurance that they will not be used.

South Africa is the remaining nation which may possess a nuclear capability at the present time. A regional power in its own right, its conventional capability is more than sufficient to meet its current regional military contingencies. The threat generated by Soviet and Cuban involvement in Angola and Southern Africa which gave rise to South Africa's nuclear program in the first place disappeared as the Soviet Union crumbled.[20] The disintegration of this threat left apartheid as the greatest threat to the government of South Africa. The policy of apartheid has turned worldwide opinion against South Africa and resulted in the

imposition of severe political/economic sanctions by most of the world community. Thus, application of nuclear power as its salvation does not appear to be viable. Such action would almost surely galvanize a worldwide coalition against which South Africa could not stand. Given this probability, South Africa is gradually moving away from apartheid.

In a recent development, President de Klerk of South Africa announced that the small arsenal of nuclear weapons stockpiled by his country were destroyed in the early part of the 1990's. Although unconfirmed, such a development is plausible given the fact South Africa signed the Nuclear Nonproliferation Treaty (NPT) in 1991 and subsequently began cooperation with the International Atomic Energy Agency (IAEA).[21] It may have been the attitude of most whites regarding the future of South Africa under black majority rule that was the catalyst turning South Africa toward the NPT as apartheid gives way. Regardless, whether South Africa retains a nuclear capability or not, the probability of a hostile nuclear detonation emanating from South Africa is remote.

A slightly higher risk of hostile nuclear detonation comes from the emerging, radical nuclear states of Iraq, North Korea, Iran, Libya and Algeria.

In spite of the damage done to its nuclear research and production capability during the Gulf War, Iraq continues to pose a major challenge. Unencumbered by the current United Nations sanctions and on site inspections, Saddam Hussein could acquire a nuclear capability within the very near term; perhaps two to three

years.

Iran is also feverishly developing and expanding its defense industry to include the development of weapons of mass destruction. It is shopping Western and Asian markets for nuclear and ballistic missile technology. North Korea may have supplied long-range Scud missiles while China has been approached regarding missile and nuclear related technologies. Should its appetite for these technologies not be satisfied, Iran could turn to the states of the former Soviet Union as another potential source.[22] Regardless, Iran is conducting independent nuclear research at Qazvin and Isfahan and building a nuclear fuels enrichment facility at Darkhoven. These factors lead U. S. intelligence to believe Iran will be capable of producing its own nuclear weapon sometime shortly after the turn of the century.[23]

Algeria, possibly interested in the development of nuclear weapons, is another area of concern. Racked with internal turmoil and political instability, Algeria has been governed by a repressive Army and "High State Committee" since December 1991 when elections were cancelled out of fear that Islamic fundamentalists would ascend to power.[24] Today, Algeria is in the final stages of construction of a nuclear reactor purchased from China. When complete, it will have the potential to produce weapons grade nuclear material. Although assurances have been given that it is only intended for peaceful purposes, Algeria refuses to become a signatory to the nuclear non-proliferation treaty.[25] The true intentions for this facility are in doubt because of the secrecy

surrounding the facility prior to its discovery in 1991. It was only subjected to International Atomic Energy Agency safeguards after the United States applied severe pressure to do so following the facility's discovery. Given the nature of the internal situation in Algeria, possession of a nuclear device could be cause for concern.

While Libya does not appear to have an active nuclear weapons development program underway currently, it has attempted to purchase nuclear weapons in the past. In a related matter, however, Libya has stockpiled over 100 tons of chemical weapons and is searching world markets for long-range delivery systems.[26] Nuclear weapons could be the next step.

North Korea's nuclear program is a particularly alarming problem, not only in Northeast Asia, but around the world. North Korea enjoys the capability to support every phase of weapons development from mining uranium to the reprocessing of reactor fuel in order to recover plutonium to the development of long range delivery systems. While there is no concrete evidence to indicate that North Korea has a nuclear weapon at the present time, the troubling aspect of this eventuality is the willingness North Korea has demonstrated to export military hardware and technology in exchange for desperately needed hard currency. In fact, the international arms trade is the primary source for most of North Korea's hard currency.[27]

The radical nature of the government of North Korea, isolated from all but a handful of rogue third-world nations, adds another

severe dimension to the nuclear dilemma. The North Korean threat of withdrawa. from the nuclear non-proliferation treaty in early March, 1993 (to be effective in June 1993) provides yet the most recent example of this unpredictable behavior. North Korea took this action over a dispute with the International Atomic Energy Agency regarding access for inspection purposes to two suspected nuclear waste sites near North Korea's Yongbyon nuclear reactor and research center. U.S. intelligence indicated evidence of nuclear weapons production and the IAEA, in accordance with its charter, requested access to inspect. North Korea, however, refused.[28]

The significance of this event is two-fold. First, it may well be covering significant progress in the manufacture of nuclear weapons and second, it has heightened the tensions on the Korean peninsula prompting the South Korean Government to request U.S. Troops participating in the annual "Team Spirit" exercises to remain in South Korea until the crisis is resolved.

While initiation of nuclear hostilities by one of these prospective nuclear nations would surely result in the formation of a world-wide, United Nations sanctioned, coalition that would destroy the aggressor, the radical nature of the leaders of these nations, however, increases the potential of a nuclear strike. Dr. Lawrence K. Gershwin, the National Intelligence Officer for Strategic Programs at the Central Intelligence Agency characterized the threat this way. "Of the nations that have or are acquiring weapons of mass destruction, many are led by megalomaniacs, strongmen of proven inhumanity, of weak, unstable, or illegitimate

governments. As a consequence, our classic notions of deterrence hold much less promise of assuring US and western security."[29] Nevertheless, Sadam Hussein's decision not to employ his substantial arsenal of chemical weapons during the Gulf War may be an indication that even radical leaders will not risk annihilation of their nation state against overwhelming odds. To do so would result in the elimination of the arena within which they exercise political power and control. Thus, one must conclude that, when faced with the possibility of extinction, the likelihood of one of the emerging nuclear powers initiating a hostile nuclear detonation is still relatively low.

Terrorist organizations, on the other hand, differ significantly from the established nation states considered thus far. The infrastructures of these organizations are largely invisible and much more difficult to influence or eliminate than the infrastructure of a nation state. Assuming such an organization could gain access to a nuclear weapon, the likelihood of employment would be relatively high with little risk of consequences. Therefore, it seems to follow that the radical leaders of international terrorist organizations pose the most severe threat of hostile nuclear detonation.

Some will say it is not possible for a terrorist organization to acquire access to a nuclear warhead, but consider, for a moment, how close Iraq came to developing a nuclear weapon by purchasing the technology and know how from external sources in spite of the restrictions and sanctions imposed in this field. Given enough

money, and there seems to be no shortage to the supply of money terrorists are able to raise, it is quite possible that such an organization could purchase the technology to build a weapon. Such an undertaking would no doubt require assistance and cooperation from one of the previously mentioned radical states. Perhaps the more realistic acquisition scenario, however, would involve the theft of an existing weapon by breaching the security of an existing nuclear state. One of the former Soviet states might present an excellent opportunity for this type of operation given the current internal turmoil, scarce resources and inexperience of the emerging leadership within these nations.

Terrorist acquisition of a nuclear weapon would add the new dimension of mass destruction to the already formidable set of tools available to terrorists, enabling them to achieve their goals and objectives. Without the necessity of sophisticated delivery systems, a nuclear weapon in the hands of a terrorist would allow the organization to hold the world hostage anytime, anywhere. The invisibility of the infrastructure of such an organization would make it virtually impossible to interdict or retaliate for such an act. The difficulty experienced in bringing the perpetrators of the Pan Am 103 bombing to justice serves to illustrate this point.

TECHNOLOGY

Considering the proliferation of nuclear weapons following the end of the Cold War, society is asking what it will take to make

our world safe from this menace. Currently, worldwide efforts to prevent the catastrophic effects of a hostile nuclear detonation center on strategies of nuclear deterrence, the development of strategic defensive capabilities and political efforts to promote nuclear non-proliferation and strategic arms limitation. One needs only to consider the competitive nature of man, however, to realize that political efforts can only have limited success as nations strive for prestige and power. Thus, the linkage of unrelated technologies, creating a whole new paradigm will probably be required to render nuclear weapons obsolete.

We are acquiring knowledge at a breakneck pace. According to The Omni Future Almanac, the amount of information we acquire doubles every decade.[30] To put this into perspective, the sum total of the world's information bank in 2038 (forty-five years from now; the length of the Cold War) will be 2,400% greater than it is today. Growth of the world's information pool leads to a proportional advancement of technologies through the introduction of new discoveries and inventions. Since the beginning of World War II, more inventions and discoveries have been introduced than in all of recorded history prior to that time.[31] Thus, the implications for advancements in technology are enormous.

Current technological approaches to counter the effects of nuclear weapons have thus far only proven to be effective within a very limited scope of the universe of nuclear weapons effects. Therefore, they will have little, if any, impact on the utility and thus, the obsolescence of nuclear weapons over the next twenty

years or so. For example, the soldier integrated protective ensemble (SIPE), being developed by the Army, will improve the protection afforded to soldiers against the effects of nuclear blast and heat,[32] but will do little to minimize the effects of radiation to the soldier. Kinetic and directed energy technologies in conjunction with advanced guidance technologies (millimeter wave radar is one possible example) offer anti-ballistic missile capabilities never before possible.[33] The 30mm electro-magnetic rail gun can currently achieve velocities of 1.2 - 1.3 km/sec. Seventy and ninety millimeter versions are also under development and are currently the most promising anti-tactical ballistic and cruise missile defense systems available.[34] Coupled with a global warning system, the U.S. and friendly countries could be ringed with this type of weapon system.

Such systems, however, are severely limited in their ability to provide protection across a wide spectrum of strategic employment options. For example, a system such as described above would require such geographical density that it is doubtful that sufficient weapons could be afforded to counter a massive strategic strike launched (such as Russia, China and Ukraine are currently capable of launching) with multiple re-entry vehicles (MRVs). Additionally, such defensive weapons would provide no utility attempting to counter a nuclear device delivered by low-tech means such as a terrorist organization might employ.

Even if such technologies could be effectively employed to deter the use of nuclear weapons (as opposed to rendering them

obsolete), a constrained resource environment supporting defense research development and acquisition (RDA) would limit the probability of a significant technology breakthrough enabling the full scale development and production of such technologies.

It will be helpful to take a brief look into the trends that are affecting resources to better appreciate the challenge facing evolving defense technology. Fiscal year 93 promises to be a major transition year for the military budget. Clearly, further cuts to the military budget will follow over the next several years. President Bush's 1990 agreement with Congress "fencing" the DOD budget to prevent reappropriation of portions of the military's funding to support domestic programs expired this year and the Clinton administration campaigned on a platform which places military spending far below the top priorities of an improved economy and domestic programs. The inability to forecast a specific threat to the vital interests of the United States and the perception of a reduced threat of nuclear war will further exacerbate the problem. Gordon Adams, director of the Defense Budget Project, a nonpartisan research organization in Washington DC, remarked, "This is the last year the defense budget gets to tread water. Next year the money disappears."[35]

The Army's budget for procurement, not including research and development (R&D), has declined approximately 50% over the previous two budget years (FY 91 and 92), to just over $7 billion[36]. Indications are that more severe cuts are expected in the future. According to several program and budget officials at HQDA, the

Army's entire RDA budget may go as low as $7 - $9 billion for FY 94.[37] Cuts of a similar magnitude have occurred throughout the DOD RDA establishment.

As a result, the Services attempted to implement an acquisition strategy based on "accepting near term risk" in favor of funding the full scale development of a broad family of "leap ahead" technology systems that would give the US a clear technological advantage over all potential enemies sometime shortly after the turn of the century. "Greater reliance will be placed on technology to offset the reduced numbers of active forces."[38] However, over the past two years it became apparent that this strategy was seriously flawed in four ways:

> "1. The decline of the Soviet threat made the urgency and importance of these new systems less compelling.....
>
> 2. Our ability to produce these new systems in the future depended on a substantial upswing in our procurement funding, a prospect that was tenuous at the time and which now has become almost unimaginable.
>
> 3. ..... without continuing the procurement of modern equipment (or significantly upgrading the equipment we had), we were facing the prospect of enduring a decade or more in which much of the Army's equipment and warfighting capability would remain essentially static or would decline as the current equipment aged.
>
> 4. Finally, in some selected areas, we were threatening the supplier base upon which the production of our new, leap-ahead systems would depend."[39]

Thus, on 31 December 1991, the Under Secretary of Defense for Acquisition redefined the DOD Acquisition Strategy in the Science and Technology Program Guidance for FY 94-99.

"We are faced with a rapidly changing, and increasingly lethal, global environment that demands that we hedge against technological surprise..... At the same time fiscal realities demand a more focused effort in ongoing acquisition efforts, possibly sustaining advanced technological development at the expense of more aggressive production programs.

This global environment demands that we sustain a robust S&T program as the foundation for our future defense capabilities. Therefore, the Military departments and Defense Acquisition Agencies will program for S&T (6.1, 6.2, and 6.3A) activities across the FYDP at not less than zero percent real growth from the level in the FY 92 President's Budget, with a goal of 2% real growth.....

In planning our 6.1, 6.2,and 6.3A S&T investments, a critical balance must be maintained between preserving the core of broad, sustaining programs, and taking specific initiatives to lay the foundation for acquiring new, militarily significant warfighting capabilities."[40]

This strategy emphasizes technology application upgrades to existing weapon systems and encourages an aggressive prototyping program to support demonstration and validation of emerging technologies. On the other hand, it discourages full scale development programs except in situations where new technology demands a completely new system.[41] Given the fiscal constraints political and economic conditions currently dictate, this strategy offers significant advantages . While it may assist in maintaining a warm base within the military industrial complex and places the latest technology in the hands of the soldier in the most efficient manner possible, the probability that it will lead to a "leap ahead" technology that will significantly impact the concept of nuclear deterrence is highly unlikely.

In all probability, when a breakthrough technology is

discovered, it will be costly to develop and implement. Whether it will be affordable is doubtful. One thing is certain. An unconstrained resource environment would almost surely produce technology over the next twenty years that would have a significant effect upon the validity of nuclear deterrence as an element of our nation's National Military strategy. The impact of the constrained resource environment, however, will significantly reduce the level of effort currently being applied to the problem. Logic dictates, therefore, under these circumstances, that a solution will in all probability be delayed.

Regardless of the economics involved, the nature of the evolution of technology is that it is unpredictable. When the breakthrough that will render nuclear weapons obsolete will occur is probably not predictable. One noted scientist, Ralph Lapp, as quoted in Hubert J. Muller's, Use of the Future, characterized the unpredictable nature of the evolution of technology this way, "No one - not even the most brilliant scientist today - really knows where science is taking us. We are aboard a train which is gathering speed, racing down a track on which there are an unknown number of switches leading to unknown destinations. No single scientist is in the cab and there may be demons at the switch. Most of society is in the caboose looking backward."[42] If history is any indication, the combination of several apparently unrelated technologies in combination will probably produce the obsolescence of nuclear weapons. It will probably be an indirect approach to the problem, or perhaps a complete accident. For example, the

development of technologies that enable economically feasible underground cities could provide a potential solution. Nevertheless, this potential solution does nothing to render the city immune to the effects of nuclear detonation. Only the traditional means of delivery would be affected by such a development.

THE FUTURE

The decline of the Soviet Union and the resulting decline of the threat of the spread of Communism to the West may offer an opportunity to develop political, economic and defense protocols which may render nuclear deterrence and the credibility of first-use as a national strategy obsolete. However, concurrently, due to the perceived lack of potential for a nuclear holocaust, the caution that has characterized East - West relations since the end of World War II may be jeopardized. Reduced caution tends to suggest that the future will hold a reduced reluctance to go to war. Thus, a paradox is created by the fact that nuclear weapons are likely to remain in the arsenals of the great powers for some time and proliferation is almost assured in other parts of the world.[43]

More than 20 nations (CIS nations plus the existing and emerging nuclear nations) have or are in the process of acquiring weapons of mass destruction.[44] The potential for a hostile nuclear detonation becomes greater with each new country that acquires a

nuclear capability.[45] Thus, the proliferation of nuclear weapons in conjunction with an increased potential for regional conflict, establishes conditions with an exceptionally high potential for evolving into general nuclear war.[46]

In the face of a changing world, ordering principles are required if the world is to resist a return to absolute anarchy. Bjorn Moller, a Danish Political Scientist provides three possibilities that form a continuum. First on his continuum is "immature anarchy" or "self help". Under this concept, each nation state concerns itself only with its unilateral strategic interests. Conflict resolution through war remains one, if not the primary option during crisis situations. Second, on the other end of the spectrum, is "mature anarchy". This concept holds that world government would be achieved through a multinational organization such as the United Nations. Under this concept international norms of behavior would come to be accepted for reasons of enlightened self-interest.[47]

The world is shrinking due to population explosion, industrialization and reduced time distance factors, the latter being made possible by technological advancements in communications and transportation. As a consequence, the world community is becoming ever more closely linked by economic and environmental factors. Thus, economic and environmental factors are likely to shape the foreign policy and national military strategy of the future much more so than in the past. The international effort and cooperation which will be required to restore and protect the

environment and political mergers necessitated by economic factors will probably drive the world toward a centralized world government with the U.N. or some other world organization as the foundation.[48]

Although "immature anarchy is untenable given the level of sophistication of general warfare today, Moller concedes his concept of "mature anarchy" is too ambitious. Therefore, he proposes an option lying on the continuum somewhere between these two extremes. Common security by means of a strategy he calls nonoffensive defense, or NOD, would provide the medium through which this option would be achieved. NOD has its foundation in the reconfiguration of military forces such that they are well suited for defensive operations while lacking any offensive capabilities whatsoever. The ban on offensive capabilities includes training, hardware, literature and doctrine.[49] It should be obvious that nuclear weapons are likewise ruled out.

If any set of principles on the continuum described by Moller, other than "immature anarchy", particularly common security and NOD, are to replace nuclear deterrence and an evolving system of alliances providing worldwide stability, a reliable method for securing cooperation from the players must be found. Anatol Rapaport advanced such a theory in his writings in 1989.[50] His Tit-for-Tat theory requires one player to commence each round of an endless game of action and reaction with collaboration, responding in kind with precisely equal force to any non-collaborative defection perpetrated by another player, then returning to a strategy of cooperation and collaboration. This theory presupposes

that the interaction of the players will continue to infinity and that the players value future gains equally to current gains. Otherwise, the ultimate advantage would be achieved by the player who executed the last play of the game with a betrayal of the cooperative strategy. Without such preconditions, one or more of the players would repeatedly search for the short term advantage. Applying this theory to the current world of international politics, however, would require participating nation states to accept the ideas, will and policies of other nation states for an indefinite period of time in addition to believing in the willingness and ability of their counterparts to do the same.[51]

Prior to the initiation of the revolution within the Eastern Bloc in 1989 the preconditions necessary for cooperation and collaboration were not present and therefore, the conditions necessary to initiate a long-term strategy of peaceful coexistence based on Common Security (CS) and NOD were non-existent. With the fading of the ideological conflict, however, between the East and the West, the conditions may exist for the implementation of CS/NOD as at least a partial solution to the world's security dilemma.[52] For the immediate future, however, "...there is no alternative to arms control endeavors, which ought to seek to build down the most destabilizing weapons categories first while maintaining for an intermediate period of indefinite duration, minimum deterrence arsenals designed for the purpose of stable deterrence."[53]

Common Security (CS) by definition requires nation states seriously to consider the national interests and security concerns

of all other nation states involved regarding each political situation since none of the participants can be secure unless all participants perceive themselves to be secure. Thus, the adoption of a military policy which eliminates or significantly reduces the threat displayed toward other participants would significantly enhance the security of all concerned. Therefore, the reduction of nuclear arms, with absolute disarmament as its ultimate goal, is central to the concept of CS. Theoretically, a credible NOD would create conventional stability that in turn would eliminate the pressure to employ nuclear weapons to compensate for deficiencies in conventional defenses. Were NOD to prove capable of achieving this theoretical objective, then the first-use of nuclear weapons would be unnecessary and thus enable deep cuts or the complete elimination of nuclear arsenals. To achieve this objective successfully, however, the conventional force of the NOD would have to clearly be able to demonstrate its ability to stand alone and defeat even the most ruthless, offensively oriented adversary.[54] As stated in the introduction, however, the psychological perception of vulnerability is the foundation on which the concept of deterrence is based. If NOD is to succeed, it must be able to eliminate the perception of vulnerability. This would seem quite impossible lacking the offensive weaponry necessary to preempt nuclear capability in the absence of an adequate defense against nuclear affects. Thus, the underlying flaw in the argument for Nonoffensive Defense as a means of implementing a strategy of deterrence in the emerging world order, centers around man's

demonstrated inability throughout history to divorce himself from competition. Humans are competitive by nature. We compete in everything we do. A brief consideration of the way we conduct our personal relationships, participate in sports activities and conduct business and politics vividly illustrates this fact. Competition can only be avoided through compromise or eliminating the source of conflict. Intuitively, it may seem logical to assume that the decline of the East - West ideological conflict would pave the way for world-wide accommodation, however, emerging conflict, such as we are now seeing within eastern Europe, the Middle East and Africa, will always rise to replace any previously eliminated source of conflict. Thus, conflict can never be eliminated in a world outside of Utopia. On the other hand, compromise can only be achieved when all parties involved discover a course of action mutually beneficial to all parties concerned. The world is too big, with too many people (of too many cultural and socio-economic backgrounds) and too many nation states all possessing diverging national interests, for conflict to be eradicated. The complexities these issues generate will elude compromise. Therefore, it seems incredibly idealistic to believe that, although the conditions within the world are changing, suddenly man's propensity for competition will disappear.

Given we are unable to eliminate conflict or achieve universal compromise in our world, it is logical then to assume man will always continue to seek advantage over his competitors; ultimately leading to war if left unchecked. Thus, deterrence as a strategy

to prevent war becomes viable only if one competitor possesses the overwhelming capability to prevent its adversary from achieving its objectives. By definition, however, NOD is defensively oriented. Through a long history of waging war, we know that offensive tactics are the dominant form of warfare. The defense is useful in delaying the opponent to buy time to create the conditions to resume the offense, however history verifies that the opponent who seizes the initiative wins the battle. No fight was ever won by securing a defensive position against an attacking force without ultimately counterattacking, destroying sufficient forces and exacting sufficient sacrifice to force the opponent to accept defeat. Since NOD is based on the weaker of the two forms of warfare, this would argue convincingly against NOD as a viable deterrent strategy absent some technological breakthrough in defensive weaponry or tactics.

CONCLUSION: A NATIONAL MILITARY STRATEGY FOR THE FUTURE

The death of communism in the former Soviet Union and the end of the Cold War provides the world community with an opportunity for real progress in the reduction of tension and hostility through cooperation and common security. In stead, turmoil and conflict characterize the transition period. Without the stabalizing effects of the Cold War, regional conflict and escalating terrorism are becoming the norm. Proliferation of weapons of mass destruction is rampent and third world countries and terrorist

organizations have increasing access to nuclear weapons and associated technology. This access threatens the survival interests of the United States. Emerging technology, while having the potential to produce solutions, is severely hampered by resource constraints. Due to these constraints, it is unlikely that technology will produce adequate ballistic missile defense systems or methods of protection from nuclear blast over the next twenty years.

General Colin Powell expressed it this way, "Recent arms control agreements and unilateral initiatives provide for real reductions in the arsenals of nuclear powers."[55] However, the necessity for nuclear deterrence, as a part of the US national military strategy, remains. The requirement for a modern, fully capable, strategic nuclear deterrent rests within the framework of a growing number of potentially hostile evolving nuclear nations and the substantial arsenal of nuclear weapons remaining within an unstable Commonwealth of Independent States.

In the absence of the direct threat from the former Soviet Union, it is argued that, "Nuclear Weapons have a declining political-military utility once the threshold of deterring a direct nuclear attack against the territory of the United States is crossed."[56] A careless analysis of this statement may lead one to the conclusion that, since there is no overt or direct nuclear threat facing the US today, our nuclear weapons deter no one. Thus, the opportunity exists to eliminate all nuclear weapons from our arsenal. Stated in universal terms, this idea would suggest

that the nuclear arsenal of a third party will have no deterrent affect upon two nuclear nations in confrontation. For example, if this were true, the long standing tension between India and Pakistan, which potentially could result in a nuclear exchange, would not be affected by the nuclear arsenal of the US, or any other nuclear nation. To the contrary, given today's spirit of expanding worldwide cooperation, it is likely that a worldwide outcry of condemnation would occur as a regional confrontation escalated toward nuclear proportions. A broad coalition of conventional and nuclear capability would probably result, focused against the original antagonists. The threat of the inability to achieve their original strategic objectives and potential annihilation would ultimately defuse the confrontation.

Thus, the US must retain an arsenal of nuclear weapons capable of providing a credible deterrent to all current and emerging nuclear nations. "The purpose of the nuclear force is to deter the use of weapons of mass destruction and to serve as a hedge against the emergence of an overwhelming conventional threat."[57] Deterrence cannot focus solely on the existing nuclear nations, but must be broadened to incorporate stemming the tide of nuclear proliferation.[58] It must be multidimensional and multifaceted, capable of deterring conventional war and strategic exchange between the nuclear powers, deterring regional war among the emerging nuclear nations and deterring terrorism.[59] It must discourage proliferation and reward nonproliferation. Political and economic incentives should be offered to entice support for

nonproliferation, in conjunction with denial, control and management of weapons-grade nuclear material.[60] To be credible it must be a flexible yet balanced strategy, involving political, economic and military elements, which demonstrates an overwhelming spirit of cooperation and compromise. It is this cooperation and compromise among nations that will be called upon to manage the global peace in an increasingly nuclear capable world.[61]

The international relations fostered within the world community will determine the success of a strategy of nuclear deterrence. International relations are multilateral and interactive by nature. The resulting complexities sets the stage for potentially volatile rifts between the perceptions of nation states and reality. These misperceptions are likely to compound over time. Thus, "The difficulty in determining the other side's intentions underscores the need to try to develop policies that can both deter and reassure, that can communicate that the state will resist encroachments on its vital interests but has no desire to challenge the vital interests of the other."[62] "...While deterrence may sometimes succeed in discouraging the use of force, it may also be instrumental in provoking it."[63] Deterrence is destined to fail unless a mixed approach that moderates its ill effects is adopted. That is to say that a deterrent threat used without open negotiation and dialogue will potentially leave no alternative, thus, provoking the use of force and negating the purpose of the deterrent strategy in the first place.[64]

In the final analysis, nuclear deterrence is only part of the

defense strategy necessary to take us safely through this era of transition. Standardized worldwide security protocols, rigorous on site inspection schemes and intelligence sharing are also necessary. Continuous and serious efforts must be made to expand the Nuclear Non Proliferation Treaty. Worldwide coalitions working under the auspices of an effective and respected United Nations must also be pursued. This strategy will provide an approach which builds confidence and trust within the world community. In addition to providing the framework for prevention of nuclear proliferation to terrorist organizations, it will potentially lay the foundation for the ultimate elimination of all nuclear weapons. However, the instability and danger characteristic of the current transition period requires that nuclear deterrence remains the cornerstone of the United States' National Security Strategy until such time as all nuclear weapons can be eliminated.

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