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MISSILE DEFENSE IN THE UNITED STATES

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Abstract

The basic arguments of this paper are, *first*, that the current US-missile defense, being operative from fall 2004, is based upon the former experiences with missile defense, *second*, that missile defense closely associated with weapons of mass destruction has gained the highest priority in American national security policy due to the 9.11 attacks, and *third*, that the superior argument for establishing an American missile defense is to maintain global, long term political-strategic superiority.

The main argument of this brief is that besides the need for meeting current new threats and challenges there are long term agendas behind the US missile defense program: for the United States to ensure a continuing and increasing strategic-political-technological world wide superiority, while at the same time being able to assist allies against WMD-threats from rogue states and rogue actors.

Introduction

The basic arguments of this paper are, *first*, that the current US-missile defense, being operative from fall 2004, is based upon the former experiences with missile defense, *second*, that missile defense closely associated with weapons of mass destruction has gained the highest priority in American national security policy due to the 9-11 attacks, and *third*, that the superior argument for establishing an American missile defense is to maintain global, long-term political-strategic superiority.¹

The paper is structured in the following way: After, firstly, introducing the state of affairs for missile defense in the United States, secondly, five historical stages will be identified and analyzed, using long term-political strategic objectives as a point of departure. Thirdly the national and international debate on missile defense is outlined and discussed. Fourthly, the recent missile defense policy is explained according to a neo-realistic perspective. Finally a brief conclusion is presented.

Recent Missile Defense Efforts

First we have to set the scene: What is the current state of affairs of American missile defense? On 26 August 2004, Secretary of Defense Donald Rumsfeld stated that, “By the end of this year [2004] we expect to have a limited operational capability against incoming ballistic missiles. This represents, in my view, a victory for hope and vision over skepticism...Rather than waiting years, sometime decades, for a fixed and final architecture, as has been the norm with many weapons systems, we will be deploying an initial set of capabilities that will evolve over time as technologies evolve over time.”² This is the rather moderate and humble, yet precise official introduction to the implementation of one of the most important American decisions on weapons systems since the Cold War. Following the well-known statement, “the best way to begin is to begin” the US administration seems to demonstrate political determination and pragmatism.

¹ This paper is an enlarged version of a chapter in a forthcoming book, Heurlin, Bertel and Sten Rynning (eds.) (2005) “Missile Defense: Global and Regional Implications”, New York: Frank Cass.

² DoD News Briefing, Secretary of Defense Donald Rumsfeld, 26 August 2004.

STRUCTURE AND LAYERS

The American plans for missile defense for 2004 and 2005 are the following: Six ground based interceptors (GBI) will be deployed in fall of 2004, followed by ten more by the end of 2005 at Fort Greely, Alaska. Further four GBI will be deployed in 2004 at Vandenberg Air Force Base, California. According to the initial planning schedule of the administration twenty sea-based interceptors placed on three Aegis-class cruisers or destroyers as well as an unspecified number of Patriot PAC-3 interceptors are foreseen to be deployed in the near future. The GBI's are intended to attack incoming intercontinental ballistic missiles, ICBM's, and the sea-based and the Patriot interceptors are expected to deal with short- and medium-range missiles. In order to take care of target detection and to receive tracking information it is necessary to establish a connection between the existing system of infra-read early warning satellites and an upgraded Cobra Dane radar at Shemya, Alaska, a new sea-based X-band radar, SPY-1 radars based on Aegis-class ships and upgraded early warning radars in the UK in Fylingdale and in Greenland at the Thule base.³

The American missile defense is multilayered in *time and scope*. Three time layers could be identified: The instant effort, the middle term, and the long term. The instant efforts started as the Bush administration in December 2001 declared it would withdraw six month later from the 1972-ABM-treaty in accordance with article 15 in the treaty. A year later 17 December 2002 president Bush announced a firm date, September / October 2004 for commencing deployment of the Missile Defense system. This date was hardly chosen without an eye to the presidential election in November 2004. Further the Bush administrations Nuclear Posture Review had earlier specified the deployment of an emergency missile defense capability sometime between 2003 and 2008.⁴ The current system is called the Initial Defensive Capability (IDC), laying the foundation of the long term integrated, layered Ballistic Missile Defense System (BMDS). The system has the effect of complicating the adversaries' efforts and reduces the military utility of ballistic missiles, discouraging the proliferation of such technology, as well as providing an effective deterrent. The acquisition process is- following the all over American strategy – “capability based”. This process is more flexible, able to respond quickly to a rapid changing threat exploiting the advances in technology.⁵

³ Strategic Survey 2002-03, London: IISS, International Institute for Strategic Studies, p. 30.

⁴ Strategic Survey 2002-03, London: IISS, International Institute for Strategic Studies, p. 29

⁵ See Ballistic Missile Defense System, Missile Defense Agency, p. Ii, Available at <http://www.defenselink.mil/>.

As concerns the middle term development, the Missile Defense Agency operates with six blocks, Block 2004, 2006, 2008, 2010, 2012, and 2014. These blocks are marking the evolutionary, spiral development, having to do with adding new capabilities based on technical maturity, upgrading existing capabilities, inserting technology, evolving requirements, procuring additional force, enhancing capability and extending the missile defense systems to allies and friends when appropriate. In February 2002⁶ Missile Defense Agency announced three phases, C1, C2 and C3. C1-system should in 2005 be able to defend against a handful of missiles coming from North Korea. C2 system will in 2007-10 be able to meet ballistic missile threats coming from Iran. C3 system is supposed to annihilate a Russian ICBM-force of less than 1200 nuclear warheads.

In the *long term development* the block approach will yield a fully integrated and layered BMDS, capable of defeating ballistic missiles of all ranges and in all phases of flight. The multilayered pattern *in scope* refers to the three main phases in missile defense: boost phase, midcourse phase, and terminal course. The reason for fielding a layered defense system and in this way being able to attack missiles in all phases of flight is to exploit opportunities to increase the effectiveness of missile defenses and to complicate an aggressor's plans.⁷ The *first phase*, the boost phase is the phase where it is gaining the velocity needed to reach the target. This phase lasts between 1 and 5 minutes, depending on the range of the missile. The end of phase is when the missile is exiting the earth atmosphere or in the case of shorter-range missiles, reaching the fringes of the outer space. The best solution for attacking a missile is in the boost phase. The missile is extremely vulnerable in this phase as it struggles against earth's gravity. It is still attached to the warhead, so possible decoys are not a problem, and not least, if the missile is carrying chemical, biological or nuclear weapons the debris will most likely fall on the country that launched the missile. In the least, it will certainly not have obtained enough velocity to reach its intended target. Because of this, it is not critical, according to Missile Defense Agency, to completely destroy the warhead of the missile.⁸ The defenders problems are, however, huge. First, the boost phase is relatively short. Second, an interceptor missile has

⁶ Dörfer, Ingemar (2002) "Ballistic Missile Defense. Det amerikanska programmet. Säkerhetspolitiska konsekvenser" Stockholm: FOI Rapport, FOI-R-0472-SE. April 2002, p. 20. See also O'Hanlon, Michael E. (2002) "Defense Policy Choices for the Bush-Administration", Washington DC: Brookings: Chapter V, Gompert, David C.; Klaus Arnhold (2001) "Ballistic Missile Defense", Berlin: Rand and SWP; Dörfer, Ingemar & Mike Winnerstig (2003) "Perspektiv på amerikansk säkerhetspolitik", Stockholm: FOI-R-0871-SE, Juni.

⁷ MDA, Missile Defense Agency, MDA-facts, MDA, In-depth. Making Ballistic Defense a Reality, July 2003, available at: <http://www.acq.osd.mil/bmdo/bmdolink/html/>.

⁸ Ibid, MDA, July 2003.

to be very close or extremely fast to catch up to the accelerating missile. The capability to intercept a missile in the boost phase is important as it destroys the missile regardless of range and intended target. Boost phase defense can provide a global coverage.

The *second phase* is the midcourse. It is the longest part of the flight of the missile, as long as 20 minutes in the case of ICBMs. During this phase the missile is coasting, or freefalling towards its target. This phase allows the largest opportunity to intercept an incoming missile. The missile now follows a predictable path. This implies that several interceptors could be launched with a delay between them to see if the first ones were successful. Also this means that fewer interceptor sites are needed to defend larger areas, since the interceptor has a longer time to engage.

The problems with this phase are the countermeasures against a defensive system that the attacking missile can deploy. A midcourse defense is aimed at being able to provide missile defense for a region or regions.

The *third phase*, the terminal phase is the phase where the missile's warhead re-enters the earth's atmosphere. This phase last less than a minute for ICBM's. The defensive systems have to be very close to the missile's target in order to intercept it. Countermeasures play a minor role in this phase. Decoys usually fall slower than the warhead and are burned up as they re-enter the atmosphere. Defensive systems designed for this final phase are most effective protecting troop concentrations, ports, airfields, and missile staging areas.⁹ Terminal defenses are thus mainly designed for protecting localized areas.

MISSILE DEFENSE, WMD AND PRIORITY

On December 10, 2003 the US-secretary of Defense Donald Rumsfeld declared that defending the United States and its allies from ballistic missiles laden with weapons of mass destruction "is now America's highest priority". The defense minister stated that "we had entered a new age that may well be the most dangerous America and the democracies of the world have ever seen". Already in 2002 President George W. Bush announced a similar invocation. 17 December 2002 he stated, "the deployment of missile defenses is an essential element of our broader efforts to transform our defense and deterrence policies and capabilities to meet the new threats we face. Defending the American People against these

⁹ Ibid, July 2003.

new threats is my highest priority as Commander-in-Chief, and the highest priority of my administration".¹⁰ Why is it so? Secretary Rumsfeld offers the evident answer to these questions: the emergence of new WMD-threats from rogue states and rogue non-state actors. The US is obliged to reduce its vulnerability by setting up an operative missile defense system, giving it high priority as part of non-proliferation of weapons of mass destruction.¹¹ Missile defense in the United States has, however, also to be considered in a broader strategic perspective. According to Jan Lodan six main reasons for the United States to acquire missile defense can be identified:¹² 1) Defend the United States against rogue states, 2) Reassure the country against unintended firing, 3) Deter rouge states from developing intercontinental missiles, 4) Increase deterrence in a crisis, 5) Protect US forces against middle range missiles, 6) Protect allied troops and cities against middle range missiles. These specific strategic objectives may be obvious. But the long-term political objectives regarding maintaining global military–technological superiority have to be considered.

The justification of these claims are expected to be found in the dangerous mixture of rogue states supporting terrorism and the availability of weapons of mass destruction and ballistic missiles able to carry these weapons for such states. In this context Secretary Rumsfeld's statement, repeated several times that the importance of space and missile defense cannot be overstated, is significant.¹³

Space issues have for a couple of years been if not directly downgraded, yet experienced having less political focus in the United States compared to other issue areas. Likewise attacks with ballistic missiles have not generally been considered the most immediately threatening scenario for United States and its allies. To establish an effective, reliable ballistic missile defense has primarily been regarded a long-term business. The actual, critical threat is generally considered to be terrorism as part of an asymmetrical war, the war against global terror fought by a comprehensive part of the international society under the leadership of the United States. Abandoning the Anti-Ballistic Missile (ABM) treaty in 2001, introducing the Mars-project in 2003, starting the deployment of a missile defense proper in 2004, the United States has, however, demonstrated activities pointing to increased focus on space. Missile Defense is part of this trend.

¹⁰ Available at: <http://www.defenselink.mil/>

¹¹ Available at: <http://www.defenselink.mil/>

¹² Lodan, Jan (2001), "The Price of Dominance", New York: Council on Foreign Relations, pp. 57-58.

¹³ Available at: <http://www.defenselink.mil/news>.

Missile Defense: Developments and Stages

In order to comprehend the current situation it is necessary briefly to take a critical look at the short history of missile defense. It reveals a mixed picture. The political desirability and the technological possibility have been differently assessed during the years. The changing missile defense programs were, however, never officially questioned as options and the concept of a missile defense was never abandoned. The R&D part continued uncontested during the years.

The basic argument is that missile defense in the United States is developed – or restrained according to long-term political-strategic considerations. In this section it is the intention is to demonstrate how Missile Defense all the time has been used as a tool in a superior political strategic game as part of US-foreign policy.

Five historical stages can be identified, analyzed and characterized as follows:

- 1950s - 1972: Missile Defense is in the understanding of the US-government considered politically fairly desirable and technically fairly possible,
- 1972-83: Missile Defense is considered politically hardly desirable and technically hardly possible,
- 1983-89: Missile Defense is considered politically highly desirable and technically fairly possible,
- 1989-2000: Missile Defense is considered politically fairly desirable and technically fairly possible,
- 2000 and on: Missile Defense is considered politically highly desirable and technically highly possible.

To explain the stages two kind of factors will be used, *partly* the structure of the international system, from bipolarity to unipolarity and *partly* the dominant strategies and policies of the central actors, primarily the US-government. Assessing the characteristics above it is remarkable that there is a close connection between the political priorities and the technical possibilities. The simple reason is the allegation that in missile defense issues technology is considered the dependent variable with policy as the independent variable, implying that you get the technology and the technological innovations you deserve according to the resources you are willing to supply. This way of reasoning is contrasting to a real time assessment where the precondition is to ask what the technological possibilities are and what can be done exploiting these possibilities.

Two factors will explain this political-technological relationship: First that MD primarily is a genuine long-term technological project, second that MD is a program having the aim signaling military and technological superiority and emphasizing MD as a “political weapon”, indicating a weapon not necessarily produced to be used in battle but rather used as part of a demonstration policy or a dissuasion strategy.

THE FIRST STAGE 1956-1972

The American Missile Defense project was initiated in 1956. The American Army began developing the Nike-Zeus missile, based upon the air defense rockets Nike-Ajax and Nike Hercules. From 1963 the Nike-X-project took over, aiming at developing partly a super fast ABM-missile, the two-stage rocket *Sprint*, and partly a bigger and slower missile, *Spartan*, using the Nike-Zeus as the point of departure. Spartan was expected to be equipped with a one-megaton nuclear warhead. The development of the American Missile Defense was clearly driven by two factors, an *internal* action- reaction process, indicating that development of defensive missiles was a reaction to own offensive weapons, and an *external* action-reactions process, indicating that US-MD was a reaction to Soviet weapons development. The US reacted to the Soviet Missile Defense systems, deployed around 1963 and also to the rapid development of Russian ICBMs in the 1960s. Many resources were used in the US to enhance the penetration ability of the long-range missiles. The United States developed advanced weapons substituting the SLBM-Polaris and the ICBM Minuteman I and II. From 1970 the new Poseidon and the new Minuteman III were introduced. Both were equipped with penetration aids and were MIRV'ed, i.e. having 3-10 independently guided warheads. These systems were considered successful. It was, however, striking that all the Missile Defense systems remained on the R&D stage. The regular process was that one system after the other was initiated, researched, developed, introduced, tested – but never deployed.

The reason for characterizing the first stage, 1956-72 as politically fairly desirable and technologically fairly possible is the following: The structure of the international system was bipolar implying a constant conflicting relationship between the superpowers. The relations could be typified as a *virtual war*, using a term from the IT-generation notion *virtual reality*, meaning not physically real.¹⁴ In the *virtual war* you don't have a bloody, destructive war, but a war where the battles are replaced by introduction of still more sophisticated and advanced strategic nuclear weapon systems. The war is virtual due to the fact that the weapons systems

¹⁴ A further discussion on virtual war, see Heurlin, Bertel (2000) “Virtual war and virtual peace”, in Hansen, Birthe & Bertel Heurlin (eds), *The new World Order. Contrasting Theories*, London: Macmillan.

are based on nuclear weapons to be delivered by ballistic missiles. Generally nuclear weapons can be considered as weapons having the following characteristics:¹⁵ *First* they are *total* weapons, weapons in principle all-destructive, beyond any limits. *Second* they are political weapons, primarily weapons of deterrence; they are as such no-use weapons. *Third* they are consequently *no-war* weapons, i.e. weapons that will prevent war, not just nuclear war but also conventional war. This is the result of the general strategies of the superpowers, a seamless web strategy, making escalation from the lowest conflict to Armageddon possible. *Fourth* they are weapons hindering the spread of nuclear weapons, in other words: *non-proliferation* weapons. *Fifth* they are *no-defense* weapons; it is almost impossible to set up effective defense systems against nuclear weapons delivered by ballistic missiles. *Sixth*, they are promoting parity between the two superpowers; in other words, they can be characterized as *no-superiority* weapons. Kissinger once asked, “What in the name of God is nuclear superiority?” Due to the fact that both parts have considerable overkill- capacity, nuclear weapons imply no-superiority. *Seventh*, they are weapons inviting to *arms control*. *Finally*, nuclear weapons are signaling *prediction*: one knows what will happen, if they are used in the central East-West conflict: unacceptable damage. In other words: *no-future* weapons.

The first stage of missile defense was an integrated part of the *virtual war*. As demonstrated above new offensive nuclear weapon systems were continuously introduced. They were considered *total*, primarily having the aim of deterrence as *no-use* weapons. They were *no-war* weapons. They were *non-proliferation* weapons: the almost nuclear monopoly of the superpowers as large scale nuclear powers should be maintained as a consequence of exercising a nuclear world order: the United States and the Soviet Union succeeded in establishing the non-proliferation treaty in 1968. Having nuclear weapons should be restricted to the superpowers and their small nuclear power allies, UK, France and China. For the United States *the no-defense-principle* was upheld: no MD systems were deployed. Also the principle of *no-superiority* was working. It was demonstrated in the many disarmament and *arms control* negotiations and agreements of the 1960's and the beginning of the 1970's. The prediction principle, *the no future* notion also was at work. The period was influenced by the beginning of the short détente-era. The use of nuclear threatening was restricted.

The American strategy was clear and distinct. As it was expressed by the then Secretary of Defense Robert McNamara: “To deter a decisive nuclear attack on the United States and its

¹⁵ See Heurlin , Bertel (1986) “Kontrol med kernevåben”, København: SNU (Det sikkerheds- og nedrustningspolitiske Udvalg).

allies by maintaining a credible ability to inflict on a single aggressor or a combination of aggressors an unacceptable damage whenever during a nuclear exchange, even after having absorbed a first strike surprise attack. In case that such an attack will nevertheless occur, to limit the damage on the population and on the industrial capacity. The first ability is called 'Assured destruction', and the other 'damage limitation'.¹⁶

In this strategy deterrence was the decisive factor. The Soviet Union should be convinced that an attack on the United States would cause the end of the Soviet Union. For the United States no strict denial strategy implying serious attempts to exclude Russian nuclear attacks existed. Rather missile defense was part of the damage limitation, the attempt to limit nuclear damages as much as possible.

Missile Defense is in the first stage characterized as politically fairly desirable despite the fact that a defense never materialized. The argument is that the so-called "balance of terror", the situation where superiority cannot be established, was not fully politically accepted. It was necessary in general terms to secure oneself that this balance of terror was still fragile and delicate.¹⁷ This also included the damage limitation situation. Through the use of the term "fairly desirable" it is indicated that MD did not have the highest priority. The offence had. The assessment "Technically fairly possible" is justified by the fact that serious development programs were pursued, programs that *could* have been implemented to operative systems, but did not materialize during this first stage. In the first stage Missile Defense was an *option*, taken seriously by the US, due to its impact upon long-term political strategic considerations.

THE SECOND STAGE: 1972-1983

The characterization of this stage is that missile defense politically was hardly desirable and technically hardly possible. What happened from 1972-1983 was that missile defense continued on a low flame and became more or less dormant. In 1972 a comprehensive US-Soviet arms control agreement was signed. There were two parts: the SALT-treaty, limiting the strategic offensive weapons and their warheads and the ABM-treaty, reducing the number of ABM's to 2 x 100 missiles to protect the capital and one ICBM-base. The treaties were a demonstration of a close co-operation, a marked manifestation of the policy of détente between the superpowers; it also, however, was an indication of a continued confrontation: The United States as well as the Soviet Union declared the strategic competition would go on

¹⁶ Cited from Petersen, Nikolaj (1969) "Afskrækkelse og forsvar", København: Munksgaard, p. 45.

¹⁷ Hertz, John H. (1959) "International Politics in the Nuclear Age", New York: Columbia University Press.

in areas not covered by the treaties. In 1974 the parties went even further in the ABM-issue. Only two years after the first ABM-treaty the parties agreed that the maximum number of ABM-missiles allowed should be reduced to 100, to be deployed around either the national capital or the an ICBM-base. The USSR chose to maintain the ABM-sites around Moscow, the so-called Galosh-system, operative since the mid-1960's. The United States, however, had severe problems. An apparently effective system *Sentinel* turned out to be troublesome. After President Nixon in 1969 took over the administration the Sentinel system was expanded and renamed as *Safeguard*. The system was tested and finally deployed in 1976 around the ICBM-base in Grand Forks. It did not, however, last long. A few months later the missiles were deactivated. The United States had chosen not to exploit the possibility in the 1974-treaty to match the Soviet Union in the ABM-deployment. Politically and technologically the system did not in the end proved cost effective.

This American move can be interpreted as a rather ambivalent position to the co-operative, yet conflicting superpower strategic relationship. Two events exemplifying this assessment can be mentioned. Despite the superpower arms control condominium the United States decided to put its nuclear forces on alert during the Yom Kippur war in 1973 as a warning to the Soviet Union not to intervene in the war in a way unacceptable to the US. Also, the United States, as a part of the presidential campaign in 1976, officially abandoned the term "détente" as characterizing the US-foreign policy. It should be replaced by the concept "peace through strength".¹⁸

We see here a United States, sufficiently strong through SALT- treaty to admit strategic parity to the Soviet Union, a parity that the US did not need to exploit on the ABM-issue. We on the other hand, also see a United States not allowing the USSR to take liberties as part of the détente-concept, a concept that increasingly was considered weakening the United States.

Assessing the phase in terms of the nuclear weapons characteristics, we arrive at the following results: the *virtual war* continued. Prominent new weapon systems primarily offensive were continuously introduced in conjunction with arms control limitations. Nuclear weapons were more than ever considered *total* weapons, used for deterrence. This concept did work as it e.g. was demonstrated in the 1973-nuclear alert crisis. Also the Mutual Assured Destruction (MAD) concept was increasingly accepted as the strategic foundation. The crucial arms-

¹⁸ See Garthoff, Raymond L. (1994) "Détente and Confrontation. American-Soviet Relations from Nixon to Reagan. Revised Edition", Washington D.C.: The Brookings Institution, p. 614.

control regimes were strengthening the *non-proliferation* policy. Further the *no-defense*-notion was the winner: the United States was renouncing on the Missile Defense: it gave up its newly deployed system. The R&D-part, however, continued. The United States realized that *the no-superiority* notion had to be the basic point of departure in *arms control* agreements and in the superior strategies. But the no-superiority should not animate the Soviet Union to exploit this concept politically, e.g. to gain influence in the Third World.

To characterize the American missile defense policy in this stage to be politically hardly desirable and technically hardly possible is of course to simplify. It was, however, a fact, that the United States after 20 years of missile defense-development had recognized that no fundamental technological break through had appeared, and that the offensive weapons in the nuclear age were so powerful and superior that defensive weapon system for some time would remain in the background, in “the defensive”. For the time being missile defense was not capable to match the offensive capabilities. But for political and military-technology-reasons, R&D had to continue.

Missile Defense was during this stage, despite a temporary *détente* policy and technological shortcomings, still an option in the American long-term political- strategic considerations.

THE THIRD STAGE: 1983-89

1983 is the year of transformation in US Missile defense. The Reagan-administration took over in 1981. The military budgets went up, a tendency already introduced during the last years of the Carter-administration. The policy towards the Soviet Union became increasingly confronting. The stage from 1983-89 can in terms of Missile Defense be typified as politically highly desirable and technologically fairly possible. How to explain this essential change? What happened?

In April 1983 President Reagan in an official statement introduced the The Strategic Defense Initiative (SDI). The speech was a surprise. Only very few people knew about its content. A popular interpretation says only three: Besides the president, Nancy Reagan and Edward Teller, the father of the H-bomb. Obviously a group of military, strategic and technological experts had discussed and drafted the idea. The vast bureaucratic and political establishment, however, had not been involved. SDI was a virtual bomb under the traditional strategic concept. The result was a political explosion. Practically and physically, however, nothing really happened. No Missile Defense was deployed. SDI was, as the term indicates, an initiative, the beginning of a comprehensive R&D-program, and the beginning of a new way

of thinking, preparing for a fundamental change of the national security strategy of the United States. Signaling a new beginning was the main purpose.

SDI implied a bottom-up concept. Under attack was the notion of the offensive as the crucial factor in the nuclear age, leaving the defense as subordinated. MAD should be abandoned. MAD was short-handed explained in the following way: "Offense is defense. Defense is offense. Killing people is good, killing weapons is bad".¹⁹ The first claim, *offense is defense* means that having an effective offensive capability even after having absorbed a nuclear attack is equivalent with being defended, as the potential attacker will not wage to attack due to the fact that he would suffer unacceptable destruction. That *defense is offense* implies that in the moment you have an effective defense against incoming nuclear weapons you will be invulnerable and therefore free to attack your counterpart who will not be able to retaliate. That *to kill people is good, and killing weapons is bad* refers to the fact that if you direct your nuclear weapons against the weapon systems for the counterpart you may destroy the delicate strategic balance that is maintaining the notion of mutual assured destruction. To hit the cities, the population, will not have the same effect.

This interpretation could look like a caricature. There was a reason for using the acronym *MAD*. The logic of deterrence could be characterized as mad. President Reagan wanted to get rid of this logic. He aimed at skipping deterrence. The offensive threat to the adversary should not be the basic defense. Defense was supposed to be a real defense: a protective shield over the United States, preventing incoming missiles to reach their targets. United States should regain its invulnerability. But abandoning deterrence in this context would also have severe implications for nuclear weapons. This also was a vital part of the message introducing SDI. Nuclear weapons should become "obsolete and impotent". Reagan's vision was, as expressed in his Star War presentation, "that free people should live safe trusting that their security does not depend on the need for immediately to retaliate a missile attack, but that we could trace and destroy ballistic missiles before they reach our territory or that of our allies. Would it not be better to save lives than to revenge them?"

SDI was not just a bottom-up-strategy. It also was a farewell to strategic balance between the superpowers. The vision of an invulnerable United States implied a United States emerging as

¹⁹ Newhouse, John (1973) "Cold Dawn. The Story of SALT", New York: Hold, Rinehart and Winston, p. 176. See also Heurlin, Bertel (1974) "Rykker atomkrigen nærmere? En analyse af nye tendenser i amerikansk strategi", *Økonomi og Politik*, Vol. 4, 1974, pp. 304-340.

the superior part via a vis the Soviet Union. The United States seemed to be on its way to introducing a post-nuclear strategic world order, signifying United States as a superpower not only having a overwhelming nuclear overkill capacity but also being in the possession of an effective anti-nuclear-weapons system. With this vision in place the United States could in the long run control and organize the international system. This was, in reality, the essence of the 1983-message from President Reagan to the domestic security policy community, to the American population, to the Soviet Union and the rest of the world.

An analysis of the period according to the nuclear weapons framework will result in a negation of almost all the weapons characteristics. The nuclear weapons are not any more – according to the notion of the SDI - total weapons, signaling no-use and no-war. If nuclear weapons become obsolete and impotent they cannot fill these functions. Nuclear weapons cannot prevent war: war can be prevented through an effective missile defense. An effective missile defense is the decisive factor dooming nuclear weapons to obsolescence and impotence. The thesis on arms control as a crucial factor is also questioned as the arms control concept rests upon the balance of terror and upon no-superiority, relations that according to SDI will cease to exist. One single thesis seems still to be at work: non-proliferation. Theoretically in a world where Missile Defense systems are operative, the spread of nuclear weapons will not take place. What does play a role, and a crucial one, is, however, the *virtual war-concept*. We will return to that.

SDI was, as we have seen, no less than a revolution. It took, however, a long time to get the SDI-revolution implemented. And, as indicated, the revolution never took place in all respects and in all areas. Some indications of turning the direction of the national security strategy had come to the surface before 1983: discussions on how a nuclear war could be fought and how the United States could prevail in such a war. But the concept of a protective shield covering The US and its allies as the foundation of the general strategy was new. And the reaction was certainly mixed. To move from a concept of nuclear deterrence based on a central balance to a concept of *an anti-nuclear weapons superiority* was a big step, not least due to the fact that deterrence still had to be an integrated part of the general strategy. As part of domestic politics SDI was a scoop. The American population had never really grasped let alone adopted the logic of MAD. So, a simple solution of skipping the nuclear weapons in the long run and replace them by anti-nuclear weapons – ABM-systems – made sense for the American public. As part of the international politics the reaction was negative. Primarily the Soviet Union saw the SDI as a new step in the nuclear arms race, displaying a new and serious threat. The American allies also had their serious doubts of the wisdom of the project. But to the Soviet Union, SDI had serious implications. It became the beginning of the end of Soviet Union as

an empire and a superpower. SDI can be assessed as the last decisive move in *the virtual war* between the two superpowers, ending with the voluntary Soviet surrender in the Cold War.

So Missile Defense in the third phase was no doubt *politically highly desirable*. It was a political move, rocking the boat of nuclear deterrence. Also it can be assessed as *technologically fairly possible*. How come that there is this change from the former period where the characterization was technologically hardly possible? The answer is to be found in the SDI as a vision and the launching of the vision as a realistic concept. SDI was not about using or applying traditional and well-known technologies. They had already been tested, deployed and abandoned in 1976. The objective was a long term R&D program a la the Manhattan-Atomic Bomb-project during the Second World War, experimenting with and using completely new technologies. Massive investments in innovation, research and development were supposed to open up for the ultimate defensive system – or system of systems, diversified, multi-faceted covering all kinds of defensive necessities, demonstrating the marked, American technological superiority. An important precondition was a missile defense system based upon kinetic energy. The incoming missiles should be destroyed by physical collision or by laser beams. Using nuclear tipped anti-missiles were obsolete and dangerous. The basic argument for SDI was that the technology was not at hand, not available: the creation of relevant new technology was required. The precondition was a determined scientific, economical, and technological effort. In conclusion, during this stage, missile defense was not just a mere option; it has become an important part of the US- long-term political-strategic considerations.

THE FOURTH STAGE: 1990-2000

This stage is dominated by the structural sea changes in the international system: from bipolarity to unipolarity. The Soviet Union declined as a superpower. Missile defense had been heavily involved in this change. The Missile Defense-phase beginning with the end of the cold war and ending with beginning of the Bush-administration is characterized by the notion that missile defense is *politically fairly desirable* and *technologically fairly possible*. 1989 had demonstrated the political justification of SDI. The Soviet Union had changed its national strategy fundamentally. The Soviet term was “new thinking”. Part of the new thinking was to come to terms with the United States on the arms control issues. The Soviet Union in fact retreated from the arms race. They gave in and accepted practically all US- suggestions in the negotiations, not least concerning verification and control. The Soviet Union began to liquidate its empire: globally by leaving Vietnam and Afghanistan, regionally by withdrawing from Eastern Europe, introducing the Sinatra - “I did it may way”- doctrine as it was coined

by Gorbachev to replace the Brezhnev doctrine,²⁰ and finally locally by dissolving the union, as Russia declared itself a sovereign state.

SDI played, as indicated, as crucial role in these events. One may even claim that the Soviet Union surrendered voluntarily in the virtual war with the United States mainly due to the SDI. The Soviet military, political and economical establishment assessed SDI as the ultimate American step in the direction of establishing nuclear superiority. If you could not avoid this development, if you could not beat the United States, better join them. This is what more or less happened. The USSR accepted the Western international norms as global norms, and reduced itself to Russia proper. The end result was a partnership with US, including NATO.

After the end of the Cold War, American Missile Defense continued. Secretary of Defense in the Clinton administration Les Aspin changed in May 1993 the name of the Strategic Defense Initiative Organization to Ballistic Missile Defense Organization (BMDO). On this occasion the Secretary stated that the change of name marked the end of the SDI-decade and that SDI had played a decisive role ending the Cold War. In fact it is possible, according to a well-known scholar, to put a date on the end of the cold war: 21 September 1989. On this date the Soviet Foreign Minister personally delivered a letter to President Bush from President Gorbachev, containing a couple of important Soviet concessions on the Ballistic Missile Defense issue regarding the procedure of retreating from the treaty, demolishing the contested Krasnoyarsk Radar, regarding verification, also including concessions in the negotiations on the Strategic Arms Reduction Talks (START). The two parts were still not in agreement on the ABM-issue. But the letter was an indication of throwing in the towel. The days of the Soviet Union as a superpower were numbered.

To the United States the period after 1989 was a sweeping transformation. A New World Order had emerged. The enemy superpower had stepped down, leaving the United States as the only one on the podium. Using the nuclear weapons notions the new situation can be characterized in the following way: With the Soviet Union stepping down as a superpower, followed by its reduction to a Russia, a regional power with limited capabilities, the *virtual war* was over. The trump was SDI, certainly the most *virtual* of all the efforts, almost a *cartoon-weapons system* in the virtual war.

²⁰ The Brezhnev doctrine implied the notion of Eastern Europe (the Warsaw-pact members) as a Soviet sphere of influence, including the right to intervene militarily.

This implied a realization of President Reagan's vision of nuclear weapons as obsolete and impotent. But only a partly realization: the nuclear weapons were still considered the guardians of the Holy Grail: international peace and security- now not any more in the old bipolar understanding, emphasizing parity, but in the understanding and vision of the now super-superior-superpower: the United States. But nuclear weapons became positioned even higher in the hierarchy of weapons: *ultimate weapons of last resort*. Nuclear weapons became even more *political weapons*, for no-use. The war-preventing function changed dramatically. Nuclear weapons were not any more weapons hampering war between two opposing gigantic nuclear powers and their worldwide alliances. As part of the new structure of the international system, unipolarity, war again became a possibility. But wars between great powers became almost unthinkable. Internal wars, wars due to failed states, and most important: a-symmetrical wars, international intervention wars fought on behalf of the international society became the order of the day. For the first time it was possible to have the international society to act in unison.

The *non-proliferation* notion came under attack. With the dissolution of the Soviet Union, new independent states suddenly became genuine nuclear powers: Kazakhstan, Ukraine, and Byelorussia. Very fast, however, those countries voluntarily gave up their status. The same, by the way, happened to South Africa, which after admitting to be in possession of nuclear weapons destroyed them, and declared itself a non-nuclear country. The United States advanced its international non-proliferation policy, not least in relation to what later became labeled as "rogue states", Iran, Iraq, North Korea, Libya, and Syria. Two countries, for a long period regarded as "closet- nuclear powers", Pakistan and India, came out of the closet, yet without receiving the official recognition as nuclear powers, as was the case with the five "original nuclear powers, the US, USSR (Russia), UK, France, China, interesting enough identical with the five permanent members of the UN-Security Council. Concerning the *no-defense* notion, the situation was more dubious. On the face of it the nuclear defense functions could be regarded as rather irrelevant, as nuclear weapons had lost its political function as part of the virtual war. On the other hand, SDI had proved a strong political means to test the general capacity of the Soviet Union as a superpower. The test left the USSR behind. It did not pass the test. The final result was that the USA did not want to renounce upon the extremely important position not just as the superior nuclear power, but also as the superior anti-nuclear power. Still, also, Russia was a strong nuclear power.

Exactly *superiority* was and remained decisive. With the USSR stepping down as a superpower, the US grew relatively in capabilities, politically, societally, diplomatically, economically, technologically, and not least militarily. The balance of terror had disappeared. No balance of power existed any more. The United States did not emerge as a hegemon, the sole empire.

The international system remained as an anarchic system, the United States, however, clearly became “the *primus inter pares*”, the first among equals. The conditions in the international system was now marked by the American superiority in capabilities, the absence of zero-sum-games, balance of power, absence of a counter balance towards the United States, a tendency among the states to flock around the United States when it comes to vital issues of national security. Moreover a tendency for the US to pursue own interests, a tendency to US-designed regionalization could be identified.

As concerns *arms control* the pattern from the SDI continued. Arms control has lost its high priority from the heydays of parity and *détente*. It became an issue on par with many others, primarily attached to non-proliferation and weapons of mass destruction-disarmament of rogue states. As part of this context also the prediction-notion lost its preeminence.

But factually, what happened to Missile Defense? With the end of the cold war the United States could scan the international horizon and state that the overwhelming threat against the United States had gone. Internationally, the security situation had never been better. No expectations of a conventional or a nuclear attack on the territory of the United States. Russia was, as mentioned, still a strong nuclear power. Increasingly Russia was considered a partner. Russia was not any more USSR, but a kind of anti-USSR: it was democratic, it became a market economy, and it adhered to the now global norms of human rights and personal freedom. The vital threats to the United States could be identified as terrorism, with catastrophic terrorism on top of the scale. Unintended accidental attacks from Russia and a possible rise of China to a top-nuclear power with sophisticated nuclear systems were included in the scenarios. Also actual and possible threats from the rogue states emphasizing not only nuclear weapons, but also any kind of weapons of mass destruction were on the list.

Missile defense was a part of the answer to these threats - but only a part. The R&D fraction of the SDI continued. The ambitious SDI-project was transformed in 1993 into a more direct applicable and narrower project. In principle MD was *politically fairly desirable*. The budget did not change considerably. Four criteria were on the agenda: The state of technology, the effect upon the allies and partners, the relations to the states, threatening the United States and finally the costs for Missile Defense.

In 1998 a bipartisan commission chaired by Donald Rumsfeld recommended that the United States should develop a defense system against ballistic missiles. An overwhelming majority in the Congress (97-3 in the Senate and 317-105 in the House) voted for to deploy a national missile defense system as soon as it was technically feasible. A time schedule was introduced

for the development. In 2000 a missile act was signed stating that the country should establish a Missile Defense, without, however, deciding how, where, and when. 1 September 2000 President Clinton announced that he would transfer the final decision for National Missile Defense, NMD, to his successor. Referring to four criteria introduced earlier he stated that firstly, the technology was not yet ready, secondly that the impact on allied, partners and crucial states like Russia and China had to be studied closer, thirdly that the confrontations with states, threatening the United States had to be further reduced using diplomacy. The fourth criteria, the costs for NMD was not mentioned.²¹

All in all: in the fourth stage missile defense was *politically fairly desirable*. It had a certain priority, but it was considered a project to be further investigated concerning time and scope. The political drive from the SDI had diminished. Also the relations to the technological possibilities were to be discussed. In general it was assessed that MD was *fairly possible technologically*, depending on the resources available. In conclusion, Missile Defense in this stage was still an important option in the American long-term political strategic considerations.

THE FIFTH STAGE: 2001 AND ON

Would it be more correct to state the beginning of the fifth stage in 1998 with the Rumsfeld commission and the general bipartisan acceptance of the need for a missile defense? Some arguments could justify this choice. The key fact is, however, that the fundamental political missile defense decisions were not taken until the new Bush administration was in place. During the presidential campaign, Bush contra Al Gore, Missile Defense played a subordinated role. The Bush team, however, had missile defense pretty high on the agenda. The limitations of the ABM-treaty to develop an effective national missile defense were exhibited as politically unacceptable. This policy was entirely in line with the general foreign policy line of the republicans: to get rid of obsolete arms control agreements to ensure an American unilateralism not confined by existing or coming international agreements not in line with vital American interests. Bush was thus in contrast to Clinton's attempts to make an American decision on MD dependable on a revised ABM-treaty. The treaty had to disappear.²² In summer 2001, half a year after the start of the new administration, three traditional questions were officially raised by the new administration to form the basis for assessing the MD. They certainly were not new: Does MD work? It is cost-effective? And finally, how does it fit into the priorities of American security policy?

²¹ Dörfer 2002, p. 3.

²² Strategic Survey 2002-03, London: IISS, International Institute for Strategic Studies, p. 28

These criteria were put into perspective following the 9-11 attacks. Why support a system, which was not technologically fully reliable, not fully cost effective as it was supposed to protect against threats not specifically probable, not able to meet the threats coming from global terror networks using traditional, conventional, and easily attainable technologies? Nobody expected al Qaeda to launch ballistic missiles equipped with nuclear warheads, for the simple reason: why should they? For a non-territorial, non-state international actor there were smarter and simpler ways to terrify and to attack the United States. None the less 9-11 was a decisive event as concerns MD. The 9-11 attacks demonstrated the extreme vulnerability of the American society and the need to meet new threats on a number of levels. 9-11 proved that if the US should be able to respond to terrorist attacks from states or non-states an ability to defend itself from all kinds of attacks was required. An operative, comprehensive, coherent strategy of national security had to be formulated and implemented. This need was met in September 2002 when the new National Security Strategy was published.

Examining the Missile Defense after the beginning of the Bush-administration in 2001 has left no doubt of characterizing the US-policy as *politically desirable*. The project has full support from government, Congress and the population. Missile Defense is high on the political agenda. The fact, that the program is already operational and that a comprehensive program is planned and on tracks, also supports the characterization of the missile defense as *technologically possible*. There seems to be not only an expectation, but also a cognition that the system is functioning.

How to analyze missile defense in this phase according to the notions of nuclear weapons? The *virtual war* notion in the Cold War, bipolar version has disappeared. But it has returned in a new form, less war-oriented, less confronting, less action-reaction oriented, and certainly less marked by symmetry. We now can identify a kind of a *virtual war* between two parts, on the one side the United States and on the other states, not accepting the new world order, i.e. mostly the states, being characterized as *rogue*. On its part, the United States will try to persuade the rogues and the anti-world order countries and units by demonstrating excessive power and endless military programs, not least emphasizing technological R&D, that they should give up even thinking of competing with or matching the United States in the military-technological field. It would be waste of resources. The US will do anything to stay on top as the superior nuclear and anti-nuclear power of the world. These attempts are the main content in the *dissuasion strategy*. On the other front, actors and countries belonging to the anti-world order we see no united front, rather individual attempts to engage and counterbalance the United States, but certainly using the asymmetrical mode.

Concerning the *no-use* of nuclear weapons, it is still functioning despite the R&D attempts to explore the possibilities of having mine bunker buster nuclear weapons. They are still considered absolute weapons, but in a less decisive way, as increasingly the term “Weapons of Mass Destruction”, incorporating B- and C weapons, which not necessarily can be characterized total weapons, is introduced and constantly used. Internationally there is a tendency to an increased risk of a nuclear war. India-Pakistan is in the picture. But a local nuclear war is not rational. Further, the role of the United States as Asian power, playing the role of a regional pacifier should not be underestimated. Also here nuclear weapons are still political weapons. It also goes for North Korea and the other threshold nuclear rogue powers. So, one reason for the United States to set up a Missile Defense is that nuclear weapons are still *political weapons*. This implies that the US does not want to have its political freedom of action limited due to a political nuclear pressure from up-coming or potential weapons.

The *non-proliferation* notion is at work, generally strengthened. *No-defense* against nuclear weapons has disappeared forever. It is now a high-proliferated issue, and an increasing number of states are now affiliated with the global part of American Missile defense program. Still, however, the program is primarily an American monopoly. The *non-superiority* notion also has disappeared: in contrast the US-military superiority is more marked than ever. The notion of US-superiority is politically fully manifested in the new National Security Strategy of 2002. The arms control connection is also entirely given up: the masterpiece being the withdrawal from the ABM-treaty 2002. The prediction part attached to nuclear weapons is entirely changed. Now the vision is not Armageddon, *the no-future*, but rather the prediction that it is not a matter of *if* an attack with weapons of mass destruction against United States will take place, but *when*.

Five stages in the American Missile Defense program has been identified and analyzed according to general notions regarding nuclear weapons. The political desirability and the technological possibility have been differently assessed in the five stages. Nevertheless the basic missile defense programs were never questioned as options and the programs were never close to being cancelled. The R&D part continued uncontested during the years. This part could be seen as an assurance premium for the United States technologically to be kept a jour as concerns missile defense. In conclusion: during all five stages missile defense in differing forms and shapes has been at least an option as part of the general American political-strategic considerations. In two stages: 1983-1989 and 2000 and on - even a vision.

The Domestic and International Debate: The Pros and Cons

The domestic debate in the United States on Missile Defense has in some instances been intense despite the common and general accept in Congress and in the opinion polls. This debate has primarily taken place among the elite belonging to the political, scientific and strategic policy community. In other instances the debate has been more or less absent, except negative attitudes and demonstrations during circumstances where local populations were confronted with deployment of ABM-systems around densely populated areas.

The strong and heavy argumentation from the united front of opponents of a Missile Defense system can be condensed in the following simple assertions: *First*, Missile Defense has no *strategic* sense: it weakens deterrence, it weakens security, it is unreliable and flawed, it is generally too complicated to establish. It is even unnecessary as no real threat is present as concerns ballistic missiles. It takes invaluable resources from investments in military measures directed against actual, real threats. Even in the 21st century the offensive will always overshadow defense. *Second*, Missile Defense is *technologically* impossible: how to in any credible way hit a bullet with a bullet? How to cope with the defensive countermeasures? In the long run technology will prove that increased speed and precision will add to offensive, not to defensive measures. Missile Defense is further far from being technologically cost-effective. *Third*, it is *economically* a boundless waste. It is simply too expensive, and does not in the long run. It is in other words identical to throwing away money. *Fourth*, Missile Defense is negative in terms of *international politics*. It encourages an arms race, it is a detriment to arms control, and it is a threat to the delicate balance of power in world politics and thereby a threat to international stability. Its realization could make Europe, but not the United States vulnerable. It is generally to be considered as a threat to international peace and security.

This brief and condensed collection of arguments against a ballistic defense system, whether it is called ABM, BMD, NMD, or simply – as is now the normal term – MD, Missile Defense includes arguments from the heavy debates in the 1990's and around 2000. The debate in the United States as well as in most other parts of the world has, however, lost momentum and is presently mostly minor and scattered attacks on factual, specific programs as part of the general Missile Defense concept. Scholars, politicians, and commentators fundamentally disputing the wisdom of developing a MD are relatively rare as compared to the past. 11 September 2001 has resulted in an implicit impact upon the general discourse, despite the fact

that this attack had nothing to do with Missile Defense. It had, however, a lot to do with *defense*. Defense became a key word, materialized in the establishment of the Department of Homeland Defense. But also, the notion of defense was enlarged to incorporate extreme offensive measures, e.g. the strategy of preventive attacks.

STRATEGICALLY SENSELESS?

There are many voices stating that missile defense is strategically senseless. Among the arguments is the claim that Missile Defense is weakening nuclear deterrence. Although the strategic situation has changed after the cold war deterrence should still be an important part of the US military strategy; a missile defense will make deterrence less credible, since it is impossible to establish a missile defense that is 100% effective. The first and fundamental role of the game in a deterrence relationship is to have effective weapons of retaliation.

The counter argument from the supporters of the official policy is here that *firstly* deterrence is playing a new and less central role in post-cold war strategic setting since the central East-West nuclear balance has waned, and *secondly* that any kind of missile defense will strengthen deterrence, as the threats against the United States are expected to come from rogue states supporting terrorism. Without a missile defense, despite that this defense is not expected to have 100% protection ability, the United States could be self-deterred not to strike in self defense, including striking in a preventive or a preemptive way against aggressive or expanding rogue states.

Arguments that a missile defense will weaken the national as well as the international security are extending the general arguments of deterrence further by emphasizing the fact that what counts the most in military strategy is the superiority of offence versus defense. In this logic the US has to extend the ability to strike offensively worldwide, be it preventively or preemptively.²³ In the 21st century the superpower has less need for defense and protection: the open, individualistic society can best be protected by demonstrating the will to maintain invincible, and demonstrating the ability to defend itself mainly by offensive means as increased protection may lead to decreasing personal freedom. In contrast to the wisdom of von Clausewitz who considers the defense to be superior to offence due to the fact that defense includes natural factors, rivers, mountains, and oceans the wars of the new century are

²³ Referring to the content of the concepts of prevention and preemption as they are used in the US "National Security Strategy 2002", available at: <http://www.whitehouse.gov/nsc/nss.html>.

increasingly independent of time and space, of territory and geography. To establish missile defense is thus not in accordance with the insights of the revolution of military affairs, RMA, the notion that is the leading star of the modern American defense, marketed under the term *transformation*. RMA gives priority to offensive measures.

Counter arguments will emphasize the need for protection against WMD, the biggest threats of all. Protection and defense are relevant and necessary factors in dealing with threats from incoming missiles, factors that indeed make sense in military terms. Again, demonstrating defensive capabilities is necessary for domestic reasons, but is certainly also a military asset in the conflict with the opponents of the new American world order.

Many military related arguments go like this: missile defense is unreliable, flawed, has not proved to have any military value. The long history of Missile Defense has demonstrated a long series of failures, beginning in the 1960's. The only system to become operative was decommissioned a few months after being declared operative. This took place in 1976: the next system to be deployed and become operative is scheduled in 2004. It is still questionable if the system will be effective. It is full of flawed tests, failed basic architecture. Why set up systems that according to any military standards are not living up to the even modest expectations? This is considered to be waste of resources. Even worse: missile defense systems are believed to be a wrong priority. It will swallow up valuable resources which are heavily needed in areas that are of immense importance for the military security of the United States: the war against global terror, the war against – in the typical Rumsfeld formulation - “the unknown unknowns”, the war which has been characterized as the World War III.

The counterarguments are quite simple: yes, the process of establishing a missile defense has been tough, disappointing, and in many ways flawed. Yes, many resources have been used in order to conduct necessary research and development, in order to investigate into the possibilities and challenges on the one side and on the other into the limits and constraints of the broad field of missile defense. Despite weaknesses, it is, however, worth it. Two factors have to be emphasized. *First* two vital experiences and lessons-learned as part of the missile defense development process will be presented. As already mentioned the United States in 1976 gave up its newly deployed Sentinel system that was expected to defend one of the many American ICBM-sites. This was a daring decision, but it disclosed a firm decisiveness to prioritize and to cope with the strategic realities of the mid 1970's. It was all about strengthening one's position in the delicate nuclear balance. The United States reintroduced the notion of Missile Defense in a new, innovative even revolutionary way in 1983, namely the introduction of SDI, the Strategic Defense Initiative. This was an attempt to cope with the

new challenges of the 1980`s which as mentioned opened a window of opportunity to test the superpower position of USSR and to change the central strategic nuclear balance fundamentally. The basic concept was, also as mentioned earlier, to transform this nuclear balance into an “anti-nuclear dominance”, implying to demonstrate that the United States had the capability and the will to prevail in the virtual war with the Soviet Union. It does pay to prioritize in the right way; it does pay to use R&D for Missile Defense as a vehicle to demonstrate military and technological superiority.

Second: For domestic reasons any serious attempt to set up protection against WMD carried by ballistic missiles that a growing number of states possesses, is worth it. It is necessary, and is unavoidable. And for military reasons the United States has, being the dominating military power in the world, to be on the forefront as concerns missile defense. A mutual vulnerability vis-à-vis rogue states gives no strategic meaning. The superpower has to use any military means available and thinkable to reduce vulnerability. To protect itself against terrorists using unknown ways to exploit American vulnerability and inflict massive damage on the US homeland and US property is one extremely important priority. But to refrain from attempting to protect against very well known and possible threats from rogue states or other adversaries, is in US-governmental reasoning a policy that cannot to be forgiven. Even many missile-defense-critical analysts are in the situation after September 11 more or less in accordance with this statement. A critical voice like the director of defense studies at the Cato-institute Charles V. Pena is for example emphasizing, that “Given a strategy of less, rather than more military involvement, and to the extent that a missile defense is technically feasible – proven to be operationally effective (via realistic testing, including against decoys and countermeasures) – a limited land-based ballistic missile defense system designed to protect the US homeland makes sense.”²⁴ The critical dimension is not directed against the decision of President Bush when he announced the withdrawal from the ABM-treaty by arguing, “that defending the American people is my highest priority as commander in Chief. Nothing can prevent us from developing effective defenses”.²⁵ Charles V. Pena is urging that protection of the US homeland is fine and necessary. It is, however, not the responsibility of the United States to protect friends and allies, especially when many of them are wealthy enough to pay for their own missile defense if they think it is important for their own security.

²⁴ “Missile Defense: Defending America or Building Empire”, available at: [http:// www.cato.org/dailys/07-13-03.html](http://www.cato.org/dailys/07-13-03.html)

²⁵ Ibid.

TECHNOLOGICALLY SENSELESS?

There are convincing arguments claiming that missile defense is technologically impossible. As mentioned the impossibility is demonstrated in the saying metaphor, “to hit a bullet with a bullet”. On the other hand technology is developing extremely fast. To-morrow’s technology is to-day’s glimpse in the eye. Practically everything seems to be possible if one is prioritizing the technological development program by allocating sufficient resources.

This certainly is true: but still there are barriers that are very difficult and seemingly impossible to overcome in a near future. An example is, e.g. to construct a computer – a robot – to ride a bicycle. Efforts commenced in the late 1960’s. And still there is a very long way to go. It is simply too complicated. Missile defense seems to belong to this group of seemingly unbridgeable gaps in technological innovation and development. The explicit precondition for starting deployment has during all the years been that it indeed was technological feasible and ready for immediate use. This precondition does not any more seem to necessary. The present system is, as mentioned, scheduled for commencing the operational phase late 2004. But is it workable?

To many scientists the present missile defense system is flawed and will not work. A passionate, but highly competent critic of the present missile system is MIT professor Ted Postol. He has made a crusade out of exposing the flaws of the system.²⁶ He and other critics emphasize that the technology needed for an effective missile defense systems still does not exist. All the systems under development are in the early stages of R&D. They will undergo only rudimentary testing by the time they will be deployed, 2004-06. The test conditions will remain far from realistic. Further none of the X-band radars that are central to the system will be built by 2004. Even if technology worked perfectly, the systems being deployed are vulnerable to countermeasures. These countermeasures are far easier to build than the long-range missile on which they are placed. A comprehensive report from Union of Concerned Scientists and MIT was instrumental in calling attention to this problem. It contributed to president Clinton’s decision in 2000 not to deploy the system that the Bush administration now is fielding. According to Professor Postol and his associates the claims are that the program is based on the procedure first to get the system work against missiles without realistic countermeasures and then second to get it function against missiles with countermeasures. This situation is similar to plans to build a bridge to the moon. Instead of

²⁶ Postol vs. the Pentagon, available at: [http:// www.nuclearfree.lynx.co.nz.diaopposed.htm](http://www.nuclearfree.lynx.co.nz.diaopposed.htm), Union of Concerned Scientists, 23 June 2003.

assessing the feasibility of the full project before moving forward it is decided to start building the onramps, since that is the part they know how to do.

Another organization, the American Physical Society, has raised serious doubts about the technical effectiveness of the boost-phase weapons under research and development. A 400-page report from a 12-member group under the APS, the largest US-association of physicists released in summer 2003 concludes that a boost phase anti ballistic weapon will “push the limits of what is technically possible”.²⁷ While the boost-phase weapons might provide some defense against longer burning liquid-fueled missiles they would prove entirely ineffective against faster, solid-fueled missiles, missiles that North Korea and Iran are likely to possess within the next 10-15 years. The study did not deal with the system to be deployed in 2004 that is intended to target missiles in their midcourse flight. But, as indicated, the Bush Missile Defense program is a multilayered program aiming at incoming missiles in all phases. Characteristic enough for the present discourse on missile defense the APS study group stopped short of calling the boost part of the missile defense program “a waste of money”. The purpose of the group was, according to the co-chairman professor Daniel Kleppner, “just to bring the facts forward”. The report had, however, a certain impact on the congressional support for boost-phase systems: the Congress decided to slash the administration’s requests in this specific area. It is interesting, however, that another boost-phase program known as the Airborne Laser, which involves mounting a laser in a Boeing 747 jetliner with the purpose of zapping missiles received the requested amount of money. This program is, however, delayed, not least due to weight problems, and testing is rescheduled to 2005.

The counterarguments are primarily emphasizing confidence in the technological feasibility of the projects but the arguments also contain a certain portion of uncertainty. In the Bush-Administration in general and in the Pentagon in particular there of course are differing opinions of how to prioritize, but all the decision making units have on thing in common: a defensive missile system *has* to be developed. The United States as the only superpower has no choice in this matter. This way of reasoning is also bipartisan and is, as we have seen, heavily supported by the population. The problem is *when and how*. It seems to be the common opinion that is it preferable to establish as soon as possible an operative system even if it is poorly functioning in technical terms in order to demonstrate – domestically and internationally that the United States has will and ability to stand up against a coming threat. A

²⁷ Washington Post, 16 July 2003, P. A02, Bradley Graham, “Questions on Missile defense Plans”, available at: <http://www.washingtonpost.com>.

skeptical voice will urge that maybe it is politically and strategically wiser to continue with an innovative Research and Development program emphasizing solutions along a broad spectrum of technological possibilities. The fact is that the administration has decided to do both.

Thus, the counterarguments are all in the same direction: the program is technically possible because it has to be possible. With enough resources the technical solutions will appear, if not now then some time in the future. It is necessary to focus on present as well as future threats. To neglect the possibility of countering missile threats is unforgivable. A fast technological fix is, however, not enough. The United States has to be on the technological forefront all the time. And not to deploy operative systems until they are 100% workable and reliable is a failure. One has to admit that systems will never reach the 100% limit. Therefore, the focus has all the time to be on the *process* more than on the immediate *outcome*. As it is emphasized by the Missile Defense Agency in 2003, "The Department of Defense established a single program to develop an integrated Ballistic Missile Defense System (BMDS) under the Missile Defense Agency. And while there is only a single BMDS, there is no final or fixed missile defense architecture. We are employing a spiral development approach to incorporate upgrades to the BMDS, the goal of which is to 1) Field an initial capability in 2004-05, 2) Add networked, forward deployed ground-sea, and space-based sensors to make the interceptors more effective in 2006-07, 3) Add interceptors, 4) Add layers of increasingly capable weapons and sensors, made possible by emerging technologies".²⁸ This is politically acceptable and possible due to the highly positive public discourse on Missile Defense in the United States.

ECONOMICALLY SENSELESS?

But what about economy? In the 1990`s Clintons provocative statement "It's economy, Stupid" characterized the political landscape. Is the general statement today "It's security, Stupid"? And does it mean that after 9-11 there are no limits for using money to national security efforts? The answer is simple: certainly not. The question is rather: security has admittedly the highest priority. But how to get - not "the biggest bang for the buck"- but the most solid security and the most secure protection for the buck is certainly on the political agenda. Should the money be spent on the traditional conventional forces, on the ongoing transformation processes including Research and Development, on homeland defense, on the war on terrorism, on nation building and democracy-processes, or rather on missile defense?

²⁸ July 2003, available at: <http://www.acq.osd.mil/bmdolink>.

According to Strategic Survey the general increase of defense expenditure for the fiscal year 2004 can be estimated to 4%, the spending for ballistic missile defense has increased by 12% from \$ 8.1bn to \$ 9.2bn. In the time to come, huge clashes of interest will emerge over – not so much on “how *much* is enough” – but on *how* to spend the money for defense. State and federal interests will clash and there will be clashes between the military services, between the bureaucratic organizations and institutions, and between strategic interests on homeland or on global defenses. The ongoing wars - the war on terror, the war in Afghanistan and the war in Iraq will also contribute to growing budgetary problems.

Adding to this there are the ongoing and already mentioned activities as concerns missile defense that are denounced to be possible wastes of money. We are here referring to the boost-phase efforts that have been heavily criticized by the APS-report. Despite the report’s negative conclusion Pentagon will spend nearly \$ 1 billion in 2004. Also the October 2004 deployment announced by the administration includes “up to 20 sea-based interceptions employed on existing Aegis ships to intercept ballistic missiles... during the boost and ascent phases of flight”.²⁹ According to the Center, “the administration plans to bury its head in the sand and continue to pour billions into a missile defense approach that cannot be effective either now or in the future”.

It is unavoidable that political and administrative controlling pressure will remain on the missile defense projects and programs. Basic, problematic questions will remain: is the limited outcome worth the heavy investment? Are the projects well grounded, well researched, well tested, and well funded? Is the rush to establish an operational defense system by the end of 2004 immature and built upon a politically demand without a proper technological basis? There are several examples of failures and money spent in vain. In fall 2003 the US General Accounting Office recommended that the Pentagon should review a missile defense satellite system because of lingering problems that could result in major program costs and schedule overruns.³⁰ The so-called Space-Based Infrared System (SBIRS) has according to the General Accounting Office report of 31 October 2003 been “burdened by immature technologies, unclear requirements, unstable funding, underestimated software complexity, and other problems”. This SBIRS-system is intended to replace the current constellation of Defense Support Program (DSP). The DSP satellites have been in operation for 30 years and provide

²⁹ Center for Arms Control and Non-Proliferation, available at: <http://64.177.207.201/pages>.

³⁰ Wade Boese, “GAO Calls for Review of Missile Defense Satellite Program”, Arms Control Today, available at: <http://www.armscontrol.org/act/2003>, p. 1.

information on worldwide missile launchers, among other tasks.³¹ The new system is also intended to gather intelligence and provide timely battlefield information to US troops. Due to many deficiencies revealed during the tests the expenses have more than doubled. Originally projected to cost \$ 1.8 billion to research and development, the system is now budgeted at \$ 4.4 billion.

How is the administration trying to explain the flawed use of money on missile defense, and how is the current prioritizing justified? Generally the costs for missile defense can be considered a pittance; it is only a small fraction of the defense budget, not to mention of the net federal budget. As a point of departure it has to be underlined that far the biggest part of the budget for Missile Defense is reserved for Research and Development. The budget is 8 to 9 billion dollar, but less of the one tenth of this amount is used for what is called MILCON (Military Construction) which is one of two major funding appropriations, the other and totally dominating being the Research, Development, Test and Evaluation (RDT&E). MILCON deals with the practical work connected to the deployment of systems designed to be operative, primarily the systems to be fielded in Alaska and in California. *First*, it is a high priority for the administration not just to focus on the current deployment but also to be highly prepared for the coming years and for the future technological and military position of the United States worldwide. *Second*, it has to be emphasized that long term planning for research is extremely difficult. Following a totally prepared schedule will exclude unexpected and valuable technological gains, insights and inventions achieved during the research and development process. The missile project is a unified effort but certainly not programmed to look for or focus at only a single set of solutions. *Third*, there may be, or is supposed to be some dead ends, some flawed projects, and some crucial goals that are not immediately met. But every effort necessary to protect US citizens including allies and friends against what is considered to be most fatal threats, missile attacks with weapons of mass destruction has to be supported. Missile defense is popular because Americans want to regain as much as possible their sense of invulnerability and are willing to bear the costs for doing so.

INTERNATIONALLY SENSELESS?

As has been indicated one of the most crucial and persisting arguments against deployment of missile defense has been the negative effects upon the development of world politics and on international stability. It was the general attitude among the nations – until end of the 20th

³¹ Ibid.

century also including the United States that although the arms control agreements from the Cold War had lost some of its original political importance and focus, they were still relevant and worth maintaining. This attitude included not least the ABM-treaty. The treaty was interesting because it allowed each of the two participants to have 100 anti-ballistic missiles. But the treaty also allowed the two parts to conduct research and development inside some limitations. Later this developed into a heavy conflict inside the United States with Russia on the sideline whether to adhere to a “broad” or a “narrow” interpretation of the treaty’s text on the restraints on research and development. Increasingly the tendency to reassess the virtues for American security of still adhering to restrictive arms control agreements became part of the new security agenda. This was reinforced by the new Bush administration. The open signals from the United States towards withdrawing from the ABM-treaty intensified the general opposition to the US-missile defense plans. One can even speak of an international “united front” in this respect. The arguments were that missile defense would weaken deterrence, weaken international stability and security, ignite arms race and create fear for US-dominance. So the united front encompassed most European States, including Germany, France, Russia, China, India and practically most other states in the world. The United States was thus pretty alone in this case.

We have already dwelt upon the arguments as concerns the international realm for and against missile defense. The United States fought almost alone, defending its right to defend itself against incoming ballistic missiles that could or probably would contain weapons of mass destruction, be it unauthorized, rogue state-delivered, or coming from elsewhere. The US arguments claimed that a missile defense (referring mostly to the US-national missile defense-concept) would strengthen deterrence, which still was an important part of US strategy; further missile defense would increase strategic stability and international peace and security; it would dampen the arms race; and no US dominance was intended, but as the United States position in the international system as a fact of life was dominating owing to its capabilities, it was the national, as well as the international duty to protect itself from attacks or from blackmailing due to the credibility of possible threats of offensive actions with ballistic missiles.

The whole international setting changed, however, as a result of 9-11. The structure of the international system remained unchanged, but fundamental foreign and security policy transformations took place. *First*, the United States effectively, declaration-wise widened

the concept of Missile Defense from the narrow national missile defense into a global missile defense program intended to cover allies and friends, and focusing not just upon ICBMs, but

also attempting to include short range ballistic missiles, medium range ballistic missiles and other kinds of missiles: also protection against cruise missiles should be included. *Second*, as part of the general international acceptance of the war against terrorism under US-leadership supported by the United Nations, an acceptance already expressed by the generally approved declaration the day after 9-11 in the French newspaper *Le Monde*: “We are all Americans”, an international discourse became dominant. The short hand version was human civilization versus terrorists. Very fast, however, contrasting interpretations of how to interpret or define terrorists appeared. Russia and China were both fast to exploit the window of opportunity suddenly opening up: the possibility of combining the establishment of structural necessary close relations to the superpower with a closer international recognition of the way in which the two countries behaved vis a vis what they considered *their* terrorists. I.e. in the case of Russia the uprising and fighting in Chechnya and for China, the ongoing fight against Muslim uprising in the Xinjiang province.

The result was that Russia reacted very low key to the American decision December 2001 to declare that they intended to withdraw from the restraints of the ABM-treaty; a withdrawal, which according to the treaty’s article 15, could enter into force after 6 months, i.e. June 2002. Likewise China – despite protests and modest threats of countermeasures – tacitly accepted the new game of the play. In Europe the situation developed along the same path. In summer 2001 President Bush visited Europe in order to gain support for the administration’s missile defense program, resulting in rather reluctant and hesitating if not simply negative attitudes on the part of the European allies. This changed fundamentally after 9-11. At the Prague NATO-summit 2002 it was decided to launch a new study to develop strategic missile defense systems being able to protect the whole of the European territory.³² The United States had expressed its interest to assist the European NATO-partners to deploy missile-defense systems that were intended to be part of a truly global system of defenses, based on technical insight into the American technologies and possible European industrial participation. It is, however, doubtful if the European governments most of which is in the process of fundamental transformations of their military forces that probably only in a very few cases will imply an increase in military expenditure, rather the opposite, will choose to give priority to missile defense efforts. But European states are, nevertheless, directly related to the US Missile Defense plans.

³² Strategic Survey 2002-03, London: IISS, International Institute for Strategic Studies, p. 39.

The US-administration formally requested the British and the Danish government to permit the upgrading of radars at Fylingdales base and Thule base, Greenland, respectively.³³ This happened the same day, 17 December 2002, as the administration announced the decision to begin deployment of the missile defense system 2004. In February 2003 UK approved the upgrading and Denmark followed suit in July 2004 after a period of a public debate that never really materialized to follow suit. Japan as well as Australia has indicated willingness to join the US in the attempt to establish regional missile defense systems. As mentioned, China and Russia are in different ways trying to adapt to the current situation with the United States as the worldwide dominating anti-ballistic missile power.

Explaining US-Missile Defense Program

The facts are obvious: the US-Missile Defense system is about to be deployed. It will be widened and further developed. We will not experience a continuation of the deactivation processes of the 1970's. The United States has effectively and irrevocably placed the national and global ballistic defense issue on the international agenda. It happened in a demonstrative and even somewhat provocative way; due to the 9-11 events, however, the negative effects were reduced. So, Missile Defense remains on the international agenda, even as an indisputable factor. This is despite some apparent challenges: On the one hand, missile defense in a straight and narrow *strategic* sense is doubtful. It could be argued that for a strong US adversary it is easier, cheaper and faster to build more offensive missiles including decoys and other countermeasures than for the United States to establish an effective and reliable defense against these missiles. In other words: it is possible to saturate a Missile Defense system due to the uneven balance between defense and offense. On the other hand: in the post-Cold War strategic environment asymmetry and not symmetry is reigning. A rogue state will have problems with producing enough offensive missiles to saturate the defensive systems.

Further American Missile Defense still is in trouble as concerns *technology*. The current technological efforts and inventions are still not fully reliable, and the final testing has proven in many ways unsatisfactory. The vision of an impenetrable shield around the United States including friends and allies may appear an illusion. There are serious doubts that the projects can be technically accomplished. Add to these facts the problem of *economy*. Economically the

³³ Ibid.

program can prove to be a disaster: to use \$ 70 billion over the coming few years is a fair amount of money which could be used for effective fighting capabilities or capabilities to protect Americans against more probable threats than those emerging from ballistic missiles with weapons of mass destruction. Finally, in the long run and also at present there is latent fear among rather many countries in the *international* system that Missile Defense will, despite all its deficiencies be an important tool to function as a manifestation of US-dominance - militarily as well as technologically. Also many countries will question the American will and ability to emphasize protection of friends and allies to the same degree as the willingness to protect the American homeland.

So, why is it so that missile defense has gained the highest priority in the development of US defense capabilities? The obvious answer has to be found in the latest of the propositions mentioned above: sustainability of US-superiority in the international system. Here we are in the centre of the whole issue. It is my assertion that the most fruitful way to interpret and thereby explain the US-missile defense is to focus on exactly the superiority issue.

Theory in the neo-realistic tradition will tell us that the United States – like other states – will strive for survival. There is a reason for having an effective defense reflecting the US-relative capabilities worldwide. Also theory tells us that the United States is aiming at keeping its current relative position in the international system, i.e. the position as the only superpower. It is as a part of these simple assertions one has to find the explanation for the development of a US-missile defense. The basic claim is that the main agenda for the United States is not the specific missile defense program. The program is indeed important, but it has to be assessed in a much broader context. For the United States it is – in the view of the international and global challenges of the 21st century – a priority to maintain and widen the general technological and military superiority worldwide and thereby its relative political position.

Missile Defense has to be assessed, *firstly* as part of the general strategy of the United States, and *secondly*, as part of the specific military strategic-technological development, referred to as RMA, revolution in military affairs, and *thirdly* as part of two crucial interrelated dimensions: the dimension of cyberspace and the dimension of space, the mantra being: he, who commands the cyberspace as well as space commands the world.

First, an important part of the National Security Strategy (NSS) of September 2002 is – besides the strategy of prevention and preemption - the *dissuasion* strategy, a strategy that implies a continuing world wide dominating military superiority. In part 11 of the NSS it is stated, “Our forces will be strong enough to dissuade potential adversaries from pursuing a military build-

up in hopes of surpassing, or equaling, the power of the United States.”³⁴ This part of the strategy implies that the United States will never accept a kind of returning to bipolarity, which reigned during the Cold War, including the acceptance of military parity as a basis for the strategic relationship. Neither the United States will consent to a multipolar structure, implying that a combined force of US-adversaries could equal or even surpass the United States in military power. Having the dissuasion strategy in mind as a cornerstone of the national security strategy, there will be an implicit requirement to demonstrate that dissuasion has a concrete substance. The means of dissuasion are to keep on alert all the time by having the most sophisticated, advanced program of military research and development in order not to be taken by surprise by any potential adversary. Or as stated in the strategy paper, “to be menaced by catastrophic technologies in the hands of the embittered few”.³⁵ The US can never stop being on the forefront of any technological development that can be used for military purposes. This is a heavy burden for the United States, as it can never give maximum priority to solving a current threat. There always have to be continuing efforts to look beyond the actual situation, taking in consideration the coming middle term, and certainly also the long-term military-technological development. In this context the missile defense is an important factor: the United States is, according to the dissuasion strategy aiming at a long term program that is extremely all-embracing-oriented and that cannot exclude any feasible technological solution to the Missile Defense problem.

Second, all statements as concerns the American military development begins and ends with reflections and invocations dealing with the concept of transformation. Transformation is the official term for Revolution of Military Affairs (RMA). It involves a change of culture, of thinking as regards war and peace, roles, tasks, and performances of the arms forces, requiring new strategies, tactics, organization, equipment, education. Transformation is characterized by military operations conducted with knowledge, speed, precision, lethality and surprise. It involves a reassessment of the types, locations, numbers and capabilities of the US-military forces worldwide. The forces have to be more agile, lighter, and flexible. The chairman of the Joint Chiefs of Staff General Myers is referring to a whole spectrum of changes, pointing to an acronym, DOTMLPF, or doctrine, organization, training, material, leadership, personnel and facilities. Normally one is focusing on the M-factor, the material. But more important than

³⁴ The US National Security Strategy 2002, available at: <http://www.whitehouse.gov/nsc/nss.html>, p. 30.

³⁵ US National Security Strategy, op.cit, ch. 1, p.1.

technology is, according to Myers, is the intellectual, the mental component in the transformation.³⁶

The crucial problem is that transformation or RMA is an ongoing process, where the US-military “still is grabbling with the implications of this ‘megatopic’”.³⁷ The transformation is “still quite incomplete”. The enormous complication is that the US-military posture in many ways still is a legacy of the Cold War.

What are the relations to Missile Defense programs? Looking at the mission for the Missile Defense, namely “to develop and field an integrated Ballistic Missile Defense System (BMDS) capable of providing a layered defense for the homeland, deployed forces, friends, and allies against ballistic missiles of all ranges in all phases of flight”,³⁸ it seems to be defined rather narrowly and precisely. In theory the ways and the means to achieve the ends are open. Looking at the appropriations for the R&D for Missile Defense for the coming years there seem to be some sort of coherence inside what insistently is referred to an integrated project. This integration-notion is, however, in opposition to the general philosophy, also emphasized by the president, namely “to establish some kind of workable defense, to have a start, some point of departure, but allowing for development dealing with the “unknown unknowns”. In order to catch the spirit of transformation, any kind of incremental change is considered negative. Taking existing systems and in small jumps, to make them better, is not transformation.³⁹ And transformation is particularly relevant as concerns missile defense. This requires a couple of important factors: first of all innovation. Innovation is the mantra for practically all policy areas of the United States. An example is the claim, that innovation is the key element of US Foreign Policy. As it is expressed: “The policy must respond, through innovation, to changes in the environment of both threat and opportunity”.⁴⁰

Innovation is crucial for Missile Defense since it fundamentally is based on an attempt to set up a kind of defense that until now has never worked. Innovation leading to inventions of completely new weapons systems that can change the face of war is basically what

³⁶ Jim Garamone, “Transformation Part of War on Terror, Myers says”, American Forces Press Service, 3 December 2003. Available at:

http://www.dod.mil/news/Dec2003/n12032003_200312036.html.

³⁷ Ibid.

³⁸ Statement from Missile Defense Agency, available at: <http://www.mda.mil>, 11 December 2003

³⁹ Ibid, Press Service, 3 December 2003.

⁴⁰ Text released by State Department, 18 November 2003, available at: <http://www.usembassy.dk>, p. 1.

transformation is about. The main examples from the last 50 years will obviously include the A- and the B-bomb, the nuclear tipped intercontinental ballistic missiles, and the Polaris submarine-launched missiles, the SLBM's. These systems fundamentally changed the face of war. In a strange way also the SDI-project had the similar effect: it certainly changed the face of the so-called virtual war between the superpowers resulting in the Soviet voluntary surrender. The Missile Defense system is also expected to change the face of war, not least based on the invention of brand new technologies, for example the hit-to-kill concept, using kinetic energy as a weapon or the exploitation of directed energy, primarily lasers, used for fighting purposes but also for communications. A further attempt to change the face of war lies in the planned first part of the layered Missile Defense: the boost phase. The technical innovations that are necessary to hit a missile in its extremely vulnerable, but also extremely short initial phase will in a way transform the general notion of the term defense contra offense. Exceptional fast and comprehensive access to relevant information and data is a precondition for exercising a defensive counterattack; further antimissile weapons platforms have to be rather close to the enemy missile launching position which again will require big amount of such weapon platforms that have to be fast deployable.

These considerations are in full accordance with the general transformation thinking in the United States. It deals with the question of presence of US forces. Presence indicates that military capabilities in certain locations are needed to provide either reassurance to allies and partners or to deter and/or dissuade those who would challenge the United States, its allies or its interests. Another aspect is the pre-positioning of equipment and supplies. Pre-positioned equipment should facilitate movement to US forces to areas they are needed.⁴¹

With these technologies made operative the United States makes available to itself a great variety of strategic choices. Prevention and preemption are already important parts of the options: the possibility of a strike against a missile in the boost phase is very close to – but still very different from – a launch on warning act, which again could be perceived as a kind of a defensive measure.

Also transformation has to do with the hidden and the unknown threats. As concerns Missile Defense the types, the characteristics and the performance of the different missiles and the countermeasures against the Missile Defense are well known to the US military. Only few surprises are expected. Still the Missile Defense research and development is aiming at

⁴¹ Available at: <http://www.defenselink.mil/news/Dec2003/n12022003>.

collecting and eventually exploiting the broadest knowledge possible. Not primarily regarding the possible current or future threats – but certainly regarding how most effectively to meet and counter the threats.

Thirdly, the two interrelated “new” dimensions of warfare, space and cyberspace have to be mentioned, contributing to explain the crucial position of missile defense. Space has in the past been a priority for US-defense, but has experienced a kind of neglect in the last couple of years. Vice Admiral Cebrowsky responsible for force transformation has in December 2003 characterized the situation in the following way, “emphasizing the need for a shift from ‘supplier-centered intelligence’ to ‘demand-centered intelligence’. In this area is the whole idea of space. Department of Defense must be more adaptable in space.” He noted that there were 38 launches of micro satellites in the last few years and that the United States did not participate in any of them.⁴² A shift in the priorities is certainly underway. Secretary Rumsfeld stated a few days later, that “the importance of space and missile defense cannot be overstated”. Further he emphasized that “the importance of space will only increase in the future. Space is fundamental to modern warfare and vital to US-interests”.⁴³ Cyberspace is the closely related factor: Space is the necessary precondition for the global network, cyberspace. And as is known to everybody working with computers, cyber networks are extremely vulnerable to attacks. Therefore the United States is using a fairly amount of resources to secure not only the military cyberspace but also the vital civil networks. The coming years will see an expanding effort to explore and there by to be able to better defend cyberspace and space. An obvious aim for the US is to dominant in space as well as in cyberspace. Major General Blairsdell of the Air Force Operations stated in March 2003: “We are so dominant in space that I would pity a country that would come up against us”.⁴⁴

Space is a tricky concept. Space can be defined as everything above the atmosphere, normally defined as reaching up to 100-110 km from the surface of the earth. Space includes satellites, space vehicles and ballistic weapons that are returning to earth’s atmosphere after having been flying outside in their midcourse phase. The outer space is demilitarized as concerns weapons of mass destruction meaning that it is forbidden to deploy such weapons according to the Outer Space Treaty of 1967. There are no intentions from United States to violate this

⁴² Jim Garamore, American Forces Press Service, 3 December 2003, available at: <http://www.defenselink.mil/news/Dec2003/n12032003.html>.

⁴³ Rumsfeld, available at: <http://www.defenselink.mil/news/Dec2003/n121003.html>, 10 December 2003.

⁴⁴ Available at: http://www.defenselink.mil/news/Mar2003/n03122003_200303127.html.

international treaty. Nuclear weapons and other weapons of mass destruction have no relevant role to play in space. Nuclear weapons would have devastating effects if brought to explosion in space as well as in outer space stopping all electronic signals and equipment. This could emerge as a new threat. In fall 2003 President Bush issued a plan to revitalize the peaceful exploration of outer space, preparing a mission to Mars to take place in 10-15 years. Although there are no connection between the civil efforts to investigate in the outer space and the military programs that are restricted to space, both endeavors are part of a broader concept of staying and enhancing the position of being on the forefront as concerns general technological R&D.

As concerns space it is, according to STRATCOM Commander Ellis, “essential to everything we do”.⁴⁵ In 2002 Defense Department built a new unified command by combining the missions and strengths of US Space Command and the former US Strategic Command. The new STRATCOM, one of the nine US unified commands, is headquartered in Nebraska. It is the command and control center for US strategic forces and it controls military space operations, strategic warning and intelligence assessments. It provides operational space support, integrated missile defense, global C4ISR and specialized planning expertise to the joint war-fighter. In the opinion of the commander, “only by integration the commands’ aggregate strengths will STRATCOM bring its entire range of global capabilities – space, missile defense, planning, communications, information operations, kinetic and non-kinetic strike, and intelligence – and ensure the US military stays one step ahead of our adversary”.⁴⁶

So space and as a consequence cyberspace, will increasingly, be the main battlefield and place of competition between major powers, following the assertion that in the 21st century, *he who commands space will command cyberspace. And he who commands cyberspace will command the world.* In this competitive realm the United States has - and intends to keep the military and technological superiority. This is done through massive and diversified research and development efforts in military and military related technology now and in the future.

To sum up: Although President George W. Bush on several occasions has stated that “America’s development of a missile defense is a search for security, not a search for advantage”,⁴⁷ we claim that a superior explanation of the current Missile Defense program

⁴⁵ Available at: <http://www.defenselink.mil/cgi-bin/dlprint.cgi?http>, 26 September 2003.

⁴⁶ Ibid.

⁴⁷ Ibid, July 2003.

taking point of departure in a neo-realistic theoretical understanding will state that the decisive factor is maintaining American strategic-technological superiority. RMA is supporting Missile Defense in term of *innovation*. Space and cyberspace-issues support by emphasizing the *exploration* factor. All these objectives are enshrined in the dissuasion strategy as it is outlined in the US National Security Strategy of 2002.

Conclusion

The objective of missile defense in a narrow sense is to reduce American vulnerability against WMD-attacks. One could add that to achieve this objective for around \$10 billion a year, a relative small fraction of the American defense budget is impressive. The project is, however, expanding. The actual deployment and the current R&D projects are only the beginning. The need for new technologies and the demand for continuously to stay in frontline of military-technological research and development will for the United States imply still expanding programs dealing with Missile Defense in a broad understanding.

The main argument of this brief is that besides the need for meeting current new threats and challenges there are long term agendas behind the US missile defense program: for the United States to ensure a continuing and increasing strategic-political-technological world wide superiority, while at the same time being able to assist allies against WMD- threats from rogue states and rogue actors.

To explain in full the efforts to establish American missile defense programs one has due to their visible shortcomings and widespread skepticism from different constituencies to go beyond the immediate security needs for the United States to defend against rogue states, to reassure against unintended firing of missiles, to deter rogue states from developing intercontinental missiles, to increase deterrence in a crisis, and to protect US and allied forces against missiles. The shortcomings and skepticism refer to missile defense weaknesses on the military, technological, economical and international dimensions. Since it's beginning after the introduction of the ICBM Missile Defense has been closely attached to superior political-strategic considerations and rationales. The current Missile Defense program initiated in a bipolar world and further developed in the new unipolar World Order is thus – according to theory - to be explained in terms of survival, relative power, and the maintenance of the relative position in the international system. Missile Defense has to do with an immediate search for security but is primarily a long-term weapon systems program aiming not least at *maintaining the strategic-military superiority worldwide*. The main statements in the 2002 National

Security Strategy empirically support the long-term objective, not least by what can be referred to as the dissuasion-strategy. A marked expression and manifestation of this part of the strategy is growing emphasis upon keeping technological superiority, not least by RMA-based *innovation* and space and cyberspace based *exploration*.

The analysis has demonstrated that the US-missile defense program, despite military and military strategic deficiencies, despite technological flaws, despite accusations of waste of money used for seemingly farfetched in the long run non-workable technologies, and despite international resistance will continue to have a high political priority. Further, based on theoretical assertions and empirical evidence from the primary political declarations, the analysis suggests that Missile Defense has been given the highest political and economical priority, not primarily to provide the United States and allies with a defensive, protective shield but basically to have missile defense as an important political vehicle as part of the far broader and long term project: with all means to maintain the United States as the unrivalled, and matchless superpower, unsurpassed technologically and militarily.

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