

Determining Trajectory: Defining the BMD Debate

Sean Clark

Introduction

Ballistic Missile Defence (BMD) is one of the most hotly debated topics in contemporary military affairs. It is widely held that an international aversion to missile defence facilitated the stable conditions of balanced nuclear deterrence maintained throughout the Cold War. Many believe that the deployment of BMD will needlessly upset this strategic *status quo* amongst the great military powers and add nuclear tension to the international system. However, BMD proponents see it as a crucial counter to the proliferation of both nuclear weapons and missile technology. This paper will outline the topic's three main streams of thought and discuss the debate's implications for Canada.

Debate Background

Weapons of Mass Destruction (WMD) are dangerously prevalent. Although biological and chemical weapons are outlawed, and the Nuclear Non-Proliferation Treaty (NPT) bans all but the five official nuclear powers from possessing atomic weapons, these devastating devices remain widespread. Not including theatre and non-strategic delivery platforms, the declared nuclear powers possess the following (as of 2002) capabilities:¹

1.FIRST/SIPRI database, [Internet] "Nuclear Forces," Available from <http://first.sipri.org/>, [Accessed September 8, 2003]; Carnegie Endowment for International Peace, [Internet] "Nuclear Weapons Status 2002," Available from <http://www.ceip.org/files/nonprolif/weapons/weapon.asp?ID=3&weapon=nuclear>, Accessed September 8, 2003]. Note: ICBM: ground launched, SLBM: submarine launched. Except for China's, most ICBMs and SLBMs have multiple warheads.

Table 1: Nuclear Arsenals of the Great Powers

	US	Russia	UK	France	China
Delivery					
ICBMs	540	680	0	0	32
SLBMs	360	232	48	48	12
Bombers	114	79	0	84	150
Total Delivery	1,014	991	48	132	194
Total Warheads	~10,700	~20,000	185	348	410

Israel holds some further 50-100 atomic devices, and hydrogen bomb technology.² India has a possible 95 and Pakistan a probable 50 atomic bombs.³ Additionally, there are 30 more countries capable of producing nuclear weapons.⁴ The global danger of an expanding nuclear club is very real.

Biological and chemical weapons are almost as dangerous, and more easily developed and transported. Biological toxins are endemic to the earth's surface, hence proliferating agencies have a plausible excuse for their possession (it is, however, difficult to 'weaponize' these cultures by condensing their spores into a concentrated and managed-release form). Every industrial nation holds the latent capacity to develop chemical weapons in less than a year,⁵ and currently the United States (US), China, Russia, Egypt, Syria, France, Israel, Iraq, Iran, North Korea, South Africa, Taiwan, Vietnam, and Libya have already done so. This list has a distinct danger of growing, perhaps to include even non-state terrorist actors.

²Barry B. Hughes, *Continuity and Change in World Politics* (Upper Saddle River: Longman, 2000), 107.

³*Economist*, "Know thine Enemy," (February 2, 2002).

⁴Joseph S. Nye, *Understanding International Conflicts* (New York: Longman, 2000), 214.

⁵James Dunnigan, *How To Make War* (New York: William Morrow, 1993), 428.

Coupled with the increasing diaspora of WMD is the proliferation of rocket technology. Ballistic missiles are dual-use weapons with the ability to launch both WMD and conventional warheads. Although their inaccuracy limits their usefulness to large targets such as population centres, they can travel 900km in about six minutes.⁶ InterContinental Ballistic Missiles (ICBMs) carry up to ten warheads and can travel the distance from Chicago to Moscow. Intermediate Range Ballistic Missiles (IRBMs) travel between 1600km and 5,500km and include the SLBMs of France, China, Russia, America, and Great Britain. Short Range Ballistic Missiles (SRBMs) are under 1600km and include missiles such as SCUDs. One such weapon (with a conventional warhead) struck an American military barracks in Saudi Arabia during the first Gulf War, resulting in fully one-quarter of all US fatalities in that conflict.⁷ North Korea, India, Pakistan, and Iran are developing missiles with ranges of over 1600km, while Israel and Saudi Arabia possess rockets that nearly reach or exceed that threshold.⁸ North Korean scientists may be assisting the development programs of Iran, Pakistan, and Egypt.⁹ India, Israel, and Japan are developing space-launch rockets that could be easily adapted to military use. Additionally, short and mid-range missiles can be produced by all middle-income countries.¹⁰ The advance of technology and industrialization has made it possible for more countries to possess missiles with longer ranges than ever before.

The mating of long-range ballistic missiles and WMD occurs primarily for deterrence reasons. Outside a 'farewell salvo' by a crumbling regime, it is unlikely that they would ever be used as first strike weapons against countries with retaliatory WMD means. However, they may be an effective method of keeping America and other

⁶Richard L. Russell, "Swords and Shields: Ballistic Missiles and Defenses in the Middle East and South Asia," *Orbis* Volume 46, Issue 3 (Summer: 2002), 485, 488.

⁷Robert Joseph, "The Changing Political-Military Environment," in *Rockets' Red Glare*, eds. James J. Wirtz and Jeffrey A. Larson, (Cambridge: Westview Press, 2001), 65.

⁸Joshua Goldstein, *International Relations* (New York: Longman, 2001), 275.

⁹Economist, "Know."

¹⁰Goldstein, 274.

countries away from local conflicts. Given that most regional disputes “are not truly vital”¹¹ to American interests, US policymakers would be hesitant to involve themselves in regional conflicts if a plausible ramification would be nuclear attack. Although firing a ballistic missile toward the US is a guaranteed invitation for a horrific response (and will therefore likely be avoided), the possibility of such action cannot be discounted. This may lead America toward a more tentative foreign policy, and perhaps lend itself to regional coercion.¹²

The Three Schools

The BMD debate has three basic schools of thought. The first school consists of those who are *opposed absolutely* to missile defence. Adherents argue that the Anti-Ballistic Missile (ABM) Treaty prevented an “attempt by America or Russia to make itself uniquely invulnerable to the other’s rockets [and therefore] fundamentally upset the strategic balance.”¹³ The result was the stable condition of Mutually Assured Destruction (MAD). ABM arms control made certain that each superpower possessed more than enough unhindered nuclear weapons to ensure their opponents demise, even within a counter strike scenario. This nuclear equality inhibited the outbreak of war between the great powers. As a result, this school fears BMD deployment could upset this equilibrium and bring an end to international strategic stability.

The Opposed school believes BMD harms global non-proliferation efforts and may potentially accelerate nuclear arms production. Offensive strategic weapons are inherently less expensive than missile defences and can be produced in numbers great

¹¹Charles L. Glaser and Steve Fetter, “National Missile Defense and the Future of U.S. Nuclear Weapons Policy,” *International Security*, Vol. 26, No. 1 (Summer 2001), 69.

¹²Although there are many reasons, North Korea (and its ability to launch a nuclear warhead onto downtown Tokyo) is treated different than other antagonists of the United States.

¹³*Economist*, “Don’t rush into missile defences,” June 1st 2000.

enough to neutralize and overwhelm their defensive counterparts. The result of BMD could therefore be more bombs and more destructive capacity, increasing overall strategic danger. First strikes may also yield greater destruction in a world with missile defences, as an attacker will seek to completely overwhelm a BMD system.¹⁴ Even more likely is that hasty deployment could put America's allies at risk if they are left undefended and open to vengeance strikes by states unable to penetrate US airspace. BMD has the potential of making the world a significantly more dangerous place.

In addition to strategic concerns, this school is also unconvinced that BMD will be effective. In 1991, the Patriot ABM fared poorly against the simple Iraqi SCUD missile, achieving a mere 10-20% success rate.¹⁵ BMD operational tests have also had several public failures. Countermeasures (such as deploying decoys with heat generators) may provide insurmountable obstacles to effective BMD.¹⁶ Additionally, effective boost-phase defences seem inconceivable in the short-run, given that a rocket boosts for only 3-4 minutes, necessitating an almost instantaneous response to a hostile missile launch, as well as placing speed demands on interceptor rockets that cannot be easily met.¹⁷ Even successful intercepts may lead to 'shortfall,' where missile and warhead debris lands on countries underneath the flight path. Finally, 'flooding,' the simple and effective tactic of throwing more missiles at a BMD system than it can handle, could be achieved by any nation with sufficient rockets.

¹⁴Julian Schofield, "The Future of Arms Control," *Rockets*, 166.

¹⁵Michael O'Hanlon, *Technological Change and the Future of Warfare* (Washington: Brookings Institution Press, 2000), 96-97.

¹⁶*Ibid*, 180.

¹⁷The American Physical Society believes that interceptor rockets simply cannot be built within the next 10-15 years to be fast enough to effectively destroy targets before they have finished boosting. "Report of the American Physical Society Study Group on Boost-Phase Intercept Systems for National Missile Defense Scientific and Technical Issues," (July 15, 2003), pxxxix, [Internet] Available at http://www.aps.org/public_affairs/popa/reports/nmd03.html. [Accessed August, 2003]. Successful kinetic intercepts with present or near-present technology requires either launch in an exceptionally close vicinity to the attacking missile, or an unacceptably small decision window of 10-30 seconds. *Ibid*, pxxv-xxvi, xxx. Furthermore, the airborne laser (ABL) is not powerful enough to destroy solid-propellant missiles, and to deploy a sufficient constellation of interceptor-armed satellites would outstrip America's space-launch capacity. *Ibid*, pxxvi.

Cost and utility worries are also expressed. The uncertain nature of any development program brings great expense and the danger of cost inflation. The deployment of the two-site, 250 interceptor, Ground-based Midcourse Defense (GMD) system (previously known as 'National Missile Defense') will alone cost an estimated \$58bn US.¹⁸ The Congressional Budget Office (CBO) estimates that a Space-Based Laser (SBL) constellation of 24 laser-armed satellites would cost up to \$100bn US over the years 2002 to 2025.¹⁹ Overseas, Taiwan's purchase of Patriot ABMs and associated radars will consume as much as 10-15% of its defence spending over the next eight years –money that could otherwise be spent on fighter aircraft or improving coastal defences.²⁰

Given America's two gravest defeats of the last 10 years (the obvious intelligence failure of the September 11, 2001, World Trade Center attacks and the ineffectiveness of technology and firepower amidst urban combat during the disastrous October 3, 1993, US Army Ranger raid in Mogadishu, Somalia) the school asks if a BMD system is the best means of improving America's security. Asymmetrical threats, such as terrorism and cyber-hacking, pose more frequent risks and therefore, the school believes, deployment and operational capabilities would be better enhanced by concentrating resources on the development of network-centric warfare (using C4IST – command, control, communication, computers, intelligence, surveillance, and targeting– technology to improve battlefield lethality and survivability), precision munitions, stealth weapons platforms, or even away from the military itself. Social activists aware of

¹⁸CBO, "Letter to the Honorable Thomas Daschle regarding potential costs of national missile defense," January 31, 2002, [Internet] Available from, <http://www.cbo.gov/showdoc.cfm?index=3281&sequence=0>, [Accessed September 7, 2003].

¹⁹Ibid.

²⁰Thomas J. Christensen, "Theater Missile Defense and Taiwan's Security," *Orbis* Volume 44, Issue 1 (Winter: 2000), 87.

America's poor public schools, inadequate public housing, and rising medical costs for the aging argue that money would be better spent addressing such needs.

In short, those completely opposed to BMD argue it fails because of military impracticality, fiscal infeasibility, and its potential to undermine international strategic stability. Members of the school include social advocates, anti-war activists, liberal academics and politicians, the arms control community, and fiscal conservatives.

There are, however, many proponents of a cautious or *limited* BMD program. Such a system, deployed only when the technology and political climate are amenable, would be strong enough to destroy limited missile strikes from hostile 'rogue' nations, yet maintain the current state of MAD amongst the declared nuclear powers. The school believes that as America cannot remove its vulnerability to large, well-established strategic forces, it would be unwise to strain relations with Beijing and Moscow.²¹ Consequently, Limited missile defence seeks patience and cooperation over speed and confrontation, in addition to a cautious focus on technical realities and a commitment to extensive research. Limited BMD is the school that most of America's allies and soft conservatives have adopted, and to which many military analysts, conservative academics, the orthodox military establishment, and slightly right-of-centre politicians belong.

Finally, there is a school of aggressive or *unilateralist* BMD. The core of this school's thinking is a rejection of the paradoxical logic of the ABM Treaty: that the safety of the American [and all] people requires their total vulnerability to overseas nuclear threats.²² Unilateralists feel that many 'rogue' states are risk prone, willing to use WMD,

²¹Michael O'Hanlon, *Defence Policy Choices for the Bush Administration: 2001-05* (Washington: Brookings Institution Press, 2001), 144.

²²Colin S. Gray, "European Perspectives on Missile Defense," *Comparative Strategy* 21, 0149-5933/02 (2002), 284.

and uneasy to deter.²³ This line of thinking argues that, given the danger ballistic missiles pose to America, BMD is a worthy goal no matter the technological hurdles and international political ramifications.

Much of the impetus for the Unilateralist school has been garnered from events in the mid-1990s. In November 1995, the National Intelligence Estimate “Emerging Missile Threats to North America During the Next Fourteen Years” predicted that new missile threats to the continental US and Canada would not emerge before 2010, and that the intelligence community would be able to detect any missile development programs before they were deployed.²⁴ However, these estimates were proven wrong when North Korea unexpectedly launched a three-stage Taepodong missile over Japan on August 31, 1998. This school feels that swift action is required to eliminate such dangers, demonstrating that surprise and fear have driven much of the Unilateralist’s thinking. Those who feel such urgent concern are found primarily in the US and include right wing politicians, ambitious military hegemonists, many energetic research scientists, and most of the military-industrial community.

Unilateralists believe that the fall of the Soviet Union, America’s present status as sole superpower, and technology’s blurring of the distinction between theatre and national BMD systems inherent in the ABM Treaty (the former, more local, defence was permitted) has created ripe conditions for America to devalue the military and political utility of enemy missiles, as well as to protect itself from accidental²⁵ or unauthorized launches. BMD will protect its citizens and ensure that America can remain immune from WMD coercion and capable of defending its overseas allies when dealing with

²³White House Office of the Press Secretary, “National Policy on Ballistic Missile Defense Fact Sheet,” May 20, 2003, [Internet] Available from <http://www.whitehouse.gov/news/releases/2003/05/print/20030520-14.html>, [Accessed August 28, 2003].

²⁴Wirtz, 4.

²⁵Not a particularly fanciful scenario: in 1987, computers at Warren Air Force Base, Wyoming, indicated that a Minuteman III ICBM was about to launch itself. The missile did not fire, but as a precaution an armoured car was parked on top of the silo door. Paul Rogers, *Losing Control* (London: Pluto Press, 2002), 27.

hostile regional powers.²⁶ Furthermore, the deployment of BMD will likely dissuade 'rogue' states from building rockets or obtaining WMD.²⁷ Consequently, robust missile defences are essential to American security.

Implementing a New Strategic Paradigm

America has traditionally relied on a strategy of retaliation when faced with WMD danger. However, given the current trend of international WMD and missile technology proliferation, the United States has decided to develop active defences against such a threat. The Unilateralist school, although influenced by the Limited viewpoint, now firmly leads the debate. Following President Bush's December 2001 declaration of America's intention to withdraw from the ABM Treaty, the Missile Defense Agency (MDA) was created. It consolidates America's previous missile defence programs and is to deploy an integrated and evolutionary Ballistic Missile Defense System (BMDS)²⁸ to defend America, its allies, and overseas deployed forces against a modest ballistic missile attack.²⁹

BMDS has a layered architecture in order to destroy hostile warheads in all stages of flight.³⁰ Present plans assign infrared satellites to detect hostile missile launches, while tracking will be done by ground and sea based early warning and X-

²⁶Peter W. Rodman, *Shield Embattled: Missile Defense as a Foreign Policy Problem* (Washington, D.C.: The Nixon Center, 2001), [Internet] Available at www.nixoncenter.org/publications/monographs/shieldembattled.pdf, [Accessed September 9, 2003], 5.

²⁷*Economist*, "Cannon to the right of him, cannon to the left," (June 28, 2001).

²⁸The June 2003 issue of *Arms Control Today* provides an outline of the various BMDS elements. See "Factfile: U.S. Missile Defence Programs at a Glance." See also the Federation of American Scientists' website, <http://www.fas.org/ssp/bmd/index.html>.

²⁹The PAC-3 has intercepted simulated cruise missiles during development testing. See note #39 for source.

³⁰A ballistic missile reaches its target by way of an initial powered boost and then a free flight along a high arcing trajectory. This trajectory can be divided into *boost* (acceleration under rocket burn), *midcourse* (exo-atmospheric coasting), and *terminal* (re-entry into atmosphere) sections. ICBM stages last about 3-4 minutes, 25 minutes, and 4 minutes respectively.

band radars. Eight different kinetic energy (hit-to-kill interceptors) and directed energy (using high-powered lasers) systems are currently in various stages of development.³¹ Eventually, it is planned, BMDS will be capable of intercepting several dozen ICBM WMD warheads,³² and many more local in-theatre ballistic missiles. BMD expenditure since 1985 totals approximately \$72bn US,³³ and current MDA budget projections range from \$6.7bn US to \$8.8bn US annually for the years 2004 to 2009.³⁴ Research is projected to continue until 2015,³⁵ if not longer.

Although criticised for their slow speeds and predetermined trajectories, BMDS intercept tests have demonstrated some promise. The sea-based SM-3 interceptor has struck 3-of-4 targets, the midcourse GBI 5-of-8, and the short range PAC-3 13-of-18 (in addition to a modest, yet able performance in the 2003 Gulf War).³⁶ However, such success may be risked by failure to provide sufficient time for project development.³⁷ The Pentagon, for example, aims to deploy midcourse defence before the shorter-range, slower flying, THAAD terminal system.³⁸ The CBO has also stated concerns

³¹The Airborne (ABL) and Spaceborne Lasers (SBL), and the kinetic energy Boost Phase Intercept (BPI) [boost phase]; the Ground-Based Interceptor (GBI) and Standard Missile 3 (SM-3) [midcourse]; and the Patriot Advanced Capability-3 (PAC-3), Theater High Altitude Area Defence (THAAD), Medium Extended Air Defence System (MEADS), and the Israeli Arrow [terminal] are all systems where research continues. Note: the Arrow is armed with a fragmentation warhead and is therefore not a kinetic energy weapon.

³²MDA, "The Road to Ballistic Missile Defence, 1983-2007," March 22, 2002, [Internet] Available at <http://www.acq.osd.mil/bmdo/bmdolink/pdf/road.pdf>, [Accessed September 7, 2003]. This document provides an excellent overview of BMD's frenetic, and often contorted, development history.

³³MDA, "Historical Funding for BMD, FY 85-02," [Internet] Available at <http://www.acq.osd.mil/bmdo/bmdolink/pdf/1529-00.pdf>, [Accessed September 7, 2003].

³⁴MDA, "FY 03 Funding Authorization Track," [Internet] Available at <http://www.acq.osd.mil/bmdo/bmdolink/pdf/fy03auft.pdf>, [Accessed September 7, 2003]; MDA, "Fiscal Year (FY) 2004/FY 2005 Biennial Budget Estimates Submission: Press Release," [Internet] Available at <http://www.acq.osd.mil/bmdo/bmdolink/pdf/budget04.pdf>, [Accessed August 30, 2003].

³⁵MDA, "Budget."

³⁶MDA News Releases: June 18, 2003, and December 11, May 30, April 25, and March 21, 2002, [Internet] Available at <http://www.acq.osd.mil/bmdo/bmdolink/html/newsrel.html#2001.ANC>, [Accessed September 8, 2003]; Kerry Gildea, "Patriot Validating Missile Defence Concepts, DoD Officials Say," *Defence Daily*, v218 i8 p0 (April 10, 2003). However, a definitive analysis has yet to be conducted.

³⁷A sentiment echoed by the Government Accounting Office, "Knowledge-Based Practises Are Being Adopted, but Risks Remain," GAO-03-441 (April, 2003).

³⁸Michael O'Hanlon, "Alternative Architectures and U.S. Politics," *Rockets*, 116.

regarding the number of flight tests used during the research and development phase (only 21 developmental test flights have been scheduled for the GMD interceptor, versus 114 for the 1985 Patriot), the length of the development phase (historically, similar projects to GMD average a development time of 13 years, while a 2004 GMD deployment date entails only nine years), and the overlap of the development and production phases of BMDS.³⁹ Such a rapid schedule may prove impossible to keep. Nevertheless, given the Unilateralist school's current influence over US policy makers, it is likely that BMD deployment will continue unless financial obstacles mount or the technology is exceedingly slow in maturation.⁴⁰

America's departure from the ABM Treaty was greeted by dire warnings from many quarters. Nothing short of a collapse in international strategic stability was predicted. However, global reaction has been decidedly ambiguous. Many analysts remain hostile, yet most political leaders have expressed either tacit approval or a desire to participate in missile defence programs themselves. Facing regional threats, Japan and Taiwan have each stated their intention to accelerate BMD cooperation with the US.⁴¹ In Europe, although fearful of *decoupling* (a withdrawal by the US into "Fortress America")⁴² and still a firm believer that military capability cannot alone ensure security,⁴³ BMD development has continued. NATO has authorized funding for study of a layered theatre BMD system.⁴⁴ Great Britain has approved America's request to

³⁹.CBO, "Budgetary and Technical Implications of the Administration's Plan for National Missile Defence," April 2000, 24-28, [Internet] Available at <http://www.cbo.gov/showdoc.cfm?index=1984&sequence=0#pt1>, [Accessed September 7, 2003].

⁴⁰For the defeat of the Strategic Defence Initiative, see Keith B. Payne, "The Case for National Missile Defence," *Orbis*, Volume 44, Issue 2 (Spring: 2000), 188-190.

⁴¹.*Xinhua News Agency*, "Japan, US agree more cooperation in missile defence," June 13, 2003, p1008164h2056, Available through Expanded Academic ASAP Plus; Jane's Information Group, "Taiwan plans to deploy missile defences," March 18, 2003, [Internet] Available at http://jmr.janes.com/docs/jmr/anti_missile.shtml, (Accessed August 27, 2003).

⁴²Charles Ball, "The Allies," *Rockets*, 260.

⁴³Gray, 282-3.

⁴⁴Kerry Gildea, "NATO Moving Forward With Next Phase In International Missile Defence Studies," *Defence Daily*, v218 i54 p0 (June 16, 2003).

upgrade its early warning radar at Flyingdales, while Germany and Italy continue to work with the US on the MEADS terminal interceptor. Additionally, Canada's likely future Prime Minister, eager to repair relations with the United States, has declared his support for America's BMD project.⁴⁵

Russia was a vocal ally of the ABM Treaty, but this resistance was far from obstinate. Russia's response plans to American BMD include equipping SS-27 missiles with multiple warheads and the production of a new air-launched cruise missile.⁴⁶ However, once it became clear America would not retreat from its missile defence plans, President Putin pragmatically agreed to partner with America in the creation of a new strategic security framework.⁴⁷ The President signed the Treaty of Moscow (a less structured arms-reducing measure than SALT II, and one that ensures that the modernization of Russia's nuclear forces⁴⁸ can proceed unhindered), tested an ABM interceptor of his own,⁴⁹ and agreed to set up a non-strategic BMD system with NATO.⁵⁰ Russia, believing that BMD is unlikely to have an impact on its nuclear potential,⁵¹ and facing both a fiscally-driven need to reduce its stocks of strategic weapons, and hostile, missile-armed neighbours, will continue to find vigorous opposition to America's new strategic paradigm impractical.

⁴⁵*The Economist*, "Martin by a mile?," (May 15, 2003).

⁴⁶Rogers, 48.

⁴⁷Shoumikhin, Andrei, "Evolving Russian Perspectives on Missile Defence: The Emerging Accommodation," in *Comparative Strategy*, 21,2002:4, (2002), 311–336.

⁴⁸ BBC News. "Russia lowers nuclear threshold," Friday, 14 January, 2000, 22:21 GMT, [Internet] Available at http://news.bbc.co.uk/1/hi/english/world/europe/newsid_604000/604449.stm, [Accessed April 11, 2002].

⁴⁹ Jane's Information Group, "Russia tests ABM interceptor," November 21, 2003, [Internet] Available at http://jmr.janes.com/docs/jmr/anti_missile.shtml, [Accessed August 27, 2003].

⁵⁰*Xinhua News Agency*, "Russia, NATO to cooperate in deploying theater missile defence system." p1008133h1529, (May 13, 2003).

⁵¹Remark attributed to Professor Vitaliy Tsygichko of the Russian Academy of Natural Sciences: "The U.S. BMD system will not impact on our nuclear potential; that is now common knowledge." in Shoumikhin, 321.

China has taken the hardest line against BMD, primarily because of fears it would be deployed in Taiwan.⁵² In response, Beijing has allotted a further \$9.7bn US to enhance its second strike capability,⁵³ and continues to expand its ballistic missile submarine fleet⁵⁴ and strategic rocket forces.⁵⁵ However, as America continues to press ahead, little more than anger has been heard. Senior Chinese arms negotiator Sha Zhukang, despite publically attacking US plans, has expressed hope that dialogue might “narrow our differences.”⁵⁶

The Debate and Canada

With the US withdrawn from the ABM Treaty and full scale BMD development underway, the Unilateralists are clearly the front runners and policy drivers of the BMD debate. Given that America has the strength to pursue such a policy, it will take tremendous persuasion by the other two schools to win over the political leadership and change America’s course. So where does the BMD debate leave Canada?

In some senses, Canada’s position⁵⁷ on BMD is irrelevant. The US will take whatever steps it feels is necessary in order to ensure the safety of its nation, and that includes shooting down hostile missiles in Canadian airspace. However, it cannot ignore Canadian opinion on the matter either. Canada’s geographic location makes it good military strategy to be incorporated into America’s continental defence plans.⁵⁸ But Canada is often a reticent ally. Canada’s multilateralist public is averse to

⁵²*The Economist*, “Can Russia handle a changed world?,” August 30, 2001.

⁵³Bradley Roberts, “China,” *Rockets*, 184.

⁵⁴ISS, *The Military Balance* (Oxford: Oxford University Press, 2000), 194.

⁵⁵The DF-31 and DF-41, already under development, will likely carry multiple warheads. Rogers, 54.

⁵⁶BBC News, “China warns against US missile defence,” March 14, 2001, [Internet] Available at <http://news.bbc.co.uk/2/hi/world/asia-pacific/1220078.stm>, [Accessed March 18, 2002].

⁵⁷See DND Backgrounder, “Canada and Ballistic Missile Defence,” BG-03.026 (May 8, 2003). Canada has yet to declare its final position.

⁵⁸Desmond Morton, *Understanding Canada’s Defence* (Toronto: Penguin, 2003), 11.

peacetime defence spending and does not feel the same exposure to danger as its southern neighbour. The result is that although Canada simply cannot afford to be without the military protection provided by America, it nonetheless often rejects the more ambitious of the Pentagon's designs.

Security matters affect the tone of Canada-US relations. To what extent will depend on America's domestic political interest in that area. When security is high on the US public agenda, Canada's military stance will have great bearing on the vitality of the political and economic links between the two countries. Under such conditions, Canadian policy influenced by the anti-BMD school may halt activities that foster north-south commerce. If domestic attention in America drifts away from security issues, Canada may have greater latitude to be hesitant about declaring support for missile defence.

Joining America's BMD efforts would bring both fruits and penalties. The US eagerly accepts partners (albeit in a junior role) and is willing to provide political, trade, security, and technology benefits to those who take part. However, Canada's armed forces are in too poor a state to spend money on unproven technology. A lack of funding dictates that Canada cannot spend much on missile defence, even if the threat is as great as the Unilateralists feel.

Conclusion

It appears unlikely that BMD, over the next several decades, will prove capable of upsetting MAD conditions between the Great Powers. Any nation able to deploy more warheads than interceptors in a second strike situation, able to develop countermeasures faster than BMD can defeat them, or deploy strategic submarines, will maintain a deterrence balance with a BMD nation. For example, America believed it

could overcome Moscow's ABM system by simply aiming more warheads at it.⁵⁹ Submarines also complicate missile defences. They can evade sensors⁶⁰ and reduce reaction time to a missile launch to a mere ten minutes.⁶¹ BMD will simply not affect the strategic position of nations employing effective nuclear deterrence triads (ICBMs, air-dropped bombs, and SLBMs). For the foreseeable future, Moscow and Beijing have no reason to doubt their ability to deliver 'assured destruction' to the US, even when facing effective missile defences.

The measured success BMD has demonstrated in trials indicates that it is likely that such systems will provide some measure of protection against ballistic missiles. This will help maintain America's conventional power and foreign policy freedom in the face of opponents with strategic rockets. However, this very liberty will make America more likely to press issues with WMD powers harder, thereby increasing the likelihood of conflict escalation.⁶² This tendency must be kept in check. Proponents must also remember that no defensive system is impermeable and be wary that too aggressive a deployment might someday escalate the strategic weapons production of others. This, combined with an imperfect system, may lead to a net loss of power. Moreover, America's immediate enemy consists of non-state actors who view shipping crates and airplanes as much more useful armaments than missiles. Precedence should be given to these asymmetrical threats. Finally, many analysts believe that the most dangerous aspect of the Cold War was thinking that limited nuclear wars could be fought and

⁵⁹Kenneth N. Waltz, "Nuclear Myths and Political Realities," in *The Use of Force Military Power and International Politics*, eds. Robert J. Art and Kenneth N. Waltz, (Lanham: Rowman & Littlefield Publishers, 1999), 109.

⁶⁰Stephen Van Evera, "Offense, Defence, and the Causes of War", in *Use*, 67. Also, in the late 1980s a USN Vice-Admiral remarked that, because of technology, it was becoming more difficult to find submarines at sea. Robert D. Glaser, "Enduring Misconceptions of Strategic Stability," in *Journal of Peace Research*, Vol. 29, No.1 (1992), 35.

⁶¹Scott D. Sagan, "Why Nuclear Spread is Dangerous," in *Use*, 383

⁶²Known as the "stability-instability paradox." See Schofield, "Control," 166, and Robert Powell, "Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense," in *International Security*, Vol. 27, No. 4 (Spring 2003), 113.

won.⁶³ Ultimately, BMD remains a valid concept only for so long as it does not encourage such thoughts to return.

Despite its deficiencies, BMD has demonstrated itself to be a plausible damage limitation strategy, and the capability to shoot down incoming missiles has a universal allure:

“Even previously sceptical Europeans and hostile Russians now concede that such defences (assuming they stay limited) could add to security without upsetting stability among the bigger powers.”⁶⁴

More importantly, America’s BMD efforts have not led to a new strategic arms race.⁶⁵ In this climate, missile defences are a credible answer to the question ‘what happens if deterrence fails?’⁶⁶

So which school should Canada follow? Complete opposition, commensurate with the current security fears of America’s public, would result in a significant deterioration of the already strained Canada-US relationship. However, wholehearted support and project participation, such as that advocated by the Unilateralists, is beyond the means of the Canadian Forces, and unwise considering that although political obstacles to BMD have not appeared, the technology concerns have yet to vanish. Therefore, a Limited BMD policy stance would be Canada’s most prudent and flexible option. Policies of cautious public support, membership in a modest technology partnership program, and perhaps the establishment of a continental liaison office with the MDA could gain some security with little ill result.

⁶³Rogers, 57.

⁶⁴*Economist*, “Fission and Confusion,” (March 16, 2002), 15.

⁶⁵ BBC News, “The nuclear race slows,” Friday, May 24, 2002, 15:20 GMT, [Internet] Available at <http://news.bbc.co.uk/2/hi/europe/2006329.stm>, [Accessed September 5, 2003]; Wade Boese, “Missile defense post-ABM Treaty: no system, no arms race,” in *Arms Control Today*, v33 i5 p20(5) (June 2003).

⁶⁶A question posed by Russell, “Shields,” 498.