

Freedom against Technology? The Prospects for US Missile Defence

Written by Columba Peoples

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COLUMBA PEOPLES, JUL 28 2008

July 8th 2008 marked a new chapter in the expansion of US plans for Ballistic Missile Defence with the signing of a framework agreement that allows for the placement of missile defence 'X-Band' radar in the Czech Republic. Hosting US Secretary of State Condoleezza Rice, Czech Premier Mirek Topolánek welcomed the agreement on the basis that 'Missile Defense is the state of the art technology and it is the response to high technology including WMD in the hands of terrorists and enemies of our freedom. Missile Defense defends our freedom against technology'.

Topolánek bought into a particular vision of 'freedom against technology' that fits well with the Bush administration's outlook on global security as encapsulated in the concept of missile defence. This outlook emphasises, on the one hand, the danger the US faces in terms of the spread of nuclear technology; and, on the other hand, the promise of US technical ingenuity (in the form of hi-tech missile defence systems) to overcome these dangers. US missile defence attempts to do this by using radars to identify and track a hostile incoming missile, then launching an interceptor to destroy the hostile projectile before it reaches its intended target. At its simplest, this can be defined as the principle of a missile-to-missile intercept or, as some have described it, "hitting a bullet with a bullet".

Under the Bush administration, the programme is now known as Ballistic Missile Defence (BMD), the idea being that the principle of defending against ballistic missiles is essentially the same whether they are short, medium or long-range (the latter of which are often known as ICBMs – Inter Continental Ballistic Missiles). This is reflected in the proposal of a 'layered' system of missile defence. Following the Bush administration's withdrawal from the Anti-Ballistic Missile (ABM) Treaty of 1972 (which strictly limited the deployment of such systems), the first layer of this system, ground-based interceptor missiles, was put in place in December 2004 with 10 interceptors at bases in Alaska and California.

The Bush administration is also researching other 'layers' for its BMD programme. An ICBM's flight has three phases: *Boost* phase (just after ICBM take off); *Midcourse*; and *Terminal* (just before it hits its target). The currently deployed 'Kinetic' interceptors (meaning the interceptors attempt to destroy a hostile missile by colliding with it) target the *Midcourse* phase, when an ICBM is travelling outside the Earth's atmosphere.

Boost phase options in development include launching interceptors from advanced Navy Ships ('Aegis'); the 'Airborne Laser', which would be fired from the nose of a permanently airborne plane; and the Space-Based Laser (SBL), a satellite-based laser reminiscent of the proposed Strategic Defence Initiative during the Regan era (known as "Star Wars" to its critics due to the fantastical connotations of space lasers). *Terminal* phase could involve more kinetic interceptors, but destroying a missile this close to its target is the least desirable option given the nuclear fallout that would still impact upon the area to be defended.

Technical Prospects: A 'better than zero' chance?

Despite the Bush's administration's staunch and consistent promotion of this layered system, missile defence remains one of the most costly and controversial aspects of contemporary American security policy. The cost of missile defence is currently running at about \$10 billion US dollars a year and is likely to increase in the future. This

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might seem a small price to pay to protect American cities from (nuclear) missile attack. However, although the concept of using one missile to shoot down another seems simple in principle, no one is entirely sure if it works in practice. Doubts about the technical feasibility of missile defence persist, particularly concerning its ability to intercept nuclear-armed ICBMs. A significant proportion of the American scientific community argues that effective missile defence is not possible. The major problem is countermeasures: that is, dummy and decoy warheads dispersed by an ICBM along with its real warhead. ICBMs can deploy around a hundred such countermeasures prior to impact, and they can be made relatively cheaply. Thus, a missile defence interceptor has to hit the right target out of a hundred such decoys, and some physicists go so far as to argue that this is virtually impossible outside the Earth's atmosphere.

Countermeasures have been the Achilles heel of missile defences since the idea was first seriously proposed in the 1960's, and remain so for current BMD even in spite of heavy investment and its promotion as 'state of the art' technology. Many sceptics therefore believe that BMD is driven in large part by industrial interests that benefit from investment in the initiative, and that the money would be better spent on securing ports and borders, as more likely avenues for getting a nuclear bomb into the US.[i]

Even the head of the US Missile Defence Agency admitted in 2005 that the current deployment in Alaska and California only has a 'better than zero chance' of success.[ii] In order to intercept an ICBM before it deploys countermeasures and thus increase its chances of success, Navy ships have to get close to the launch site to attempt interception in the boost phase. Since this is not always possible if ICBMs are launched from inland areas, the US has placed great emphasis on obtaining a forward-based radar station (thus the agreement with the Czech Republic) along with the proposed stationing of interceptor missiles in Poland (on which negotiations have been more protracted to date).

Rationale and Strategic Impact

So what is the strategic rationale behind BMD? The Bush administration has built its nuclear policy on a number of key propositions. Deterrence – in its Cold War incarnation at least – can no longer be relied upon. We live, George W. Bush has argued, in a world of 'terror and missiles and madmen'. On this reading the US is confronted by a number of "Rogue" adversaries that cannot be deterred in the same way as the Soviet Union was during the Cold War.

The Bush administration has also argued that arms control measures such as the NPT (Nuclear Non-Proliferation Treaty) and the MTCR (Missile Technology Control Regime) cannot be relied upon to assure American security. Nuclear and missile technology is spreading globally regardless, it is argued, and therefore states should invest more heavily in methods of 'active' counter-proliferation, of which missile defence can be a key component.

But there are a number of strategic arguments against missile defence. It continues to be perceived as a challenge to America's nuclear-armed peers such as Russia and China, despite US protestations that the system is directed primarily against Rogue States such as Iran and North Korea. It could therefore encourage states to upgrade their ICBM capabilities in order to 'swamp' American defences. If there are too many missiles to deal with, missile defences probably won't work, so states arguably have a rationale to produce more or better nuclear missiles (and, notably, Russia continues to upgrade its *Topol* series of ICBMs with this in mind). Another objection is that missile defence may be a "Trojan Horse" for the development of space weapons and anti-satellite technology. When the US shot down one of its own malfunctioning spy-satellites in February 2008, it used the Aegis BMD system to do so, adding fuel to speculation that BMD may be more effective as an offensive weapon than as a defensive missile shield.

Hence, on both these counts, missile defence is often argued to work against efforts at arms control. Indeed, missile defence represents a distinct approach to combating the threat of nuclear attack in which alternatives – such as arms control or nuclear disarmament – are displaced by faith in technology to overcome the prospect of nuclear holocaust.

Iran's test of its medium range *Shahab-3* ballistic missile in July 2008, Democratic candidate Barack Obama stressed the importance of stronger sanctions to contain Iran, whilst his Republican counterpart John McCain identified the test as further validation for the development and deployment of missile defences by the US.

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Irrespective, the historical record shows that the concept of missile defence tends to persist even when it is out of favour with the occupant of the Oval Office (as was the case during the Clinton era for example), nurtured by a combination of industrial interests and hawks within Congress.

The strategic appeal of missile defence will also likely persist even though technical doubts remain. Whilst major powers such as Russia and China may worry about the intentions behind US expansion of missile defence systems globally, the idea of using American technological know-how to overcome nuclear instability seems to have an innate appeal that has survived since the days of the earliest proposals for ABM systems. Certainly the promotion of missile defence as the epitome of US technological ingenuity has been a primary method by which the current administration has sought to offset concerns and “sell” the idea to both domestic and global public’s in the face of severe scepticism about its actual merits. Given the doubts about its technical prospects, both the incoming administration and other states involved in missile defence might do well to treat such technological optimism rather more circumspectly.

Columba Peoples is a lecturer in International Relations in the Department of Politics, University of Bristol. He is currently completing a monograph on the use of technological determinism in the promotion of US missile defence.

[i] For more detail see Columba Peoples, ‘Technology and Politics in the Missile Defence Debate: Traditional, Radical and Critical Approaches’, *Global Change, Peace & Security*, 19:3 (2007) pp.265-280.

[ii] Quoted in Wade Boese, ‘Missile Defense Aims to Hit Target in ‘06’, *Arms Control Today* (2005) http://www.armscontrol.org/act/2005_09/MissileDefenseAims.asp?print.