The Pugwash Workshop on *Nuclear Stability and Missile Defenses* was held in Como, Italy from 6-8 September 2001. Twenty-one participants from ten countries attended the meeting, which was hosted by the Municipality of Como and the Landau Network Centro Volta. The following report is the responsibility alone of the rapporteur.

Participants discussed a wide range of issues related to missile defense, with the immediate concern being announced U.S. intentions to move beyond the ABM Treaty and construct a limited national missile defense (NMD) system. There was also much discussion of the potential affects of missile defense on strategic stability, non-proliferation efforts, and arms control, as well as European missile defense options.

The workshop took place just days before the terrorist attacks on New York and Washington, DC., which dramatically changed the global political environment. While summarizing the discussion as it took place, this report does take into account the post-September 11 situation, particularly in terms of workshop discussion of non-state threats.

**The Current Strategic Context and Missile Defenses**

The first session provided broad overviews of the current strategic environment, with particular attention paid to missile defenses and potential nuclear threats.

In terms of the changing US-Russian relationship, one participant observed that it has become "banal" to observe how the bipolar Cold War conflict is over, and that never-ending debates about what constitutes the "New World Order" are likely to change in tone as new threats make themselves known.

One obvious change is growing doubt, especially in the United States, about the continued strategic relevance of the 1972 ABM Treaty. When the Treaty was signed, both the US and USSR were rapidly building and modernizing their strategic offenses; the ABM Treaty and
SALT agreements were designed to prevent an offense-defense arms race. The strategic parity that the Treaty codified in 1972 is less relevant now. Therefore, for many Americans, there is less reason for Moscow to object to US deployment of missile defenses. Even with Russian objections, Moscow's opinions now matter less, according to many, given its inability to conduct a strategic arms buildup. Thus, by some measures, the cost-benefit balance has shifted in favor of deploying missile defenses.

This notion that previous strategic concerns no longer apply, it was argued, does not mean that strategic concerns in general are irrelevant to the ongoing debate. It was suggested that strategic logic does underlie Russian reluctance to abandon or renegotiate the ABM Treaty, as Russia has a "very modest" second-strike deterrent that could be diminished by US missile defenses, and that its weakened deterrent might even make it vulnerable to Chinese strategic nuclear forces.

In terms of its negotiating strategy, Moscow also has quite rational reasons to maintain the status quo. With the Bush administration making clear its intention to "move beyond" the ABM Treaty, Russia has nothing to lose in seeking to extract as many concessions as it can, or in diplomatically isolating the US for abandoning the treaty.

A second changed component of strategic stability is criticism, again especially in the US, that deterrence based on 'mutual assured destruction' is unreliable and immoral. President Bush's speech on May 1 announcing US missile defense intentions repeated many of the traditional arguments against relying on nuclear deterrence alone: that certain hostile states are undeterrable, and that deterrence is immoral, dangerous, and a thing of the past.

In this changed strategic context, one participant took his cue from former Soviet Premier Kosygin's line that "defense is good, offense is bad" and asked: Shouldn't supporters of MAD and offense-based strategies, which are hard to defend morally, have a greater burden of proof than supporters of defense-based strategies?

Discussion then ensued regarding the likelihood of a U.S.-Russian "deal" on missile defenses, which was clearly a high priority for many workshop participants. In this view, not only is US-Russian agreement needed to "detoxify" the issue of missile defense, but also to keep on track a broad array of bilateral programs to reduce nuclear dangers, including the Nunn-Lugar nuclear threat reduction programs.

The likelihood of US-Russian agreement on missile defenses will depend on a number of factors, including: Congressional and NATO support for (or acquiescence in) missile defenses, and
genuine Russian interest in such a deal, as opposed to causing diplomatic trouble for the United States. Much will also depend on the extent to which Russia feels secure about the deterrent viability of its aging nuclear forces, which, despite recent statements to the contrary, is a definite cause of concern for many Russian officials.

Regardless of one's views on missile defense, participants agreed that deep cuts in US and Russian nuclear forces are both needed and feasible, and would go far to lessen the widespread fear that US missile defenses would stimulate a new arms race. One positive development on this front was President Bush's campaign promise to reduce the US nuclear arsenal to around 1,500 deployed warheads, which he reaffirmed in his May 1 speech at the National Defense University. One participant argued that both Moscow and Washington could go further and reduce their strategic arsenals to the same levels as France and the United Kingdom, with little concern for the viability of nuclear deterrence.

**Missile Defenses and Strategic/Crisis Stability: The Offense-Defense Equation**

Since 1972, the ABM Treaty has prevented the deployment of nationwide missile defenses by either of the Cold War superpowers, thereby simplifying the offense-defense equation through the (near total) prohibition of defenses. As noted above, the renewed debate on missile defense has reintroduced core issues of how changing levels of offense and defense affect strategic and crisis stability.

The next speaker reviewed some of the problems with defense-based strategies. While "morally impeccable and easy to sell," missile defenses against nuclear weapons will never be 100 percent effective, and they could well be destabilizing. For example, given NMD dependence on space-based assets, deployment could stimulate development of anti-satellite weaponry (ASAT) and other offensive military activities in space. Aggressors might also resort more often to asymmetrical responses, especially, as seen on September 11, including terrorist actions. Thus, crisis stability could be worsened by the deployment of missile defenses.

Several other participants cited examples of crisis behavior to suggest that offensive nuclear deterrence is resilient even when arsenals are at low levels, and that the added factor of missile defenses would have little effect on decision-making in crises. Examples of where nuclear deterrence worked, even when one side appeared to have a greater strategic advantage, include the Cuban Missile Crisis, where the possible existence of operable nuclear weapons in Cuba deterred the United States from mounting an invasion, even though the US had a 17-to-1
numerical advantage in strategic nuclear weapons over the Soviet Union. Similarly, another participant noted that evidence strongly suggests that US Secretary of State James Baker's thinly veiled warning to Iraq regarding US nuclear retaliation succeeded in deterring Iraq from using weapons of mass destruction during the Gulf War.

If it is true that great powers are deterred so easily, one individual responded, then we should anticipate that hostile proliferators such as North Korea and Iraq will place great value on obtaining nuclear weapons in order to prevent future interventions by foreign powers. It was proposed that the United States would not have been so willing to counter Saddam Hussein in 1991 if Iraq had had nuclear weapons. After all, this participant mentioned, far less power was sufficient to force US troops out of Somalia in 1993.

In terms of the challenges posed by missile defenses for East Asian stability, important factors include Chinese concern over US-Japanese cooperation on theater missile defenses, which could lead to Japan abandoning its post-World War II restraint in the region, and the extent to which missile defense deployments could spark a general arms race in the region.

**Europe and Missile Defenses**

An opening presentation focused on the new security environment and how the Bush Administration's strong backing of missile defense had caused European governments to both give in to the Administration's proposed changes and to seek ways to incorporate missile defense into their own military strategies.

Several participants thought that US consultations with its European allies had ameliorated concerns that Washington would proceed with NMD without taking into account European interests. Such consultations were thought to have eliminated lingering Cold War concerns that "national" missile defense would cause the US to pull inside its shell and retreat *de facto* from its European security guarantees. There now seems to be less concern that the US might abandon its "extended deterrent" in Europe, not only because that deterrent is seen as less necessary today, but because the Bush administration has done more than previous administrations to keep Europe informed. A different take on events held that, while European concerns may have diminished, it is also true that the Europeans’ "role in the debate has diminished considerably," with the US no longer having the same need for European support in the post-Cold War era. Others disagreed, noting the importance of European support for eventual US-Russian agreement on missile defenses, and the permission needed from the UK and Denmark for upgrading US NMD radar
Important questions do remain about Europe's role in US missile defense plans. Should Europe play a more significant role as a broker in US-Russian relations? How many times can Europeans challenge US missile defense intentions without giving Moscow too good a bargaining position in the missile-defense talks? To what extent do Europeans need to take seriously those in the US who criticize Europe for constantly advocating multilateral measures yet failing to take action?

Europe's own missile defense plans were also discussed. There are many in Europe who support missile defense (primarily theater missile defenses to cope with limited threats and for protection of deployed troops). In terms of non-proliferation challenges, one participant criticized Europe for not doing enough to address the ballistic missile threat, saying that Europe should at least deploy its own early warning system. Others concurred with this goal, saying that Europe should have more information at its disposal, and that an early warning system would not in itself be destabilizing.

There was much discussion of reported interest in Europe for boost-phase intercept (BPI) defenses to defend against regional missile threats. Several participants questioned the technical feasibility of BPI in the European context, however, with others noting that BPI would require costly space-based assets that the Europeans do not have and would not be interested in developing. In addition to BPI only being feasible if deployed adjacent to the countries of concern, questions were also raised about how BPI would work in NATO's joint decision-making process, given the short response time necessary. What would be the rules of engagement, and would a fast-reaction missile defense system even work in a multilateral context? Apart from missile defenses, suggestions were made that the European Union ought to engage in more discussions about cooperative responses to crises, especially if the EU intends to implement new security policies based on capabilities such as rapid reaction forces.

**Missile Defenses, Politics, and Arms Control**

Of all the topics at the Como workshop, the role of politics in the missile defense debate may be the most changed by the events of September 11, 2001. The relationship between the United
States and the rest of the world appears to have changed dramatically. Nonetheless, certain observations made during the workshop concerning the arms control and political implications of US NMD plans remain relevant.

Regarding when and how the US would deploy a missile defense system, most participants anticipated that nothing more than a symbolic system would be deployed during President Bush's first term. Borrowing a cinematic metaphor, one participant speculated that missile defense supporters in the administration want simply "to get Dorothy through the portal so she will be in Oz after the administration." This does lead one to ask, which side of the portal is fantasy and which is reality? Another noted that a "whole hog" defense is "a tremendously unlikely scenario," saying that the administration is far more likely to deploy a system on par with that postponed by Clinton than that contemplated by President Reagan and still backed by groups such as the Heritage Foundation.

One intensively discussed issue was the Bush administration's offer to make unilateral cuts down to 1,500 deployed strategic nuclear warheads as it pursues missile defenses. Most participants favored such cuts but thought them inadequate and strategically irrelevant, with many disturbed by the "strong affirmation" by the administration "that the security of the United States is based on the presence in perpetuity of US nuclear weapons." It was noted that part of the Bush position calls for maintaining large numbers of non-deployed warheads as a "huge hedge," thus making the cuts reversible. In short, the deep reductions promised by the Bush administration could have very little impact on reducing the role of nuclear weapons in US policy.

Several participants also raised concerns about the effect on arms control if the US were to resume nuclear testing in conjunction with missile defense, as some members of the administration have proposed. They cited the "tremendous pressure" that exists in various corners of the Bush administration to resume testing. They argued that such a step would be highly destructive of arms control and would more than offset whatever benefits would arise from unilateral deep cuts by the United States.

A contrary view was that missile defense could be helpful to arms control and could actually encourage nuclear restraint. In particular, missile defense could contribute to non-proliferation programs by reducing the incentive for states hostile to the United States to obtain a mere handful of ballistic missiles armed with nuclear weapons. An effective, limited missile defense system would require states to deploy a higher number of missiles before their effectiveness
could be guaranteed. The costs of such a program could discourage a state from developing long-range ballistic missiles or nuclear weapons at all. In addition, the deployment of effective missile defenses to protect the territory of US allies could discourage them (especially Japan) from pursuing their own offensive programs. Thus, US missile defense systems could actually help to prevent an arms race in East Asia.

Others objected strongly to these assessments, arguing that missile defense would raise the perceived likelihood that the US would "intervene with impunity," and that this would place hostile states under great pressure to develop and deploy nuclear weapons. Thus, missile defense could be an inducement to weapons proliferation. Another argued that the "stability" argument for missile defense is specious, asking rhetorically, "Is there any precedent for one side arming itself with shields, and the other side giving up swords?" The implied answer was "No."

Finally, there was the argument that missile defense could simply be neutral when it comes to non-proliferation and arms control. After all, North Korea, Iraq, and Iran have not faced US missile defenses, yet have had, or continue to have, active ballistic missile and nuclear weapons programs. Perhaps missile defense does not matter one way or the other.

Meeting the Nuclear Threat: Alternatives to Missile Defenses

Given the prevalence of opposition to, or skepticism about, missile defense among most of the participants, many individuals proposed alternatives to missile defense that would rely upon both offensive military force and multilateral diplomatic measures to counter proliferation threats. One such idea was to make global and multilateral the US-Russian prohibition on INF systems. A global ban on missiles with ranges between 500 and 5500 km could help prevent regional missile proliferation, just as the Nuclear Non-Proliferation Treaty (NPT) had succeeded in reducing nuclear weapons proliferation and promoting regional stability.

Others pointed out potential problems with such a "multilateralized INF Treaty." First, there is the double standard of states with ICBMs advocating the total elimination of intermediate range missiles. Second, eliminating INF would "turn the world over to manned aircraft" to the benefit of those countries with advanced fighters and bombers. Others noted that comparing a multilateral INF Treaty to the NPT is misleading, as there are two types of signatories to the NPT, with the treaty providing material inducements to non-nuclear-weapons states in the form of civilian nuclear assistance.
One participant went so far as to question the effectiveness of the NPT, noting that both North Korea and Iraq had clearly violated the treaty. Citing two major failures (the belated discovery of Iraq's program and the ability of North Korea to blackmail the international community even though it clearly violated the treaty), this speaker called into question the effectiveness of non-proliferation treaties of any kind. The very states that must be stopped are those most willing to violate the treaties.

Doubts were raised by another participant about the effectiveness of the current agreement to control the spread of ballistic missiles, the Missile Technology Control Regime (MTCR). One participant noted how the status quo, and in particular China's proliferation behavior, "has been so deplorable that there is no sense preserving it."

Civil defense was also brought into the discussion to highlight the shortfalls shared by the range of defensive schemes against ballistic missiles armed with nuclear warheads. One participant said of civil defense that digging holes and expecting people to go into them was not a good model during the 1960s, yet now everyone is expected to support a different form of defense that also provides very little protection. Others made a different point, saying that if NMD is to be deployed, then civil defense should be a priority as well (while acknowledging that the taboo against civil defense is likely to persist).

Military preemption was also proposed as an alternative to missile defense, and became the subject of heated discussion. One participant supported preemption if carried out as a joint effort among "like-minded nations", with clearly stated policy objectives. Even those supporting preemption as a counter-proliferation tool recognized its shortcomings, however, especially in terms of international law and world opinion. Others were far more skeptical, doubting that preemption could ever be feasible or moral as a way of combating hostile proliferators.

Finally, discussion focused on the need for the United States in particular to publicly reevaluate its nuclear policy. One participant argued that the American public needs to be better educated about US nuclear policy so that it can play a more important role in reforming it.

There was general agreement that such a review is necessary, especially in light of the Bush administration's pronouncements that it is moving beyond Cold War constructs. Pressure also needs to be brought to bear on the US Congress, where the Senate saw fit to reject ratification of the Comprehensive Test Ban Treaty (CTBT) without any prior discussion or hearings.
Most participants agreed that publics, not only in the US but elsewhere, have opted out of direct involvement in thinking about or discussing the role of nuclear weapons in the current strategic environment. Over and above the pros and cons of missile defenses, a far broader discussion is needed on threats posed by nuclear and other weapons of mass destruction, the continued utility of nuclear deterrence, and the best way of ensuring that such weapons are never used. Particularly in light of the tragedy of September 11, policymakers and the public around the world need to arrive at a far better calculus of the tradeoffs involved among a wide range of national security policies.
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