Proliferation and Counterproliferation

IS THERE NO END OF THE CHAIN REACTION

Missile Danger and Missile Defense

Moving Beyond Missile Defense
- Project Moving Beyond Missile Defense
- Defense, Deterrence, or Disarmament?

- Space Without Weapons
- News and Publications
Yesterday – Does the Past Still Matter?

This is the first INESAP Information Bulletin since two years. Much has happened since. After the incredible terror attacks on New York and Washington it appears like remote history. But it may be more burning than ever. At least it represents a frozen viewpoint of the era before the attack. It describes and analyzes developments which provide a background for what happened. History is a process, marked by singular events such as the fall of the Berlin Wall, the wars in the Gulf or on the Balkans, and the latest terror attacks. The periods before and after are not disconnected. It is important not to ignore the link between past and future and not to repeat previous mistakes.

This Bulletin has previously warned that arming the world, that the use of power and force is counterproductive, may provoke terror and create enemies that one day could adversely affect US security. What seemed hypothetical became real. The United States of America, the most powerful country, is a victim of terror. Before, others were. A million killed in Ruanda did not receive comparable attention. Because it is not our civilization? Who knows that in the days before September 11 the US Air Force flew numerous attacks on Iraq? Who remembers the casualties of previous operations, from Vietnam to Kosovo? Not to speak of those who have no chance to survive from the beginning of their life because they do not fit into the system. How can we ignore that those who are now enemies such as Saddam Hussein or Osama bin Laden once were supported by US policy as long as they served its interests?

Should we really forget that George W. Bush was going to undermine the system of international law, the ABM Treaty, the START process, the Biological Weapons Convention, the Comprehensive Test Ban Treaty, the Landmines Convention, the International Criminal Court, the Kyoto Protocol to prevent climate change? That Bush announced the abrogation of the ABM Treaty in a school class? That US Secretary of Defense Donald Rumsfeld compared international treaties with “a plate full of spaghetti”? That the US was preparing war in space, to dominate the world, according to the US Space Command? Is this all history now? Or will it be justified by the terror attacks? If this is the case then nothing has been learned from the past.

The shock about death and destruction offers the great opportunity for an international coalition against terror. The United States should use the enormous solidarity to become a real world leader, in political, not military terms. If Bush, seeking revenge, launches a massive attack and kills innocent people, he will multiply victims and create more terrorists. Then, indeed, it is the first war of the 21st century. Building missile defense may be a massive attack and kills innocent people, he will multiply victims and create more terrorism. If Bush, seeking revenge, launches a massive attack and kills innocent people, he will multiply victims and create more terrorism.

The task of this Bulletin is to remind. It was produced before September 11, and it is essential that its content is not changed by the power of the events. We only changed this editorial and the cover page. Originally it showed a temple symbolizing the system of international security hit by a rocket named “Missile Defense and Space Weapons” and falling to the ground (see this page). Some may have seen this as an intentional parody to the destruction of the World Trade Center but it was drawn before. The system of international relations is even more at stake now.

There is no justification for terror. Terror cannot be fought with counterterror but only by preventing the causes and roots for terror. Otherwise it will lead to a chain without end. The causes and roots of terror need to be prevented. The main message of this Bulletin is that one needs to think about alternatives. It is a call to move beyond missile defense, to stop the missile race before it becomes unstoppable.

The Day After

This Bulletin was concluded on September 11, 2001. This text is being written the Day After. In between an incredible tragedy happened. The world’s tallest twin buildings fell to rumble. Hit by a coward attack, burying thousands in a giant tomb.

57 years back, on September 11, 1944, 300,000 bombs destroyed our city Darmstadt, leaving 12000 dead.

Today two airplanes can do the same.

Turn into weapons of mass destruction.

America at war. NATO at war.

Clash of civilizations. Djihad versus MacWorld. This is the script for a future that is none. Back to the century of violence that passed.

Real-time attack. On-line death.

Like a Hollywood movie but real.

Independence Day with terrestrial evils.

America takes the lead, its civilization behind.

This was a day of dependence.

Pearl Harbor on earth. Pearl Harbor in space.

Pearl Harbor everywhere.

The most powerful nation. Helpless and vulnerable.

Ready to fight. Against whom? Where is the enemy?

Irrational terror. Reckless suicide. Attack without sense. Are there no causes for terror?

People suppressed, kids without food?

Globalization strikes back to its roots?

Seeking revenge. Countering terror.

Sowing destruction and hate.

The spiral goes on. Where will it lead?

The chain of destruction unfolds its tragic dynamic.

No security from huge military forces.

No weapon could stop the perfectly planned disaster.

No protection can help, whatever its cost, when missiles are launched and airplanes have crashed.

Weapons do not defend, they only destroy.

Is there a way out? Avoid causes of despair.

Give good example how the world can be saved.

Stop power projection on earth and in space.

Get rid of the arsenals of death.

Leave people in peace, given them a chance to shape their own world.

Jürgen Scheffran, Sept. 12, 2001

[*] We are grateful to the Nuclear Age Peace Foundation that they sponsor the continuation of our work and the position of the new INESAP Coordinator.
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Supplement: MBMD Workshop Summary
Moving Beyond Missile Defense
Preliminary Project Information

Summary description

Current plans to build missile defense systems against the projected "missile threat" pose serious problems in the coming years for international security and stability, arms control, non-proliferation and disarmament. The project "Moving Beyond Missile Defense", pursued by INESAP in collaboration with the Nuclear Age Peace Foundation, aims at developing alternatives to the emerging missile race. The project will introduce science-based proposals into the international debate and the political decision-making process on missile defense, and promote concepts and initiatives that enhance international stability and cooperation on governmental and non-governmental levels.

An international Study Group of experts assesses the political and technical link between missile proliferation and missile defense, and develops a science-based framework for feasible and adequate responses to the missile threat. The Study Group explores and promotes innovative ideas on how the roots of the problem can be resolved by political and diplomatic initiatives, and evaluates concrete arms control and disarmament proposals (e.g. improving international missile control, limitations of ballistic missile testing, ballistic missile free zones, Zero Ballistic Missile regime, regionally extended ABM (Anti-Ballistic Missile) Treaty, nuclear-weapon-free world, space weapons ban). Technical issues, such as the monitoring, verification, and the dual-use of relevant technologies, will play a prominent role. For each of the topics, international expert teams will be formed, and all proposals are discussed in their global and regional context. Results and recommendations are to be closely integrated into an international policy-oriented process and the decision-making of relevant countries by means of media work, conferences, briefings, and lobby meetings. In order to strengthen the science-policy link, political decisionmakers, diplomats, the media, and NGOs (Non-Governmental Organizations) shall be involved in regional activities (North-East Asia, South Asia, Middle East, Europe, Russia), with Europe as a key player. Findings of the Study Group will be presented to media and political representatives and distributed in INESAP publications (Study Group Reports, Briefing Papers, INESAP Information Bulletin) as well as in other publications and via electronic communication channels.

"Moving Beyond Missile Defense" is an essential element in the future activities of the INESAP network, which has been restructured in early 2001. Since its foundation, the main objectives of INESAP have been to promote nuclear disarmament; to strengthen existing arms control and non-proliferation regimes; to develop and promote cooperative approaches to curbing the proliferation of weapons of mass destruction and their means of delivery; and controlling the transfer of related technology. INESAP draws on international experts in various disciplines and combines research, networking, policy advisory, and action in its work.

Detailed description of the project

Project background

Official US policy envisions a considerable threat to the US, its troops and allies by ballistic missiles of so-called "rogue nations" within the next few years. To counter this threat, the US plans to build a variety of multi-layered land-, sea-, air- and space-based missile defense systems in the US and abroad. Under President George W. Bush, these plans have gained new momentum and are vigorously pursued, undermining the basis of the US-Russian ABM Treaty and other arms control agreements in the near future.

Russia opposes the US plans and threatens to take political and military countermeasures. China is worried that the US are less concerned about North-Korea than about containing Chinese power and strengthening US influence in the region, in particular in Taiwan, Japan and South Korea. Israel not only has acquired a nuclear weapons and ballistic missile capability, but is also developing missile defense against missiles from neighboring countries which feel provoked to increase their arsenals. European NATO countries are developing extended air-defense systems to protect their homelands and forward deployed troops. The combined proliferation of ballistic missiles and missile defense systems could lead to a "missile race" that severely undermines security in various regions. Consequently, many experts in the arms control community, politicians, and NGO representatives fear that missile defense systems would undermine stability, impair arms control and cooperation, and lead to an arms race on earth and in space.

Issues addressed by the project

The project "Moving Beyond Missile Defense" has been launched jointly by INESAP and the Nuclear Age Peace Foundation. The project is based on the premise that missile defense is not an effective tool against missile proliferation, that it would be counterproductive by increasing the dangers of missile proliferation, and that it could lead to a new arms race. Because of technical difficulties and the lengthy development periods for both ballistic missiles and missile defenses, the project recognizes a realistic chance for political initiatives to contain the emerging missile race. Instead of rushing to join a non-existing missile shield, the international community would be better advised to take joint action and collaborate on preventing a new arms race by strengthening and extending the international control regime for nuclear weapons, ballistic missiles, and space weapons.

With this project, INESAP wants to raise attention and provide a basis for international initiatives to prevent a missile race by political and diplomatic means. Previous efforts in missile control have been limited to US-Russian arms control (INF, START) and to the Missile Technology Control Regime (MTCR) which restricts missile-related exports from supplier countries. Recent initiatives and proposals (e.g. by Canada, Russia, China, Iran, UN General Assembly) have pointed to the need to overcome some of the limitations of the current regime, moving towards a...
More comprehensive international missile and space control regime.1 Independent scientists have been developing proposals for multilateral ballistic missile disarmament since the early 1990s.2 Increasingly, the link between missile defense and space warfare has inspired efforts to prevent an arms race in space and ban space weapons.3

The assessment of the problems and the development of solutions are inherently linked. The project centers around the following questions:

- What is the status of the missile threat? Which factors drive ballistic missile development and proliferation?
- Is missile defense a realistic instrument to prevent the missile threat, in terms of feasibility, effectiveness, costs and implications with regard to international security and stability, arms control, non-proliferation and disarmament?
- What are the likely political, technical and arms-related implications of ballistic missile defenses in key regions (North-East Asia, South Asia, Middle East, Europe and Russia)?
- How efficient have previous missile control and disarmament efforts been? Are there alternative ways to deal with ballistic missile proliferation and threats?
- How can the international control of ballistic missiles, missile defenses, nuclear weapons and space weapons be strengthened to prevent a missile race on earth and in space?
- Which means to verify missile control and missile disarmament do exist and how can the dual-use problem of missile and space technologies be dealt with?
- How can cooperative regional initiatives and security frameworks to prevent a missile race be strengthened?

**Project objectives and goals**

The project’s main objective is to develop and introduce science-based proposals, developed by an international team of experts, into the international debate and the political decision-making process on missile defense, and to promote concepts and initiatives that enhance international stability and cooperation on governmental and non-governmental levels. The project shall serve as a nucleus for improved ballistic missile control and an international norm against ballistic missiles, nuclear weapons and space weapons. The project shall raise public awareness and understanding of the problems of missile proliferation and missile defense, allowing citizen groups to voice their concerns about the dangers of missile proliferation and missile defense and utilize findings of the international Study Group to lobby policy makers for alternatives.

The following sub-goals are pursued in the project “Moving Beyond Missile Defense”:

- Develop creative, policy-relevant, scientifically and technically sound proposals that undermine the quest for missile defense. Support Diplomacy-First initiatives to deal with the missile threat by strengthening their scientific and technical basis.
- Evaluate alternatives to the missile race, such as strengthened international missile control, restrictions on missile testing, ballistic missile free zones, ballistic missile disarmament (e.g. Zero Ballistic Missile regime), nuclear-weapon-free world concepts (e.g. Nuclear Weapons Convention), space weapons ban, regional security frameworks.
- Evaluate the possibilities and limitations of technical verification measures and their integration into comprehensive missile monitoring schemes. Study options to deal with the dual-use of ballistic missile and space technologies.
- Focus on the regional specialties and support regional initiatives on missile control (North-East Asia, South-East Asia, Middle East, Europe, Russia). Support Europe as a key player in promoting political and diplomatic responses.
- Link the project with existing studies and projects to provide a comprehensive analysis that includes the relevant aspects of feasible alternatives. Enhance networking with experts from critical regions.
- Produce Reports, Briefing Papers, articles, INESAP Bulletins to make Study Group findings available to a larger audience. Publish Briefing Papers in different languages. Disseminate project findings and proposals to politicians, opinion leaders, and NGOs internationally and regionally.

**Project methods**

“Moving Beyond Missile Defense” will be done in several stages and is planned for a period of two years.

1. **Study Group**: For the evaluation of the above mentioned questions, INESAP brings together and coordinates an international Study Group of scientists and disarmament experts. The main issues of the study will be explored by subgroups which exchange and discuss the results of their research among each other, both at and between meetings. Drawing on previous studies and projects, the Study Group will analyze the available information, evaluate the different proposals in terms of technical and political feasibility and implications, and integrate them into coherent documents, each of which are to be presented to a particular audience. Individuals invited to participate in the Study Group come from a wide variety of countries and organizations. The regional workshops are used as an occasion to progress the planning of the Study Group, with most of the coordinators of particular issues being present. A Study Group workshop is planned for spring 2002. Most of the Study Group work will be done between these meetings by electronic mail.

2. **Regional workshops**: The project focuses on the key areas where development and deployment of missile defenses are likely to have a major impact: North-East Asia, South Asia, the Middle East, Europe and Russia. Therefore, an essential element of “Moving Beyond Missile Defense” are regional workshops, which serve the purpose of integrating regional frameworks into the international project. One workshop or conference in each of these regions gives certain individuals from the Study Group a chance to learn from each other directly, to exchange and discuss opinions and assessments, to get a better understanding of the regional situation, and to network with local people as well as to explore alternatives and find out differences of opinions and assessments.

All workshops will also be used to discuss further project planning and strategizing among the project coordinators and additional individuals.

1. After the founding workshop of “Moving Beyond Missile Defense” which was held in Santa Barbara on March 19 - 21, 2001, the planned regional workshop in Shanghai/China (Nov. 30 - Dec. 2, 2001) is an essential next step in proceeding with the project, linking both global and regional project activities. The workshop is hosted by the Program on Arms Control and Regional Security (Dingli Shen) at Fudan University’s Center for American Studies. North-East Asia certainly is a key region in the current missile defense debate. US plans for a national missile defense as well as for theater missile defense systems in Taiwan, Japan and South Korea can have a severe impact on the region. Stability in North-East Asia is very fragile, the Taiwan Strait conflict is latent, and the arms build-
up in the region continues on all sides. China fears that its small arsenal of nuclear-tipped long-range ballistic missiles would be invalidated even by a limited missile defense and announced asymmetric measures as a response. In addition, China is one of the countries that take US documents for dominance in space very seriously, and warns of the danger of a new arms race on the earth and in space.

The Shanghai workshop will focus on implications of missile proliferation and missile defense in Northeast Asia. Additionally, the workshop will serve to launch the project’s international Study Group and to plan activities and next steps for the following months. Contributions at the workshop will be used in the chapter on North-East Asia of the Study Group findings. Non-regional contributions will also be prepared for use in chapters covering an international regime for the control of missiles, nuclear weapons and space weapons. In addition to dealing with regional issues, the Shanghai workshop will serve as the starting point of the Study Group work. The coordinators of the Study Group chapters will meet at the workshop to outline a six month working plan and progress will be reported at the Berlin conference in June 2002. Project coordinators will also use the chance to discuss the next steps in the project and to detail the planning for the Berlin conference.

2. To involve Europe and Russia as key players, it is planned to hold a conference in summer 2002 in Berlin/Germany. The conference will present first results of the Study Group work (in particular on the link between missile control and nuclear disarmament, and on the regional chapters North-East Asia, Europe and Russia). This location was chosen for three reasons:

2.1 First, because of the strategic ties between European allies and the US. European allies have the greatest chance of influencing US decisions on ballistic missile defense and therefore pressure must be placed on European policymakers. NATO countries will also play an important role in the US decision to move forward with ballistic missile defense plans.

2.2 Second, Russian reactions to missile defense are vital for the future of nuclear disarmament and arms control. Russia threatened to respond to a violation of or retreat from the ABM Treaty by questioning previous nuclear disarmament agreements (the ratification of START II e.g. is directly linked to the US adhering to the ABM Treaty). This would put the global arms control regime at risk. Work on cooperative solutions with Russian experts is therefore of great interest for the project.

2.3 Third, just as other European countries, Germany in cooperation with Italy and the US develops its own missile defense system, and thus introduces a new factor that affects the stability in the region. Appropriate plans are part of a whole picture and should be addressed in the regional context.

In addition to discussion of the regional focus, the Berlin conference will be used to create a greater outreach of the project. Politicians, security experts, military, media, and a wider NGO audience from Germany and other European countries will be invited to attend the conference. In Berlin, the first Report of the Study Group will be presented along with first Briefing Papers. Detailed planning for the Berlin conference has yet to be done.

3. Further regional workshops are foreseen to be held in the Middle East and in South Asia. Both regions are plagued by rapid horizontal and vertical proliferation of ballistic missiles and the availability of weapons of mass destruction in at least some of the countries. Here more than elsewhere there exists an urgent need for regionally based solutions and security frameworks which shall be discussed in cooperation with participants from the region.

3. Publication of Study Group findings, outreach, and lobbying: At various times, in particular at the end of each project stage, international perspectives, results and recommendations of the Study Group will be published in Reports, in Briefing Papers, in the INESAP Information Bulletin, on the Internet, and in as wide a range of articles as possible. INESAP will search for ways to ensure wide distribution of the project publications. Selected Briefing Papers shall be translated into the languages of a few key countries. In particular for the Berlin conference it is desirable to make some publications available in German in order to increase the outreach to the German audience.

Thematic work in the project is closely integrated into a policy-oriented process. In order to broaden the project support base, scientists and policy-oriented individuals from a wide range of organizations and institutes are encouraged to participate in the concept development and in the Study Group. To strengthen the exchange between the scientific and political fields, political decisionmakers, diplomats, the media and NGOs are encouraged to attend workshops, briefings, conferences, private meetings, consultations and other occasions where the Study Group findings will be presented and discussed on a national and international level. Only the major events (e.g. large workshops or conferences) will be organized by INESAP. Individual Study Group participants and INESAP supporters will arrange local events on their own initiative and use occasions organized by other groups to present the project findings.


## Project history (until July 2001)

<table>
<thead>
<tr>
<th>Month</th>
<th>Event</th>
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<tbody>
<tr>
<td>May 2000</td>
<td>Missile defense and space weaponization workshop at the NPT Review Conference in New York, co-organized by INESAP and attended by media and diplomats; exchange among NGOs on alternatives to missile defense</td>
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<tr>
<td>June 2000</td>
<td>First project planning at INES Conference in Stockholm</td>
</tr>
<tr>
<td>November 2000</td>
<td>Discussion of alternatives to missile defense and of a treaty to ban space weapons at scientific workshop in Göttingen/Germany on Nov. 4, 2000, co-sponsored by INESAP</td>
</tr>
<tr>
<td>February 2001</td>
<td>INESAP co-sponsored an international workshop on “National and Theater Missile Defenses after the US Elections” in Berlin convened by the Research Network “Preventive Arms Control” on February 14 - 16, 2001, with participation of politicians and journalists; preparatory discussion of the project</td>
</tr>
<tr>
<td>March 2001</td>
<td>Launch of “Moving Beyond Missile Defense” at a INESAP/NAPF workshop in Santa Barbara on March 19 - 21, 2001</td>
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<tr>
<td>March 2001</td>
<td>Launch of the German initiative and appeal “Raketen abrüsten statt abwehren” (Missile disarmament instead of missile defense)</td>
</tr>
<tr>
<td>April – June 2001</td>
<td>Results and minutes of Santa Barbara Workshop (see attached conclusions); email exchange in “Moving Beyond Missile Defense” discussion list</td>
</tr>
<tr>
<td>June/July 2001</td>
<td>Preparation of project schedule, Study Group concept, Shanghai workshop, funding proposals</td>
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<tr>
<td>March – July 2001</td>
<td>Collect articles related to workshop in Santa Barbara for publication in INESAP Information Bulletin #18</td>
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## Planned activities (preliminary schedule)

The following schedule lists some of the planned activities of the first project phase which will end with the Berlin conference in summer 2001. Further project planning has yet to be detailed. The complete project is planned to take two years.

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<tr>
<th>Month</th>
<th>Activity</th>
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<tr>
<td>July – August 2001</td>
<td>Project presentation at 13th annual Summer Symposium on Science and World Affairs in Berlin; INESAP Information Bulletin #18; proposals for project funding</td>
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<tr>
<td>Sept. – Nov. 2001</td>
<td>Preparation and organization of Shanghai Workshop; prepare international Study Group and media work</td>
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<tr>
<td>October 2001</td>
<td>Participate in UN Disarmament Week Oct 11-19 in New York, in panels on nuclear and missile disarmament and on space weapons ban</td>
</tr>
<tr>
<td>Nov./Dec. 2001</td>
<td>Co-convene workshop in Germany on draft Treaty on the Limitation of the Military Use of Outer Space</td>
</tr>
<tr>
<td>January – April 2002</td>
<td>Regional workshop in Shanghai (see attached draft program) Planning and preparation of future activities</td>
</tr>
<tr>
<td>April – June 2002</td>
<td>INESAP Information Bulletin #19 with results from Shanghai workshop and Study Group Informal meeting of project and Study Group coordinators Prepare first Study Group report; publish Briefing Papers Participate in activities at NPT PrepCom Organization of Berlin conference, with focus on Europe and Russia Presentation of Study Group report, Briefing Papers, other publications; INESAP Bulletin #20</td>
</tr>
</tbody>
</table>

The project "Moving Beyond Missile Defense" is jointly coordinated by the International Network of Engineers and Scientists Against Proliferation and the Nuclear Age Peace Foundation (NAPF):

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Moving Beyond Missile Defense, a joint project of the International Network of Engineers and Scientists Against Proliferation (INESAP) and the Nuclear Age Peace Foundation, held its first international workshop in Santa Barbara March 19-21, 2001. The goals of the workshop were to begin a process of examining the technical and political problems posed by missile defenses and to explore alternatives. The workshop brought together scientists and security experts to initiate an International Study Group to contribute key findings to the political and public debate on the issue. Participants in the workshop reached the following preliminary findings:

- Ballistic missile defense (BMD) cannot provide security. Missile defenses can be easily overcome by simple countermeasures, including low-technology decoys. Such systems will create instability because they will provoke other countries, in particular Russia and China, to strengthen and build up their offensive capabilities.
- Deployment of ballistic missile defenses will undermine long-standing arms control agreements, including the Non-Proliferation Treaty (NPT), the Anti-Ballistic Missile (ABM) Treaty and the Strategic Arms Reduction Treaties (START I and II). BMD will prevent further international efforts for non-proliferation, arms control and disarmament.
- US efforts to develop and deploy missile defenses are perceived by other countries to create increased offensive and war-fighting capabilities as part of a long-term strategy to control outer space.
- Ballistic missile defenses will provoke rather than prevent the proliferation of ballistic missiles, contributing to regional conflicts and arms races.
- Ballistic missile defenses do not provide a solution to the risks of the Nuclear Age, but rather multiply the uncertainties, complexities and instabilities of nuclear deterrence.
- Missile defenses and the militarization of outer space are inextricably linked. The weaponization of space must be prohibited. We therefore recommend:
  - The best alternative to ballistic missile defense is the complete abolition of nuclear weapons and all weapons of mass destruction and the abolition of ballistic missiles and other delivery systems. To achieve the abolition of ballistic missiles, an international missile control and disarmament regime should be established. As practical first steps, we recommend the improved information exchange on missiles and missile launches, a missile test ban and the establishment of missile free zones.
  - The 1972 Anti-Ballistic Missile treaty, which prohibits the US and Russia from developing and deploying a national missile defense, must be preserved until a more comprehensive international framework can be established.
  - The weaponization of outer space should be prevented by an international agreement.
  - Cooperation among all states should be supported and the demonization of particular countries and their peoples should be opposed. In particular, diplomatic efforts with countries like Iran, Iraq, North Korea and Libya should continue.
  - Security must be fundamentally redefined from the military dimensions of national interests to the fulfillment of human and environmental needs.

The above findings will be further examined by the International Study Group and in a series of regional meetings in Northeast Asia, Europe, South Asia and the Middle East as part of worldwide initiatives to prevent missile defenses, control ballistic missiles and abolish nuclear weapons.
Moving Beyond Missile Defense

The Search for Alternatives to the Missile Race

Jürgen Scheffran

The US government’s push for missile defence is based on two premises: that missile proliferation can not be prevented by political means, and that missile defences can be effective. This paper seeks to critique both of these assumptions, and to explore alternatives to missile defence.

In the light of technical difficulties, and the lengthy development periods for both ballistic missiles and missile defences, there is a realistic chance for political initiatives to contain the emerging missile race. A global missile threat from states such as North Korea, Iran or Iraq does not exist, and will not materialise in the near term; nor will George W. Bush have a working missile defence to deploy during the current presidency. Instead of panicking, and rushing to join or counter a non-existent missile shield – being rushed towards deployment to meet a non-existent missile threat – the international community would be better advised to take joint action and collaborate on preventing a missile race on earth and in outer space, and promoting the disarmament of nuclear weapons and delivery systems.

Diplomatic initiatives are required to reduce the role of ballistic missiles in critical regions (Northeast Asia, South Asia, Middle East) and to develop an international norm against ballistic missiles. This is the only way of countering the US tendency to move away from multilaterally agreed arms control and disarmament negotiations. This deficit was recently pointed out by Jayantha Dhanapala, the UN Under-Secretary-General for Disarmament Affairs: “Why is public debate mired today in a duel between deterrence and defence, with scant attention to missile disarmament?” As the dangers of an offense-defence missile race become imminent, the need for an international initiative to control ballistic missiles becomes more urgent.

Previous efforts have been limited to the US-Russian arms control process (the INF and START treaties) and export controls by the major suppliers of missile technology. The Missile Technology Control Regime (MTCR) defines the restrictions on the transfer of missile-related technology capable of delivering weapons of mass destruction. Since 1987, MTCR membership has increased from 7 to 33 states. In addition, 7 countries have declared they will abide by its rules. While some missile programmes have been stopped or delayed, the effectiveness of the regime has been limited. The MTCR is not a binding treaty, there are no specific verification or enforcement mechanisms, and membership is essentially restricted to the suppliers. Existing ballistic missile arsenals are not addressed, the asymmetry between ‘haves’ and ‘have-nots’ is ignored, and various shorter-range missiles have been deployed in a number of developing countries.

Notwithstanding this weakness, a number of potentially significant initiatives to improve the situation have recently been launched:

- There is an evident need to develop and enhance confidence-building measures (CBMs) among states with missile capabilities. During the 1999 MTCR Plenary in Noordwijk, Netherlands, the missile suppliers committed themselves to “responsible missile behaviour”, without publicly explaining their meaning. At the October 2000 MTCR Plenary Meeting in Helsinki, Finland, member states envisaged an outreach to non-members and agreed on a Draft International Code of Conduct Against Ballistic Missile Proliferation, including a set of principles, commitments, CBMs and incentives. A Code of Conduct for responsible missile behaviour could increase openness about development and testing, including voluntary commitments.

- A related initiative is the Russian proposal for a Global Control System (GCS) for the non-proliferation of missiles and missile technology. Launched in 1999 and further explored at expert level meetings in Moscow in March 2000 and February this year, the proposal acknowledges the security concerns raised by missile programmes and the concomitant need for security assurances. A Global Monitoring System (GMS) would increase transparency with regard to missile launches and reduce the risk of miscalculation or misunderstanding. Under such a regime, states would have to provide prior notification of test launches of ballistic missiles and space launch vehicles (SLVs). Such a GMS may include controls on missile and missile technology transfers to third countries. In order to discourage proliferation, the GCS would offer security incentives and assistance in the peaceful uses of space for states that completely give up and convert their missile programmes and capabilities.

- A breakthrough in transparency arrangements was recently achieved with the establishment of the Joint Data Exchange Centre (JDEC) in Moscow, staffed by military personnel from the US and...
Russia. Signed on December 16, 2000, the US-Russian Memorandum of Understanding on Notification of Missile Launches provides for pre- and post-launch notification of all ballistic missile tests and space launches, as well as notification of failed satellite launches. Other countries can join the agreement.

In Canada, experts from several countries were consulted in March 2000 and February 2001 to examine options and alternatives to respond to US missile defence. The first meeting discussed multilateral approaches to more effective ballistic missile control, international monitoring, and early warning. Participants emphasized the need to prevent instabilities and accidents, to implement risk-reduction and confidence-building measures, such as de-alerting, improved ballistic missile early warning and launch notification. The monitoring and surveillance of missile and space-related activities and the exchange of technical data were identified as the keys to an effective missile-control verification system. The report of the second meeting recommended a major effort to modernize international space law to deal with the dangers of space weapons and warfare, to expand the JDEC, and to multilateralize GCS co-operation. It also suggested directly engaging countries like North Korea and Iran, India and Pakistan, to encourage a halt to nuclear and missile proliferation. Participants were also of the view that Canada should push the MTCR’s Draft Code of Conduct at the Geneva Conference on Disarmament (CD), and as a first step support a moratorium on test-flights of ballistic missiles.

On October 4, 2000, Iran introduced a resolution on missiles to the 55th session of the UN First Committee. The resolution was adopted (A/C.1/55/L.1/Rev.1) by the Committee on October 31 by 90 votes to 0 with 60 abstentions, and by the General Assembly on November 20 by 97 votes to 0 with 65 abstentions. The resolution emphasizes the “need for a comprehensive approach towards missiles, in a balanced and non-discriminatory manner, as a contribution to international peace and security.” It requests the Secretary-General, with the assistance of a panel of governmental experts, to prepare a report on missiles in all its aspects.

From missile control to missile disarmament

A missile control regime needs to take into account the various stages of missile development, and any asymmetries among missile owners. As missile development advances, the perceived threat increases. Once a missile has been tested, bans on deployment will be more difficult – since rapid breakout from an agreement remains possible – and will require stricter controls.

Strengthening international ballistic missile controls will be a long-term process necessarily involving the adoption and evolution of a wide range of measures, from the comparatively modest – i.e. a Code of Conduct, bolstered export controls, and missile monitoring and launch-notification agreements – to far-reaching disarmament treaties establishing global missile bans. Intermediate options would include restrictions on missile testing, and the creation of missile-free zones. Obvious candidates for such areas would be Latin America and Africa, both of which have already established nuclear-weapon-free zones.

A missile non-proliferation regime, however, allowing missile owners to keep their arsenals, would have limited efficiency compared to non-discriminatory missile disarmament. The only way to deal with asymmetries between countries would be to set up an international norm against ballistic missiles that entitles all countries to equal rights. Even though the prospects for such a comprehensive disarmament regime based on multilateral agreements currently seems remote, particularly given the attitude of the new US administration, this should not exclude conceptual thinking and diplomatic initiatives that broaden political support for such a regime.

To build momentum for a comprehensive alternative, a step-by-step approach is appropriate. Test restrictions would effectively prevent new missile designs and limit modification of traditional technology, although unsophisticated indigenous missile systems could still be developed and deployed with minimal testing. A ballistic missile test-flight ban would preclude the testing of new missiles and reduce the chance of accidental or intentional war.

In order to prevent a missile race and buy more time for political initiatives, it would be particularly helpful to institute a moratorium on the further development, testing and deployment of ballistic missiles. To address concerns about asymmetries and discrimination, a ‘missile freeze’ could cover both offensive and defensive missiles and be designed as a temporary measure while countries negotiated disarmament steps for missiles and other delivery systems. Simultaneous regional security initiatives would be crucial to diminish incentives for missile development.

When planning next steps, long-term perspectives should be taken into account. In 1992, expanding the proposal discussed between Ronald Reagan and Mikhail Gorbachev at the 1986 Reykjavik Summit, the Federation of American Scientists (FAS) developed a model for the elimination of ballistic missiles (ZBM: Zero Ballistic Missiles). Such a regime would aim at the complete elimination of offensive ballistic missiles and combine unilateral declarations with regional and global multilateral agreements. The ZBM proposal – which the FAS backed up with a complete draft treaty – combined a comprehensive framework with a step-wise approach, including bilateral cuts between the USA and Russia, ballistic-missile-free zones, an international Missile Conference, the creation of an International Agency for Ballistic Missile Disarmament, and finally agreement on the varying schedules necessary to reach zero ballistic missile capability.

Verification

A crucial aspect of missile control is verification, not least the effective matching of verification tasks to available technology. National or international technical means of verification could focus on observable rocket characteristics (number, size, range, payload, deployment mode, launch preparations, flight trajectory), which provide indications of rocket type and performance. Much missile-programme infrastructure – such as production facilities, test ranges, tracking and communication facilities, missile containers and missile-carrying vehicles – is highly visible. The biggest complication might be the dual-use of ballistic missiles and SLVs. Differentiating between both rocket types is difficult, since much of the technology
is easily convertible. However, some functional differences and operational characteristics could be used to improve distinction, such as differences in the basing mode, the testing procedures, the payload, flight trajectory, guidance systems and re-entry. A variety of technical and non-technical means of verification exist to monitor ballistic missiles and their elimination. Remote sensing in the visible, infra-red or radar spectra, based on satellites, aircraft or on the ground, allows observation of missiles and the related launch and test facilities. Some of the verification tasks can be performed by commercial satellites, which are becoming increasingly cheap and efficient. Reconnaissance overflights (under the Open Skies regime) provide an alternative to satellite monitoring for many countries and can even supply superior information. During testing and training, a rocket communicates with its operators by sending and receiving telemetry signals which can be intercepted by receivers on ground stations, vehicles and satellites. Non-encrypted telemetry provides the necessary information on missile characteristics.

To ensure adequate verification of ballistic missile elimination regimes, technical means of verification need to be accompanied by inspections. As the experiences of the UN Special Commission (UNSCOM) inspections in Iraq have shown, a regime of unimpeded fast access to suspect sites is required to detect evidence of non-compliance. Verification problems are much easier to solve when states cooperate and are willing to exchange information. Systematic inspections of all ballistic-missile-related sites can provide basic information on an initial balance. Random short-notice inspections of declared sites should be augmented by a system of challenge inspections to undeclared sites. Pre-launch inspections would ensure that no undesired payload is used. To determine the basic payload type – in particular, to detect re-entry vehicles at the front of a rocket – without disclosing proprietary information, non-intrusive devices and techniques can be applied, such as scanning and radiographic devices. Ground-based equipment for different regions of the radiation spectrum could be mutually complementary: nuclear radiation detection could search for alpha, beta and gamma decay, indicating nuclear materials. Neutron detection would exhibit information about the types of materials used, in particular whether they include explosives. X-ray equipment could provide basic design information while preventing violation of commercial interests. In case of suspicion, more precise x-ray detection, computer tomography or – in exceptional cases – the opening of the payload in the presence of inspectors could remove uncertainties about non-compliance.

The efficiency of verification depends on the stage in the missile life-cycle that is to be controlled. Limits on research and development (R&D) would effectively prevent indigenous missile development in its early stages, but dual-use is the biggest verification problem here. With space cooperation and conversion of military R&D facilities, plus inspection of suspected sites, verification could exclude the most relevant developments but would require extensive procedures likely to interfere with legitimate civilian R&D. Stationary testing can be monitored by remote sensing of ground-based facilities from air and space, thermal detection of missile plumes, and on-site inspection. Since ballistic missile launches can be detected with early warning satellites and ground- or air-based radars, a ballistic missile test-flight ban would be rather easy to verify by remote sensing and interception of telemetry. Potential launch facilities can be inspected by non-destructive measurements.

A ban on missile deployment can in general be adequately verified, depending on the missile deployment mode, the degree of information exchanged and the security risk acceptable for the countries. Remote sensing would target rockets, transport vehicles and infrastructure. There is a high probability of detecting deployment in the open-air or in silos, but it is obviously harder to discover concealed deployment.

Detection of production would depend on remote sensing and inspection of suspected production facilities. Routine and challenge inspections would use checkpoint monitoring with non-intrusive devices at portals and the perimeter of assembly plants without entry into the site, comparable to the regulations of the INF and START treaties. Chances for detection increase with the extension of the detection period. No country can be certain that hidden storage would remain undetected by espionage, whistle-blowing or random challenge inspection. Ballistic missile destruction and warhead removal should be also open to inspection.

Under a comprehensive space-launch notification agreement and missile flight test ban, any non-controlled space launch would be prohibited, and the detection of any rockets outside of agreed launch pads would indicate a violation. To limit the risk of undetected activities, it would be particularly important to implement measures that prevent the transformation of space launch technology for ballistic missiles. A safeguards system for space launchers could place some of the ‘most critical’ items under supervision by an international organization. International cooperation in civilian space programmes would also be important for containing the use of space technology for missile development.

**Extending the control regime**

The case for a regime to control and monitor space launchers is greatly strengthened when considered in the context of preventing an arms race in outer space. Such a regime, in fact, could serve the function of verifying a ban on space weapons, in particular anti-satellite (ASAT) weapons. Since man-made objects in orbit would enter space through space rockets, a monitoring system at space launch facilities could not only search for indications of ballistic missile use, but also for the space-weapon usability of the payload. This would provide increased transparency concerning space activities in general, and would effectively exclude the deployment and testing of space weapons using ground-based space launchers. Other types of space weapons, in particular aircraft launch and ground- or air-based beam weapons, require different verification provisions. A combination of the available technologies would provide quite efficient means for verifying an ASAT ban, including a test ban, and the remaining risk would certainly be no higher than if the situation remained uncontrolled.

A control regime on ballistic missiles and space weapons could be also extended to the international control of ballistic missile defences. In contradistinction to
the current US quest to abrogate the ABM Treaty, or at least transform it beyond recognition, the regime could include proposals for strengthening the Treaty by making its general provisions more precise and verifiable, and/or by internationalising the accord. Fourteen years ago, John Pike presented some ideas on how to minimise definition problems and establish verifiable limits for various ABM components. Such limits would relate to the altitude, relative distance and velocity of interceptor tests, and to limits on laser brightness or to the aperture of sensors and mirrors.

**Conclusion: the role of citizens, scientists and the public**

Citizens and non-governmental organizations can play an important role in promoting and implementing missile control and disarmament. In order to increase public awareness, a greater public discourse on the missile problem and its resolution is required. By building a network of information exchange and debate, experts, civil society and officials could be jointly engaged in this process. Activities could include meetings and conferences involving scientists and technicians, as well as protests at, and attempts to conduct citizen inspections of, critical facilities. A notable example of collaborative work is the project ‘Moving Beyond Missile Defense’, launched by the International Network of Engineers and Scientists Against Proliferation (INESAP) in collaboration with the Nuclear Age Peace Foundation (NAPF) in March 2001. The project assesses the problems posed by missile proliferation and missile defence, and promotes political options to resolve these problems on an international level.

Although comprehensive proposals may currently seem utopian, they may become more, not less, important as a means of preserving stability and reducing uncertainty in a world of dangerous and costly missile defences. If the missile race on earth and in space is not prevented, the situation could soon become unstable, complex and even run out of control. Even the United States may wish to take international measures to reduce uncertainty and prevent damage to its own security interests once ICBMs, ASATs and laser weapons of other countries are fully developed. Whether a control system will work in a hostile environment is questionable. The best chance to prevent the missile race and space warfare exists now: such an opportunity may never come again.


4 See documentation from Disarmament Diplomacy No. 57, reprinted after this article.

5 For details of the first experts-level meeting, see M. Rice, Russia Proposes Global Regime On Missile Proliferation, Arms Control Today, May 2000; for the second meeting, see Disarmament Diplomacy No. 54, February 2001.


7 See documentation of UN Resolution Missiles in this issue.


This article was first published in Disarmament Diplomacy No. 55, March 2001. Jürgen Scheffran is Editor of the INESAP Information Bulletin, and Chair of the project ‘Moving Beyond Missile Defence’. He can be contacted by email at scheffran@hrzpub.tu-darmstadt.de.
MTCR Draft Code of Conduct

The MT CR Draft Code of Conduct has been documented in Disarmament Diplomacy, No. 57, May 2001. Disarmament Diplomacy introduced the text as follows (excerpts):

“At the 15th plenary meeting of the member states of the Missile Technology Control Regime (MTCR) in Helsinki, October 10-13, 2000, a draft code of conduct was circulated and discussed. Under pressure from states outside the MTCR regime and an implied US lack of confidence, represented by plans for national missile defence, the member states wanted to show that the MTCR regime could address missile proliferation more proactively and effectively than before. ...

At first, MTCR members requested media silence on the draft code of conduct in order to allow discussions with other governments to take place without undue pressure. The international debates on missile proliferation and missile defence have now moved on, driven by the ill-defined but far-reaching plans of the Bush administration. In view of the alternative approaches to preventing and combatting the proliferation of missiles and missile technology, it is now necessary that the MTCR draft code of conduct be discussed more openly. As part of our ongoing debate on missile proliferation and defence, Disarmament Diplomacy has decided it is time to publish the draft code of conduct, as received in October 2000. ... At the time of the Helsinki Plenary, the MTCR had 32 ‘partners’, or member states, including Russia: Argentina, Australia, Austria, Belgium, Brazil, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States. In late March 2001, the Republic of Korea was admitted to the regime."

Subscribing states agree to respect and implement the following principles, commitments and other measures in all national and collective activities relating to rockets and rocket systems.

**a) Principles**

1. Recognition by subscribing states of the importance of strengthening and gaining wider adherence to, existing disarmament and non-proliferation regimes;
2. Recognition by subscribing states that adherence to, and full compliance with, disarmament and non-proliferation norms build confidence as to the peaceful intentions of states;
3. Recognition by subscribing states that participation in this International Code of Conduct against Ballistic Missile Proliferation is voluntary and open to all states and that this Code of Conduct will complement and strengthen existing national, bilateral, regional and multilateral security arrangements and disarmament and non-proliferation regimes;
4. Recognition by subscribing states that all countries alike must be able to continue to reap the benefits of the utilisation of space for peaceful purposes in ways that do not contribute to the proliferation of ballistic missile systems capable of delivering weapons of mass destruction;
5. Recognition by subscribing states that space launch vehicle programmes should not be used to conceal ballistic missile programmes, considering that there are similarities between both types of programmes in terms of technology, facilities and expertise;
6. Recognition by subscribing states of the necessity of appropriate transparency measures on ballistic missile programmes and space launch vehicle programmes in order to increase confidence and to promote non-proliferation of ballistic missiles and ballistic missile technology;

**b) Commitments**

1. Commitment by subscribing states to ratify:
   - the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,
   - the 1972 Convention on International Liability for Damage Caused by Space Objects, and
   - the 1974 Convention on Registration of Objects Launched into Outer Space;
2. Commitment by subscribing states to curb the proliferation of ballistic missiles capable of delivering weapons of mass destruction, and to undertake measures to prevent such proliferation, both at a global and regional level through multilateral, bilateral and national endeavours;
3. Commitment by subscribing states to exercise maximum possible restraint in the development, testing and deployment of ballistic missiles capable of delivering weapons of mass destruction, including, where possible, to reduce national holdings of such missiles, in the interest of global and regional peace and security;
4. Commitment by subscribing states to exercise the necessary vigilance in the consideration of assistance to space launch vehicle programmes in any other country so as to prevent contributing to delivery systems for weapons of mass destruction, considering that such programmes may be used to conceal ballistic missile programmes;
5. Commitment by subscribing states not to support any ballistic missile programme in countries which might be developing or acquiring weapons of mass destruction in a way incompatible with the norms established by the disarmament and non-proliferation treaties.

**c) Incentives**

1. Consideration by subscribing states to provide, on a voluntary and case-by-case basis, incentives to subscribing states who choose to eliminate their existing ballistic missile and/or space launch vehicle pro-
programmes, as appropriate, and who commit to forgo such programmes in the future.

d) Confidence Building Measures

I. Agreement by subscribing states to implement transparency measures as follows, with an appropriate and sufficient degree of detail, to increase confidence and to promote non-proliferation of ballistic missiles:

   - make an annual declaration providing an outline of their ballistic missile policies. Examples of openness in such declarations might be relevant information on ballistic missile systems and land (test-) launch sites;
   - provide annual information on the number and generic class of ballistic missiles launched during the preceding year, as declared in conformity with the pre-launch notification mechanism referred to hereunder, in tier III;
   - consider, on a voluntary basis (including on the degree of access permitted), inviting international observers to their land (test-) launch sites.

II. With respect to expendable space launch vehicle programmes, and consistent with commercial and economic confidentiality principles, to:

   - make an annual declaration providing an outline of their space launch vehicle policies and land (test) launch sites;
   - provide annual information on the number and generic class of space launch vehicles launched during the preceding year, as declared in conformity with the pre-launch notification mechanism referred to hereunder, in tier III;

III. With respect to their ballistic missile and space launch vehicle programmes, to:

   - exchange pre-launch notifications on their ballistic missile and space launch vehicle launches and test flights.

These notifications should include such information as the generic class of the ballistic missile of space launch vehicle, the planned launch notification window, the launch area, and the planned direction.

Implementation of the above confidence building measures will have no bearing on the question of legitimacy of the rocket programmes concerned in respect of the obligations and norms deriving from the disarmament and non-proliferation treaties, and of the principles and commitments set out in this code.

e) Organisational Aspects

I. Agreement by subscribing states to:
   - hold regular meetings, annually or as need be, to define, review and further develop the workings of the International Code of Conduct;
   - establish a mechanism for the exchange of notifications and other information in the framework of the International Code of Conduct;
   - establish an appropriate mechanism for the voluntary resolution of questions arising from national declarations, and/or questions pertaining to space launch vehicle and ballistic missile activity.

The Missile Technology Control Regime

The Missile Technology Control Regime (MTCR) is an informal export control arrangement among 32 nations including of the world’s most advanced suppliers of ballistic missiles and missile-related materials and equipment. The regime is designed to stem the spread of ballistic and cruise missiles capable of delivering a 500 kilogram payload 300 kilometers or more, by establishing a common export control policy (the Guidelines) and a shared list of controlled items (the Annex) that each country implements with its own national legislation.

While the MTCR was originally meant to prevent the spread of missiles capable of carrying a nuclear warhead, it was expanded in January 1993 to also cover delivery systems for chemical and biological weapons. Manned aircraft are exempted from the regime’s controls, as are national space programs, so long as such programs could not contribute to delivery systems for weapons of mass destruction. The only absolute prohibition in the regime’s guidelines is on the transfer of complete facilities for regime-controlled missile production.

Unlike the nuclear Non-Proliferation Treaty, which seeks to prevent the spread of nuclear weapons, the MTCR is not an international treaty nor a legally binding agreement. MTCR members voluntarily pledge to adopt the regime’s export guidelines and to restrict the export of items contained in the regime’s annex. There are no provisions in the regime for enforcement of its terms or sanctions for violations. U.S. laws, however, require the imposition of sanctions against entities that export or import items controlled by the MTCR, even if that firm or individual operates within a state that is not an adherent or member of the regime.

Trade of MTCR controlled items between regime members and with non-member states that adhere to the guidelines is not absolutely prohibited, but is constrained by national export control laws. MTCR guidelines call for restraint in transfer of all missile technologies listed in the annex, and a strong presumption to deny whole missile (Category I) transfers. Where there are Category I transfers, the exporting government is responsible for obtaining binding assurances from the recipient government regarding acceptable end-use. U.S. laws require end-use guarantees for all countries except for Canada.

While all nations have been encouraged to abide by the MTCR’s terms, not all states have been invited to become formal regime members. Membership decisions, like all other regime decisions, are made only by consensus. Regime partners attend annual meetings, share intelligence about other nations programs of proliferation concerns, conduct export control workshops and are involved in revising and updating the regime’s guidelines and technical annex. Meetings are not public due to the sensitive nature of the discussions and the dissemination of intelligence materials.

Extract from Arms Control Association at www.armscontrol.org/factsheets/mtcr.asp.
UN General Assembly Adopts Resolution on “Missiles”

Merav Datan

The experts’ group which has been established as a result of the UNGA Resolution “Missiles” is to study “the issue of missiles in all its aspects” held its first meeting during July 30 - August 2, 2001. The group includes officials from Algeria, Argentina, Australia, Brazil, Canada, Chile, China, Egypt, France, Germany, India, Indonesia, Iran, Israel, Japan, Pakistan, Russia, the Slovak Republic, South Africa, South Korea, Ukraine, the United Kingdom, and the United States. Brazil is the chair. It should be noted that while the resolution passed 97-0, with 65 abstentions, a majority of states within the experts’ group actually abstained on the resolution.

It is not yet clear whether this group will become a multilateral forum for addressing the question of missiles, and, if so, how it would relate to the Missile Technology Control Regime (MTCR). Of the 32 MTCR member states, only South Africa voted in favor of this resolution, although 11 other MTCR members are participating in the experts’ group (Argentina, Australia, Brazil, Canada, France, Germany, Japan, Russia, Ukraine, UK, US). The bulk of support for a new multilateral approach comes from non-MTCR countries, but a few MTCR members do support a multilateral approach.

The resolution addresses the “complexities involved in considering the issue of missiles in the conventional context”, although it is not clear whether the experts’ group will focus on conventionally armed missiles to the same extent as weapons of mass destruction. Nor is it clear whether civilian space programs will be included in the scope of the study.

“Missiles” Resolution A/RES/55/33/A adopted by the United Nations General Assembly [on the report of the First Committee (A/55/559)]

The General Assembly,
Recalling its resolution 54/54 F of 1 December 1999,
Reaffirming the role of the United Nations in the field of arms regulation and disarmament and the commitment of Member States to take concrete steps to strengthen that role,
Realizing the need to promote regional and international peace and security in a world free from the scourge of war and the burden of armaments,
Convinced of the need for a comprehensive approach towards missiles, in a balanced and non-discriminatory manner, as a contribution to international peace and security,
Bearing in mind that the security concerns of Member States at the international and regional levels should be taken into consideration in addressing the issue of missiles,
Underlining the complexities involved in considering the issue of missiles in the conventional context,
Expressing its support for the international efforts against the development and proliferation of all weapons of mass destruction,
1. Takes note with appreciation of the report of the Secretary-General, submitted pursuant to resolution 54/54 F, I
2. Requests the Secretary-General further to seek the views of Member States on the issue of missiles in all its aspects and to submit a report to the General Assembly at its fifty-sixth session;
3. Also requests the Secretary-General, with the assistance of a panel of governmental experts to be established in 2001 on the basis of equitable geographical distribution, to prepare a report for the consideration of the General Assembly at its fifty-seventh session on the issue of missiles in all its aspects;
4. Decides to include in the provisional agenda of its fifty-sixth session the item entitled “Missiles”.

69th plenary meeting,
20 November 2000

Ballistic missiles differ from military rockets because they have guidance systems. The development of accurate guidance systems remains one of the most challenging engineering obstacles facing states wishing to indigenously develop ballistic missiles. Only 11 nations have missiles with ranges over 1000 km; all the rest have only short-range, Scud-type missiles.

Ballistic missiles are sometimes confused with cruise missiles. A ballistic missile is one whose payload reaches its target by way of an initial powered boost and then a free flight along a high arcing trajectory. Part of the flight of longer-range ballistic missiles may occur outside the atmosphere and involve the “reentry” of a warhead or the missile. A cruise missile is a self-propelled vehicle that sustains flight through the use of aerodynamic lift over most of its flight path.

For a comprehensive assessment of the world’s ballistic missile arsenal, see the World Missile Chart of the Carnegie Non-Proliferation Project at www.ceip.org/files/projects/npp/resources/ballisticmissilechart.htm.
Is There a Missile Threat?

The Dynamics of Missile Proliferation and the State of Missile Control

M. V. Ramana

The question posed has a short answer and a long one. The short answer is yes. The Carnegie Non-Proliferation Project lists 38 countries that have operational ballistic missiles with range capabilities over 100 km.\(^1\) (Table 1 lists the countries with or developing missiles with range greater than 300 km.) If one were to equate possession with threat, as is often done, then clearly there is a missile threat.

The long answer begins with another question: who is it that perceives the threat? Given that the most attention to the issue is to be found in the United States, it is not surprising that the implicit or explicit assumption in listing missile threats usually is that these threaten the United States or its allies. This extends not only to various government agencies but also independent, academic assessments. For example the CIA’s National Intelligence Council suggests that: “We project that during the next 15 years the United States most likely will face ICBM threats from Russia, China, and North Korea, probably from Iran, and possibly from Iraq.”\(^2\) The Centre for Defence and International Security Studies at the Lancaster University in England claims: “it is clear that there is a gang of states – including North Korea, Iran, Iraq, Syria, and Libya - who are actively engaged in bartering technology, capabilities and resources with one another in order to acquire both ballistic missiles and WMD. Left unchecked, they will pose new and growing threats to Western interests in coming years.”\(^3\)

However, if one were to look at actual use, the overwhelming user of missiles in the last decade is the United States. These were mostly cruise missiles, especially Tomahawks. The first time that such conventionally armed cruise missiles were used was in the Gulf War, when 288 Tomahawks were used during the course of the war. In ensuing actions against Iraq, 45 were launched on 17 January 1993, 23 more on 26 June 1993, 31 on 3 - 4 September 1996 and 330 during Operation Desert Fox in December 1998. Similarly there has been a history of use of Tomahawks against Serbia starting in 1995. The Kosovo war also marked the first time that Tomahawks were used by non-American forces with British submarines launching Tomahawks. In August 1998, the US Navy fired 79 Tomahawks against Afghanistan and Sudan, destroying a pharmaceutical plant in Sudan. As defense analyst Steven Zaloga puts it, the Tomahawk “has proven to the ideal weapon of the New World Disorder, a ‘Big Stick’ when diplomacy fails.”\(^4\)

This lesson has been well learnt by other countries too. For example, Indian “Navy specialists” argue for a “cost-effective cruise missiles for mounting a conventional seaward attack on land.”\(^5\) Analysts have argued that “cruise missile development may be the most effective route for India to achieve its aims of regional and global nuclear reach.”\(^6\)

In general it is assumed that the main motivations for programs such as the Indian cruise missile program are regional security threats. Even if this were true it must be remembered that the P-5, especially the United States, have a global presence and therefore its missiles and other force projection capabilities pose as much a regional threat, if not more, than any other countries belonging to the region.

Motivations for missile programs

However, the question of motivations for missile programs is a complex one, and the answers to this are similar to the motivations for countries to acquire nuclear weapons. In the nuclear proliferation debate, one can broadly categorize explanations for why countries acquire the bomb into three categories: security related, domestic or bureaucratic politics related, and prestige related.\(^7\) Reality, of course, is a bit of everything, with perhaps different emphasis on each of these motivations in each case.

Theories on proliferation of missiles can follow the same contours. And therefore in order to see “unproliferation” of missiles – i.e., the reversal of missile programs – it is necessary to address each of these sources of motivation. Existing efforts have focused primarily on nonproliferation, i.e., trying to prevent new countries from acquiring missiles. The modus operandi has been through the institution of export controls to inhibit the acquisition of technology that could be used to

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Missile Characteristics</th>
<th>Range (km)</th>
<th>Payload (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>Sagarika</td>
<td>naval cruise missile(^2)</td>
<td>500 (?)</td>
<td></td>
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<tr>
<td>India</td>
<td>Dhanush</td>
<td>naval ballistic missile</td>
<td>350 500 (?)</td>
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<tr>
<td>India</td>
<td>Agni II</td>
<td>ballistic missile</td>
<td>2000 1000</td>
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<tr>
<td>Iran</td>
<td>Shahab III</td>
<td>ballistic missile</td>
<td>1300 750</td>
<td></td>
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<tr>
<td>Israel</td>
<td>Jericho</td>
<td>ballistic missile</td>
<td>1500 1000</td>
<td></td>
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<tr>
<td>Israel(^10)</td>
<td></td>
<td>cruise missile</td>
<td>1500</td>
<td>?</td>
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<td>No Dong</td>
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<td>1000 1000</td>
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</tr>
<tr>
<td>North Korea</td>
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<td>ballistic missile</td>
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<td>2000 1000</td>
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<tr>
<td>Pakistan</td>
<td>Shaheen-I</td>
<td>ballistic missile</td>
<td>600-750 750-1000</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>Shaheen-II</td>
<td>ballistic missile</td>
<td>2500 1000</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>Ghauri I &amp; II</td>
<td>ballistic missiles</td>
<td>1500-2300 6500</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>Sky Horse(^12)</td>
<td>ballistic missile</td>
<td>950 500</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Sample Ballistic Missile Programs (Range >300 km, non-P-5 countries)
make missiles, namely the Missile Technology Control Regime (MTCR). The MTCR was initiated in 1987 with seven members and has grown to 32 member states; members agree not to help non-members build or acquire ballistic missiles with ranges greater than 500 km and payloads greater than 500 kg. However, such an approach does not tackle any of the three motivations that I described. First, due to the continued possession of long-range missiles by many countries, especially the P-5, all countries face a potential security threat. With its unilateral military actions in Kosovo, for example, the United States has increased concerns in a large number of countries, who may currently not think of themselves as opponents or at danger from a US attack. Export control regimes, by reinforcing the perception that the possession of missiles is a mark of advanced technological prowess or even “trappings of power,” may even be counterproductive. This spurs the development of indigenous missile technology, with or without the help of arms merchants and other middlemen around the world, and thereby fueling the growth of institutions with vested bureaucratic interests in maintaining and expanding missile programs. Thus, the MTCR has had little effect in creating and sustaining an international norm against missile acquisition, at best delaying some missile programs.

Efforts for missile control

There are a few efforts to buttress or widen the scope of the MTCR. At a recent MTCR meeting in Paris, the United States, Britain, and France offered steps to reinforce MTCR export controls by an increased dialogue with non-MTCR parties, pre-launch notification for missile and space launches, and international standards in the missile field. Similarly, Canada convened a meeting of ballistic missile experts from the United Kingdom, Germany, Norway, Russia, and the United States to examine options of a multilateral approach to more effective ballistic missile control, international monitoring, and early warning. These included the expansion and strengthening of the Anti-Ballistic Missile Treaty, de-alerting, improved ballistic missile early warning and launch notification, an extension of the concept of no-first-use specifically to ballistic missiles, and the monitoring and surveillance of missile and space-related activities and exchange of technical data, and multilateral space regulations reserving the use of space for commercial rather than military uses.

Other states are now considering options for a stronger missile nonproliferation regime specifically as an alternative to missile defense. At the June 1999 G-8 summit in Germany, the former Russian President Boris Yeltsin proposed a Global Control System for the Non-Proliferation of Missiles and Missile Technology (GCS). However, the GCS proposal is merely a nonproliferation regime, comparable in some respects with the Nuclear Non-Proliferation Treaty but without its Article VI obligation to disarm. It seems unlikely that major developing countries would accept another regime in which the five nuclear weapon states are left as the only missile powers. If, on the other hand, all of the states currently with missiles or planning such a capability in the near future were allowed to keep their missile arsenals, then the value of the regime would be severely limited and may only serve to incite future missile developments plans in other states.

Given the state of efforts to control missiles, it is therefore important to consider comprehensive efforts of ballistic missile disarmament. Such a regime would address both the multiple threats and technologies claimed as necessary either to deter them or to provide direct defenses. Even if achieving a global ballistic missile control regime is unlikely in the immediate future, discussion of such a regime would, by providing a different perspective on technology development, the dynamics of arms racing, verification issues, and the reasons claimed for constant upgrades to military forces, help break the current deadlock in nuclear arms reduction efforts. Let us hope that BMD can stand for Ballistic Missile Disarmament rather than Ballistic Missile Defense.

8. Current MTCR members are Argentina, Australia, Austria, Belgium, Brazil, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States.
11. North Korea has pledged that it would not flight-test the Nodong II. Jane Perlez, North Korea’s Missile Pledge Paves the Way for New Talks, New York Times, June 22, 2000. This could imply that it has terminated the program or is planning to do so.
Nuclear Deterrence, Missile Defenses, and Global Instability

David Krieger

In the world of nuclear deterrence theory, beliefs are everything. What the leaders of a country perceive and believe is far more important than the reality. Nuclear deterrence is a seemingly simple proposition: Country A tells country B that if B does X, A will attack it with nuclear weapons. The theory is that country B will be deterred from doing X by fear of nuclear attack by country A. For deterrence to work, the leaders of country B must also believe that country A has nuclear weapons and will use them. Nuclear deterrence theory holds that even if country A might not have nuclear weapons, so long as the leaders of country B believed that it did they would be deterred.

The theory goes on to hold that country A can generally rely upon nuclear deterrence with any country except one that also has nuclear weapons or one that is protected by another country with nuclear weapons. If country B also has nuclear weapons and the leaders of country A know this, then A, according to theory, will be deterred from a nuclear attack on country B. This situation will result in a standoff. The same is true if country C does not have nuclear weapons, but is under the “umbrella” of country B that does have nuclear weapons. Country A will not retaliate against country C for fear of itself being retaliated against by country B.

Thus, if country A has nuclear weapons and no other country has nuclear weapons, country A has freedom – within the limits of its moral code, pressures of public opinion, and its willingness to flout international humanitarian law – to threaten or use nuclear weapons without fear of retaliation in kind. For a short time the United States was the only country with nuclear weapons. It used these weapons twice on a nearly defeated enemy. Deterrence played no part. The United States never said to Japan, don’t do this or we will attack you with nuclear weapons. Prior to using the nuclear weapons, these weapons were a closely guarded secret.

From 1945 to the early 1950s, US strategic thinking saw free-fall nuclear weapons simply extending conventional bombing capabilities. The United States never said that it would attack another country with nuclear weapons if it did X, but this was implied by the recognized existence of US nuclear weapons, the previously demonstrated willingness of the US to use them, and the continued public testing of these weapons by the US in the Pacific.

The dangerous game of deterrence

After the Soviet Union tested its first nuclear weapon in 1949, the dangerous game of nuclear deterrence began. Both the US and USSR warned that if attacked by nuclear weapons, they would retaliate in kind massively. They also extended their respective so-called nuclear deterrence “umbrellas” to particular countries within their orbits. As the arsenals of each country grew, they developed policies of Mutual Assured Destruction. Each country had enough weapons to completely destroy the other. Britain and France also developed nuclear arsenals because they did not want to rely upon the US nuclear umbrella, and to try to preserve their status as great powers. They worried that in a crisis the US might not come to their aid if it meant that the US risked annihilation by the USSR for doing so. China also developed a nuclear arsenal because it felt threatened by both the US and USSR. Israel, India, Pakistan and South Africa also developed nuclear arsenals, although South Africa eventually dismantled its small nuclear arsenal.

Nuclear deterrence took different shapes with different countries. The US and USSR relied upon massive retaliation from their large arsenals of tens of thousands of nuclear weapons. The UK, France and China maintained smaller deterrent forces of a few hundred nuclear weapons each. India and Pakistan tested nuclear weapons and missile delivery systems, but it is uncertain whether they have yet deployed nuclear weapons. Israel, known to have some 200 nuclear weapons, offers only the ambiguous official statement that it will not be the first to introduce nuclear weapons into the Middle East.

One obvious way that nuclear deterrence could fail is if one side could destroy the other side’s nuclear forces in a first strike. To prevent this from happening, nuclear armed states have tried to make their nuclear forces invulnerable to being wiped out by a first strike attack. One way of doing this was to put the weapons underground, in the air and in the oceans. Many of the weapons on land were put in hardened silos, while those in the oceans were put on submarines that were difficult to locate underwater. For decades the strategic bombers of the US and USSR carrying nuclear weapons were kept constantly on alert with many in the air at any given moment.

Nuclear deterrence became a game of sorts – a dangerous and potentially tragic one and also deeply selfish, irresponsible and lawless, risking all humanity and the planet. Countries had to protect their deterrence forces at all costs and not allow themselves to become vulnerable to a first strike attack on their nuclear forces. In a strange and perverse way, nuclear-armed countries became more committed to protecting their nuclear forces than they were to protecting their citizens. While they hardened their land-based missile silos and placed their submarines in the deep oceans, their citizens remained constantly vulnerable to nuclear attack.

The game of nuclear deterrence required that no country become so powerful that it might believe that it could get away with a first strike attempt. It was this concern that drove the nuclear arms race between the US and USSR until the USSR was finally worn down by the economic burden of the struggle. It also ensured a high level of hostility between rival nuclear-armed countries, with great danger of misunderstandings – witness,
for example, the Cuban missile crisis and many other less well-known scares. Mutu-

al Assured Destruction lacked credibility, requiring the development of policies of ‘Flexible Response’, which lowered the nuclear threshold, encouraged the belief that nuclear weapons could be used for war-fighting, increased the risk of escalation to all-out nuclear war, and stimulated more arms racing.

Notice that a first strike doesn’t require that one country actually have the force to overcome its opponent’s nuclear forces. The leaders of the country only need to believe that it can do so. If the leaders of country A believe that country B is planning a first strike attack, country A may decide to initiate a preemptive strike. If the leaders of country A believe that the leaders of country B would not initiate a nuclear attack against them if they did X, then they might well be tempted to do X. They might be mistaken. This led to the “launch-on-warning” hair-trigger status between the US and Russia. More than ten years after the end of the Cold War, each country still has some 2,250 strategic warheads ready to be fired on a few moments’ notice. Nuclear deterrence operates with high degrees of uncertainty, and this uncertainty increases, as does the possibility of irrationality, in times of crisis.

**Ballistic missile defenses**

President George W. Bush cites as his primary reason for wanting a ballistic missile defense system for the US his lack of faith that nuclear deterrence would work against so-called ‘rogue’ states. Yet, the uncertainty in nuclear deterrence increases when ballistic missile defenses are introduced. If country A believes that it has a perfect defense against country B, then country B may also believe that it has lost its deterrent capability against country A. Ballistic missile defenses, therefore, will probably trigger new arms races. If countries A and B each have 500 nuclear warheads capable of attacking the other, both are likely to believe the other side will be deterred from an attack. If country A attempts to introduce a defensive system with 1,000 anti-ballistic missile interceptors, country B may believe that its nuclear-armed ballistic missile force will be made impotent and decide to increase its arsenal of deliverable warheads from 500 to 2,000 in order to restore its deterrent capability in the face of B’s 1,000 defensive interceptors. Or, country B may decide to attack country A before its defensive force becomes operational.

If country A plans to introduce a defensive system with only 100 interceptors, country B might believe that its nuclear force could still prevail with 500 deliverable nuclear weapons. But country B must also think that country A’s interceptors would give A an advantage if A decides to launch a first strike attack against B’s nuclear forces. If country A is able to destroy 400 or more of country B’s nuclear weapons, then A would have enough interceptors (if they all worked perfectly) to believe that it could block any retaliatory action by B. Thus, any defensive system introduced by any country would increase instability and uncertainty in the system, making deterrence more precarious. Worse, this introduces a fear that ballistic missile defense has little to do with defense, and far more to do with an offensive ‘shield’ behind which a country could believe that it could coerce the rest of the world with impunity.

It was concern for the growing instability of nuclear deterrence to the point where it might break down that led the US and USSR to agree in 1972 to place limits on defensive missile forces in the Anti-Ballistic Missile (ABM) Treaty. In this treaty each side agreed to limit its defensive forces to no more than two sites of 100 interceptors each. These sites could not provide protection to the entire country. It is this treaty that the United States is now seeking to amend or unilaterally abrogate in order to build a national ballistic missile defense. It claims this defense is needed to protect itself against so-called ‘rogue’ states such as North Korea, Iran or Iraq. At present, however, none of these countries is even expected to be able to produce nuclear weapons or a missile delivery system capable of reaching the United States before 2010 at the earliest.

Russia and China have both expressed strong opposition to the US proceeding with ballistic missile defense plans. Russia wants to maintain the ABM Treaty for the reasons the treaty was initially created, and is aghast at comments from the US such as those of Secretary of Defense Rumsfeld calling the treaty “ancient history.” Russia is also seeking to reduce the size of its nuclear arsenal for economic reasons and its leaders fear the instabilities that a US national ballistic missile defense system would create. Russian leaders have said that such a system that abrogated the ABM Treaty could result in Russia withdrawing from other arms control treaties including the START II and the Comprehensive Test Ban Treaty.

China has a nuclear force a fraction of that of Russia or the US. It has some 400 nuclear weapons, but only some 20 long-range missiles capable of reaching the US. If the US sets up a system of some 100 to 200 interceptors, China would have to assume that its nuclear deterrent capability had been eliminated. Chinese leaders have called for the US not to go ahead with a ballistic missile defense system that would force China to develop a stronger nuclear deterrent force. Were China to do so, this would inevitability provoke India to expand its nuclear capability, which in turn would lead Pakistan to do the same.

**Increasing instabilities**

At a time when major progress toward nuclear disarmament is possible and even promised by the nuclear weapons states, the US desire to build a ballistic missile defense system to protect it against small nuclear forces is introducing new uncertainties into the structure of global nuclear deterrence and increasing the instability in the system. Nuclear deterrence has never been a stable system. One country’s nuclear strategies have both predictable and unpredictable consequences in other countries.

Security built upon nuclear arms cannot endure. US nuclear weapons led to the development of the USSR and UK nuclear arsenals. These led to the development of the French and Chinese nuclear forces. The Chinese nuclear forces led to the development of Indian nuclear forces. India’s nuclear forces led to the development of Pakistani nuclear forces. Israel decided to develop nuclear forces to give it a deterrent among hostile Middle East neighbors. No doubt this provoked Saddam Hussein – and gave him the pretext – to develop Iraq’s nuclear capability, and is driving Iran to follow suit.

Now the US is seeking to introduce national and theater ballistic missile defenses that will provide further impetus to nuclear arms development and prolifera-
The official Russian attitude toward the U.S. NMD (National Missile Defense) plans is well known. Deployment of a system to protect the nation represents a clear violation of the ABM (Anti-Ballistic Missile) Treaty, which Russia considers a cornerstone of strategic stability, a key element within a whole system of disarmament treaties, and a basis for further reductions of strategic offensive weapons. This attitude was reiterated by Russian officials many times and at various levels. One of the best explanations of likely Russian responses to a U.S. NMD deployment was made by Ambassador Yuriy Kapralov, Director, Department for Security Affairs and Disarmament, Ministry of Foreign Affairs of the Russian Federation. In particular he stated:\footnote{1} “…The following would be the most immediate consequences of NMD deployment for the arms control process: 

- The Russian Federation would discontinue the implementation of START I Treaty (it is conditioned by the preservation and strict compliance with the ABM Treaty – a statement of the Soviet side at the Soviet-American negotiations on June 13, 1991).
- The START II Treaty (ratified by the Russian Federation and not yet ratified by the United States) would not be enacted, since its entering into force and implementation are conditioned according to the law of ratification by the preservation and compliance of the US with the ABM Treaty;
- Further agreed upon reductions of strategic offensive arms (START III) would become impossible (one should be out of touch with reality to assume that it is feasible to radically reduce on a reciprocal basis strategic offensive arms and simultaneously have a national missile defense deployed for one side);
- The on-going implementation of unilateral initiatives of 1991-1992 would be stopped and reviewed;
- The expedience of the INF Treaty in a new strategic environment would be closely examined with more chances for the Treaty to be scrapped;
- Even the CFE Treaty, recently adapted, would be put in doubt (at least that was mentioned during ratification of START II and CTBT)…”

The world is far more complicated than country A deterring country B by threat of nuclear retaliation. As more countries develop nuclear arsenals, more uncertainties enter the system. As more defenses are set in place, further uncertainties enter the system. While the US seeks to make itself invulnerable against threats that do not yet even exist, it is further destabilizing the existing system of global nuclear deterrence to the point where it could collapse – especially when the President demonstrates his belief that the system can no longer be relied upon. The full consequences of US missile defense plans are not predictable. What is predictable is that the introduction of more effective defenses by the US will change the system and put greater stress on the global system of security built upon nuclear deterrence. The system is already showing signs of strain. With new uncertainties will come new temptations for a country to use nuclear forces before they are used against it. Nuclear deterrence is not sustainable in the long run, and we simply don’t know what stresses or combination of perceptions and/or misperceptions might make it fail.

Nuclear deterrence cannot guarantee security. It undermines it. The only possibility of security from nuclear attack lies in the elimination of nuclear weapons as has already been agreed to in the Non-Proliferation Treaty and reiterated in the 2000 Review Conference of that treaty. Ballistic missile defenses, which increase instability, move the world in the wrong direction. For its own security, the US should abandon its plans to deploy ballistic missile defenses that would abrogate the Anti-Ballistic Missile Treaty, and instead provide leadership in immediately negotiating a Nuclear Weapons Convention leading to the phased and verifiable elimination of all nuclear weapons, like the widely-acclaimed enforceable global treaty banning chemical weapons.

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This attitude may look steadfast and hard-edged, however it is hardly surprising to those who try to look objectively at a broader picture and understand Russian perceptions.

A wide discussion is currently under-way in the community of Russian experts on likely consequences of US NMD deployment, and how Russia should respond. There is a wide spectrum of opinions and recipes on what to do. However, what most Russian experts agree on is that the current attitude of the Russian society toward arms control is increasingly negative. The primary reason for that is failed hopes for establishing true partnership relations with the West which are intensified by the continuing economic crisis in Russia.

Disarmament steps of the Russian leadership in the late 1980s and early 1990s were basically motivated by good will in the hope that the West would reciprocate rather by a well thought-out long-term strategy. Therefore, there is a dominating perception in the society that the former Russian political leadership gave away Russian strategic interests.

Negative public attitudes toward the West are intensified by some political moves of western partners, which certainly can not be regarded as friendly to Russia. These are in particular:
- Shortcomings of the START II Treaty; this Treaty means irreversible elimination of strategic delivery systems for Russia. In contrast, the United States are going to conduct most nuclear cuts by taking strategic platforms out of service;
- NATO expansion;
- U.S. plans to deploy NMD;
- U.S. and NATO policies toward resolving the Kosovo crisis;
- Reluctance of the U.S. to strictly implement the START I Treaty.

Let me also mention another concern that has not become a political issue yet. It is a growing counterforce capability of conventional precision-guided weapons, which may eventually undermine survivability of the smaller remaining Russian nuclear arsenal. This problem is probably much more important than NMD deployment and it will become a major obstacle in the next round of strategic arms cuts.

Unfortunately, all these developments are perceived as elements of one chain aimed at depriving Russia of its nuclear status, its last attribute as a superpower.

The situation is aggravated by the fact, that the Russian military industry continues to deteriorate. The military reform was a complete failure. In addition, the dispute between Minister of Defense Igor Sergeyev and Chief of the General Staff Anatoli Kvashnin about the role and future of nuclear forces clearly demonstrated that Russia has in fact very little chance to negotiate a balanced START III Treaty.

Therefore, the Russian political leadership faces a serious dilemma: should Russia continue to restrict itself in accordance with obligations of disarmament treaties and further pursue the START process or should it go on its own in increasing nuclear forces. Currently, there is a very good opportunity to choose a second option and blame the United States of destroying the ABM Treaty and thus the whole nuclear disarmament process.

The questions are:
- What can we expect from such a likely development?
- Will it mean the end of arms control?
- Is a new arms race inevitable?
- If not, can a new arms control process be created that would be more appropriate to a post cold war era with only one major superpower?
- What needs to be done to diminish negative impacts of US NMD deployment on the arms control process?

I think that these questions are only part of a broader agenda to be discussed among arms control experts. Most of these questions do not have clear answers yet.

Let me just briefly summarize the views shared by my colleagues at the Center for Arms Control, Energy and Environmental Studies. These views are expressed in the Center’s report “U.S.-Russian Relations in Nuclear Arms Reductions: Current State and Prospects, Center for Arms Control, Energy and Environmental Studies at MIPT, June 2001. [http://www.armcontrol.ru/start/publications/reductions0601.htm]”

This paper was presented at the workshop “Moving Beyond Missile Defense”, Santa Barbara, March 19 - 21, 2001. Eugene Miasnikov, Center for Arms Control, Energy and Environmental Studies at MIPT, Institutski Dolgoprudny, Moscow reg., 141700, Russia, tel/fax +7-095-408 63 81, email eugene@armcontrol.ru. The Center’s homepage www.armcontrol.ru links to the “START Forum” which is to facilitate public discussion on the issues of nuclear policy and nuclear arms reduction.

2. This problem was particularly considered in detail in the following report: Eugene Miasnikov, Precision Guided Weapons and Strategic Balance, Center for Arms Control, Energy and Environmental Studies, November 2000. [http://www.armcontrol.ru/start/publications/vto1100.htm]
Moving Beyond Missile Defense

Chinese Perspective on National Missile Defense

Dingli Shen

The U.S. ballistic missile defense

Ballistic missile defense has drawn heated debate in the international community in the recent years. On the one hand, the U.S. has made it a national policy to develop a limited ballistic missile defense program, with a deployment decision to be made by the Administration of George W. Bush. On the other hand, the U.S. missile defense build-up has been much criticized by other countries. It is often argued that missile defense would, if unchecked, tilt the balance of power and therefore affect the international political and security order.

Indeed, there may well be a genuine concern over the proliferation of ballistic missiles and other types of delivery means. Coupled with the proliferation of weapons of mass destruction, ballistic missile proliferation presents a major challenge to international security and stability. This was manifest during the second Gulf War of 1991, when Scuds that were fired against Saudi Arabia and Israel gained in psychological importance. Ever since then, more and longer-range missile flight tests have been conducted in South Asia and Northeast Asia. While the countries concerned may have reason to acquire missiles for their defense, such a proliferation trend does not bode well for global or regional stability.

Ballistic missile proliferation has thus raised concern among states. There are three kinds of responses. First, denying the intention of those who might seek to acquire such delivery vehicles. This would require the creation of a more secure environment in order to reduce the incentive to acquire them. Second, denying the availability of missile-related technology due to transfer, if denial of intention fails to work. Third, establishing a certain level of ballistic missile defense as a protection against incidental and/or unauthorized attack, or a limited intentional attack with ballistic missiles.

In this context, it is not impossible to understand the need for a limited missile defense, if it is truly limited, especially for a global power as the United States, which has vast overseas presence and interests, which in turn could invite attack.

In fact, the U.S. has never given up its attempt to build various missile defense systems. The U.S. set out to build the Sentinel anti-ballistic missile program in 1967 against China's nascent nuclear deterrent. For the last two decades, the U.S. government has persistently pursued missile defense. The Reagan Administration launched its ‘Strategic Defense Initiative’, a land- and space-based multi-layer missile defense system that was never successfully developed. The Bush Administration converted the 'Star Wars' dream into a 'Global Protection Against Limited Strikes' (GPALS). The Clinton Administration has decided to continue ballistic missile defense, with components of both ‘National Missile Defense' (NMD) and ‘Theater Missile Defense' (TMD). Now the George W. Bush's new administration has committed to furthering the NMD development.

This article addresses China's position on a missile non-proliferation regime and its concern on National Missile Defense. It is suggested that China and the U.S. address their respective security concerns and seek a co-operative solution in missile non-proliferation and missile defense issues.

China and the missile non-proliferation regime

Over the last decade, China has been increasingly exposed to a periphery that is prone to missile proliferation. Its key neighboring states either have a formidable missile arsenal, a significant missile program, a fast developing missile capability, or an alliance with a nuclear superpower. As such, missile proliferation has clearly affected China's international environment.

Therefore, China has taken a series of steps addressing this problem through joining international missile non-proliferation efforts. It has been cautious concerning the transfer of missiles, adopting strict and effective controls over the export of missiles and related technology. Beijing has committed to missile non-proliferation and kept its obligation.

In February 1992, China committed to observing the guidelines and parameters of Missile Technology Control Regime (MTCR) in force at that time. With the enhanced dialogue that emerged between China and the U.S. in the missile area, the two countries signed a joint statement in October 1996, reaffirming China's promise and obligation of not exporting ground-to-ground missiles inherently capable of reaching a range of 300 kilometers or more with a payload of 500 kilograms or more.

Although China has not joined the MTCR's formulation and revision, it has signaled that it would study the feasibility of joining the regime. This came as a result of the Jiang-Clinton Beijing summit of 1998, reflecting their effort to cultivate a constructive partnership. It is understood that China has conditioned its joining the MTCR on the question of the U.S. arms sales to Taiwan, especially U.S. TMD development and deployment in this part of the world.

The two countries were engaging on this matter until their talks on non-proliferation, arms control and international security were, unfortunately, suspended in the aftermath of NATO's bombing of the Chinese Embassy in Belgrade in May 1999. Their arms control talk was not resumed until July 2000, following their security consultation in Beijing in February. On November 21, 2000, Beijing made a statement to the effect that “China has no intention to assist, in any way, any country in the development of ballistic missiles that can be used to deliver nuclear weapons (i.e., missiles capable of delivering a payload of at least 500 kilograms to a distance of at least 300 kilometers).” In this statement, China made it clear that it will publish a comprehensive export control list of missile-related items including dual-use items.
NMD affecting Russia’s and China’s security

On March 17 and 18, 1999, respectively, the U.S. Senate and House of Representatives overwhelmingly approved National Missile Defense System legislation, stating, “It is the policy of the United States to deploy a national missile defense.”8 This has evoked tremendous repercussions around the world, drawing negative responses from all other nuclear weapons states and even U.S. allies in NATO.9

According to the Clinton NMD plan, the U.S. would deploy 100 interceptors in Alaska in its first configuration. Assuming a 1-in-4 rate of interception, the U.S. could hit at most 25 incoming missiles, a more than sufficient capability to take care of the alleged threat from those ‘rogue’ states that are considered to be developing long-range ballistic missiles to target America. At later stages, the U.S. would deploy further kinetic kill vehicles in North Dakota in order to provide nation-wide missile defense.

The U.S. has stated clearly that China has not been figured in the NMD calculations. However, China views the situation differently and remains strongly suspicious of the U.S. intentions in terms of NMD development. From China’s perspective, it is untenable that the U.S. would spend 60-100 billion dollars on a system that has only ‘rogue’ states in mind.

A capability to counter a strike by intercontinental ballistic missiles owned by ‘rogue’ states does not yet exist. Excluding the P5 (i.e. the five official nuclear weapons states), only Israel, Saudi Arabia, India, Pakistan, North Korea and Iran are currently believed to have medium-range missiles with ranges above 1,000 km. Only four of these states, India, Pakistan, North Korea, and Iran, may have active programs to develop intermediate-range missiles with ranges of over 3,000 km.10 It is highly unlikely that any of them will acquire an Intercontinental Ballistic Missile (ICBM) capability within a decade or so. The CIA’s classified 1998 Annual Report to Congress on Foreign Missile Development recognized that the ICBM threat to the United States from so-called rogue states is unlikely to materialize before 2010, with the possible exception of the DPRK.11

Only Russia and China currently have the capability to hit the United States with nuclear warheads on ICBMs. However, this is not a new phenomenon. Both the U.S. and Russia have maintained their nuclear arsenals of thousands of deployed nuclear weapons. Their nuclear arsenals are at basically comparable levels in terms of quality and quantity. It is the ABM (Anti-Ballistic Missile) Treaty signed in 1972 that has prevented the U.S. and the former Soviet Union from embarking on unlimited strategic arms race.

The ABM Treaty does allow the U.S. and the former Soviet Union (now Russia as its sole legitimate successor) to deploy a limited capability against strategic ballistic missiles for the sake of defense against incendial and/or unauthorized attack. The Treaty has doubly served strategic stability. First, for limited nuclear attack due to incidental/unauthorized launch, it provides limited capability of interception. Second, for an all-out nuclear attack and counterattack, it assures the rivals of their mutual destruction. Indeed, the Treaty has helped dissuade the two nuclear weapons superpowers from further escalating their strategic offensive build-up.

With Russia’s ongoing social and economic disruption, its military capability has been affected significantly. In the context of the strategic offense-defense relationship, Russia is being pressed three-fold. First, a significant amount of Russia’s strategic force is aging and has to be phased out. Therefore, Russia needs deep bilateral nuclear weapons reductions with the U.S., but it refuses to do so at the expense of revising the ABM Treaty which would change the balance of power in favor of the U.S. Second, under START II Russia’s would eliminate its land-based MIRVed (Multiple Independently Targetable Re-entry Vehicle). At a time of U.S. rhetoric about abrogating the ABM Treaty anyway, Russia has to reconsider the necessity to disarm its lethal MIRVed weapons. Third, Russia’s missile defense, permitted under the ABM Treaty, is eroding, as its early warning satellite system can no longer provide full coverage.12

As such the world is experiencing a double danger. Russia cannot properly execute the launch-on-warning of its strategic forces, as it is unable to fully track the missile launch and flight. Russia’s refusal to cut its nuclear force, when actually there is a need to cut it, also creates difficulties in the nuclear disarmament process. However, the latter issue is a result of the U.S. missile defense build-up in violation of the ABM Treaty.

Consequently, the U.S. NMD build-up will be harmful to U.S.-Russian relations. It presses Russia to be hesitant in continuing strategic nuclear disarmament, and may force Moscow to strengthen its offensive capability. By revising or even abandoning the ABM Treaty, the U.S. appears to maximize its security regardless of the negative effect on the security of other countries.

From China’s perspective, the U.S. national missile defense would cause even worse strategic relations between Beijing and Washington. Though China has not publicly made its nuclear capability transparent, its CSS-4 ICBM force, capable of reaching the U.S. with a range of 13,000 kilometers, as reported by Western publications, is largely believed by the Western strategic analysts to number around 20-25.13

China’s concern over the U.S. national missile defense in violation of the ABM Treaty has been expressed through various channels many times.14 Primarily China is concerned about two issues. One is that the NMD will destabilize the world order, and harm the international relations. The other is that NMDs advertised technical capability will undermine China’s strategic deterrence, weakening China’s confidence in its strategic retaliatory capability.

A limited anti-ballistic missile capability, as allowed by the existing ABM Treaty, would be enough to defend the strategic assets of the U.S. against potential missile threats from outside the P5.15 Indeed, the one-site base of anti-ballistic missile deployment under the framework of the ABM Treaty cannot immunize the whole U.S. from being hit. It is exactly this reason that has given Russia (as well as other nuclear weapons states) a confidence that they retain a credible nuclear deterrence vis-à-vis the U.S. Theoretically, part of the U.S. would thus be exposed to some missile threat from ‘rogue’ states. However, either that threat has been too remote, or the overwhelming strength of the U.S. in both nuclear and conventional weapons will be powerful enough to deter potential adversaries from initiating hostilities.

Also, the envisaged NMD cannot stop an all-out Russian nuclear attack, considering the thousands of strategic weapons at Russia’s disposal. Therefore,
Beijing can only take the view that U.S. NMD has been designed to effectively neutralize China’s strategic deterrence.

Given the reported level of China’s full-range ICBM force (CSS-4), the NMD plans requiring an ABM Treaty revision would, if successfully implemented as advertised, compromise China’s strategic capability in two respects. Geographically, it will protect the whole U.S. from being deterred. Numerically, even interceptors deployed at a single site may be enough to knock out all Chinese CSS-4s. Hence China’s national security interest is in jeopardy.

To hold the U.S. credibly deterred is just to reciprocate, to a much lower extent, what the U.S. has long done against China during the nuclear age. In fact, it was the U.S. nuclear threats to China on a number of occasions that prompted Beijing to start its nuclear weapons program.

Though the U.S. has the most formidable nuclear arsenal and most powerful and sophisticated conventional arsenal, it retains the option of a first-strike with nuclear weapons as its deterrence policy. Now the U.S. would even revise or abolish the ABM Treaty that assures nuclear weapons states of their mutual security.

China has one of the smallest nuclear arsenals and least advanced conventional weaponry among all the nuclear weapons states. However, it still adopts a nuclear no-first-use policy, and a nuclear no-use policy against non-nuclear weapons states or nuclear weapons free zones.

China’s national security thus rests with what the ABM Treaty provides. The U.S. indeed can develop and deploy a capability against strategic weapons, as permitted by the ABM Treaty, in order to gain a certain sense of security against incidental and/or unauthorized attack by nuclear weapons. Nevertheless, it ought to take into account the common security of all nuclear weapons states. When the U.S. improves its own security at a time of ballistic missile proliferation, it should mind not to undermine the national security of others. There is an internationally acceptable limit that the U.S. can pursue, i.e. developing its strategic missile defense capability in compliance with the ABM Treaty.

Addressing China’s concern

The U.S. can argue that it is its sovereign rights to develop and deploy NMD beyond the ABM Treaty, as the new administration is advocating. However, if the U.S. were to go ahead regardless of the others, it certainly would not create a win-win situation. It would rather be counterproductive in facilitating international cooperation in missile non-proliferation. Apparently this is contrary to the interests of the U.S.

Some in the U.S. have been indifferent to the negative security impact that a revision of the ABM Treaty would bring upon other states. In this theory, the U.S. would at least to some extent consider Russia’s concern. As the ABM Treaty was concluded between the U.S. and Russia, there seems no need to address China’s concern.

The U.S. must understand that the ABM Treaty both balances the power between the U.S. and Russia, and, more fundamentally, is a cornerstone of global security. In the latter context, China’s security is affected by the standing of the ABM Treaty. It has expressed its interest in maintaining the ABM Treaty and in multilateralizing it, in the hope of expanding ABM Treaty membership. Being a party to the ABM Treaty, Beijing would be in a better strategic position to enhance world stability.

There have thus far been three interception tests of NMD systems. The first was carried out on October 2, 1999 and was found to have flaws. The second test on January 18, 2000 was a complete failure due to a ‘plumbing leak’. On July 8, 2000 the third test failed because no separation occurred between the boost rocket and the Exoatmospheric Kill Vehicle. President Clinton announced on September 1, 2000, that he would not proceed with deployment of the planned limited NMD. More interception tests have been scheduled for May/June of 2001. Even though future tests could be more or less ‘successful’, it would be still quite questionable as to the true effectiveness of the system under real conditions. It will be in neither America’s ultimate interest, nor the interest of the rest of the world, to have such a system installe by breaking the ABM Treaty.

If the U.S. insists on hurting the national interests of Russia and states with a smaller nuclear weapons arsenal, it would be difficult to gather international support for non-proliferation initiatives on other fronts. The Fissile Materials Cut-Off Treaty (FissBan), is an obvious example. Were the U.S. to break the ABM Treaty, medium nuclear weapons states would be reluctant to give up their option of re-starting the production of fissile materials for weapons purposes, when they feel their deterrence capability is being undermined.

It should also be pointed out that there are ample means to defeat a missile defense. Various means such as submunitions, high as well as low altitude countermeasures, balloon decoys, chaff and missile fragment decoys can all be considered. MIRVing and ASAT (Anti-Satellite) approaches might also be tempting. It goes without saying that if a state is able to independently develop a strategic missile capability, it should also be able to develop a capability to cost-effectively defeat missile defense.

Some argue that there is a growing threat from China as it is modernizing its strategic forces. Looking at the CSS-4 force developed and China’s sea-based deterrence, one can hardly reach this conclusion. A land-based strategic force of about two dozens of intercontinental ballistic missiles, and a very small submarine-based missile force, is hardly any match for the arsenals of the United States.

As China follows a no-first-use strategy, it serves China’s interest to keep a moderate force. However, China has a need to modernize its force as its defensive policy requires doing so, and as all other countries are doing the same. This is especially true at the age of precision-guided weaponry. An ICBM force of some two dozens of missiles does not justify the U.S. to revise or abolish the ABM Treaty. Quite to the contrary, China’s moderate strategic force and modernization play a key role in assuring the U.S. of adequate security, which serves a stabilizing role in terms of China-U.S. relations, and world security.

In sum, the United States may have legitimate concern over missile proliferation. That concern requires understanding but shall not be exaggerated. Major powers of the world, along with other countries, should work together to address such international problems, and to find solutions that serve both international stability and their respective national
1 The Bush Administration has advocated continuing development of ballistic missile defense toward its deployment.

2 For instance, India has tested the Agni and Prithvi ballistic missiles, and Pakistan has tested the Ghauri a number of times in the 1990s. DPRK (North Korea) is alleged to have developed and tested No-dong and Taepo-dong intermediate-range ballistic missiles. Reportedly some other countries are developing their ballistic missile capabilities.


5 The MTCA was set up in April 1987 and modified in July 1993 to target missiles capable of delivering any type of weapons of mass destruction.


7 People’s Republic of China Foreign Ministry Spokesperson’s Statement, People’s Daily, November 22, 2000, p. 4.

8 The House version, sponsored by Curt Weldon (R-PA), was a bill of one-sentence as quoted in the text.


11 Craig Cerniello, CIA Holds to Assessment of Ballistic Missile Threat to U.S., Arms Control Today, October 1998, p. 24. The U.S. is even negotiating with North Korea on a halt of its long-range missile program.


15 Assuming China has 20 CSS-4s, the 100 interceptors deployed at a single ABM site would be more than enough to hit all of them under a 1-in-4 interception ratio scheme.


17 See luncheon speech of Ambassador Shu Zhukang at the Seventh Carnegie International Non-Proliferation Conference “Repairing the Regime”, January 11-12, 1999, Washington, D.C.


22 The U.S. Will Conduct the 4th NMD Test, Wen Hui Bao (in Chinese), February 8, 2001, p. 5.

23 Richard Garwin has pointed out that “the proposed NMD system would have essentially zero capability against the most likely emerging threat – an ICBM from North Korea”. See: Effectiveness of Proposed National Missile Defense Against ICBMs from North Korea, http://www.tao.org/r/rl990317-rmd.htm.


Provoking Military Buildup in China

U.S. to Tell China It Will Not Object to Military Buildup
New York Times, September 2, 2001 (excerpts)

The Bush administration, seeking to overcome Chinese opposition to its missile defense program, intends to tell leaders in Beijing that it has no objections to the country’s plans to build up its small fleet of nuclear missiles, according to senior administration officials.

One senior official said that in the future, the United States and China might also discuss resuming underground nuclear tests if they are needed to assure the safety and reliability of their arsenals. Such a move, however, might allow China to improve its nuclear warheads and lead to the end of a worldwide moratorium on nuclear testing.

Both messages appear to mark a significant change in American policy. For years the United States has discouraged China and all other nations from increasing the size or quality of their nuclear arsenals, and from nuclear tests of any kind.

Other officials say that while there may not be an explicit agreement, both American and Chinese strategists know that China needs more weapons to ensure that it could overwhelm a missile defense system. [...] But word of the new approach drew scathing criticism from Joseph R. Biden Jr., the Democrat of Delaware who is chairman of the Senate Foreign Relations Committee. "This is absolutely absurd," he said today. "It shows that these guys will go to any length to build a national missile defense, even one they can’t define. Their headlong, headstrong, irrational and theological desire to build a missile defense sends the wrong message to the Chinese and to the whole world." This is especially true, he said, regarding India, which would try to balance against any Chinese buildup.

"This is taking 50 years of trying to control nuclear weapons and standing on its head," he added.


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Moving Beyond Missile Defense

Missile Proliferation and Missile Defenses in East Asia

Wade L. Huntley

Missile proliferation in East Asia, combined with US planned missile defense responses, has become one of the most pressing security issues facing the region. In the United States, principal concern is focused on the activities of the DPRK (Democratic People’s Republic of Korea) and China. For both states, the concern encompasses both vertical proliferation—indigenous deployment of more numerous, accurate, and lethal missile forces—and horizontal proliferation—dissemination of missile capabilities to other states.

This paper first examines how missile development fits into the current security outlooks of the DPRK and China, focusing on distinguishing the genuine security concerns these developments pose. The paper then assesses and critiques prospective US policy responses to the Democratic People’s Republic of Korea’s (DPRK, North Korea) and Chinese missile threats the United States perceives. The paper concludes that an excessively militarized US response focused primarily on missile defenses may be counterproductive to US security goals in the region and may undermine the long-term potential to build peace and security in the region.

The DPRK

DPRK missile development apparently has two functions. The first is to develop missile capabilities able to threaten not just South Korea, but US assets in Japan and elsewhere in the region, and ultimately US territory itself. While DPRK use of these capabilities would be irrational in all but the most desperate of circumstances, its ability to threaten these uses has enabled it to garner serious US attention and provided it with ‘bargaining chips’ in negotiations.

The second function of DPRK missile development is to generate technologies for export. Export of missile technologies not only generates hard currency desperately needed by the DPRK’s collapsed economy, but also helps the DPRK create relationships helpful to it in other ways.

The far-reaching effects of this second function are exemplified by the DPRK’s longstanding missile technology exchange relationship with Pakistan. India’s nuclear test explosions in 1998 came just five weeks after Pakistan successfully test-fired its new Ghauri missile, now known to have been developed from DPRK Nodong missiles sold in complete form to Pakistan in 1997. This missile provides Pakistan with range and payload capabilities sufficient to enable it to deliver nuclear weapons against most major Indian cities. East Asian security analysts have paid too little attention to this DPRK role in facilitating the Pakistani missile development that became a key factor in India’s decision to undertake its nuclear tests.

DPRK-Pakistan cooperation in development of the Ghauri missile is also believed to have directly benefited the DPRK’s own cash-strapped missile programs, in part from data provided in the April 6, 1998, test firing of the Ghauri.2 US and South Korean officials speculate that this assistance may have contributed directly to preparations for the DPRK’s August 31, 1998, first test firing of a Taepodong missile, which flew over 1300 kilometers and demonstrated the country’s achievement of multiple-stage rocket technology.3

DPRK-Pakistan cooperation in development of the Ghauri missile signifies a US failure to restrain DPRK missile proliferation behavior. This failure is to some degree attributable to the Clinton administration’s reluctance to fully implement the ‘spirit’ of the 1994 Agreed Framework that suspended the DPRK’s nuclear weapons program.4 Instead, the United States sustained a highly militarized posture on the Korean peninsula, bolstered by missile defense deployments. Indeed, with all the debate over current US missile defense proposals, few recognize the extent to which the United States has already deployed missile defenses in the Korean context, emphasizing Patriot systems with range and effectiveness much improved over the Gulf War generation. Importantly, these systems are now embedded in a larger missile defense architecture that also includes complex detection and communication systems as well as capabilities to attack North Korean missile launch facilities directly.5 The reason for this US emphasis on highly developed TMD (Theater or Tactical Missile Defense) systems is that the US goal is not simply to neutralize DPRK missiles themselves, but to neutralize their effectiveness in a broader military and political context.

To quote a recent US Defense Department overview of TMD in Korea, “The goal is to minimize the enemy’s capability to influence the outcome of any conflict in Korea.”6

1998’s events, especially the Taepodong test-firing, were something of a wake-up call to US policymakers of the scope of the problems posed by DPRK missile development, and the failure of its TMD deployments to deter that development. Increased US attention to this issue in its direct dealings with the DPRK, supported by concurrent developments, eventually resulted in the DPRK’s announcement of a moratorium on future missile testing. Increased US recognition of the role of the DPRK’s export motivation for its missile program brought the United States and the DPRK, near the end of 2000, to the brink of a deal under which the DPRK would have forsaken its missile program in exchange for support in satellite launching and other development of peaceful uses of space. This agreement would have been christened with a visit by President Clinton to the DPRK prior to the end of his term of office.

However, this process of rapprochement proved far from unstoppable. The Clinton administration proved unable (or unwilling) to consummate the missile deal, and the new Bush administration came to power staffed at the highest levels with decision-makers openly hostile to ac-
commodation with the DPRK and motivated to reverse Clinton policies across the board. In a highly visible rebuke of Nobel prize-winning Republic of Korea (ROK, South Korea) president Kim Dae-jung’s successful ‘Sunshine Policy,’ Bush promptly shut down the US-DPRK dialogue pending a “review” of US policy. Predictably, the DPRK responded with thinly veiled threats to resume its missile testing program – threats Bush advisors quickly highlighted to justify the rationale for the administration’s position.

More recently, under the suasion of cooler heads, the Bush administration has reopened direct US-DPRK dialog. However, with the persistence of DPRK critics within the administration, Bush is unlikely to agree to any deal perceived to be too “accommodating,” or any deal at all too quickly. In the meantime, the United States will likely pursue other policies – especially development of missile defenses – that are anathema to the DPRK. Taken as a whole, this approach may evince the same flaws in the US approach to the DPRK through much of the 1990s: inattention in times of calm, inducing extravagant DPRK behavior to illicit greater US attention, resulting in tactical engagement only under crisis conditions. The failure to seize the opportunity presented by 2000’s near-deal to shut down the DPRK missile program may loom as a tragic missed opportunity in years to come.

**China**

The issues of Chinese missile development, and US missile defense responses, lie at the center of current US-China security friction. Chinese modernization of its short, medium, and intercontinental range missile forces is of increasing US concern. At the same time, expanding US plans for theater and strategic missile defense deployments that could undermine the coercive or deterrent capabilities of Chinese missile forces is of increasing Chinese concern. Insofar as planning decisions signal intentions on a broader range of issues, such planning has immediate effects on near-term US-China security relations. Of these current issues, the most important is the future of Taiwan.

China’s concerns over both National Missile Defense (NMD) and TMD, while differentiated and nuanced, fall generally into three categories. However, because the development of Chinese missile capabilities at all range levels is intimately driven by Taiwan Strait concerns, and because US proposals to deploy theater missile defenses in East Asia are similarly cognizant of possible applications to Taiwan Strait conflicts, these categories are closely linked.

**Taiwan Strait Issues**

Many in Beijing believe that only China’s threat to use of force deters an overt declaration of independence by Taiwan. While many analysts doubt China could successfully invade Taiwan to suppress independence, Taiwan is clearly vulnerable to China’s short-range missile force. Recent reports indicate that China may now have up to 300 improved-accuracy short-range missiles deployed against Taiwan, which would mark a significant improvement even since 1996. Beijing’s distinctiveness in that its missile forces deployed against Taiwan are necessary to deter Taiwanese independence but not intended to compel reunification is not convincing to many US analysts.

Chinese leaders worry that deployment of TMD in or near Taiwan would reduce the likely destructiveness of a Chinese missile attack, undermining China’s ability to use missile threats to politically intimidate Taiwan’s leaders. Moreover, any US role in such deployment would signal (to both Taipei and Beijing) greater likelihood of US military support of Taiwan in the event of overt conflict. China worries that these effects would also bolster Taiwanese independence sentiments.

Unfortunately, overly simplistic treatment of the Taiwan issue in Washington obscures to US policy-makers the Chinese domestic factors girding the Beijing government’s commitment to preserving China’s sovereign title to Taiwan. Perceptions in Beijing that trends in Taiwan are producing flagging desires for reunification and inducing growing sentiments for formal independence cause increasing concern that time is no longer the mainland’s ally with respect to reunification. The Taiwanese national election on March 18, 2000, in which the victory of Chen Shui-bian cast the Kuomintang out of power for the first time since 1949, fueled Beijing’s increasing concern. The Beijing leadership has made Chinese territorial integrity a core principle of its own legitimacy, and worries that irredentist ambitions among populations in regions such as Tibet and Xinjiang would be unleashed by actual Taiwanese independence.

The fate of Taiwan is therefore embedded in the Beijing leadership’s perceptions of its prospects for sustaining its legitimacy to rule China at all. Hence, a decision in Beijing to use force to prevent Taiwanese independence might be based on the core prerequisite of regime survival, undeterred by the improbability of reclaiming Taiwan militarily or by the level of US support Beijing expects Taiwan to receive. In the event of such deterrence failure, US leaders would feel compulsion to make good on US commitments to support Taiwan. Thus, US deployment of a TMD system applicable to Taiwan would, counter-productively, dramatically heighten the risks of a war in the Taiwan Strait that would bring China and the United States into direct conflict.

**Regional Relations**

The most often stated US justification for deploying expanded missile defenses in East Asia is not the protection of Taiwan from China, but to protect Japan, and US forces in Japan, against missile threats from the DPRK. The DPRK’s missile firing over Japan in August 1998 solidified Japanese thinking on the issue, facilitating Japan’s decision to reach agreement with the United States the following August on joint technological research and design of four key components of a sea-based, ‘upper-tier’ TMD system.

Chinese analysts frequently charge that the United States exaggerates the current DPRK missile threat to justify TMD plans really meant to confront China. Elements of the Japanese and US positions lend credibility to Beijing’s view. Many TMD supporters acknowledge that Japan and the United States should and/or would proceed with TMD development in East Asia even in the absence of a DPRK missile threat. Some of these supporters openly assert a US interest in supporting Taiwan, confirming China’s suspicions that US-Japan TMD collaboration will free these countries from constraints to act against China. The ability of the sea-based option for Japanese TMD to be redeployed to Taiwan, along with the conspicuous failure of the 1997 revision of the US-Japan Defense Guidelines to define
the region in which events could lead to joint US-Japan military operations, underscore this Chinese perception.

Finally, China perceives deployment of TMD in East Asia as a challenge to its capabilities to pursue its legitimate interests in its immediate geographic region. This concern applies by no means exclusively with respect to Taiwan; if that issue were in some way resolved, China would still look upon TMD development as a signal that US and Japanese long-term intentions in East Asia are confrontational rather than collaborative, and as the potential of a US ‘containment’ policy aimed at China.

**Strategic Relations**

China currently possesses a small arsenal of intercontinental ballistic missiles (ICBMs) capable of carrying nuclear weapons to targets in the continental United States. China is undertaking long-term modernization and expansion of its strategic nuclear forces, and the United States now estimates that by 2015, “China is likely to have tens of missiles capable of targeting the United States, including a few tens of more survivable, land- and sea-based mobile missiles with smaller nuclear warheads,” and that its nuclear doctrine calls for a “survivable long-range missile force that can hold a significant portion of the US population at risk in a retaliatory strike.”

The United States would retain massive nuclear superiority and so sustain its retaliation deterrent. In the event of direct US-China military conflict, the prospects of China launching nuclear missiles against the US will remain slim and unthreatening. However, China’s nuclear capabilities pose to US analysts a meaningful coercive instrument politically – however remote the prospect, US war planners must still reckon with China’s possible use of nuclear weapons directly against the US.

US NMD deployment is intended to counteract this threat. NMD capability would probably add little to current US deterrence of a Chinese launch of nuclear weapons against the United States, not least because of the options available to China to defeat such a system. However, just as with TMD, technical calculations of NMD effectiveness are only loosely related to the political impacts of its prospects of its effectiveness. To the extent that NMD deployment will inhibit Chinese psychological confidence in the deterrent value of its ICBM forces, even the prospect of its deployment works to moderate concerns among US defense planners considering Taiwan intervention scenarios.

Hence, just promulgating proposals to develop NMD adds to US perceptions of its policy flexibility with respect to ongoing diplomacy over the Taiwan issue. As NMD comes closer to reality, China perceives its coercive influence over the United States to diminish, and the United States accordingly perceives an expanding freedom of maneuver. Thus, China fears that NMD deployment would give the United States unfettered confidence to intervene in Taiwan, and – perhaps more importantly – more confidence to behave on an ongoing basis as though it felt free to intervene.

Potential Chinese reactions to such prospects should be of concern to US policymakers because China’s strategic global role in the post-Cold War world is growing, and hence China’s reactions to US actions will powerfully affect US success in achieving the goals it intends by its actions. The United States has not taken these reactions sufficiently into account in its policy-making, mainly because of a strong reluctance in some quarters to treat China as a global strategic actor.

For example, some US defense planners assert that Chinese nuclear force modernization will proceed regardless of US decisions on NMD. However, China has long had the capability to expand its nuclear forces far above their current levels, demonstrating that its nuclear weapons decision-making is guided less by material limitations than by security perceptions. Among the strongest factors shaping China’s perceived security environment is the signals of US intentions and capabilities it receives. Indeed, China’s perceptions of US intentions are likely at least as important in Beijing as perceptions of China’s intentions are in Washington. In addition, China’s strategic policy choices are likely to have a large influence on the outcomes the United States seeks to affect by its actions – perhaps more than will Russia’s choices.

To base US strategic policy on the weak assumption that China is not sensitive to US actions and that Chinese actions are only incidental to core US concerns risks both rendering US actions counterproductive and missing opportunities for mutually beneficial accommodation.

In this context, the fate of the ABM Treaty looms largely. If the United States abandons the treaty explicitly and proceeds to develop an ambitious NMD system, incentives for Russia-China cooperation on a host of strategic issues would be high. Such cooperation would likely help China greatly to develop countermeasures to missile defense, some of which China might also be able to apply to defeat regional TMD systems. Conversely, if the United States and Russia renegotiate the ABM treaty to allow limited US NMD deployment, such an agreement would likely preserve the credibility of Russia’s nuclear deterrent while continuing to undermine the deterrent credibility of China’s much smaller forces. This specter of a US-Russia condominium of power would likely induce China to seek support wherever else it could. Under these circumstances, the United States would find it very difficult to secure Chinese cooperation to stem proliferation of WMD and missile technologies to states such as Pakistan, the DPRK, and Iran.

**US Policy Options**

The still-emerging post-Cold War era offers clear long-term choices for US policy. Today, military, political, and even cultural preeminence confers to the United States an unprecedented opportunity for world leadership on nuclear weapons nonproliferation and arms control. The scope of this opportunity for US leadership suggests that the stakes of US choices on current strategic issues, most particularly on missile defenses, have in many ways never been higher. Whatever choices the United States makes on these international security policies, other countries are sure to react to the tenor of these choices.

The United States could take advantage of its current high relative security to build new conceptions of its role better informed by the multilateral and nonmilitary features defining the post-Cold War world. It’s preeminence and policy latitude offers the United States an unprecedented opportunity for US-Russia condominium of power would likely induce China to seek support wherever else it could. Under these circumstances, the United States would find it very difficult to secure Chinese cooperation to stem proliferation of WMD and missile technologies to states such as Pakistan, the DPRK, and Iran.
At present, however, the new Bush Administration appears set to embolden US faith in the efficacy of absolute military strength, eschewing multilateral security approaches and deepening reliance on military alliances. The envisioned ambitious deployment of missile defenses will set the United States clearly on a path emphasizing the political efficacy of strategic weapons, undermining much of the arms control effect of the promised unilateral deep cuts in US nuclear weapons levels.

Indeed, a quite aggressive posture lurks beneath the new administration’s rhetoric calling for a ‘new strategy’ to match post-Cold War conditions. This posture reflects the two ‘lessons’ conservative Republicans have drawn from the end of the Cold War. The first lesson is that US military power eventually compelled an odious regime into submission and collapse. The second lesson is that this collapse proved to be a good thing, well serving US political and security interests.

In this reading, both lessons have applications to future US policy. The first lesson – buttressed by the conviction that US strength is good for global stability, not just US interests – justifies the pursuit of maximized security capabilities. For this reason, large-scale missile defenses are desirable in and of themselves, independent of any specific missile threat.

The second lesson justifies a continued element of containment of authoritarianism as a core premise of the future US security posture. The implicit intention of this posture is to induce eventual collapse and/or reform of all remaining authoritarian states, concluding the now immanent victory of freedom and capitalism over tyranny and communism.

For the DPRK, this posture suggests that any US return to direct engagement will be only tactical. Such an approach characterized even Clinton policy in the early years of the Agreed Framework: most analysts were convinced the DPRK was soon to collapse, and the principal US policy aim was to create a ‘soft landing.’ Such analysis, though not an explicit part of US policy, naturally fueled skepticism among DPRK policy-makers unwilling merely to negotiate their own demise.

This ‘collapse premise’ changed in the aftermath of former Secretary of Defense William Perry’s review of US policy toward the DPRK. The Perry Report shifted the premise of engagement, accepting the existence of the DPRK regime for the foreseeable future—and, indeed, recognizing the need for its existence to prevent a collapse whose implications would be devastating to US allies and interests in East Asia.

The recent Bush administration announcement of its intention to resume direct negotiations with the DPRK is a welcome acknowledgement that there is no other practical option for US policy. However, many of the administration’s highest officials have been openly hostile to the DPRK regime prior to entering government, and are likely highly tempted to reverse the underlying logic of engagement and return to an implicit effort to squeeze the DPRK into submission.

With respect to China, the Bush administration’s commitment to engagement may very well be more than just tactical. However, this commitment likely remains contingent on a greater end: to forestall the emergence of China as major authoritarian power. The principal concern, strongly articulated by Republican conservatives and implicit in much of the Bush approach to China thus far, is that China will probably become a major power in the coming decades and that this power would be under authoritarian rule, antagonistic to the United States. Driven by its lessons from the end of the Cold War, this school’s preferred alternative would be internal Chinese political reform; however, forcing China now into internal turmoil and possibly collapse is preferable to the prospect of someday facing an authoritarian China rivaling the United States in world leadership.

Advocates of this perspective focus on one decisive element of the current circumstance: the United States has no need to acknowledge China as a strategic equal. In this view, the US-China relationship now is not comparable to the US-Soviet rivalry throughout most of the Cold War. Rather, this view sees the analogies more to the moment of US preeminence following the end of World War II, or to late-nineteenth century British preeminence prior to Germany’s rise. In this view, military and political vigilance will prevent the United States from ever having to accept strategic parity with China, as the United States and Britain were both compelled to do with their principal adversaries in these previous instances. Moreover, some proponents of this view, emboldened by confidence in US material and ideological capacities, would even welcome a Chinese attempt to keep pace with the United States in military terms—a race they see China as certain to lose.

Conclusion

Even if this conservative diagnosis of the end of the Cold War were true, to apply it to the post-Cold War era is classically to ‘fight the previous war,’ ignoring the changed conditions of the world today.

US power preeminence today extends through so many dimensions—military, economic, and cultural—that states such as the DPRK, China, India, and Pakistan, and even Russia, are now essentially reactive to US initiatives. These multi-dimensional asymmetries make cuts in US offensive nuclear forces of marginal relevance, especially when US missile defenses fundamentally threaten to undercut these other states’ own meager deterrent capabilities vis-à-vis the United States.

For this reason, an aggressively militarized US approach to its security concerns, despite its current power preeminence, simply increases perceptions of the US as a future threat among other states. Such US behavior reinforces balance-of-power logic driving other states to find ways eventually to neutralize US preeminence. Russia, China, India will be among the first to point to the US example to validate similar power-oriented approaches to their own policies and pursuits of strategic capabilities.

While the world is unlikely to see the emergence of an explicit anti-US great power alliance, a number of US rivals may achieve sufficient strategic weapons capabilities to deter US coercion and thwart US policy aims. The United States could find itself facing multiple fully-developed strategic rivals, effectively ‘balancing’ US power without alliance and without numerical symmetries. In such a world there is little hope of progress toward conflict resolution and durable security, and every prospect for continued fear-driven construction of apocalyptic weapons accompanied by solitary faith in rationalized theory—against the lessons of history—that the weapons will never be used.
Intercepted Missiles Could Fall on Europe

Missiles targeted at US cities and intercepted by President Bush’s proposed missile defence shield could fall on Europe, Canada or middle America instead, arms researchers warn. Bush’s missile defence plan includes a system to intercept intercontinental ballistic missiles (ICBMs) just minutes after launch, while their rocket boosters are still burning. This “boost-phase interception” should be easier than targeting missiles in mid-flight because tracking a flaming rocket is easier than homing in on a relatively cool and easily disguised warhead sailing high above the atmosphere, experts say.

But destroying only the booster could leave the warhead zinging across the sky, says Ted Postol, a physicist at the Massachusetts Institute of Technology. Precisely where the warhead would land would depend on when the booster was destroyed during its 4 to 6-minute burn. That would be difficult to control, so the warhead could potentially hit anywhere between the launch site and the target city, Postol says.

This means that a nuclear missile fired at the US from North Korea could explode over Alaska or Canada, while one fired from Iraq might strike Britain or mainland Europe.

“Even if you knew all the details, you couldn’t be sure of what would happen in any given engagement,” Postol says. [...]
Ballistic Missile Defense Systems and Non-Proliferation Alternatives
A view from the Non-Nuclear Weapon State Egypt

Bahig Nassar

Nuclear proliferation and nuclear disarmament

The US nuclear build up and strategy have undergone deep transformations since the end of the Cold War era when the sharp nuclear confrontation between the US and USSR had been the prime edifice of its nuclear policy. Now, in the era of globalization, this policy is shifting towards defending and enhancing its investments and interests in all regions and worldwide. In addition to the traditional areas of US interests such as Western Europe, the Middle East, Latin America, and Japan, new areas of interest are emerging including the oil resources of the former Soviet Republics in central Asia and areas in Africa and Asia. As a result, countries in these regions are purchasing all types of weapons, and foreign powers are increasingly intervening in these regions. But most important among the new areas of interest is the fact that great markets are emerging.

“Few years from now, China, India, Brazil, Russia, and regional economic cooperation system in South Africa, the Middle East, South East Asia and in the Pacific region and Latin America will be huge markets. Some of these huge markets will be new big powers, and several of them will choose ways of development different and possibly contrary to the neoliberal free markets. They will be capable to absorb products of advanced countries of the North, which will be doubled ten years from now. They will absorb colossal amounts of manufactured goods and fast flows of capital and technological innovations, and consequently, will be major actors in the international division of labor, and will deeply influence the current globalization of the economic and financial process. Major clashes of interests will take place around them.

No doubt, the US continues to pressure Russia and China, limiting their political options and containing their influences. There is also a shift in US military strategy based mainly on confrontation with both Russia and China to a global strategy of protecting its ‘vital interests’ worldwide, a strategy that has emerged since the end of the Cold War.”

As a result of this transformation, the US is not only occupied with nuclear armament and disarmament vis-a-vis Russia (the former USSR) and other nuclear weapon states (NWS) but also very much concerned over the possible proliferation of nuclear weapons (NW) and other weapons of mass destruction (WMD) together with their delivery vehicles among states hostile to US interests in various regions. Since the US utterly refuses to free the world from nuclear weapons (NWs) and other WMD as the only assured way to prevent their proliferation, it has endorsed new policies to prevent by force such proliferation. To achieve this goal the following steps have been taken:

a) Every effort was made by the US at the 1995 Nuclear Non-Proliferation Treaty (NPT) Review and Extension Conference to ensure the adoption of the indefinite extension of this Treaty which prevents all non-nuclear weapon states (NNWS) parties to the Treaty from acquiring NWs whereas there is no binding legal commitment to oblige NWs to abolish their weapons.

b) The US officially declared a policy of Counter Proliferation according to which it will use military force combined with nuclear deterrence to prevent any state in any region hostile to its interests from acquiring NWs and other WMD, and their delivery vehicles. Already this policy has been implemented against Iraq and Sudan.

c) NATO expansion to the East has put pressure on Russia. Nuclear capable forces within NATO have been deployed in the South, outside the traditional areas of NATO operations, a lesson drawn from the Gulf war of 1991 against Iraq. More vital to US current military plans is the interconnection between NATO and the Rapid Deployment Force of the US Central Command which operates in vast areas from the East Mediterranean to the entire Indian Ocean region. The latter is further connected to US arms build up in the Pacific Ocean and its military alliance with Japan. This huge military network is under the command of US General, and together with US fleets they project power on any region to protect the so called ‘vital interests’.

d) Intensive but calm efforts are being made now in the US Senate to allow the production of the B61-11, a very low yield nuclear weapon (less than five kilotons), which may be used in theater operations to defend US interests and forces should nuclear deterrence fail to achieve its goal.

In the era of confrontation between the US and the former USSR, steps for nuclear disarmament assumed priority and less attention was paid to the problems with the proliferation of WMD and their delivery vehicles. Of course, nuclear disarmament still deserves due attention in order to abolish all nuclear weapons, but peaceful and political steps to prevent proliferation of WMD should be equally taken.

A program to this end would include: the universality of the NPT; the quest to establish Nuclear Weapon Free Zones (NWFZs); the necessity of NWS to abide by all Protocols attached to NWFZ Treaties; the adoption of legally binding security assurances by NWS to NNWS; the repatriation of all nuclear weapons deployed by NWS in NNWS; a safeguard regime of the International Atomic Energy Agency accepted by all states, above all both official and de facto NWS; the effective and verifiable implementation of the Chemical Weapon Convention; a Verification Protocol to the Biological Weapons Convention; and
binding commitments by the US and other NWS to refrain from acts of aggression against other countries under the pretext of preventing proliferation. US designs to maintain nuclear weapons and at the same time use force, conventional and non-conventional, to prevent proliferation should be halted. Campaigns to this end are very much needed. Peaceful and political measures are the only effective means to prevent proliferation.

Both the program on disarmament and the program for non-proliferation are two sides of one coin and should be equally addressed, at present, because proliferation will continue unabated if NWS insist on acquiring nuclear weapons and their delivery systems, and refuse to implement Article VI of this Treaty.

**National Missile Defense (NMD) and Theater Missile Defense (TMD)**

The most horrible aggressive and offensive step endorsed by the US to prevent proliferation by force and trigger a new wave of arms races is its current plan to deploy Ballistic Missile Defense (BMD) systems. Naturally these systems will function as instruments to change the strategic nuclear balance with Russia and to threaten China. These systems will be also used to undertake effective aggressive acts against any country hostile to US interests in any region which may try to acquire WMD. To sell this project to the public and to its allies, the US administration confines its propaganda to the alleged threats leveled by so-called ‘rogue’ States. Actually, these threats are not leveled at the security of the US and its people, but at the interests and investments of transnational corporations and banks in foreign countries. Weaponization of space is the next US pursuit to defend its “vital interests.”

The question of Ballistic Missile Defense was raised in the 1970s. The Anti-Ballistic Missile (ABM) Treaty between the US and the former USSR entered into force in 1972. The ABM Treaty allowed the deployment of a very limited national missile defense to defend one site of each country’s choice. Russia chose to deploy interceptors to defend Moscow, while the US chose a missile silo site in North Dakota which was closed down again 100 days after it had started operation. The ABM Treaty specifically prohibits a national missile defense that would cover vast territories. The increase of defensive capabilities would also increase the likelihood of the first use of nuclear weapons thereby undermining the other country’s strategic deterrent.

During the 1980s, US President Ronald Reagan initiated a very ambitious project called the Strategic Defense Initiative (SDI), also called Star Wars, to weaponize space. Due to many technical failures and a robust international campaign against its deployment, SDI was abandoned during the Bush administration. However, research and development of ballistic missile defense systems continued. During the Clinton administration, a primarily ground-based system was pursued that could provide protection against ‘limited attacks’ by ‘rogue’ states.

The ABM Treaty is confined to intercontinental ballistic missiles and does not address medium range missile deployment. This has allowed US production and deployment of several missile defense systems for use in theater operations against its adversaries. A Patriot system was used in the Gulf War to destroy Iraqi Scud missiles. The Arrow system was deployed in Israel, thanks to US financial and technological assistance, to kill missiles of other Middle Eastern States. Also, Russia approved the deployment of these Theater Missile Defense (TMD) systems as not in violation of the ABM Treaty. An agreement was concluded between Clinton and Yeltsin in regards to TMDs at their meeting in Helsinki on March 21, 1997, according to which velocity of a TMD system is limited to five km/sec and its range should not exceed 3,500 kilometers.

The development of TMD technology and its use in actual operations with Russian consent has encouraged the US to return to a new but simpler version of Reagan’s Star Wars. Robust tests are now conducted to deploy a National Missile Defense (NMD) with 100 interceptors in the first phase with an increasing number of interceptors in subsequent phases. NMD is part of a broader US strategy, outlined in the US Space Command’s Vision for 2020 document, to control and dominate outer space in order to protect US interests and investments in all regions of the world.

NMD will violate the ABM Treaty, and consequently Russia has threatened to abandon other arms control agreements including the START process if the system is deployed. Also, China strongly opposes NMD as the first configuration of one hundred interceptors could easily neutralize its 20 strategic missiles.

But if NMD and TMD systems are deployed, an unprecedented arms race will result. This race will not be confined to the US and Russia, as in the Cold War, but will spread through the Middle East and to all regions where missile defense systems, including TMD, are deployed. Consequently proliferation will not recede but will escalate among many NNWS of these regions to counter the threats leveled at them.

According to the new initiative the functions of BMD systems, both NMD and TMD, will be very flexible and interconnected. They can be land-, air-, or sea-based systems. In action, they will complement each other similar to other military systems. US attempts to deploy TMDs in friendly states such as Israel, Japan, Taiwan, and NATO countries are aimed to support operations of US systems. Also, TMDs can be developed to assume NMD functions by increasing their range or velocity or altitude and by adding other technical devices such as space-based sensors.

The process of space weaponization had already started with the deployment of TMD systems. Israel will eventually establish a space command and India is studying the possibility of a similar establishment. Therefore, it is impossible to separate NMD from TMD or overlook the dangerous consequences of TMD deployment. Even if TMD is only deployed in single regions, this step will lead to arms races and will prompt further proliferation.

NGO activities should not be relaxed. On the contrary, NGOs should further their campaigns to dismantle the systems already deployed and stop the future development and deployment of both NMD and TMD systems.

**Ballistic missile defense and the non-nuclear weapons states**

Nuclear and ballistic missile disarmament by nuclear weapons states (NWS) will assume utmost importance, and several intermediary steps should be taken towards a zero ballistic missile regime, such as missile freeze, prior notification, missile re-
...tion, no-first use and de-coupling. In regard to non-nuclear weapons states (NNWS), other steps should be taken to ensure non-proliferation, which must now include the missile dimension. When a zone free from weapons of mass destruction is established, it should also be a zone free from their delivery vehicles, including ballistic missiles. Once the countries in the zone approve verification regimes to ensure the prohibition of all WMD, another verification regime to ensure the elimination of their delivery vehicles must be added and include legally binding security assurances by the NWS to the NNWS. Assurances should also include the non-use of ballistic missiles and other delivery systems produced for WMD, repatriation of nuclear weapons deployed by NWS in NNWS combined with the repatriation of their delivery vehicles, and naval units visiting NNWS ports should not carry WMD and their delivery systems, including missiles.

These peaceful and political non-proliferation steps should be in one package with other disarmament steps leading to ‘zero ballistic missiles.’ However, removing WMD and all their delivery vehicles (not only ballistic missiles) is necessary to remove all US claims and justification for the production and deployment of missile defense systems. This approach is also in the interests of developing NNWS, which need every penny to enhance politico-socio-economic and human development and to save their people from pending environmental calamities.

Alternatives to BMD deployment

Among the non-proliferation steps, two main alternatives are recommended to help prevent the deployment of TMD, NMD, or the global air- and sea-based defense system, which the Bush administration favors. A purely political solution to the problem of missile deployment is one of the options available. The Summit Meetings of the leaders of the two Korean States (north and south) are a good example. The continuation of close relations between them and their constructive development in various fields will render US claims about the Democratic People’s Republic of Korea as a ‘state of concern’ null and void. The same judgment can be made about other countries, such as Libya. Justification to threaten these states with US missiles and anti-missile systems will be unfounded and baseless. In addition, correct and clever policies pursued by states opposed to US hegemonic practices in various regions could contribute to defeating designs of the US and its allies on NMD and TMD deployment. At least it would unmask the aggressive character of these designs, and thus isolate the US and its policies and eventually lead to the defeat of these policies.

The second option is the consistent effort by peace forces to transform the regions where the ‘states of concern’ are located into zones free from weapons of mass destruction and their delivery vehicles. The achievement of this goal will not only respond to an urgent demand of the people of the Middle East and Northeast Asia, which have been always pinpointed by the US as sources of threats to its security, but will also deal a strong blow to plans of the US and its local allies to deploy NMD and TMD systems. Establishing zones free from WMD and their delivery vehicles in regions where the so-called ‘states of concern’ are located is the proposed alternative to the deployment of NMD and TMD systems, allegedly claimed by the US as a means to prevent threats leveled by these ‘states of concern.’ This step will also prevent the squandering of hundreds of billions of dollars by the US and other states, large and small, on the new waves of arms races, which will follow deployment of BMD systems. Astonishingly, the US and its allies in the Middle East (Israel) which raise hue and cry against the threats of the ‘states of concern’ are the same powers which stubbornly prevent the establishment of the above mentioned zones.

All these peaceful and political steps on disarmament and non-proliferation should not exclude the right of all countries and peoples to peaceful uses of space for human development and progress, a matter which requires missiles, satellites, and continuous development of space technology. An international convention with an effective verification system is needed to prevent the use of such instruments and technology for military purposes.

A Middle East free from weapons of mass destruction

On June 29, 1996, on the day of the Egyptian Air Defense Forces, General Mohamed El-Shahat, the then commander of defense forces, spoke at a press conference and referred to efforts made by the Egyptian administration to acquire missile defense systems. He also spoke about lessons drawn from the 1991 Gulf war when the US used Patriot systems. Of course, current Israeli attempts to produce and deploy the Arrow and other missile defense systems, were on his mind. Also, reports were published on missile defense systems, including one on Israeli Arrow systems by Dr. General Ahmed Abdel-Halim. Clearly Egypt has been very much concerned over Israeli ballistic missile defense deployed in order to further its nuclear deterrence and threats. A joint US–Israeli maneuver involving missiles and anti-missile systems was conducted in the Israeli Naqab Desert on February 19, 2001. As a result, an arms race was started and will further escalate.

Egypt and other Arab countries should allocate all their financial resources to enhance economic and human development and to eliminate all remnants of backwardness. Peace is their strategic option and equal security for all Middle East countries, Israel included, should be the goal. To this end, Egypt called in 1990 for the transformation of the Middle East into a zone free from all nuclear weapons possessed by Israel and other weapons of mass destruction acquired by other states. After Israel had successfully deployed, with US assistance, its Arrow and Patriot anti-missile systems, the goal is to free the Middle East from all WMD together with their delivery vehicles, including ballistic missiles. Achieving this goal will be the basis of equal security for all Middle East States and at the same time a major contribution to help preventing US BMD plans.

Each region has its specific characteristics and circumstances that must be taken into consideration. Circumstances prevailing in the Middle East are different from those of Northeast Asia, and both are different from those of Europe. The Middle East is different from other regions where nuclear weapons free zones have been established. All of the latter were already free from these weapons
whereas Israel, a Middle East State, previously acquired a substantial arsenal of these weapons and missile defense systems. Other states of the region may seek chemical or biological weapons options and their delivery vehicles to counter deadly threats leveled by Israeli weapons. This is the reason why all ‘states of concern’ pinpointed by the US administration have been located in the Middle East region with the exception of North Korea. Therefore, establishing the Middle East zone assumes special importance in the campaigns to prevent the deployment of US BMD systems.

Transparency is totally absent in regard to Israeli nuclear weapons and their delivery vehicles and also in regard to WMD, which may be possessed by other states in the region. To ensure complete transparency, Israel should accede to the Non-Proliferation Treaty (NPT) and put all its nuclear activities under the International Atomic Energy Agency (IAEA) verification and inspection regime. All states in the region should abide by the Chemical and Biological Weapons Conventions, and all delivery vehicles should be registered. These are preliminary and necessary steps in order to start implementing disarmament and non-proliferation measures.

Blind deterrence

The concept of traditional nuclear deterrence drawn from the former confrontation between the US and USSR has always been presented by academic studies as the only concept of nuclear deterrence. However, this deterrence is totally absent in the Middle East. Neither transparency nor means of accurate calculation and assessment necessary for the traditional deterrence to function are available. In the Middle East, there is ‘Blind Deterrence’ because all WMD are hidden in the basements. Consequently, threats can only be leveled by any party with blind eyes. Under these circumstances, the actual use of WMD is highly probable. Moreover, there will be various forms of deterrence such as laser deterrence, ballistic missile deterrence, and deterrence by developing capabilities to destabilize and jam computers and communication systems. Already the Palestinians and Israelis are jamming each other’s communication systems.

Ballistic missile defense systems will not be capable of killing short-range missiles launched from sites close to Arab-Israeli boarders due to the very short time available for an interceptor to hit the missile of the adversary. Only a directed energy system using laser beams can detect, track, and destroy these short-range rockets. US Army PEO Missile Defense, the US Ballistic Missile Defense Organization (BMDO), and the Israeli Missile Defense Organization are conducting, at present, tests on laser technology to destroy Katyusha rockets fired in rapid succession. Laser defense and offense systems together with short-range missiles produced to convey explosives should be abolished once the zone is established in the Middle East.

The future deployment of BMD systems in the Middle East will likely cover almost the entire region. In addition to the Patriot and Arrow systems deployed in Israel, the US is also encouraging the Gulf States to develop missile defenses. According to the Egyptian weekly Rose El Yousif (No. 3794), US Secretary of State Colin Powell, during his visit to the Gulf Arab countries, proposed the establishment of a net of missile defense systems. Costs will be covered by the countries of the region and will exceed several billions of dollars to defend oil resources. An arms race among other countries in the region will no doubt ensue. In addition, all of them will develop laser technology once the US and Israel introduce their systems into the region. The majority of these weapons will be purchased from the US. It should be noted that the main goal of US efforts to encourage the deployment of land-based systems in Israel and friendly Arab States in the Gulf Area is to seek their support for its sea- and air-based missile defense systems to defend US investments and interests in the Middle East. The same process will eventually take place in other regions.

Five verification regimes

Thus, non-proliferation and disarmament steps in the Middle East should be accompanied by five verification regimes:
- zero nuclear weapons,
- zero chemical weapons,
- zero biological weapons,
- zero ballistic missiles and other delivery vehicles for WMD,
- zero laser weapons.

All these regimes may be integrated in one regional comprehensive system. This regional system will allow the states of the region themselves to undertake verification and inspection operations similar to the US and Russia in relation to the START process. It is advisable for the regional regime to be combined with the verification regime of the International Atomic Energy Agency.

BMD deployment and space weaponization are impediments, obstructing efforts to achieve equal human security for all peoples and destabilizing relations among states. Human societies facing each other behind conventional, laser and nuclear-capable shields would be a horrible and inhuman vision in a savage world in the 21st century.

3 Jürgen Scheffran, Time for a Missile Freeze, Economists Allied for Arms Reduction Newsletter, July 2000.
5 F. Hammad, Monitoring and Verifications for a ME-WMD-Free Zone, prepared on the occasion of the NPT PrepCom conference in 1998.
The Missile Race in the Middle East

Is There A Way Out?

Reuven Pedatzur

Most of the countries in the Middle East are armed with ballistic missiles. Any political agreement which intends to resolve territorial disputes will necessarily consider also the control, limitation, or dismantling of these weapons.1

Over the years, the emergence of certain unwritten 'rules of the game' dictated ballistic missile use in the Arab-Israeli conflict. The policy not to resort to the use of these missiles, even though both sides possessed them, capable of striking deep inside enemy territory, strengthened the reliance on these rules. This tacit understanding on the non-use of missiles, especially against civilian targets and even in the most precarious situations, conferred on these weapons a reserved status, thereby considerably diminishing their threat on the battlefield.

Before the Gulf War, Israeli policy had been based on the premise that the probability of a missile attack against Israel was very low. But now, after the Gulf War and the launching of the Iraqi missiles against targets in Israel, any future defense policy must be based on the opposite assumption: that an attack is entirely probable, and that the reasonable possibility of one on the Israeli rear can no longer be ignored.2

Therefore the ballistic missile threat becomes an onerous burden on the Israeli defense establishment, which must accordingly develop appropriate operational responses. An enormous allocation of funds is bound up in the development of appropriate operational responses. Removing the missile threat or succeeding in containing it, then, become critical objectives of the negotiations between Israel and its Middle Eastern neighbors.

Regional control of ballistic missiles – disarmament efforts in the 1990s

The plans for ballistic missile control must be based on a regional approach, allowing for differences in the conditions, the players, and political and military considerations. The regional profile of the Middle East suggests that it will be difficult, if not impossible, to reach consensus on control, or the limitation of the ballistic missile forces in the region.3

To focus solely on proliferation is not enough; the traditional arms control approach of limiting numbers and types of weapon must be supplemented by measures addressing the most destabilizing factors in the Middle East. The importance countries ascribe to their missile forces is one of the vital considerations in devising arms control policies. Three approaches have traditionally guided efforts to control missile forces:

1. the imposition of quantitative and, less frequently, qualitative constraints on missiles;
2. limitations on the way states deploy missiles and conduct operations; and
3. elimination of entire categories of missile.

Six factors contribute to the attempt to arrive at a plan based on these traditional approaches:

1. the number of players;
2. the short ranges of the missiles;
3. the 'nuclear catch';
4. suppliers who do not abide by the 'rules';
5. the determination of the players; and
6. the influence of missile defense systems.

The number of players

At least ten countries in the region possess ballistic missiles (almost half the number of countries world-wide that have them), and at least six of those have equipped their missiles with chemical, and/or biological, warheads. It would be difficult to create a control plan that would address the interests of all the players. If only one country in the region decided not to take part in the arms control effort, it could be enough to doom any plan to control or limit the region's missile arsenals.

Given the nature of the players in the Middle East, their attitudes towards using weapons to resolve conflicts, and the great number of conflicts in the region, the likelihood that they will give up the missile option is slim. From the Israeli point of view it would be unacceptable to reach an agreement on the limitation or elimination of its ballistic missile arsenal that did not include all the other countries in the region.

The first issue in the consideration of any arms control agreement in any region is the scope of the region to be included. In conflictual regions, such as the Middle East, the core region is defined in terms of potential or actual states that might be involved in military confrontation in which nuclear weapons or threats could play a role. In comparison with the other areas in which regional agreements have been created, the Middle East is particularly complex.4

To be effective, an agreement would have to include all the member states of the Arab League (twenty two), as well as Iran and Israel, and stretch from Algeria to Iran and the Persian Gulf. The large number and diversity of necessary participants, in itself, is a significant obstacle to agreement.5

Some of the countries in the Middle East, such as Iran, Iraq and Libya, do not take part in the peace process, while others such as Syria will not join in the multilateral talks; it will be impossible, however, to reach any agreement on arms control out of the context of the peace process.

Throughout the 1980s, Israel and the Arab states were divided on major issues of the process. While Israel insisted that the negotiations take place through direct face-to-face talks as part of a regional peace process, the continuing refusal of the Arab states (with the notable very important exception of Egypt) to end the state of war with Israel created an impasse. This basic obstacle was reduced, to some degree, in 1991, following the Middle East Peace Conference in Madrid, in which many of the parties participated.
(with the exception of Iraq, Iran, and Libya).

The Madrid Conference led to the establishment of a number of multilateral working groups, including one on Arms Control and Regional Security (ACRS), which, for the first time, provided a format for direct negotiations on such issues. However, the refusal of Syria to participate, as well as the absence of Iran, Iraq, and Libya, limit the ability of ACRS to consider regional security issues such as the idea of control, monitoring, and disarmament of ballistic missiles in any detail. Without the active participation of all of these states in this or a similar forum, it is difficult to proceed towards any significant regional agreements.6

Another factor is the great number of missiles already existing in the region, estimated at between 1,200 and 2,000. Because of these figures, the number of countries involved, and the diversity of the territory in which the missiles are deployed, the ability to verify compliance with a control regime would be very limited.

The Middle East poses some very difficult verification requirements. There are a number of diverse political systems, ranging from open democracies to closed and tightly controlled dictatorships. In the case of closed societies, particularly those with relatively large territorial extents, it is possible to hide weapons development and production programs from international inspectors. The Iraqi case is a very good example. Both IAEA (International Atomic Energy Agency) and UNSCOM (United Nations Special Commission) inspectors have been attempting to determine the extent of the Iraqi capability since 1991. For almost eight years, the Iraqi government has been able to keep significant capabilities and information hidden from the international inspectors, despite the agreement guaranteeing access and cooperation as specified in the June 1991 agreement.

The proximity of the countries

Because of the number of players, any imposing of limits on the range of missiles would be complicated. The western border of Iraq is less than 500 km from Tel Aviv, and because Iraq's western part is largely uninhabited, a retaliating Israeli missile would need a range of about 800 km to reach Baghdad. Lowering the limit to 300 km in order to solve the problem between Israel and Iraq, however, would not solve the problem between Israel and Syria or between Israel and Saudi Arabia, nor eliminate missiles that these countries could use against each other. Indeed, "the proximity of adversarial states in the Middle East and the Persian Gulf would make it difficult to negotiate range limitation low enough to be militarily meaningful."7

The Israeli strategic situation is essentially unique. In the Arab-Israeli conflict zone, Israel is a small state, and geographic, demographic, military, and economic asymmetries have played a central role in the development of security policies and strategic culture. In area, Israel consists of less than 21,000 square kilometers (excluding the West Bank and the Golan Heights), compared to 1 million square kilometers for Egypt and 186,000 square kilometers for Syria. This small size, and the extremely narrow area between the Eastern border and the Mediterranean (15 kilometers in the pre-1967 borders), leave Israel without the strategic depth necessary for absorbing armored and air attacks, and without the ability to recover and respond.8

Major strategic and populated areas in the northern part of the country are in the range of unguided artillery rockets (like the Frog-7, with a range of 70 - 80 km) or even long range Katyushas (with a range of 40 km), which Syria has in its possession. In October 1973, during the Yom Kippur War, Frog-7 rockets were fired by the Syrians at Ramat David military airfield, located only 55 km from the border. The distance from the Israeli-Syrian border to the Haifa metropolitan area (which contains a large number of strategic assets) is only about 65 km. Tiberias, a large city in the north, is barely 22 km from the border.

Because of their geographic proximity to each other, the countries in the region would face a nuclear threat so diversified and numerous that no defenses will ever provide them with perfect protection. The relative proximity of major population centers to the front in many parts of the Middle East accords strategic significance to ballistic missiles of the type that in Europe was considered tactical in range and application. One of the implications of the constricted geography of Israel is that the distinction between 'tactical' and 'strategic' missile threats is not valid.9

The 'Nuclear Catch'

Israeli nuclear hegemony makes it impossible not to link Arab ballistic missiles and the Israeli bomb. It is unlikely (and unacceptable to the Arab countries) that the question of missile proliferation will be addressed in isolation from the nuclear issue. From the Arabs' point of view, their ballistic missiles provide the only means to address the problem of nuclear asymmetry in the Middle East.

Israel regards its nuclear weapons - unacknowledged but generally agreed to exist - as the only means to achieve 'total deterrence'. Given the strategic conditions in the Middle East, and the fact that Israel continues to suffer from certain capabilities that virtually every standard categorization of national power components vis-a-vis the Arab world, Israel refuses to give up its 'last resort weapon', even if the result would be an Arab missile-free zone.10

In January 1996, former Prime Minister and IDF (Israel Defense Forces) Chief of Staff Ehud Barak, declared that in the absence of proven and reliable regional peace agreements, "Israel's nuclear policy, as it is perceived in the eyes of the Arabs, has not changed, will not change and cannot change, because it is a fundamental stand on a matter of survival which impacts all the generations to come."

Thus this 'nuclear catch' will place an unavoidable, and probably impossible, obstacle in the path of the Arab-Israeli peace process. The 'nuclear catch' will become a much more complex and problematic obstacle if and when other countries in the Middle East will acquire nuclear weapons.

Suppliers who do not abide by the 'rules'

As long as there are countries that do not accept the rules of the arms control 'game' there will be a source of missile supply. China and North Korea, both missile producers, ignore the mild pressure that the USA applies on them and continue to supply ballistic missiles to Middle Eastern countries.12

Development efforts, in many cases fueled by foreign assistance, have led to new capabilities, as illustrated by Iran's Shahab-3 launches in July 1998 and July 2000 and North Korea's Taepo Dong-1 space launch attempt in August 1998. Also disturbing, some countries that tra-
tionally have been recipients of missile technologies have become exporters.13

The Clinton administration acknowledged in May 1999 that Chinese companies are still providing assistance to Iran’s intermediate ballistic missile program. On May 14, responding to a congressional report by Senator Richard Shelby about Chinese proliferation, State Department spokesman James Rubin said that the Clinton administration is “concerned, in many respects, about certain Chinese entities that may provide technology – especially to Iran and Pakistan” and “will continue to work with China to bring its policies and practices more and more in line with international norms.”

The Senate Intelligence Committee report said: “PRC [People’s Republic of China] is one of the world’s worst proliferators of missiles and missile technology to potential U.S. adversaries and to other unstable parts of the world.” It also noted that Chinese missiles “may now benefit from U.S. technology,” referring to allegations that the Clinton administration and certain U.S. aerospace companies allowed unlicensed and unauthorized transfers of technology to China.14

One of the sources for missiles and missile technology is Russia. The US House of Representatives discussed the issue, during a debate on the Iran Missile Proliferation Sanctions Act of 1997: “The Committee notes that Russian entities have already provided Iran with missile components and critical know-how and technological support... The Committee notes that, according to open sources, early this year U.S. and Israeli intelligence reports revealed a technology transfer between Russia and Iran involving construction of a delivery system for the Russian SS 4 and Iranian Shahab-3 and Shahab-4 long-range missiles. Successive reports detailed contracts signed between numerous Russian entities and Iran’s Defense Industries Organization (DIO) to help produce liquid-fueled ballistic missiles, a wind tunnel for missile development and related technologies.”

“The Committee notes, again according to open sources, the following entities have been involved in missile technology transfers to Iran:

- Defense Industries Organization (DIO), an Iranian agency charged with development, production and procurement of military technology;
- Shahid Hemmat Industrial Group (SHIG), part of the DIO responsible for development and production of ballistic missiles and related technology;
- Inor, a Russian scientific and production center implicated in transfer to SHIG of materials used in missile construction;
- Russian Central Aerohydrodynamic Institute, implicated in collaboration with SHIG on wind tunnel construction;
- Russian State Corporation for Export and Import on Armament and Military Equipment (Rosvoorouzhenie);
- Bauman Institute, a leading Russian scientific research center;
- NPO Trud, a Russian rocket motor manufacturer;
- Polyus, a leading Russian developer of laser technology; and
- Russian Space Agency, headed by Yuri Koptev.”15

Entities in Russia, North Korea, and China supply the largest amount of ballistic-missile-related goods, technology, and expertise to Iran. Tehran is using this assistance to develop new ballistic missiles and to achieve its goal of becoming self-sufficient in the production of existing systems. China provided complete CSS-8 SRBMs (Short-Range Ballistic Missiles), North Korean equipment and technical assistance helped Iran establish the capability to produce Scud SRBMs, and Russian assistance accelerated Iranian missile development.16

The determination of the players

Any arms limitation regime, whether global, regional, or bilateral, is only as strong as the verification and safeguards systems that are implemented. For example, the 1972 Biological Warfare Convention has been ineffective, reflecting the absence of any verification system. The NPT (Nuclear Non-Proliferation Treaty) has failed in areas where verification and safeguards were too weak to deter violations, as in the case of Iraq and North Korea, and, it is increasingly feared, now Iran. The IAEA in general, and the safeguards and verification system in particular, are vulnerable to political influence, allowing states to exclude inspectors from some areas, and to manipulate the system in a way which would prevent or delay the “timely detection of violations” and allow states to produce weapons before an international response. The IAEA Board of Governors, which appoints IAEA officials and must consider whether to report cases of suspected safeguards violations for action to the United Nations Security Council, is a political body, with representation based on politically defined groups. Some states, such as Israel, are systematically excluded from these groups, and therefore from representation on the Board of Governors.17

The conclusion is that any country determined enough to develop and produce weapons of mass destruction will succeed in doing so, regardless of the international treaties and control regimes. The cases of Iraq before the Gulf War and Iran are the proof of this conclusion.

The influence of missile defense systems

The implications of the deployment of missile defenses by the countries of the Middle East must rely on theoretical and strategic analysis. One of the most important discussions should refer to the influence of missile defenses on regional stability. Deploying of missile defenses in the Middle East will bring a dramatic change in the ‘balance of terror’, which was created by the arsenal of ballistic missiles and had a significant stabilizing effect.

Proponents and opponents of the SDI (Strategic Defense Initiative) had already conducted the discussion on the implications of missile defenses on the stability of nuclear deterrence. We could take the main arguments of this discussion and use them in the analysis of the implications of missile defenses on the future stability of the Middle East.

Proponents of SDI have criticized opponents of the defensive concept by arguing that they are hostage to the ‘outdated’ doctrine of Mutual Assured Destruction (MAD) and that it is this that forms their opposition to SDI.18 But this criticism is grossly misplaced. Critics of strategic defenses base their case on the impossibility of escaping a MAD world.19

Using the same rationale, critics of missile defenses in the Middle East base their case on the impossibility of escaping a ‘balance of terror’ in the region, or a regional version of MAD. The emphasis of Mid-Eastern MAD will be on deterrence. We can use Geoffrey Howe’s defense of the doctrine of MAD, based on “the clear recognition of mutual vulnerability. In my view the ‘D’ [in the acronym MAD] should stand for Mutual Assured Deterrence, not destruction.”20
One result of the deployment of missile defenses would be ‘the operational option’ – to increase the stockpile of launchers and to increase the rate of fire so as to overwhelm defensive systems. Another ‘operational’ option could be to acquire cruise missiles of sufficiently effective types that could defeat both air defenses and missile defense. That is to say that the deployment of missile defenses in the Middle East would result in increasing the number of deployed missile warheads and launchers above the current level, and in more emphasis on nuclear forces, in order to maintain a minimal penetration capability.21

Countries that regard their ballistic missiles as their strategic defense and deterrence will upgrade these existing missiles to defeat TMD systems through countermeasures, either indigenously or with assistance from friendly industrial states.22

Another outcome of deployment of defenses would be the growing danger of launching preemptive wars by countries that attribute significant strategic value to their missile forces. In order to preserve their advantage, they might carry out a preemptive strike, before the completion of the development of the defense system by their rival. For example, Syria, a country whose ballistic missiles are a cornerstone of national defense policy, may embark upon a spoiling war to influence the peace process or to regain territory before Israel’s Arrow system becomes operational.23

Regarding all these implications and consequences, development of missile defenses could precipitate regional crises and generate renewed arms races between missile owners and TMD users. The introduction of TMD systems to the Middle East will disrupt existing military balances and instigate new instabilities. It could pulverize the delicate strategic deterrence in the region.

The present control regime

In 1987, the USA joined seven other countries in the Missile Technology Control Regime (MTCR), supposed to become an efficient tool to restrict exports of missiles and missile technology to the Third World. The problems of defining and implementing even the MTCR’s modest restrictions demonstrate the complexities of attempts to co-ordinate activities among the countries that joined the regime.24

The main problem with the MTCR is that it concentrates on the export of missile systems and technologies to states with nuclear weapons programs, permitting supplier and recipient states to benefit commercially from legitimate technology transfer. There is no clear definition of legitimate or illegitimate technologies. The MTCR also applies only to missiles capable of delivering a 500 kg warhead over a range greater than 300 km. Thus missiles such as the SS-21, Mar-350 (the Israeli system with a range of 90 km), Iran-130 (with a range of about 130 km), Lance, and FROG-7 are not covered. The SS-21, for example, is more accurate and thus more effective than the longer-range missiles such as the Scud B and At-Hussein.25

By decreasing the range of the Scud B (300 km), a country could exclude this missile from the MTCR. The MTCR is a framework in which the supplier governments and not the recipients must take responsibility for the end-use of any transferred technologies, so as to ensure that they are not employed for missile building. However, there is no central coordinating body which can oversee the uniformity of the application of the MTCR guidelines. Neither is there a body capable of administering sanctions against those countries, businesses, or individuals who contravene them. The decision to transfer equipment remains under the sole jurisdiction of the supplying government.26

The MTCR is largely irrelevant to Israel’s missile program because of its maturity. It has test fired its Jericho II medium-range missile and has placed satellites in orbit before and since the MTCR was announced.27

The successes of the MTCR unfortunately appear to have been relatively few and quite modest. Indeed, in the Middle East the proliferation of missiles and qualitative improvements of many existing systems have continued.28

The Bush initiative

The first step toward an arms control plan after the Gulf War was the Bush initiative of 29 May 1991. This proposed a freeze on the acquisition, production, and testing of surface-to-surface ballistic missiles by states in the region, with a view to their ultimate elimination from national arsenals. Suppliers would also step up efforts to co-ordinate export licensing for equipment, technology, and services that could be used to manufacture surface-to-surface missiles. Export licenses would be provided only for peaceful end-uses.29

As in the case of the MTCR, the scope and the exact definitions of the Bush proposal are unclear. Indications are that a surface-to-surface missile could be taken to include short-range tactical weapons, such as anti-tank weapons, as well as long-range systems such as the Scud B and the Israeli Jericho missile. Whether long-range artillery rockets, such as the FROG-7 with a range of 70 km, would be banned is unclear.30

Following the Bush initiative, the P-5 states (the USA, Russia, the UK, France, and China), which are also the five principal arms suppliers, held a meeting in order to translate the vague plan into concrete guidelines for a new policy. The participants in the Paris meeting, held in July 1991, issued a joint communiqué calling for the establishment of “a weapons of mass destruction-free zone in the Middle East”. This included a ban on ground-to-ground missiles. The missile freeze proposal provided no guidance on how to deal with indigenous missile development programs or on how a ban would affect local producers in the short or the long term.

The apprehension is that the P-5 group is paying lip service to the idea of arms control in the Middle East, without the intention to act decisively in order to achieve this goal. A further study would also envision pragmatic approaches, which would encourage the deeds of the P-5 to match their hitherto merely noble statements.

A regional control mechanism

The plans for ballistic missile control must be based on a regional approach: the conditions, the players, and the political and military considerations are different from region to region. The basic conditions and the regional developments in the Middle East suggest that it will be a complicated if not an impossible task to reach an agreed plan for the control or limitation of ballistic missile forces in the region.31

In his statement to the 1996 United Nations General Assembly, Israel’s Foreign Minister David Levi declared: “After peaceful relations and reconciliation have
been established among all states in the region, Israel will endeavor to establish in the Middle East a Zone Free of chemical, biological and nuclear weapons, as well as ballistic missiles, based on mutual and effective verification. Negotiations to establish such a zone will commence following the signing of bilateral peace accords between Israel and all states in the region.32

The need for co-operation

Past attempts to attain the full co-operation of the P-5 group have failed. The divergent interests of the parties made it very difficult to achieve consensus. This is most evident in the case of China, which, although a regular participant in the discussions of the major suppliers, persists in selling ballistic missiles and technology to countries in the region.

Only control and limitation agreements that will be implemented by the P-5 states would be practicable. Each one of these five nations could violate any agreement for controlling the supply of missiles, equipment and technology. However, additional supplier countries such as India, Brazil, Argentina, Pakistan, and Germany could influence the implementation of any future agreements. Therefore, the consent of every one of these suppliers to all the details of future agreements would be a critical prerequisite for the success of a ballistic missile control regime in the Middle East.

A Middle Eastern ABM Treaty

The prospective introduction of TMD systems could compel regional ballistic missile powers to opt for accommodation and peaceful settlement of conflicts, if they judge the other options to be either untenable or too expensive.

An arms control agreement similar to the ABM Treaty is also possible: unilateral or bilateral limitations on types and deployment areas of missile defenses. The countries in the region could adopt the purpose of the ABM Treaty, as stated in its Preamble: “Effective measures to limit anti-ballistic missile system would be a substantial factor in curbing the race in strategic offensive arms and would lead to a decrease in the risk of outbreak of war, and [would] contribute to the creation of more favorable conditions for further negotiations on limiting strategic arms.”

11. A. Benn, Barak: Nuclear Policy has not and will not change, Haaretz, 31 December, 1995, p. 10a.
Since there has been extensive expert analysis and discussion about the dangerous impact of the US missile defense plan and the US-Japan joint research of TMD (Theater Missile Defense) upon the regional security of East Asia, and the present author has recently added a small piece in a book to be published by a co-sponsoring organization of this workshop,1 this note focuses on issues relating to the future problems to be addressed to reverse the situation.

A Nuclear Weapon-Free Zone approach to the long-standing regional security problems

In most of the issue-specific discussions about the regional security agenda, such as TMD, with officials of the Foreign Ministry of Japan, NGO end the conversation with a renewed recognition of the deepness of their distrust of the Asian partners.

Joseph Nye, then Assistant Secretary of Defense of the United States, stated in his East Asia security strategy report in 1995 that the stability and prosperity of the region had been secured thanks to “American alliances in the region and the continued presence of substantial United States forces,”2 and he reaffirmed the U.S. commitment to maintain a forward presence in the region at the level of 100,000 troops. However, this very necessity of continued presence of U.S. 100,000 troops was considered by those citizens to be a clear evidence that such security arrangement had not been successful and would not be sustainable.

The existence of U.S.-focused military alliances and forward-deployment of U.S. forces in East Asia and the Pacific has been a major factor to prevent non-military security dialogs among China, Japan, and the two Koreas. It has enforced, or at best preserved, the division among these key nations which was created during World War II and the Korean War. Even at present, the principal source of threat perception of people in this region is attributed to mutual distrust, deepened under the lasting division. A policy that could contribute to confidence building in other parts of the world often does not work as such in this region. For instance, China’s constant unconditional security assurance not to use nuclear weapons against non-nuclear weapon states has not been accepted by the government of Japan because of fundamental distrust.

The U.S. NMD (National Missile Defense) plan and U.S.-Japan joint TMD development will enhance and perpetuate just the same regional relationship of distrust. While it is obviously important to resist such disastrous attempts, the real solution of the problem from the perspective of the region is to be found in an approach where people of the region and their governments can effectively establish a mechanism to create confidence and a security-building dialogue among them. Considering the nature of prevailing distrust, it is essential that large parts of civil society are engaged in such a process.

Since the mid-nineties, several initiatives to establish a Northeast Asia Nuclear Weapon-Free Zone, including one suggested by the present author,3 have been proposed as an appropriate approach in this direction. Although it does not address the missile control issues directly, the process will involve opportunities to discuss them, with a verifiable nuclear weapon-free zone as a shared foundation.

In this respect, a promising development occurred in late January 2001. An NGO conference was held in Seoul to establish the Preparatory Committee for the “International Network to Promote a Northeast Asia NWFZ.” The “Conference for Peace and NWFZ in Northeast Asia,” was hosted by the School of International Studies, Catholic University of Korea, and was sponsored by the Civil Network for a Peaceful Korea, the Peace Depot Japan, and Gensuikin Japan.

Influencing Japan’s BMD policy

The position of Japan regarding BMD (Ballistic Missile Defense) is not so firm as it appears. With regard to NMD, Japan has not yet issued an official statement since the Bush Administration took the office. However, if Japan remains consistent with its nuclear disarmament policy, in particular with its publicly announced emphasis on the salience of the START process and entry-into-force of the CTBT, Japan will have to continue to argue for the preservation of the ABM (Anti-Ballistic Missile) Treaty so that both issues may remain relevant. The following Foreign Minister Yohei Kono’s statement at the UN Millennium Assembly in September 2000, which welcomed Clinton’s postponement of NMD deployment decision, reflects such position of Japan.

“I highly appreciate the final document adopted at the 2000 NPT Review Conference this spring, since it contains practical steps to be taken in the future in the fields of nuclear disarmament and non-proliferation, including an unequivocal undertaking to accomplish the total elimination of nuclear arsenals. I also appreciate the postponement by the U.S. Government of its decision to deploy a National Missile Defense, as a result of prudent consideration with an emphasis on a further dialogue on this important issue. Japan hopes that this announcement will inspire a further deepening of the discussion on issues surrounding NMD. I hope other countries respond to this move by taking actions to avoid a vicious circle of an arms race, and to create a benevolent circle toward nuclear disarmament.”

With regard to the TMD joint research, the apparently firm position of Japan is based upon its allegation that TMD is not linked to NMD and that its co-research will jeopardize neither the...
ABM Treaty nor the processes for START and CTBT. However, it gets ever clearer that the Navy Theater Wide Defense (NTWD), an upper tier sea-based system of TMD, which is the theme of US-Japan joint research, can be integrated into a comprehensive NMD in the future. There is no ABM demarcation agreement between US and Russia concerning the NTWD. Therefore, the government of Japan is very much vulnerable to the criticism that Japan’s involvement in the NTWD research contradicts its long-standing policy to push the START and CTBT processes.

Thus, with regard to both NMD and TMD policies, Japan will be placed in a hard position to maintain apparent consistency with its nuclear disarmament policy. This is even more so after the NPT 2000 Review Conference, because the phrase “the early entry into force and full implementation of START II and the conclusion of START III as soon as possible” is contained in the 13 practical steps in the final document adopted by consensus. Since the last UN General Assembly (UNGA), Japan started to propose a new UNGA resolution to press the implementation of these 13 steps. If international voices pointing out such contradiction reach Japan, it will be influential in encouraging and stimulating policy debates in Japan.

Amendment of the Outer Space Treaty

One of the most serious consequences of the US NMD plan is to trigger an arms race in space. Obviously, there is already a race about the military use of satellites. It is the age of an arms race with space-based weapons. The Space-Based Laser (SBL) is one such weapon that is already studied by the US. In the Clinton’s version of ‘limited’ NMD, all the destructive weapons were to be placed on the surface of the earth. However, there is yet no concrete plan announced regarding Bush’s more ‘comprehensive’ NMD. It will inevitably depend upon the technological development, but it is very probable that it will embrace space-based weapons.

It is urgently requested for the international community to pursue a legal instrument to ban any space-based weapons. Under the 1967 Outer Space Treaty, which has been ratified by about 95 states and signed by 27 more states, only weapons of mass destruction are prohibited in space. Article IV of the Treaty reads, “States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.”

However, the Treaty stipulates that it can be amended by majority support of the State Parties. The amendment is provided in Article XV, which reads: “Any State Party to the Treaty may propose amendments to this Treaty. Amendments shall enter into force for each State Party to the Treaty accepting the amendments upon their acceptance by a majority of the States Parties to the Treaty and thereafter for each remaining State Party to the Treaty on the date of acceptance by it.”

According to this provision, it might be possible to amend the Treaty so as to ban any space-based weapons as support by a majority of the 95 State Parties seems to be a feasible goal. Although strong public voices will have to be mobilized in order to get key countries to accept the amendment, no doubt it is necessary to endeavor for it for the sake of the future of this planet.

1 Hiroimichi Umebayashi, TMD: A Confidence De-


The Rumsfeld Commission's issued its Report to Assess US National Security Space Management and Organization in January of 2001 at the request of outgoing Secretary of Defense William Cohen. Rumsfeld and his co-conspirators found that it is “possible to project power through and from space in response to events anywhere in the world... Having this capability would give the US a much stronger deterrent and, in a conflict, an extraordinary military advantage." They urged the US president to "have the option to deploy weapons in space... and to ensure that the United States remains the world's leading space-faring nation.” Rumsfeld became the new Secretary of Defense soon thereafter and has enrolled Bush in implementing his proposals to turn the heavens into a new frontier for war. It was Rumsfeld who convened an earlier Commission under the Gingrich Congress to manufacture the threat of a missile attack from 'rogue' states – particularly North Korea, which started Clinton down the tragic path of the development of a National Missile Defense.

In reality, the NMD is a platform for a much more ambitious US plan to assert its global supremacy from the heavens. In an illustration of a laser beam from space zapping a target, the US Space Command's report, Vision for 2020, nakedly trumpets, “US Space Command dominating the space dimensions of military operations to protect US interests and investment. Integrating Space Forces into warfighting capabilities across the full spectrum of conflict.” Vision For 2020 compares the U.S. effort to “control space” with the effort centuries ago when "nations built navies to protect and enhance their commercial interests" by ruling the oceans.

General Joseph Ashy, former commander-in-chief of the U.S. Space Command, has said: “It's politically sensitive, but it's going to happen. Some people don't want to hear this, and it sure isn't in vogue, but – absolutely – we’re going to fight in space. We’re going to fight from space and we’re going to fight into space... We will engage terrestrial targets someday – ships, airplanes, land targets – from space... That's why the U.S. has development programs in directed energy and hit-to-kill mechanisms.” Last year, the U.S. signed a multi-million dollar contract for a Space-Based Laser Readiness Demonstrator. A promotional poster shows the laser firing its ray from space, a U.S. flag waving in space above it. And the Rumsfeld Commission report of January 2001 backs up the naked quest for hegemony and to dominate the world in more sober language.

**Corporate drivers for Star Wars**

The Star Wars lobby has been led by companies like Lockheed Martin, Raytheon, Boeing, and TRW which are dividing up nearly $3 billion dollars in contracts, obtained in no small part from the $35 million they spent lobbying in 1997-98 and $6 million in campaign contributions in 1997-2000, deeply corrupting our political process. The Space Command’s Long Range Plan: Executive Summary has a long list of “Acknowledgements to Commercial Industry” including 48 companies which are helping them to “dominate the military uses of space to protect US interests and investments.” In order to reap their lucrative contracts they even rigged the data on all the NMD (National Missile Defense) flight tests, according to a TRW whistle blower, Nira Schwartz, a senior engineer who lost her job for challenging TRW's claims about the weapon's ability to distinguish warheads from decoys. Dr. Theodore Postol, a professor of science and national security studies at Massachusetts Institute of Technology (MIT) and a Navy science adviser in the Reagan administration, said that Pentagon officials are "systematically lying about the performance of a weapon system that is supposed to defend the people of the United States from nuclear attack."

This rapidly evaporating ‘threat’, in light of the news of a deliriously joyful and celebrated meeting between North and South Korea’s leaders, and the willingness of North Korea to negotiate with the Clinton Administration, was first cooked up in 1998 by the first Rumsfeld Commission which sounded the false alarm. The Commission was formed by Congress and chaired by Donald Rums-
fled, the Ford Administration Secretary of Defense in his former incarnation, to give political cover to the diehard Star Warriors in Congress in league with the defense contractors. It’s key finding was that ‘rogue states’ like North Korea could acquire ballistic missiles within “five years of a decision to do so” instead of the ten or fifteen years projected by US intelligence agencies. The flame of Reagan’s cockeyed dream of a defensive shield against Soviet nuclear attack was kept alive and fanned by Frank Gaffney, a former Pentagon official in Reagan’s administration who now heads the Center for Security Policy (CSP). CSP receives about 25% of its annual support from corporate sponsors, nearly all weapons manufacturers, a generous portion of which was contributed by the leading missile defense contractors Boeing, Lockheed Martin, Raytheon, and TRW.

Corporate globalization and the global war system

There is a deep connection to the global war system and the forces of corporate globalization. The WTO rules are based on the premise that the only legitimate role for government is to provide for its military. While the WTO attacks social policies, such as overturning the Massachusetts legislation which prohibited trade with Myanmar because of its brutal human rights record, and environmental policies, such as the ruling against US legislation to safeguard dolphins from huge tuna fishing operations, it consistently protects the war industry through a “security exception” in Article XXI in the General Agreement on Trade and Tariffs (GATT). This security exception permits a country to take any action it considers necessary to protect its essential security interests. Actions “relating to the traffic in arms, ammunition and implements of war and such traffic in other goods and materials as is carried on directly for the purpose of supplying a military establishment” are exempt from its rules.

US military programs are driven by corporations and are feeding the global war machine. Lockheed Martin played a key role in the tragic deterioration of US-Russian relations. The Bush administration promised Gorbachev that if Russia did not oppose the admission of a reunified Germany into NATO when the Berlin wall crumbled ten years ago, we would not expand NATO. Yet the US Committee to Expand NATO, which lobbied furiously on the Hill to disregard our pledge to Russia, was chaired by the Vice-President of Lockheed-Martin, working successfully to expand its lethal market to Poland, Hungary, and the Czech Republic. NATO’s 50th Anniversary Summit in 1999 was hosted by corporate sponsors, including Boeing, Raytheon, and the like, who paid up to $250,000 to mingle and peddle their deadly wares to the 19 Foreign Ministers in attendance. (Oddly enough, the Washington Post contributed $25,000 to this gala of death.)

Secretary of Defense William Cohen in a meeting at Microsoft last year, lobbied Silicon Valley to support higher Pentagon budgets saying, “I will point out that the prosperity that companies like Microsoft now enjoy could not occur without having the strong military that we have”. He urged them not to “discriminate the importance of the national security world” adding that “some soldiers in the high-tech revolution do not fully understand or appreciate the soldiers in camouflage... Real stability involves predictability – predictable and secure borders, threats that don’t emerge unexpectedly and confidence that opposing interest will be resolved peacefully.”

Thomas Friedman, a well-known and widely read columnist for America’s most influential newspaper, the New York Times, champions globalization, arguing that “the hidden hand of the market will never work without a hidden fist – McDonald’s cannot flourish without McDonnel Douglas, the designer of the F-15. And the hidden fist that keeps the world safe for Silicon Valley’s technologies is called the United States Army, Air Force, Navy and Marine Corps.” These chilling remarks appeared in the March 28, 1999, Sunday Magazine section of the Times, its cover illustrated by a clenched fist clad in the red, white and blue stars and stripes of the US flag with the caption “For globalization to work, America can’t be afraid to act like the almighty superpower that it is.”

In October 2000, Admiral J.P. Reason, Commander in Chief of the US Atlantic fleet testified to Congress that: “A key part of the global economy’s growth has been the proliferation of multinational corporations, many US-owned or partnered. They have improved the profitability and efficiency through the free exchange of goods and services around the entire world. And this was made possible by freedom of the seas, guaranteed by your United States Navy. In short, the navy has been and continues to be a sine qua non, a necessary precondition of global economic prosperity and US national security.”

There are other connections. President Clinton said in a speech delivered the day before his televised address to Americans about Kosovo, “If we’re going to have a strong economic relationship that includes our ability to sell around the world, Europe has got to be a key... That’s what this Kosovo thing is about.” The bombing and missile strikes over Yugoslavia were giant bazaars for selling the wares of arms merchants. David Shea at Raytheon said, “We are expecting the Kosovo conflict to result in new orders downstream.” Officials at Raytheon announced that replacing munitions used in the Balkans could lead to about $1 billion in new contracts. Nuclear weapons are the ultimate enforcers of US hegemony and corporate power.

The NPT outcome

In May of 2000 the NPT had its first five-year review since the extension conference of 1995. The New Agenda Coalition (NAC), formed in 1998, with eight nations – Ireland, South Africa, Mexico, Sweden, Brazil, New Zealand, and Egypt (Slovenia, eager to join NATO, dropped out under US pressure) – had begun lobbying other nations to press the nuclear powers for more progress on disarmament in UN meetings. The NAC had a major impact on the NPT Review and succeeded, after a late night session into the small hours of the morning, in negotiating a promise from the nuclear weapons states to “an unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals.” Additional pledges were made for practical steps to demonstrate compliance with the NPT including:

- further unilateral disarmament,
- increased transparency by the Nuclear Weapons States of their arsenals,
- further reduction of non-strategic nuclear weapons,
- concrete measures to reduce the firing time readiness of nuclear weapons systems,
a diminishing role for nuclear weapons in security policies,

the engagement as soon as appropriate of all the nuclear-weapons States in the process leading to the total elimination of nuclear weapons.

These new NPT commitments were made by Clinton on May 19, 2000 as the weapons labs continued to perform subcritical tests at Nevada and to lobby for a new earth-penetrating bunker-busting nuclear weapon and for smaller more ‘usable’ mini-nukes, and as research and testing for Star Wars proceeds in full swing. At the close of the NPT, both Russia and China took exception to the final document without actually blocking consensus, warning that if the ABM treaty is violated, the promises made could not be fulfilled. China said none of the steps above would succeed unless a treaty to maintain space for peaceful uses was phased in simultaneously. With Bush pushing aggressively to open a new battlefield in space, and Cheney quoted as saying the ABM treaty is an “antique”, we are now hearing reports of new weapons development in China, and a refusal by Putin to carry through on his START II agreements to dismantle nuclear weapons. This work has stopped in Russia since the date of Bush’s inauguration. Last November at the UN, the New Agenda resolution, restating the outcome of the NPT, was supported by almost every country, including the US, China, and the UK, as well as Japan and the NATO countries with the exception of France. Eight countries abstained including France and Russia, while only three voted against this restatement of the NPT outcome: India, Pakistan, and Israel which are not members of the NPT.

What can NGOs do?

Abolition 2000, a global network working for a treaty to eliminate nuclear weapons, was organized in 1995 at the NPT Review and Extension Conference and called for the completions of negotiations on a treaty to abolish nuclear weapons by the year 2000. An Abolition 2000 Working Group drafted a model nuclear weapons convention which is now an official UN document, being discussed by nations and setting the context for the recent outcome at this 2000 NPT. In the five years of our existence we have grown to over 2000 members in 94 countries and because of the insistence of these NGOs on every continent, we have made the abolition of nuclear weapons an idea whose time has come. Back in 1995, the nations of the world were calling for the “ultimate” elimination of nuclear weapons; now the nuclear powers have given “an unequivocal undertaking to the total elimination of nuclear weapons.” The context has shifted. The NPT 2000 Conference has given us an opportunity to press forward on a nuclear abolition initiative, if it is not detailed by Star Wars and a new arms race to the heavens.

The Abolition 2000 Working Group on the Military-Industrial Complex has been linking up with the anti-globalization movement. In Seattle during the WTO meetings, we held a workshop on the Global War System. In Washington DC at the IMF protests, we were able to link up with the International Forum on Globalization (IFG) and participated in their teach-in demonstrating how corporate globalization is enforced by military might. In New York at an IFG teach-in to nearly 2000 people on Globalization and Technology, we arranged for a panel on Star Wars and Nuclear weapons as an arm of corporate power.

In America, Congressman Dennis Kucinich plans to introduce an amendment to the House Appropriations bill this spring (2001), stripping out any funding for the Star Wars program. His staff is issuing a briefing which can be circulated by activists to their Congressional Representatives and Senators, laying out the reasons for why they should support a total cut-off of funding for this provocative program. GRACE has employed a professional writer to write a Citizens Brief documenting and explaining that Missile Defense is a misnomer for a hegemonic plan to dominate and control the planet from space.

A new Abolition 2000 Working Group on Missile Disarmament has been formed under the leadership of Jürgen Scheffran, INESAP, Zia Mian and M.V. Ramana, Princeton University and Andrew Lichterman, Western States Legal Foundation. Scheffran, in a preliminary paper for the Working Group notes that a “missile ban and a missile freeze” are “two sides of one coin.” He proposes a ballistic Missile Convention which “would aim for the global non-proliferation and elimination of offensive ballistic missiles, in conjunction with conventions on the elimination of all weapons of mass destruction.” While Scheffran notes that global missile disarmament “is a longer-term perspective, the need for action is now.” He suggests that we call for a moratorium on the further development testing and deployment of ballistic missiles. “Such a ‘missile freeze’ would be like a break in the arms race, during which countries could consider and negotiate the next steps without time pressure.”

Governments are beginning to look at options for controlling missiles. At the NPT Conference, Russia proposed a global missile confidence-building and non-proliferation regime which had been previously discussed in Moscow at a meeting of experts from 46 countries and the UN, including Iran, China, and India. A smaller meeting was held last March in Canada with experts from the UK, Germany Norway, Russia, and the US to explore more effective missile control, international monitoring and early warning.

NGOs must help to build the pressure on governments to take bolder steps for peace. In America we should support the Kucinich initiative and the work of the Abolition 2000 Working Group on Missile Disarmament to call for a missile freeze now. Committees can be established in each country to work with this new Abolition 2000 initiative, and help us, with colleagues from all over the world, to call forth this new action and make this vision an inevitable reality: the preservation of outer space for peaceful uses for all time. If we fail in this effort, I am afraid our work for nuclear abolition may never be realized.
Aim for a Campaign: Linking Past, Present, and Future

Jacqueline Cabasso

The technology and policy links between nuclear weapons and ballistic missile defenses, and ballistic missile defenses and space-based weapons, have been well established by a handful of specialists. But if we are to create an effective campaign of resistance, I believe that we have to establish the links between the past, the present, and the future in terms of how we understand these issues and explain them to a broader audience. And we will need to develop new tools to help us educate, empower, and activate the public. Finding convincing arguments will require us to go beyond the usual framework of ‘expert’ discussion. In the course of my analysis, I will offer a few of the arguments that in my experience have resonated with the general public.

I’d like to start by describing an illustration from the Air Force Space Command Strategic Master Plan for Fiscal Year 2002 and Beyond. The “end state” of the “vision” it graphically depicts is to “maintain strategic deterrence” with “nuclear-armed ICBMs,” and to “provide low risk, low collateral damage force projection against all terrestrial targets” using “rapid, global precision strike... space-based systems.” Nuclear weapons and space-based conventional weapons systems are literally part of the same picture. To people who ask what’s wrong with the U.S. building a defensive system, it is important to point out that a defensive system in a post-nuclear-weapons-abolition world is a very different question. I suggest that we have that discussion then. Right now, we’re talking about the military establishment of the lone superpower planning for an integrated, offensive global war fighting system including National Missile Defense, Theater Missile Defense, space-based weapons, first strike strategic nuclear weapons and precision, lowyield nuclear weapons.

In my travels over the last few years, mostly in the United States and Western Europe, I have found that people – that is, activists and sympathetic, even informed members of the public – tend to fall along a spectrum of information and beliefs. Most of these people hold a set of assumptions that are about ten years old. They want to believe, without thinking about it too clearly, that with the end of the Cold War nuclear weapons simply evaporated into thin air, or were put into storage, and are no longer a problem. I call this state of mind, psychologically, the ‘best case’ scenario. At the other end of this particular spectrum is an emerging and dynamic global network against the militarization and weaponization of space. This movement is bringing to light vitally important issues that should be of profound concern to everyone. However, many of the people involved are motivated by a kind of science fiction hysteria, which I would characterize, psychologically, as the ‘worst-case’ scenario. As an organizer, I don’t believe that fear-based motivation is sustainable. In this case, I also believe that it is at least partially displaced.

This brings us to the present. In the present situation, people are experiencing what I would characterize generally as a state of denial about the true nature of United States’ national security policy. Most people – again I’m talking about peace activists and sympathetic members of the public – are in this state of denial, somewhere between the best case and the worst case scenarios described above. At one end, there are those who simply believe that nuclear weapons are a thing of the past. At the other end, people who may have seen the United States Space
I'm talking here mostly about the American public, because fundamentally we have to get to the American government. Most Americans don't want to believe that the United States is a bad actor. In a newspaper article late last year, entitled *When Might Makes Wrong*, Chalmers Johnson, a well-respected political science scholar and Vietnam-era 'hawk,' wrote that "The American people believe that their role in the world is virtuous -- that their actions have been for the good of others as well as themselves. And they insist that even when their country's actions have led to disaster (as in Vietnam) its motives were still honorable."

This is a barrier that we have to overcome in the United States. But moving beyond missile defense is a global issue and it is essential that we also work in an international context.

In my view, one of the mistakes we keep repeating is too narrowly focusing on opposing particular weapons systems or supporting particular treaties, and forgetting the larger context. The debate around the Anti-Ballistic Missile (ABM) Treaty is a good example. I think it's a problem for a peace movement to put a lot of effort into advocating saving a treaty with a flaw -- i.e. enshrining the principle of Mutually Assured Destruction -- so fundamental that it contradicts our larger goal, the abolition of nuclear weapons. Obviously, in the short term, and as a transitional measure, there are good reasons why the ABM Treaty should be preserved. But I don't think that it's our purpose as a movement to be advocating the preservation of that treaty. Rather, we should be actively opposing actions that are going to abrogate the ABM Treaty and actively supporting positive alternatives such as a missile ban, a nuclear weapons convention, and an outer space treaty.

I also think it's important that we go back to fundamental values of nonviolence at this time of increasing state violence and the potential for even greater violence. We're talking about plans for global domination through the most horrific weapons of all kinds: weapons of mass destruction; weapons with tailored, precision capabilities; all purpose weapons for every conceivable use. I believe it is incumbent upon us to return to the core values of the nonviolent struggles of the past and to revisit the nonviolent campaigns that have been successful. This translates directly to the way we do our work, prefiguring the kind of society we want to create in the ways that we work with each other; listening carefully to each other; treating each other as equals; respecting the fact that we're coming from different political systems and cultures. From our international non-governmental organization work, we know that it is possible to have a nonviolent democratic discussion about alternative ways of being in the world.

To deal with the current situation in the immediate term, in the United States we need to develop a campaign to avoid the demonization of China, the way the Soviet Union was demonized during the Cold War, when the American people were told that the U.S.S.R. was an 'evil empire.' One of the things we did at that time was to establish direct citizen-to-citizen contacts. Through these exchanges we learned that we were all people, and that we had a lot more in common with each other than our governments had. I went to the Soviet Union for the first time in 1990, and I found that the sun shines; that you can go out and buy things; that it's a normal place. If you were an American at that time, you wouldn't know those things if you just stayed in your job and read the newspaper. I also have been to China, where I discovered that the Chinese people are a whole lot like the American people -- friendly, relaxed and casual. I was able to easily travel around China by myself, without any problems. This is the kind of common sense information that needs to get out. These citizen-to-citizen contacts can be made on a small scale, because individual experiences can be broadly shared and the benefits thus magnified.

Another obvious argument is that the United States, by far the dominant global military superpower, has nothing to lose by pursuing diplomatic approaches with other countries. Let's say, for example, in view of China's no-first-use nuclear weapons policy and its long support for negotiations to eliminate nuclear weapons, that instead of aiming missile defenses at China to defend U.S. territory against China's small ICBM capability, the United States were to take China at its word, and start negotiating. What does it have to lose? Maybe China is bluffing. Let's find out. This is a common sense argument that works with ordinary people.
We also need to counter the demonization of Islam and Islamic peoples. This is particularly important, since the ‘selling’ of rogue missile defenses by the U.S. government is largely based on the notion of ‘rogue’ states, and several of those identified happen to be Islamic nations. In this regard, I think we need to emphasize the distinctions between governments and civil society. We need to be very clear about our identities and our roles in the world. For those of us who are non-governmental entities, it is not in our own best interests to associate ourselves with the national security interests of any government. As Gabriel Tetiarahi of Hiti Tau, an organization of indigenous peoples’ groups in French-occupied Polynesia has said, ‘we need to decolonize out minds.’ It cannot be us or them; it must be us and them.

Ultimately, I believe that we need to fundamentally redefine security, not in terms of nations, but in terms of people and the environment. Mahbub Ul Haq, a former Finance Minister of Pakistan who later worked with the United Nations Development Program, did some outstanding work in this area. I make this argument every time I speak to a group, and people always respond enthusiastically, because they’ve never thought about it before. We need to redefine security as security of people, not just of territories; security of individuals, not just of nations; security through development, not through arms; security of all people everywhere, in their homes, in their jobs, in their streets, in their communities, and in their environment. This kind of security is universal. If you explore the requirements to bringing about and ensuring this kind of security, you do not get nuclear weapons, missile defenses, space-based weapons, or any other kind of advanced, high tech weapons – in my view, we don’t even get hand guns. I think that this is a very important argument, and it works because it’s positive – it puts forward a positive alternative and invites a new way of thinking.

Finally, the last and perhaps most important argument is that you don’t have to be an expert to get involved. These issues can become very complicated. But you don’t have to be an expert to understand that a national security policy premised on the threat of national annihilation to others is not sustainable because other countries will eventually adopt the same kind of policy. The fate of the planet is too important to be left up to experts. Each of us is an expert on how we feel; now go out and speak up!

Critics won’t be silenced
Regina Hagen

For quite some time now, the US government has tried to stop critics who say what they think of missile defense. On August 29, the Washington Post ran an article that started as follows. ‘The Pentagon And The Professor. There is a Web site in Russia that the U.S. government claims contains classified information. You can read it, but if you think about what you read there and conclude that the current U.S. national missile defense plans are bound to fail, the government will try to stop you. That is exactly what is happening to Theodore Postol, a professor at the Massachusetts Institute of Technology.’ This is no single incident. Fifteen Greenpeace activists and two journalists have been charged with conspiracy to violate a military safety zone and violating an order after they delayed a test of the U.S. missile defense system at California’s Vandenberg Air Force Base July 14. If convicted, they could be jailed for up to 10 years and fined $250,000 each.

By attaching the label ‘treason’ to critical comments of concerned scientists and threatening non-violent protesters with horrendous fines, the US government hopes to silence the opposition to its missile defense plans. But hopefully the critics will not be easily intimidated.

International Day of Protest 2001

The Bush administration, the Pentagon, and their corporate allies are pushing hard to move the arms race into space. The first phase of deployment will likely be Theatre Missile Defense (TMD) systems that will virtually surround China and force them to build more nuclear weapons. ‘Missile defense’ will only make the world more insecure!

The space-based laser (SBL), now moving toward testing at NASA’s Stennis Missile Center in Mississippi, will be the ‘follow-on’ technology to ballistic missile defense. The SBL, the real Reagan Star Wars system, will be used to knock out other countries’ satellites giving the U.S. Space Command “control and domination” of space in order to protect corporate ‘interests and investments.’

The Global Network Against Weapons and Nuclear Power in Space invites you to join this year’s International Day of Protest on October 13 by organizing an action in your community in solidarity with groups all over the world. Hold an event at a U.S. military base; DoE facility; NASA installation; U.S. Embassy; an aerospace corporation; federal building; or an academic institution that is working on military space. By early September, 250 endorsers and 92 actions planned in 18 countries were listed.

For more information, see homepage at www.space4peace.org.
Bush, Missiles, and Defenses

Otfried Nassauer

On May 1, George W. Bush held his first speech on security issues, making it very clear that the Bush administration is opting for a strategy-oriented approach. First things first. Let’s clarify our interests, define the strategy and the means to best serve our interests, and then let’s come to the details of implementation, the decisions on new weapon systems, the details of arms control, unilateral initiatives, and political tactics. “Top to bottom”, as one administration official said.

The self-set goal of the new administration is Herculean. The intended shifts in defense policy, strategy and posture as well as in the overall security policy can be compared with those of the McNamara reforms in the early 1960’s, which resulted in giving up the strategy of ‘massive retaliation’ and adopting ‘flexible response’. They are likely to become as controversial as McNamara’s reforms. There are good reasons to explore whether there is a strategy better than deterrence to secure peace and maintain stability in the Post-Cold War world. However, whether Bush’s revolution in strategic affairs will be convincing and enhance stability is far from clear. On the contrary, there is good reason to doubt such an outcome.

With only six months in office, the new administration has made substantial headway in promoting its agenda for a new Post-Cold War strategic framework. Using the promotion of missiles defenses and critique of the ABM Treaty as door-openers, the Bush administration successfully raised the issues at the heart of its own agenda: transforming deterrence and arms control to serve US national interests in a formerly bipolar world. As of the time of writing, progress has been made in deconstructing what was believed to guarantee stability over the last fifty years – deterrence based on mutual assured vulnerability and destruction on the one hand and treaty based arms control to avoid irrational arms races on the other hand. Much less progress has been made in credibly outlining the details of the administration’s proposals for a new approach, the new strategic framework.

The hurdles in implementing an entirely new policy have also become more substantial. The Democratic Party has gained control of the US Senate. Allies and other states concerned have raised serious questions. Defense Secretary Donald Rumsfeld indicated he will need significantly more time to make his mind up about America’s future strategy and priorities. He will probably need much more money, as well. Two summits between Presidents Bush and Putin have taken place with at least two more coming up in the course of this year. And – partially as a consequence of the changing environment – President Bush has not yet taken the opportunity to provide a further outline of his strategic thinking.

Missile defense

Missile Defense seems to be at the core of the new administration’s policy. While avoiding the announcement of any details about the system’s architecture and concrete deployment plans, on May 1 President Bush presented his general outline. “We need new concepts of deterrence that rely on both offensive and defensive forces. Deterrence can no longer be based solely on the threat of nuclear retaliation”, he argued. “Cold war deterrence is no longer enough.” In elaborating on the defenses to be introduced into the traditional deterrence equation, the Bush administration has announced a number of changes: first, there is no longer to be a “national” missile defense system. Strategic and theater elements of missile defense will be dealt with under the same rubric – missile defense. Thus there will no longer be room for allied arguments that the US might seek to de-couple. Second, the new administration is committed to a multi-layered system that will no longer be restrained to ground-based interceptors. This gives higher priority to regional missile defense systems, such as the NATO Integrated Extended Air Defense System (NATINEADS) to be explored over the next couple of years. Many allies have already declared their interest in joining such an exploration of defenses against medium-range ballistic missiles with ranges from 1,000 to 3,000 kilometers. Other missile defense options to be positively evaluated by the US include sea- and air-based systems, boost-phase intercept technologies, and last but not least space-based assets including weapons. Most of the elements of Ronald Reagan’s ‘Star Wars’ concept will be revived. Research and development funding for space domination and missile defense technologies will be substantially increased.

Bush has announced that his administration has identified some options for near-term deployment. However, it has taken a protracted period for initial concrete steps to be taken. A national test bed for missile defenses will soon be built in Alaska – which will have an initial capability to host less than ten interceptor missiles. Trees are already being cut down at one of the sites to allow construction work to begin in 2002. The Bush administration will conduct more frequent and rapid testing but it has not identified which of its planned tests would require a decision on the fate of the ABM (Anti-Ballistic Missile) Treaty. However it has indicated that by October or November a decision would be required on whether to withdraw from the ABM Treaty. Thus, consultations on a new strategic framework with Russia are taking place under severe time constraints. Administration officials have made it clear, that they would prefer unilateral withdrawal from the ABM Treaty rather than deliberately violating it, if no consensus with Russia could be reached in time. However, near and mid-term operational deployments are likely to concentrate on increasingly capable theater and regional missile defense systems based at sea, land, or in the air and thus reflect more immediate risks from short and medium-range missiles.

Overriding policy considerations may have led the administration to follow a radical path. Without a majority in the influential US Senate, the President and his administration may have opted for a more right-wing stance to increase the
pressure on both the US Senate as well as foreign opponents of missile defense. This path will serve overriding policy goals of changing US strategy and the future role of arms control.

To overcome Russia's objections and win its cooperation in giving up the ABM Treaty, Moscow will be offered a substantial package of incentives: deep cuts into current nuclear arsenals, re-allowing MIRVed warheads on ICBMs (i.e. (Multiples Independently Re-Targetable Vehicles on Inter-Continental Ballistic Missiles), extended cooperation on early warning, joint missile defense exercises, political and technological cooperation in developing regional missile defense systems, and the integration of some of the more promising Russian missile defense technologies into a European-Russian regional system. An offer for increased mutual transparency in nuclear affairs plus some economic incentives might well be part of such an initiative. National security adviser Condoleezza Rice made the point, when arguing: "We want to convince the Russians that it is in their best interest to move beyond the ABM Treaty and to develop a new relationship with us." Convincing Russia will require substantial offers of cooperation, to have any chance of succeeding. However, Russia will be given no say in the US decision to deploy a missile defense system, or on the schedule of events. Administration officials have been eager to make this point.

Centering the debate around missile defenses facilitates the achievement of a second goal, more important to the Bush administration: It helps to open the debate about the concept of deterrence, the future role of nuclear weapons, the logic of stability, and the function of arms control. Donald Rumsfeld recently argued "(...) a paradigm shift tends not to be instantaneously understood."

The future of deterrence

The Bush administration seems to favor a new concept of deterrence that gives the US more flexibility, more freedom of action, and allows it to exploit the advantages of superior US capabilities. While the new administration argues it wants to move away from a concept of deterrence which is based on 'Mutual Assured Destruction' (MAD), a closer look at President Bush's speech and the remarks made by other members of his administration indicate that the new administration will strive for a different goal. It wishes to decrease (or even eliminate) the role of the second principle that deterrence traditionally been based on – mutual assured vulnerability.

While discussing missile defense with a reluctant Russia, the new administration points out that – although both sides might sharply reduce their nuclear arsenals – Russia's future nuclear posture will continue to be capable of penetrating US missile defenses with devastating results. Thus to Russia the US would remain vulnerable whilst the situation with 'rogue nations' or 'states of concern' would be entirely different. They would not find the US vulnerable to their more limited capabilities and would face US offensive conventional and nuclear capabilities, modernized and adapted to be credibly capable of threatening them.

China is dealt with as a special case. Since China's current long-range nuclear posture is nearly as small as the postures to be possibly acquired by some 'rogue states', China will be left with the decision to either invest in enlarging its long-range nuclear forces or else face a situation in which it could no longer credibly deter the US. Bush administration officials have indicated that the US would not attack China politically, if Beijing opted to increase its arsenal. They indicated that the US and China could even find some common ground in their mutual interest, by possibly resuming underground nuclear testing at some time in the future. While predicting that China would inevitably modernize its strategic forces and dismissing concerns about a regional nuclear arms race in Asia, the administration expects China to add a few tens of additional missiles, which the US could deal with easily by re-targeting some of its own strategic weapons from Russia to China. These indications reflect a decisive departure from Washington's decade-long policy of persuading other nuclear powers not to modernize or enlarge their arsenals.

Those in the Bush administration who wish to develop this new concept of deterrence hope to reduce or eliminate the effects of self-deterrence, at least in conflicts with opponents with less WMD (Weapons of Mass Destruction) capability. They claim this will happen in two ways. On the one hand, defenses against ballistic missile threats will make such threats against the US less credible and thus less likely to occur. No such opponent could any longer be sure to find the US vulnerable. At the same time the decision on whether or not to retaliate against (or attack) such an opponent with nuclear weapons could be eased for the US, if the US nuclear posture would offer more flexible and adaptable means than it does today. Here opponents of the CTBT (Comprehensive Test Ban Treaty) and proponents of developing new nuclear weapons see their chance. Today's nuclear posture often leaves the US with a decision on whether or not to use high yield, multiple warhead nuclear weapons against a single target often to be found in highly populated areas. The inevitable collateral damage and political consequences would in all likelihood result in a decision not to use nuclear weapons. However, if the US had the option to conduct limited and precisely targeted attacks with low-yield single warhead long-range weapons resulting in minimum collateral damage, it might be easier to take the decision to actually use nuclear weapons. It would also be easier to pursue targets such as the opponent's core leadership bunkers. Both ideas – that of threatening leaders of 'rogue states' with 'decapitation' and a mixture of offensive and defensive capabilities to render foreign WMD useless - are reminiscent of those voiced during the early years of the Reagan administration. This is not accidental. Keith B. Payne, one of Donald Rumsfeld's most influential advisors on nuclear issues, co-authored an article during Ronald Reagan's presidency entitled Victory is Possible, which reflected very similar ideas. More recently, an article in Strategic Review discussed options for leadership targeting. It was written by Caspar Weinberger, Ronald Reagan's Secretary of Defense.

For decades US strategists have been hoping to reduce the impact of self deterrence on US decision-makers. The Bush administration offers them another opportunity to make their case. Options to increase the flexibility and military effectiveness of the US nuclear posture and for deliberate decision-making on the political level would strengthen their case.
The future of arms control

Donald Rumsfeld believes the ABM Treaty to be a relic of “ancient history” rather than a “cornerstone of stability”. From his perspective the treaty prohibits stability rather than ensuring it. Thus, as President Bush said on May 1, “we must move beyond the ABM Treaty. This treaty does not recognize the present, or point us to the future. It enshrines the past.” The attack on the ABM Treaty has a second, more important function. It opens the door for a discussion on the future role of arms control and questions the overall logic of arms control. There are numerous other arms control treaties that might be said to enshrine the past and prohibit the development of “promising technology to defend ourselves”. When only half a year in office, the Bush administration successfully made a case of questioning a wide range of arms control efforts. The ABM Treaty is its most visible example. Bush administration officials have engaged in weakening the CTBT. They signaled to China, that both countries might have an interest in resuming nuclear testing. The DoE (US Department of Energy) publicly considered reducing the time necessary to restart nuclear testing to 18 months or even less than a year. John Bolton, the Undersecretary of State for Arms Control and International Security, launched a legal inquiry into whether the administration was entitled to withdraw the CTBT from congressional consideration. The Administration is engaged in reducing the urgency by which international meetings – in the NATO or G8 context – demand an early enforcement of this treaty.

Bush administration officials effectively terminated efforts to add verification to the biological weapons convention, to limit the illicit trade in small arms, and indirectly signaled their willingness to give up on START-II becoming a legally binding treaty by telling Moscow that they might accept it if Russia introduces an SS-27 ICBM carrying multiple warheads which is currently prohibited under START-II. Other treaties to come under increased criticism and scrutiny can already be identified. The Outer Space Treaty, just like the ABM Treaty, is likely to be viewed as contradicting efforts to ensure US dominance in space. The INF (Intermediate-Range Nuclear Forces) Treaty has been criticized as limiting opportunities to exploit opportunities for future conventional weapons.

As with redefining deterrence, the Bush administration is in search of greater unilateral flexibility as well as fewer binding restrictions – a position favored by the more powerful player, with its ability to exploit such flexibility. Less emphasis on treaty-based arms control does not necessarily result in no further disarmament. Unilateral steps of disarmament, unless codified in treaties, remain reversible and provide for greater flexibility.

The Bush administration is likely to deliver a first proof soon. Unilateral cuts into the expensive and huge US nuclear posture are set to be announced in the context of convincing Russia as to the need for a ‘new strategic framework’.

The number of nuclear weapons to be kept operational could be reduced below the 2.000 to 2.500 warhead limit envisaged for a future START-III treaty. Depending on whether Russia is prepared to react by announcing similar cuts and whether sub-strategic weapons will be included in such an initiative, a reduction to as few as 1.000 to 1.500 or even fewer operational weapons seems possible. Moscow has suggested a limit of 1.500. However, Russia’s arsenal is rusting so quickly that it seems unlikely that it will be able to maintain more than 1.000 weapons in a decade. Thus there is a strong incentive for Moscow to agree. The deeper the cuts, the more likely that the new US administration will win Russia’s support for mutual unilateral movements. Russia would agree that it too might benefit from flexibility to rearm in case China or one of the lesser nuclear powers not bound by bilateral treaties would sharply increase its arsenal. Such a move could result from attempts by these countries to ensure their capability to penetrate an increasing future US missile defense capability.

As of writing it remains unclear how far US unilateral step-by-step reductions might go. The option using unilateral cuts to convince Russia as well as others that the new administration is serious about disarmament competes with the strictly unilateralist approach of conducting cuts limited to what is obviously in the US national interest, i.e. not to spend too much on the nuclear posture. However, the net result of the upcoming initiative would be in any case convenient for the United States. Reserve postures and hedges are likely to be contained in the small print of any such initiative. They would allow for timely and substantial rearmament. Offers to Russia to abolish the current ban on MIRVed ICBMs could well be linked to avoiding the entry-into-force of START-2 and thus add much flexibility in rebuilding the US nuclear arsenal, if need be. Washington will have a much stronger capability than Russia to do so. Unilateral cuts allow Washington to play its own strengths against the weaknesses of other nuclear powers.

However, it is far from clear that unilateral nuclear reductions can compensate for the damage likely to result to the overall arms control and non-proliferation acquisition. The US administration argues that it is pursuing a strategy of strengthening non-proliferation and building defenses against successful proliferation. At the same time it has been sending disturbing signals. Talks with North Korea on the North Korean missile programs have been temporarily put on hold, funding nuclear disarmament, nuclear security, and nuclear non-proliferation efforts in Russia has been reduced; and the draft for a biological weapons convention verification protocol under negotiation in Geneva has not received the new administration’s support. These decisions point to a wider problem: Striving for flexibility and fewer restrictions in a unilateral sense might make real those proliferation risks which are said to make the new administration’s shifts in strategy a necessity.

The Russian President, Vladimir Putin, has moved to present an alternative approach, breaking a taboo of Cold War arms control negotiations. He suggested to the visiting French President, Jacques Chirac, that the five established nuclear powers should negotiate a treaty setting an upper limit of 4.000 warheads on their combined nuclear arsenals.

Arguing with the Bush administration

The new administration’s planned changes have met with government opposition and serious concerns in the international arena.

Countries like Russia and China as well as allies have raised their opposition or serious concerns. The arguments presented reflect different tactics. One tactic attempts to raise questions, buy time, and
Disarmament critics are likely to fail. An effective strategy might consider attacking the underlying premises and assumptions of the debate about a new deterrence concept, such as the threat assessment and the assumptions about the logic of actors. Or it might present a counter-strategy of action, realistically promising success, e.g. by eliminating projected threats, such as the North Korean and Iranian missile threats by other, non-military means, and thus strengthen international arms control and non-proliferation regimes. Ideally, it would do both at the same time.

However, coping with the Bush administration’s approach will remain difficult. The reason for this is quite simple: Any discussion of deterrence and stability under the auspices of deterrence will come to discuss theological and dogmatic beliefs. At the end of day, neither side can really prove the validity and credibility of its arguments. Was deterrence effective in safeguarding the world against the Cold War becoming a hot one? All participants, if honest, while answering such questions, have to admit that there is no way they could present a final proof for their belief. Thus the debating ground is rendered ideologically unbridgeable. In a unilateralist approach. Thus the debating ground is rendered ideologically unbridgeable. In a unilateralist approach.

Achieving deep nuclear cuts, some de-alerting, a devaluation of nuclear weapons in the US-Russian relations and some confidence-building measures might silence those asking for the maintenance of the arms control acquis. Russia might agree as soon as the political prize offered is sufficient. Russia’s agreement might agree as soon as the political prize offered is sufficient. Russia’s agreement will put an end to the argument that Moscow should not be alienated. China’s opposition and the risk of regional arms races in Asia might seem either not important enough or too far away to be made a matter of principle. Thus, the Bush administration might well get more of what it wants. Not in every detail, but in its central principle – a new deterrence for a second nuclear age, which allows the US to play its strengths against other WMD powers weaknesses.

Missile defense critics from all camps will have to refine if not rethink their arguments. The Bush administration is not the Clinton administration. While the later worked bottom up, the former works top down. Thus there is no longer a sustainable way of prevailing this debate while concentrating opposition on single issues, such as details of a future missile defense system, the nuclear posture, or plans for the military use of space. What needs to be confronted is the concept itself, the new vision of deterrence, the logic of a ‘second nuclear age’.

Some Suggested Readings

The United States, Europe, and the Perspectives for Arms Control

Götz Neuneck

These days there is growing criticism from Europe concerning US foreign policy, in particular the Bush government’s behavior on arms control issues. Some Europeans make the charge that the US is losing interest in international norms and treaties. Examples are the Kyoto Protocol on global warming, the global land-mine ban, or the International Criminal Court (ICC). In the Middle East, the engagement of the Bush government is obviously not very successful and the important dialog with North Korea was partially interrupted. Additionally, there are diverging opinions on the issues of missile defense, the questions how to treat ‘states of concern’, and the development of the Common European Security and Defense Identity. In particular, there is much concern that the United States is following an new course of selfish unilateralism and becoming increasingly hegemonic.

The Bush-Administration’s anti-arms control course

After the first three months in office, it is not yet clear in which direction the Bush administration will move. Most of the security issues such as nuclear reductions, military spending, force transformations, and missile defense remain speculative. An open question remains whether the Bush Administration will decide on a unilateral or a multilateral approach. Until now, the Bush administration seems to prefer weapons to international arms control agreements. ‘Homeland defense’ and ‘global leadership’ seem to be more attractive than ‘arms control and cooperation’.

During the Presidential campaign 2000, the Republican Platform followed an anti-arms control course by stating that the CTBT (Comprehensive Test Ban Treaty) “is another anachronism of obsolescent strategic thinking. This treaty is not verifiable, not enforceable, and would not enable the United States to ensure the reliability of the U.S. nuclear deterrent.” Many appointees and top officials in the Bush-Administration have been opposing arms control for decades. The New York Daily News reported an unnamed Bush foreign policy adviser as having said: “The Clinton people got intoxicated with the idea of cooperation. Those days are over. It’s time for us to cooperate when we can but to put our strategic interests first. No more romance.”

There are many indications that the Bush people favor the unilateral approach. The following events and rhetoric are worrisome:

- The administration seems willing to overturn environmental regulations and does not accept the restrictions of the Kyoto protocol.
- The administration rejected going ahead with a protocol and the protocol negotiating process to the BWC (Biological Weapons Convention) that would have given states the right to obtain information about and inspect sites where biological weapons (BW) are suspected of being developed, produced, or used. To many observers it is contradictory that the administration warns of bioterrorism and the future BW threat on one side and refuses to take steps to reduce the threat by means of international cooperation and arms control measures on the other side.
- The President declared that Russia is no longer an enemy but that it “may be a threat.” Secretary of Defense Secretary Rumsfeld challenged Russian arms exports to Iran and infuriated the Russian government by saying: “Russia is an active proliferator; they are part of the problem,” without giving detailed evidence. President Bush also announced that he will withdraw from the ABM Treaty for the sake of the build-up of the planned missile shield. “I have made it clear that treaty hampers our ability to keep the peace and to develop defensive weapons necessary to defend America against the true threat of the 21st century,” Bush said. “We will withdraw from the ABM treaty on our timetable at a time convenient for America,” adding that he had no specific timeframe in mind.
- With respect to the assistance the US gives Russia in handling the safety and nonproliferation problems of its nuclear and chemical stockpile, the White House is considering to restructure or even to end two programs: the disposition of hundreds of tons of military plutonium, and a program to shrink Russian cities that were devoted to nuclear weapons production and development. The administration wants Russia to make a financial and political commitment that it will stop the sale of conventional weaponry and nuclear expertise to Iran and other ‘states of concern’.
- The key Bush officials consider China as a new threat to American policy in Asia. Secretary of State Colin Powell said at his confirmation hearing: “China is a competitor and a potential regional rival,” thus rejecting the characterization of China as a ‘strategic partner’ prevalent under the Clinton administration.
- By reevaluating the US nuclear force posture, President Bush seems to favor further cuts in nuclear arsenals. In his May 1 speech the President said that the US “can and will change the size and the character of our nuclear forces in a way that reflects the reality that the Cold War is over”. Unilateral force reductions are possible, but this will mean overcoming entrenched mindsets within bureaucracies. Reducing the stockpile to 2,500 warheads does not call for significant reductions in the number of delivery systems. It is also being considered to develop new low-yield nuclear weapons for use against hard and deeply buried targets such as command bunkers and WMD (Weapons of Mass Destruction) facilities.
- The Comprehensive Test Ban Treaty, which has not yet been ratified by the US and China, cannot enter into force and is under additional pressure from an influential group of people who want to pave the way of a nuclear revival. The development of mini-nukes could ruin efforts...
to stop the spread of WMD by diplomatic means and would undermine the pledge of the Non-Proliferation Treaty, whereby the five declared NWS (Nuclear Weapons States) promised not to attack non-nuclear states with nuclear weapons.

During his confirmation hearing, Rumsfeld also argued that the US needs more space capabilities: “We must develop the capabilities to defend against missiles, terrorism and newer threats against our space assets and information systems.” A Commission that he chaired believes that the vast array of space assets – communication, navigation, intelligence – is more and more vulnerable to “state and non-state actors hostile to the United States and its interests.” Although the United States is without a real rival among space-faring nations, it warns of a “Pearl Harbor in Space”. The aim of the Commission’s recommendations are clear: the U.S. military must invest more in establishing a space force and must be willing to weaponize space to protect the U.S. economy as well the economy of its allies and friends. The President should “have the option to deploy weapons in space to deter threats to, and if necessary, defend against attacks on U.S. interests.” The report also examines the barriers which could come from international arms restriction regimes: “There is no blanket prohibition in international law on placing or using weapons in space, applying force from space to earth, or conducting military operations in and through space.”

Every year, the United States blocks a resolution and serious discussions at the Conference on Disarmament in Geneva on a new treaty to prohibit weapons in space.

**Missile Defense**

The President and the three top security advisers – Rumsfeld, Powell, and Rice – agree in moving expeditiously toward deploying an NMD (National Missile Defense) system. Rumsfeld argued for expanding the more limited Clinton NMD approach to a “phased and layered deployment scheme that could be based on land-, sea- or space-borne systems.” Such an expanded missile defense system will certainly lead to more delays in deployment. The first step toward an NMD system, the construction of a radar site on Shemya island in Alaska, was postponed until next year. Rumsfeld and Powell agreed that the 1972 ABM Treaty should be altered or canceled because it is “no longer relevant” (Powell) or “ancient history” (Rumsfeld).

The ABM Treaty permits deployment of up to 100 interceptors, but it unequivocally imposes the obligation “not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense.” The Treaty also prohibits space-based or mobile systems which have the capability to intercept strategic missiles. Indeed, nuclear disarmament as undertaken in the START framework is inconceivable without ABM restrictions. In this concept, strategic weapons can only be reduced when all parties involved are certain that even a small number of nuclear warheads would suffice to effectively counteract a massive attack. As soon as one party protects itself against the retaliatory strike by means of a missile defense system, this stability is threatened. Fundamental nuclear arms control would be seriously impacted and might even break down.

In addition, US missile defense research also deals with Theater Missile Defense (TMD) intended to protect against tactical missiles. Some of these systems, however, are designed with capabilities which might in theory give them significant strategic capabilities.

On September 1, 2000, President Clinton announced that he would leave the decision to deploy the planned NMD system to his successor. He also said that “the technology of the system is promising, the system as a whole is not yet proven.” He also made clear that the technology was not yet ready, that a deployment would undermine U.S. security and that the U.S. is pursuing diplomatic efforts to reduce the threats from the so-called ‘states of concern’.

It is doubtful that building a missile shield can be justified by the so-called emerging missile states such as North Korea and Iran. In the view of most European countries, the threat of ballistic missiles is not increasing significantly. And even so, the threat by ‘rogue states’ cannot be completely eliminated by implementation of a missile defense.

A crucial question is also how effective a future NMD system would be. Intercepting high-speed warheads which travel at a speed of 5,000 m per second or more with a missile is an enormous technical challenge. So far, the recent test program experienced a number of delays and failures. Experts doubt that the NMD system can work at all. Technical analysis shows that the current technology cannot distinguish between enemy warheads and decoys. The key factor in determining the effectiveness of NMD will be the ability to overcome efforts to counter the system. The current system will be ineffective against the threat because of feasible countermeasures that confuse the ‘hit-to-kill’ interceptors. Countermeasures are designed to overwhelm or deceive a defense system and have been a fundamental problem for any ballistic missile defense from the beginning of the missile age. These countermeasures require technology much less sophisticated than is needed to build a long-range missile in the first place.

Over the past decade, the United States has spent more than US$ 100 billion in its attempt to create an effective protection shield against incoming ballistic missiles. Since 1983, 18 tests have been conducted, of which only four were reported to be successful. And even after the latest successful test there is good reason for considerable doubt as to whether the result is worth the effort: technologically, it is not feasible to achieve 100% protection against the nuclear threat, which furthermore is not necessarily a ballistic missile threat.

**NMD and the implications for European security**

If the US proceeds in developing its various NMD and TMD systems, this will have four dimensions with different implications for Europe:

1. On the global level, START II implementation is currently blocked by the Russian Duma’s insistence that its implementation must be coupled with the preservation of the ABM Treaty. Future progress in the Fissile Material Cutoff Treaty (FMCT) is dependent on Chinese cooperation, which in turn is blocked by the refusal of the United States, unilaterally, to agree to start negotiations on outer space. Abrogation of the ABM Treaty and NMD deployment could lead to a new arms race between the US, Russia and China, which could also affect India and Pakistan.

2. On the transatlantic level, a breakdown of the ABM Treaty could have seri-
ous repercussions for the NATO alliance. As noted by the annual IISS Strategic Survey, allied disagreements over the ABM Treaty are part of a wider phenomenon in which “the bridge of communication [between the EU and the US] seems to have broken down and, unless some way is found to reconstruct it, the loss of trust could have a profound impact on the alliance’s cohesion.”21

3. On the intra-European level, there exist ramifications of US unilateralism in withdrawing from the ABM Treaty and deploying NMD for both the nuclear arsenals of France and Britain and independent European defense efforts. An unraveling of nuclear weapons arms control could pressure Paris and London to increase their nuclear arsenals, while additional expenditures on missile defense could undermine efforts to develop a robust and autonomous European security policy.

4. On the regional level, missile threats emanate from such countries as Iran, Iraq, Libya, or Syria. While most Europeans do not yet see specific ballistic missile threats from these countries, it is also true that serious analysis on future threats and adequate responses is only just beginning in Europe. The Europeans need to develop joint positions on future missile threats, taking into account specific European factors (different notions of vulnerability from the US, constrained defense budgets, fewer global military commitments) that can produce positive policies for dealing with the proliferation of missiles and WMDs.

So far, a common threat analysis does not exist. To understand this, one should also stress some European characteristics which could explain some differences between the US and the European position.

1. Vulnerability is a normal condition for Europe, as it has been a continuous reality over the last fifty years. Especially during the Cold War, Germany was a designated nuclear battlefield.

2. The Europeans have shrinking defense budgets and have not yet found their proposed European Security and Defense Identity (ESDI).

3. They have fewer military responsibilities and commitments around the world than the Americans. These points together create a different conception of interests with respect to the assessment of future threats. Additionally, one should bear in mind that the geography, the dense traffic, and the multi-ethnic population in Europe could create many threat scenarios with WMDs.

It is readily acknowledged by most Europeans that they have limited leverage when it comes to influencing a US NMD decision. Apart from giving consent to the upgrading of US early warning radars in the UK and Greenland, the main point of leverage will be in pushing for the preservation of the ABM Treaty and the continued involvement of Russia in the global disarmament process.

If there were an official European position one could sum it up as follows: the Europeans would welcome an agreement on the subject between Russia and the US. Russia should be included in any future agreement, and future steps should be accompanied by further arms control and disarmament steps. The greatest fear is that Russia could withdraw in its own military fortress by leaving arms control treaties such as the CFE (Conventional Forces in Europe) or the INF (Intermediate-Range Nuclear Forces) Treaty.

In sum, among various concrete steps that could be taken are the following:

1. the sharing of information on missile-related activities and capabilities;
2. the creation of a global early warning system to monitor and share information on civilian and military missile launches;
3. making available satellite launch capabilities;
4. increased financial contributions to the control and destruction of Russian fissile material;
5. investing more in preventive diplomacy in troubled regions where the ballistic missile threat is the greatest, such as the Middle East; and
6. working to establish a new ballistic missile arms control regime.

**Nuclear disarmament in a stalemate**

A decade after the end of the Cold War the danger of a massive use of nuclear weapons by the United States and Russia against each other has now greatly diminished. As compared to the stockpiles of the Soviet Union (45,000 nuclear weapons in 1982) and the United States (33,000 nuclear weapons in 1967), some progress has been made in downsizing to the present arsenals. Each side still deploys some 6,000 strategic nuclear warheads, each of which is roughly ten times more destructive than the bomb that destroyed Hiroshima in 1945. Twenty of these warheads targeted on cities would kill 25 million Americans or Russians.23 Additionally, the US retains nuclear components to deploy another 5,000 warheads. These enormous destruction capabilities increase the risk of unauthorized or accidental use or theft of nuclear weapons and the fear of a rapid breakout from treaty restrictions.

And the additional dangers are “many and diverse.”24 The dangers of a regional nuclear war has increased especially in South Asia where a regional nuclear and missile arms race continues. Due to the fragmented Russian early warning system, the high alert status of the nuclear forces, and the risk of miscalculations, the danger of an unauthorized or accidental use of nuclear weapons has risen. It is believed that the dangers of proliferation are increasing due to the proliferation of relevant material and knowledge. The economic situation in Russia also raised the specter that nuclear warheads or material might be stolen.

In the field of arms control and international security much momentum was lost by the lacking will to further reduce the nuclear stockpile. The five nuclear weapon states failed to commit to any timetable for the elimination of nuclear weapons at the 1995 and 2000 NPT review conferences. The Clinton administration lost a Senate vote on the Comprehensive Test Ban Treaty (CTBT), and the US Senate failed to ratify it in October 1999. Some commentators say that the US Congress completely lost interest in further improving and developing existing and future arms control agreements. The entry-into-force of START II remains in doubt even after its ratification in April 2000 by the Russian Duma, because the implementation is coupled with the preservation of the ABM Treaty, which is not acceptable to the US Senate.

Concerning their capabilities, further “sins of omission” can be stated: 25

- The US and Russia failed to remove all strategic nuclear forces from short-reaction-time alert.
- Reserve strategic warheads, all tactical warheads, and stocks of bomb-usable materials remain outside formal controls and would remain so even under START II.
Both the US and Russia are retaining enough plutonium and highly enriched uranium (HEU) in military reserve to permit a rapid return to Cold War levels of nuclear armament. At least 100 tons of military plutonium and 1000 tons of highly enriched uranium (HEU) are surplus to the Russian and American weapon programs.

In this situation, the US moves toward a unilateral renunciation of the 1972 ABM Treaty imperiling the foundation of nuclear arms control to pursue an unworkable defense.

In the last decade, both nuclear superpowers, the US and Russia, failed to proceed with more drastic nuclear arms reduction, greater transparency in the nuclear sector and a far-reaching dismantlement process. John Holdren put it in a nutshell: “[The superpowers] failed, in short, to seize the opportunity to devalue the currency of nuclear weapons in international relations. They had the chance to devalue that currency, but didn’t do it.”

The challenge ahead can only be met through arms control and disarmament steps. Non-proliferation and arms control should be the first priority in reducing the threat, not ineffective defenses.

In the field of security policy, the gap between the Unites States and Europe looks greater than it was 10 years ago. At first one has to consider that both continents have different priorities: the US is focusing on its role as a global superpower and emphasizes military restructuring, missile defense, and the ‘revolution in military affairs’, whereas the Europeans are only just starting to create their own defense identity without directing many resources to this endeavor. European and Americans define burden-sharing and cooperation differently. While the Americans emphasize the geopolitical and the military dimensions in particular in their search for new adversaries, the Europeans concentrate on economics and the integration of their continent. The priorities of the European Union are these days shifting towards creating its own European rapid reaction force to deal with regional conflicts and humanitarian crises. One reason for this is without doubt Europe’s experience in the Balkan crises over the last decade. The Europeans were also frustrated by the widening military technological gap between the US and Europe, especially in the fields of air power, communication, reconnaissance, and equipment transportation. The ‘Defense Capability Initiative’ was created to close this gap between the US and the European NATO forces. Reception of this initiative in the USA was lukewarm although officially the key officials supported it.

As William Wallace in a recent issue of Foreign Affairs explained: unilateral approaches carry costs: “Even if they are successfully imposed on foreign states, they build up resistance to cooperation in other areas where U.S. interests are at stake.”

The unilateral approach, on the other hand, requires negotiations and compromise with partners who respect American leadership and whose contributions American policymakers respect.” One should not forget that many of the mentioned initiatives such as the test ban or the arms control idea were American inventions or were launched by the US. Hopefully, American society will remember that and will not take the wrong course toward a selfish and autocratic unilaterality.

6 February 14, 2001, interview on the NewsHour with Jim Lehrer, quoted from Isaacs, op.cit.
7 AFP, August 24, 2001.
14 The terminology changed from ‘rogue states’ to ‘states of concern’. The criterion for a ‘rogue state’ status shifted in the last years from internal to external behavior. The key criteria for the US usage of a „rogue state” are now related to traditional national security concerns: the pursuit of WMD programs, the use of terrorism as an instrument of state policy, and the perceived threat to Western interests in key regions. See Robert S. Litwak, Rogue States and U.S. Foreign Policy - Containment after the Cold War, Washington D.C., 2000, p. 7.
22 The problem with thousands of tactical nuclear weapons in Russia is still unsolved, and too many nuclear weapons are still deployed on the European continent.
23 The bombs which destroyed Hiroshima and Nagasaki had a yield of 15,000 to 20,000 ton TNT equivalent. See Richard Garwin, Perspectives of Nuclear Disarmament, Talk presented at the Spring meeting of the Deutsche Physikalische Gesellschaft, March 23, 2000, in Dresden.
25 John P. Holdren, op.cit.
26 John P. Holdren, op.cit.
27 The European Union, an entity with a total population of 376 million people, some two million soldiers, and a collective annual military budget of $148 million, was not able to settle the conflicts by itself, but instead had to rely on the military and diplomatic leadership of the US. See Ronald E. Powaski, An Army of its own, Bulletin of the Atomic Scientists, May/June 2001, p. 30-31.
28 William Wallace, Europe, the Necessary Partner, in: Foreign Affairs May/June 2001, p. 16-34.
European Missile Defence: New Emphasis, New Roles

Mark Bromley

Development of effective missile defence systems has been a goal of military planners since the V2 rocket was used against Britain in the closing stages of the Second World War. As the ongoing debate over the US-proposed National Missile Defence (NMD) system demonstrates, the pursuit of apparently defensive systems has the potential to negatively impact international stability. Any attempt to achieve security in isolation, and disrupt the fragile network of multilateral arms control agreements, has the potential to make the world more dangerous rather than less so. As the countries of Europe become increasingly interested in the concept of limited missile defence systems, it is important that they do not lose sight of this principle.

When former US President Bill Clinton announced on 1 September 2000 that the deployment of the proposed NMD system would be delayed, he made reference to the influence European allies had on the decision: "[NATO allies] have all made clear that they hope the United States will pursue strategic defence in a way that preserves, not abrogates, the Anti-Ballistic Missile (ABM) treaty. If we decide to proceed with NMD deployment, we must have their support."1

As when President Ronald Reagan proposed his grander Strategic Defence Initiative in the 1980s, Clinton’s proposed NMD system, aimed at protecting the continental United States from a so-called limited attack by enemy missiles, elicited strong criticism from Europe. [...] However, many in Europe agree there is a need to develop Theatre Missile Defence (TMD) systems.

TMD systems are designed to give protection to forward deployed troops and/or naval fleets against attack from short-, medium- and intermediate-range ballistic missiles.2 The strategic importance of developing such systems was highlighted during the Persian Gulf War when allied troops came under fire from Scud missiles. Speaking on this issue recently, UK Defence Secretary Geoff Hoon said: “We have always recognised that there is a potential threat to Britain’s deployed forces and we want to investigate and examine it to seek ways of protecting the deployed forces.”3

In fact, European government officials recently have been more publicly willing to discuss missile threats. This new public stance could be reflective of an increased willingness on the part of European governments to pursue more ambitious TMD systems.

For example, a recent report from the UK Ministry of Defence (MoD) stated: “At current rates of progress, it seems likely that, well before 2030, one or more of these [proliferating] states will have ballistic missiles capable of reaching the UK carrying chemical or biological payloads and, potentially, nuclear weapons.”4 Also, the German intelligence agency, Bundesnachrichtendienst, recently released a report alleging that Iraq has been systematically cheating international controls to build up an arsenal of chemical weapons and a missile system capable of hitting targets in Europe.5

TMD technology is more suited to tackling the kind of threats a European missile defence network would need to overcome. Whilst a US NMD system would be required to intercept large, long-range, ‘strategic’ missiles, Europe is more likely to face an attack by shorter range missiles since the nations of Europe are much closer to the so-called ‘states of concern’ cited by NMD advocates in the United States as those with potential threat missiles.

TMD – an increasing focus

TMD systems have been receiving funding on both sides of the Atlantic for some time. Examples of systems under development in the United States include the Navy Area Defence, the Navy Theatre Wide Defence, and the Army’s Patriot Advanced Capability-3 (PAC-3) and Theatre High Altitude Air Defence (THAAD). Navy Area and PAC-3 (Patriot Advanced Capability-3) are so-called ‘lower-tier’ TMD systems, designed to counter shorter-range ballistic missiles, such as Scuds, and are based on interceptors that destroy their targets at relatively low altitudes. Navy Theatre Wide and THAAD are ‘upper-tier’ TMD systems, designed to intercept medium- and intermediate-range missiles at high altitudes both within and outside the Earth’s atmosphere.

Most of the major countries in Europe, including France, Germany, Italy and the United Kingdom, currently are engaged in developing some kind of TMD capability, though the systems are generally of a more limited capability than those being researched by the Pentagon.

However, Europe’s development of TMD systems may have new political importance to the international debate about US NMD plans as the Bush team pursues its larger missile defence vision.

Pending an overarching review of defence systems this spring, the new administration has yet to set out its official missile defence deployment plan. It seems likely that the proposal will involve integration of some of the TMD systems under development as a first step towards a ‘layered’ missile defence that will attack offensive missiles in their ascent, during flight, and in their descent. In a recent interview, Paul Wolfowitz, US deputy secretary of defence, stated: “The best thing is to attack a missile several different ways so that at each point in its flight you are maximising the probability of success. Moreover, that way, if you have a problem with one system, another system may work better.”6

In particular, the US Navy argues that the sea-based TMD systems under service development might be modified to intercept strategic-range missiles shortly after take off, or in the so-called boost phase. This possible use of TMD systems as a US NMD component is significant for Europe, as it raises the potential for fu-
ture European involvement in the US strategic network. This obviously would have serious political ramifications.

If any European government were to develop an interest in using its nascent TMD technology to help the United States develop a NMD system, it would undoubtedly receive the support of the Bush administration. The new administration has made repeated references to expanding its proposed missile defence shield beyond US borders to protect ‘friends and allies’. At a recent press conference, Colin Powell, US Secretary of State, stated: “Our policy is to deploy effective missile defences that are capable of defending not only the United States, but also friends and allies and deployed forces overseas, and to do it based on the best available options at the earliest possible date.”

Also worth mentioning is Russia’s proposal for a European Ballistic Missile Defence (BMD) system presented to NATO Secretary-General Lord Robertson on 20 February 2001. Though almost universally dismissed as lacking in detail and an attempt to derail US NMD plans, the fact that Russia is willing to cooperate on some kind of Europe-wide defence against intermediate-range and tactical missiles is significant. It removes what would be a major barrier to the creation of such a system.

However, an important implication of Europe’s pursuit of TMD systems is the extent to which it undermines European ability to continue to argue effectively against US missile defence plans. Despite seemingly renewed European interest in theatre missile defence, most European governments remain wary, if not outright opposed, to the US concept of a strategic missile shield. In particular, European leaders continue to caution the United States against unilateral abrogation of the ABM Treaty, and against undermining the international web of arms control and non-proliferation regimes that have successfully kept a lid on nuclear proliferation and use for the past 50 years.

In fact, the Bush administration already has discovered the political utility of blurring the lines between TMD and NMD. When discussing missile defence systems, the Bush administration no longer makes any distinction between concepts for national and theatre defences. Donald Rumsfeld, US defence secretary, stated recently: “I have gotten to the point where I now am sufficiently into this subject where I’ve concluded that ‘national’ and ‘theatre’ are words that aren’t useful. At least for me they’re not, in how to think about it, for this reason: what’s ‘national’ depends on where you live, and what’s ‘theatre’ depends on where you live.”

If Washington is convincing in its assertion that all missile defences are one and the same, it could be hard for European governments that are actively pursuing TMD systems of their own to argue against the US ‘national’ missile defence plans.

Air Force Gen. Joseph Ralston, commander-in-chief of US European Command, inadvertently highlighted this problem recently. Ralston argued that NATO allies are no longer worried about a missile defence system, and are accepting the growing need to defend against cruise missiles, theatre ballistic missiles and strategic missile threats. He maintained that if the United States could come up with a plan to work with the Russians on the ABM Treaty issues, and avoid a unilateral withdrawal, European concerns about missile defences would disappear.

**Different concerns, same solution**

The missile defence programmes of Europe and the United States are motivated by vastly different strategic concerns. While the Bush administration is determined to push ahead with an ambitious ‘layered’ system, capable of protecting the US mainland from strategic missile attack, Europe is primarily concerned with protecting forward-deployed forces and naval fleets from cruise missile and short-range ballistic missile attack.

However, the Bush administration has worked to blur the distinction between these two goals, a move which could leave Europe unable to produce effective arguments against Washington’s plans – despite the potentially damaging effects on international strategic stability. In addition, the kind of technology under consideration by the Bush administration to achieve a multifaceted missile defence network could, at first, be of a similar nature to that currently under development in Europe. This initial similarity could pave the way for the pursuit of the ‘global’ missile defence that Bush’s advisors long have described as their eventual goal.

With the active encouragement of a resurgent European missile industry, missile defences are increasingly being seen as an acceptable means of improving security on both sides of the Atlantic. The long-term effects of this shift are hard to quantify, but if it bolsters the US drive for a layered NMD system, and diverts attention and resources away from attempting to eliminate the threat via arms control and effective multilateral agreements, they may well be negative.

Several key countries in Europe have committed serious political and financial resources to developing TMD systems. The commitment shown by these states reinforces the impression that missile defence is increasingly viewed by the Western allies as a viable and acceptable means of countering ballistic missile threats.

**United Kingdom**

The UK MoD (Ministry of Defence) is currently sponsoring a three-year Technology Readiness and Risk Assessment Programme by the Defence Evaluation and Research Agency and four British defence contractors, due to be completed this summer. The programme aims to monitor “developments in the risk posed by ballistic missiles and in the technology to counter them.”

The United Kingdom is working with Italy and France to develop the Principal Anti Air Missile System (PAAMS). In August 1999, the three countries signed a contract for £1.3 billion ($1.8 billion) to provide for the development of the system. PAAMS uses Aster missiles, being developed by Aerospatiale Matra Missiles – a subsidiary of the European Aerospace, Defence and Space Co. (EADS) – and is designed to provide ‘area defence, consort protection, and self defence’ against attack from aircraft and low-flying cruise missiles. More than the French and Italian versions, the UK variant of PAAMS is designed to defend a group of ships in convoy, thus will form the main battle system of the Royal Navy’s new Type-45 Frigate. The first of a projected 12 Type-45 Frigates is due to enter service in 2007. According to informed sources, the total cost of the programme will be £8 billion ($11.5 billion) while the cost of installing PAAMS in all 12 frigates is estimated at £2.8 billion ($4 billion).
The UK variant of PAAMS is primarily designed to protect against attack from aircraft and low-flying cruise missiles. There presently exists no official requirement for the system to be used against ballistic missiles. However, informed sources indicate that there is no reason why studies could not take place in the future to facilitate such an upgrade. The Sampson Multi-Function Radar, which is being included in only the UK variant of PAAMS, has been successfully tested against high speed targets of ballistic trajectory. In addition, while the first three frigates will use the French-made SYLVER vertical launch system in their PAAMS systems, the UK government retains the option of switching to Lockheed Martin’s Mk-41 for subsequent orders. The Mk-41 is the launch system for Raytheon Co.’s Standard Missile-2, the basis for the US Navy’s Theatre Wide concept. As it stands, the United Kingdom is committed only to acquiring a limited anti-missile system, but is keeping its options open.

France and Italy
In addition to their own variants of the PAAMS system, France and Italy are collaborating on at least two other anti-missile systems: the Surface-to-Air Anti-Missile system (SAAM) and the Sol-Air Multi-Function Radar (SAMFR). Like PAAMS, SAAM and SAMP/T are based on the Aster family of missiles, and are designed to defend against cruise missile and aircraft attack. However, SAMP/T has the capability to be more effective against ballistic missile attack.

SAAM is a sea-based system, and acts as a defence against cruise missile and aircraft attack. The French variant of SAAM is already in use on the Charles de Gaulle aircraft carrier, and the Italian version, which employs a different radar, is due to complete its testing in 2003.

SAMP/T is a land-based system, designed to be capable of intercepting cruise missiles. However, an upgraded version of SAMP/T, the SAMP/T Block 1, is currently being developed. If deployed, this upgrade would give the system the ability to intercept ballistic missiles with a range of up to 600 km. Italy and France have placed an order for the development of this capability and the initial service deployment is expected by 2006.

Italy also is collaborating with the United States and Germany on the Medium Extended Air Defence System (MEADS). France previously was involved in the project but withdrew in early 1995. Based on Lockheed Martin’s PAC-3 missile, MEADS will be a ground-based system, designed to target short-range ballistic and cruise missiles. In May, the three countries involved will probably undertake a jointly funded, £174 million ($250 million), three-year study, to better define the scope and capability of MEADS. The eventual system could cost as much as £1.7 billion ($2.5 billion) and is provisionally slated for deployment in 2012.

In addition, Italy, along with Germany and the Netherlands, has been participating in a series of consultations with the United States to establish collaborative approaches to the research, development and procurement of ship-based tactical ballistic missile defence systems. The fifth meeting took place in April 2001 in Ulm, Germany and brought together representatives from the governments, armed forces and industry of the United States, Germany, Italy and the Netherlands, as well as observers from Australia, Canada and Spain. It is unclear what concrete results have emerged from these consultations, but after the March 2000 meeting in the United States, Italy was reported to be interested in Raytheon’s Standard Missile-2.

Germany and the Netherlands
Reports last year indicated that Germany was considering pulling out of the MEADS programme over questions of cost, and access to sensitive US technology. It now appears that such doubts have been overcome and the German Parliament will likely give its approval in May 2001 to the country’s participation in the three-year scope and capability study.

In addition, the German and Dutch navies have just completed a three-year feasibility study exploring the possibility of adding a Maritime Tactical Ballistic Missile Defence capability to their new air defence and command frigates. The likely system will use Raytheon’s Standard Missile-2 missile but will have a European combat system and radar.

Along with the Greek military, the Germans and the Dutch already have acquired a number of Patriot batteries and are planning to buy PAC-3 enhancements. This acquisition will give both countries some measure of TMD lower-tier capability.

NATO initiatives
The most ambitious European anti-missile system currently under consideration is NATO’s prospective TMD system, for which the alliance is currently considering bids for study work. NATO labelled anti-missile systems as the “Number one new equipment priority” as far back as 1993. More recently, NATO’s new strategic concept from 1999 stated: “The alliance’s defence posture against the risks and potential threats of the proliferation of NBC weapons and their means of delivery must continue to be improved, including through work on missile defences.”

Reflecting this fact, NATO has set about developing its own missile defence capability. The deadline for applications for a pair of £9.4 million ($13.5 million) feasibility studies to design a future TMD system for NATO was 15 January 2001. The final selections will be made in June, after which the two winners will be given 18 months to design a system. Though the initial contracts are small, the project is expected to develop and expand, and the eventual system is likely to have both an upper and lower-tier capability. In reflection of the potential size of the project, all of the main US and European defence contractors have been involved in the early bidding, grouping themselves into four transatlantic consortia. If NATO does eventually develop a workable upper-tier TMD capability, the alliance will be providing itself with the ability to protect not just forward-deployed troops, but also border areas and even cities from medium-range ballistic missile attack.

Influence of European defence industry
One of the factors influencing Europe’s interest in TMD systems is an increasingly resurgent domestic missile industry. The European missile industry is now able to compete globally in a market niche in the past the reserve of the larger US firms, such as Raytheon and Lockheed Martin. In 2000, six European countries chose Matra BAE Dynamics’ Meteor air-
to-air missile over an upgraded version of Raytheon’s Advanced Medium-Range Air-to-Air Missile for equipping their new Eurofighter aircraft.\textsuperscript{25} A recent \textit{Wall Street Journal} article argued that UK Prime Minister Tony Blair’s May 2000 decision to favour the Meteor over the Raytheon missile signalled that the “ground rules had changed”: “Europe had gotten serious about building and buying the same military hardware. And politicians like Mr. Blair were no longer afraid to strain transatlantic defence ties in the process.”\textsuperscript{26}

The next few weeks will see the emergence of a powerful new, pan-European missile house. Provisionally called MBDA, the new missile group will combine the operations of Matra BAE Dynamics, EADS-Aerospatiale Matra Missiles and the missile activities of Alenia Marconi Systems. An informed source indicated that a final announcement on the formation of the group was expected by the end of April.

These same companies are also eager to win contracts to develop anti-missile systems, and the majority of the European anti-missile systems involve domestic contractors. PAAMS, SAMP/T and SAAM are all being developed and marketed by EUROSAM. Founded in 1989 and funded in equal part by the Italian and French governments, EUROSAM’s direct shareholders are EADS, Paris-based Thales, and Alenia Marconi Systems in Italy. Matra BAE Dynamics is involved in the PAAMS programme.\textsuperscript{27} The group’s aim is to “design, develop and manufacture the most modern air-defence systems in the world, in a range of versions optimised for naval, ground-launched or anti-tactical ballistic missile missions.”\textsuperscript{28} After sales to Italy, France and the United Kingdom, the group gained its first non-European customer when the Royal Saudi Arabian Navy chose EUROSAM to provide it with a naval air-defence system.

At present, European companies have had little success in winning more than minor contracts for the various missile defence programmes ongoing in the United States, but they are keen for a slice of what could be a very large pie. When asked recently if Matra BAE Dynamics expected to get any work from the planned US NMD system, François Desprairies, the company’s director of business development, strategy and planning, said, “we certainly would expect to be involved in it.” Matra BAE Dynamics Chairman Mike Rouse added that involving the company in the US NMD program “would help Washington sell the concept to Europe, while enabling us to sell some of our systems and capabilities into the program.”\textsuperscript{29}

The question of European companies wanting an equal share of the contracts on offer also can be seen as influencing decision making at the government level. German Chancellor Gerhard Schroeder recently softened his public objections to US missile defence plans, citing an unwillingness to lose our economically. On 27 February 2001, Schroeder was reported as saying: “[A] very important point for us is that we are not excluded from this technology and the knowledge of the technology.”\textsuperscript{30}

Conclusion

With the serious endeavours of several European states, and the Bush administration’s own strong efforts, missile defence programmes remain a top talking point among the allies. Of serious concern is the possibility that European countries will be unable to maintain a strong opposition to US NMD plans if they continue to invest heavily in TMD capabilities of their own. Also of concern is the possibility that Europe’s nascent TMD systems will be drawn into an overarching ‘global’ missile defence system being considered by the Bush administration. In the absence of indepth public debate, the possibility exists of a gradual slide towards increased European acceptance of missile defence systems as a legitimate means of resolving real or supposed security threats. This slide would undoubtedly be supported by an ambitious European defence industry and a US administration eager to fend off the opposition to its own NMD plans. The danger comes when this endeavour is pursued at the expense of multilateral arms control, the only true guarantor of international security.

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Missile Disarmament Instead of Missile Defense!

Appeal to the German Government

I request the German government to refuse any participation in a missile defense system and to persuade the US and European governments to abstain from any such system. Instead of provoking a new arms spiral on the Earth and in space by a costly arms program, we demand diplomatic initiatives that lead to the abolition of ballistic missiles and nuclear weapons.

Missile defense provokes arms spiral

The US administration plans a comprehensive arms program to protect the US and its allies as well as its troops abroad against ballistic missiles. A technically doubtful and costly missile defense system, however, will not diminish the threats by weapons of mass destruction and missiles but increase the risk of nuclear deterrence. To complement one’s own offensive potential by a defensive shield provokes the fear of threat and military countermeasures in other states. Building up offensive and defensive missile arsenals and expanding the arms spiral into space endangers the international arms control, disarmament, and non-proliferation system.

No German and European participation

Therefore, the German government should not take part in the new weapon plans and should urge its allies to abstain from missile defense. A threat to peace by missile defense must not be dismissed by pointing to economical or technological interests. Nuclear missiles and missile defense systems are Cold War instruments and not useful for solving the urgent problems of mankind and for developing useful technologies. European participation in missile defense technology means co-responsibility for the damage done to international security and stability.

Priority for disarmament and non-proliferation

We have but one chance to get rid of the threat caused by weapons of mass destruction and ballistic missiles – among them still more than 20,000 US and Russian nuclear weapons: to strengthen international cooperation in disarmament and non-proliferation and to give priority to diplomacy and non-military conflict resolution. Rather than initiate new arms programs by promoting exaggerated enemy concepts, the German government should promote the controlled abolition of ballistic missiles and nuclear weapons and in order to globally remove any perceived need for missile defense.

"Darmstadt/Kassel, March 24, 2001"

We clearly say No to the US plans for a National Missile Defense!

Appeal by European Parliamentarians

We call on the governments of European countries to make full use of their political and diplomatic instruments vis-à-vis Washington to stop the establishment of a US National Missile Defence System before the strategy pursued by the future American administration drags the world into a new round of the arms race.

Do your all to make sure that one-sided thoughts in favour of own invincibility yields to thinking in categories of joint security for all countries and peoples.

Live up to your responsibility and see to it that an international dialogue on disarmament and effective agreements on the reduction of weaponry and conflict potential get under way.

No matter how the election spectacle ends in the US a continuation of plans for building a national missile defense system (NMD) on the part of the US seems most likely from today’s perspective. Apart from the strategic interest of the US for absolute predominance in the world many reasons coincide here. Already during research and testing the US spent considerable amounts of money which will hardly make it abandon the programme now. And important economic cycles in the US also demand the implementation of the plans.

The dimensions of some of the disastrous effects these renewed US Star Wars plans will have on world peace are already foreseeable today. It is not only that the complete arms control mechanism of the past few decades will be made to collapse, the ABM Treaty as the system of strategic stability will also be undermined. Military experts have pointed out that NMD would trigger a new arms race worldwide, the efforts of non-proliferation would be thwarted and more instability result from it.

The alleged danger the US sees coming from what it calls problem or villain countries seems rather far-fetched against the background of its existing military supremacy and deterrence capacity vis-à-vis those countries and lacks any credible realistic analysis of the threat. Irrespective of how the differing internal conditions in such countries are viewed: a missile attack by Iran, Iraq or North Korea, if at all they possess the weaponry, would be tantamount to national suicide and serves the US and possible circles of supporters in some NATO countries as a pretext alone.

It is close at hand that the US missile defence plans are less directed against what they main without consequences and foreshadow the danger of an own European System and a conflict with the US. Consequently, there could be the danger of confrontation between the then increasingly militarised EU and Russia.

This beginning of a new spiralling arms race will result in more crisis potentials and armed conflicts and deprive humankind of considerable resources that would otherwise be urgently needed for solving the immense global problems in the interest of social and ecological sustainability.

"By March 16, this appeal had been signed by 370 parliamentarians from the European Parliament and from the following 18 countries: Belarus, Cyprus, Czechian Republic, Denmark, Finland, France, Germany, Greece, Israel, Italy, Luxembourg, Netherlands, Norway, Portugal, Russia, Spain, Sweden, and Switzerland."
Abolition 2000 Report Card for the Year 2000
Annual Progress toward a Nuclear-Free World, United Nations Day, October 24, 2000

Janet Bloomfield, Pamela S. Meidell

“We came because of our nightmares… We stayed because of our dream.”
— the women of Greenham Common

Introduction
For the last four years, we have issued an Abolition 2000 report card in October, assessing progress toward a nuclear weapons free world. Five years after the Abolition Statement was released at the United Nations, we pause again to take stock of the state of the Nuclear World, and of efforts to abolish nuclear weapons. Looking at this year’s events in the context of the Abolition 2000 Statement offers a simple way to make such an evaluation. This Report Card offers a brief assessment of progress in the past year in the implementation of the 11 points of the Abolition Statement, and compliance with the letter and spirit of the Moorea Declaration. We offer it on United Nations Day, October 24, to recall the initial promise of the UN Charter: “to save succeeding generations from the scourge of war.” We keep in mind our future descendants, knowing that the elimination of nuclear weapons will go far in fulfilling our promise to them.

1. Immediately initiate and conclude by the year 2000 negotiations on a nuclear weapons abolition convention that requires the phased elimination of all nuclear weapons within a timebound framework, with provisions for effective verification and enforcement.

Report: The most significant event in relation to this goal in the last year was the Review Conference of the Nuclear Non-Proliferation Treaty (NPT). From April 24 to May 19, representatives of 187 countries and at least as many representatives of civil society organizations from around the world gathered at the United Nations in New York to review the Nuclear Non-Proliferation Treaty (NPT). By May 19, the five senior nuclear weapons countries (China, France, Russia, United Kingdom, United States) committed to an “unequivocal undertaking “ to accomplish the total elimination of their nuclear arsenals,” thus clearly accepting their responsibility under Article VI. Although they did not set a deadline for this worthy goal, they did agree to diminish the role of nuclear weapons in world security. The conference also called upon India, Pakistan, Israel and Cuba to join the treaty, thus making it “universal.” The increasing concerns of non-nuclear weapons states that the nuclear weapons states are not fulfilling their disarmament agreements led to a much stronger effort and a unified call for action. The US remains the biggest “state of concern:” Department of Energy documents made public at the meeting revealed the US intention to keep its nuclear weapons “forever.” 36,000 nuclear weapons and the doctrine of deterrence are still with us. But the world is inching closer to being free of nuclear weapons, thanks to the persistent efforts of citizen groups and courageous non-nuclear weapon states, such as the New Agenda Coalition (Aotearoa/New Zealand, Ireland, Egypt, Mexico, Sweden, Brazil, South Africa.)

The final document of the NPT, if implemented with a sense of urgency, would transform the current situation. But without any deadlines, or at least serious political will behind its goals, it is in danger of going the way of so many documents agreed at the UN that remain as aspirations never achieved. There is still much to be done. The choices that will be made in the next few years will be crucial.

Grade: 3 out of 10.

2. Immediately make an unconditional pledge not to use or threaten to use nuclear weapons.

Report: It is hard to reconcile the Final Document of the NPT Review Conference with the continuation of first use policies. The contradiction between the NPT Final Document and NATO policy is an opportunity to increase pressure on the alliance as it reviews its nuclear policy.

NATO is due to receive a report in December 2000 that will consider “options for confidence and security- building measures, verification, non-proliferation and arms control and disarmament.” (NATO Communiqué 24 April 1999). The final document of the NPT commits the nuclear weapons states to “diminish the role of nuclear weapons in security policies.” It is hard to see how this commitment can be reconciled with existing policy in NATO nuclear states, as well as current Russian policy. China still remains the only state with a public policy in place of no first use, while India appears to have adopted it as part of its nuclear posture.

Grade: 1 out of 10.

3. Rapidly complete a truly Comprehensive Test Ban Treaty (CTBT) with a zero threshold and with the stated purpose of precluding nuclear weapons development by all states.

Report: The fallout from the failure of the US Senate to ratify the CTBT in 1999 continues. Newly elected President Putin of Russia seized the opportunity of a more sympathetic Duma to get the CTBT ratified by his country in April, thus putting political pressure on the US as the NPT Review Conference opened. But there is little sign of progress in this year of a US Presidential election. Brajesh Mishra, National Security Advisor of India, announced on September 2 that his country in April, thus putting political pressure on the US as the NPT Review Conference opened. But there is little sign of progress in this year of a US Presidential election. Brajesh Mishra, National Security Advisor of India, announced on September 2 that his country had no intention of signing a global treaty banning atomic testing in the near future. Alongside India, Pakistan and North Korea, the US has become the major obstacle to the entry into force of the Treaty. (See also number 7.)

Grade: 0 out of 10.

4. Cease to produce and deploy new and additional nuclear weapons systems, and commence to withdraw and disable deployed nuclear weapons systems.

Report: The world survived unscathed as computers rolled over to the date 01/01/2000. Whether this quiet passage
over the threshold occurred through luck or good judgement it is difficult to know. The joint arrangements between Russia and the US may have helped, although in the days following the New Year celebrations stories emerged of a number of incidents that could have led to much greater problems than actually happened. Sadly, the Center for Y2K Strategic Stability, a ‘safety catch’ on US and Russian nuclear arsenals, was closed soon after the “rollover.” The Center, where Americans and Russians sat side by side on the eve of the millennium, monitored both nations’ arsenals, which even now are kept ready to fire on a “hair trigger.”

Earlier this year it was revealed that the US strategic war plan target list has actually been growing instead of contracting since the last strategic arms reduction treaty, START II, was signed in 1993. The list has grown by 20 percent over the last five years alone, according to top military and former administration officials. The vast bulk of the targets are in Russia. Three other former republics of the Soviet Union – Belarus, Ukraine and Kazakhstan – were dropped from the strategic plan in 1997, yet the list of sites the Pentagon says the US must be ready to destroy has grown from 2,500 in 1995 to 3,000 now. In the United States, modifications or upgrades – including in some instances enhanced military capabilities – are planned for every weapon type in the arsenal. While the United States continues to outspend all the other nuclear weapons states in developing new infrastructure for nuclear weapons development, the others have not been idle. In particular, the United Kingdom is actively colluding with the US and France to maintain and develop their respective nuclear arsenals through an extensive cooperative effort on nuclear weapons research and development. When we consider this and the fact that no nuclear weapons systems have been withdrawn from service this year, the situation looks bleak indeed.

The dominating debate of the year in relation to new weapons systems developed around US plans to deploy a National Missile Defense (NMD) system. This “Son of Star Wars” is designed to shoot down incoming nuclear missiles. Supposed threats from “rogue states,” (retermed by the US State Department this summer as “states of concern”), were used to justify deploying this system. Techno-economic and political criticism of NMD has grown over the year. Russia and China have made clear their objections and the dangers of unleashing a new nuclear arms race. European criticism has been more muted, although President Chirac of France and Chancellor Schröder of Germany made public a trenchant criticism of it in Berlin in June. To many people’s surprise President Clinton announced on September 1 that he would leave to his successor the decision on whether to deploy a National Missile Defense system. In a speech at Georgetown University, Clinton told his audience that “the system as a whole is not yet proven.” But the issue of missile defense has not gone away. In the same speech, Clinton mandated a ‘robust’ program of continued development and testing, including 16 more tests at US $100 million each.

Grade: 0 out of 10.

5. Prohibit the military and commercial production and reprocessing of all weapons-usable radioactive materials.

Report: The nuclear industry’s troubles continued to pile as high as the mountains of nuclear waste it has produced in the last twelve months. Scandals over falsification of records have dogged British Nuclear Fuels relations with its customers in Japan and Germany. At the OSPAR (Oslo-Paris) talks in Europe in June, Norway and Ireland made clear their determination to stop all discharges into the sea from both Sellafield, England and La Hague, France. But true to form, the nuclear industry is still trying to promote itself. The European Community approved a loan program costing up to US $1 billion on September 6 to help fund two new nuclear reactors at Khmelintsy and Rivne to replace the unsafe Chernobyl plant when it closes at the end of the year. The closure of the Chernobyl plant, 14 years after the world’s worst environmental disaster, will be hollow indeed if this plan goes ahead.

The Fissile Material Cut Off talks at the Conference in Disarmament (CD) in Geneva are stuck in part because the Chinese wish to link progress on this issue with the negotiation of an agreement on the weaponization of space. They feel that if the NMD system is introduced it will mean that they will need to produce more nuclear warheads (and thus more fissile material) to maintain their “deterrent.” Arguments about whether or not existing stocks of nuclear material should be included with the prohibition of new production have further prevented progress. Once again the CD was unable to agree on a program of work for 2000.

Grade: 1 out of 10.

6. Subject all weapons-usable radioactive materials and nuclear facilities in all states to international accounting, monitoring, and safeguards, and establish a public international registry of all weapons-usable radioactive materials.

Report: In point 10 of the 13 practical steps agreed in the Final Document of the NPT Review Conference this May, nuclear weapons states agreed to place under international verification all fissile material no longer required for military purposes. However we still do not know the details of these stocks worldwide. All nuclear weapons states need to follow the 1998 initiative of the UK when it announced the details of its stocks of weapons-usable radioactive materials.

Grade: 0 out of 10.

7. Prohibit nuclear weapons research, design, development, and testing through laboratory experiments including but not limited to non-nuclear hydrodynamic explosions and computer simulations, subject all nuclear weapons laboratories to international monitoring, and close all nuclear test sites.

Report: The US “subcritical” nuclear test program grinds on with little sign of abatement. In the last twelve months, five sub-critical tests have been conducted deep underground at the Nevada Test Site. It is believed that subcritical tests also are being conducted in steel tanks, above ground, at the Los Alamos National Laboratory in New Mexico. Los Alamos Lab Director, John Browne, recently admitted that unannounced subcritical tests would be impossible to detect. On the island of Novaya Zemlya, Russia carried out three subcritical tests in August and September. It is believed that France also is conducting subcritical tests at one of its nuclear weapons laboratories.

Over the past year, the National Ignition Facility (NIF) at Lawrence Livermore Laboratory, was plagued by huge cost overruns, allegations of gross mismanagement and technical problems, thus raising the hopes of NIF opponents that the project could be halted. Unfortunately, howev-
er, a campaign narrowly focused on budgetary and technical concerns, which for the most part avoided dealing with the NIF’s central purpose, backfired badly, and the Congress ultimately responded by actually increasing funding for the project. If the NIF – and indeed the entire Stockpile Stewardship program – is to be stopped, it will have to be challenged directly on the grounds that it is anti-disarmament and proliferation provocative, and is fundamentally incompatible with global security and the nuclear disarmament obligations undertaken in the NPT as reinforced in this year’s Review Conference Final Document. (See also number 3)  
Grade: 0 out of 10.

8. Create additional nuclear weapons free zones (NWFZs) such as those established by the treaties of Tlatelolco and Rarotonga.

Report: “At a time when over 30,000 nuclear weapons remain in the world, NWFZs offer one of the few activities open to non-nuclear-weapon states, not just to quarantine themselves from the nuclear contagion, but to pool their efforts to resist it.” Thus spoke Jayantha Dhanapala, the UN Under-Secretary-General of the Department for Disarmament Affairs in September at an international conference in Sweden on “NWFZs: Crucial Steps towards a Nuclear-Free World.” Over 50 scholars, activists, diplomats from six continents called for establishing such zones as a transitional step on the way to nuclear abolition. Meanwhile, the Green Party in Aotearoa/New Zealand has launched an initiative to extend its country’s historic nuclear free legislation to include all waters in its 200-mile Exclusive Economic Zone. If taken up by other countries in the Pacific, it would complicate the ability of nuclear powered and armed ships to navigate its waters. Efforts are also underway to link the existing NWFZs, and add to them, to create a true nuclear weapon free zone in the Southern Hemisphere. In the US, Las Vegas declared itself a nuclear free zone, confirming its citizens’ commitment not to become the route to the nation’s nuclear waste dump. Local groups see this declaration as the first step toward the creation of the Nuclear Free Great Basin (of North America).

Grade: 1 out of 10.

9. Recognize and declare the illegality of threat or use of nuclear weapons, publicly and before the World Court.

Report: Citizens around the globe continued to use the historic 1996 opinion of the International Court of Justice to push for nuclear abolition and the dismantling of the nuclear infrastructure. Groups have been especially emboldened by the breakthrough case in Scotland last year, where three anti-nuclear activists were acquitted after having damaged the research infrastructure for Trident submarines at the UK base in Faslane, Scotland. The judgement of Sheriff Gimblett in the case is currently under review in the Scottish High Court. In the US, five nuns who conducted a plowshares action against the US Space Command in Colorado, faced up to eight years in prison if convicted of a felony. In a surprising turn of events, their case was dismissed before they could even present a defense.

Grade: 6 out of 10.

10. Establish an international energy agency to promote and support the development of sustainable and environmentally safe energy sources.

Report: This summer the North Pole became clear of ice for the first time in over 50 million years, a sobering fact that underlines the need for sustainable energy. Nuclear power cannot supply the answer despite attempts by some governments and the industry to convince the public that it can. Global warming is in itself threatening to many nuclear installations. In February, British Government scientists and experts in the nuclear industry warned that many areas predicted to be underwater by 2025 coincide with key nuclear installations. This problem is not just confined to Britain. On December 27, while Hurricane Lothar was sweeping France, the nuclear power plant on the Gironde River, Le Blayais, was flooded. Unfortunately the doors opened towards the inside, and so they could not be shut against the outside to let the water out. Nothing terrible happened, but it took some days to evacuate the water. Who knows what may happen in the future as extreme weather events in low lying areas increase?

Fortunately the case for solar, wind and wave energy gets stronger by the month. Companies and governments are daily moving in the direction of renewables. Texaco has invested US $67 million in Energy Conversion Inc. (ECD). BP Amoco has invested US $100 million in the American green-electricity company, Green Mountain Power, and completed its 100th service-station solar panel installation. The British government’s budget this summer included a tax cut of 12.5% (from 17.5% to 5%) on the installation of solar cell systems. The Japanese will spend US $266 million on its ongoing program for the Promotion of Photo Voltaic (PV) Systems, which aims to install 70,000 solar PV roofs in Japan by 2004. Japanese solar companies have scaled up their manufacturing significantly in response to the program.

Grade: 2 out of 10.

11. Create mechanisms to ensure the participation of citizens and NGOs in planning and monitoring the process of nuclear weapons abolition.

Report: This year the Abolition 2000 network has grown to over 2040 organizations and municipalities in over 95 countries. At the NPT Review Conference, citizen groups worked in partnership with the New Agenda Coalition delegations (Brazil, Egypt, Ireland, Mexico, Aotearoa/New Zealand, South Africa, and Sweden) to promote the abolitionist agenda, but were still excluded from many of the sessions. The number of Citizen Weapons Inspection teams attempting to implement the 1996 ICJ opinion at nuclear facilities around the world continues to grow. In August, Pax Christi led an inspection of Yorktown Naval Weapons Station in Virginia. When inspectors were not admitted, a blockade shut down the base for an hour. The possibilities of what concerted action by citizens can achieve were dramatically shown on April 8 at Greenham Common in Britain, when the fence was finally removed at the former US nuclear Cruise Missile base there. In the 1980s Greenham Common was the base for US Cruise Missiles, deployed in Europe as part of NATO’s strategy for fighting a “limited nuclear war.” Women from all over Britain and farther afield camped outside in non-violent resistance. On some occasions over 30,000 women gathered to “Embrace the Base” and envision a world free of nuclear weapons. The last Cruise Missiles left in 1991 as part of the INF (intermediate-range nuclear forces) Treaty of 1987. Since then local people of all political persuasions have
worked to see the Common restored. On April 8, 2000 the dream became reality when the base was finally opened with an invitation to take down the nine-mile fence surrounding it. Greenham Common is once again a place for wildlife, the free grazing of cattle, picnics and play. Plans are going forward to commemorate the Women’s Peace Camps with a stone circle and garden outside the Main Gate.

Grade: 5 out of 10

From the Moorea Declaration

“The anger and tears of colonized peoples arise from the fact that there was no consultation, no consent, no involvement in the decision when their lands, air and waters were taken for the nuclear build-up, from the very start of the nuclear era.... Colonized and indigenous peoples have, in the large part, borne the brunt of this nuclear devastation.... We reaffirm... that indigenous and colonized peoples must be central... in decisions relating to the nuclear weapons cycle - and especially in the abolition of nuclear weapons in all aspects. The inalienable right to self-determination, sovereignty and independence is crucial in allowing all peoples of the world to join in the common struggle to rid the planet forever of nuclear weapons.”

Report: For those familiar with the exploitation of colonized and indigenous people by the military powers of the world, it will come as no surprise that the main testing grounds for the US planned National Missile Defense system are on the lands of the native American Chumash people at Vandenberg Air Force base in California, and in the Marshall Islands at Kwajelein atoll in the Pacific. If NMD is ever deployed, the system will include bases in Alaska and Greenland, on indigenous lands. Representatives of the world’s 152,000 Inuit people condemned US plans for deployment of the NMD system when they met at the Inuit Circumpolar Conference in Nuuk, Greenland, on August 6, 2000. Inuit peoples live in Greenland, Canada, Alaska and Russia, and their homelands will host new military infrastructure in several places across the Arctic under NMD plans.

In Australia, aboriginal people continue to resist the uranium mines at Jabiru in Kakadu National Park, a UNESCO World Heritage Site. Western Shoshone people and their supporters have issued a call to create a Nuclear Free Great Basin in North America. Their call states in part: “The Great Basin bio-region is a beautiful, diverse and fragile area stretching through five states. Home to strong indigenous people and cultures, high mountainous alpine lakes and forests, as well as many endangered and threatened plants and wildlife. Sadly, this land has experienced the deadly effects of nuclear weapons testing as well as the disposal of radioactive and toxic waste in leaking dumps. Now is the time to create a Nuclear Free Great Basin.” Western Shoshone land is home to the US nuclear test site and the proposed high level nuclear waste dump at Yucca Mountain.

Grade: 5 out of 10

Total grade on progress toward nuclear abolition: 20 out of 120 points.

(for comparison, the 1996 report card scored 31/110, the 1997 card: 7/120, the 1998 card: 16/120, the 1999 card: 12/120. (The discrepancy in total points is due to the inclusion since 1997 of the Moorea Declaration.) The five-year review on progress toward nuclear abolition, Must Try Harder, produced for the NPT Review Conference in 2000, scored 29/120 points.)

Conclusions

The dangers of continuing reliance on destructive weapons systems for our “security” was brought into sharp relief when 118 Russian submariners were killed in August as the pride of their navy – the Kursk – was wrecked in the Barents Sea. The Cold War mentality of secrecy combined with national pride and the hangover of the old Soviet culture combined to create great anger in Russia, and shock around the world. The Kursk tragedy was an awful reminder of the human cost of militarism. The deaths serve as a warning to us all that we cannot ignore the perils of our nuclear world and the new dangers developing. If President Clinton had decided to go ahead with NMD, he would have opened the way to the destruction of the Anti-Ballistic Missile Treaty, the withdrawal of Russia from further nuclear disarmament and an arms race with the Chinese. These possibilities still exist if a new President decides to give NMD the go-ahead, and should activate increased opposition at both the citizen and governmental levels.

We still need to heed Albert Einstein’s prophetic reminder of April 1947: “For there is no secret and there is no defense, there is no possibility of control except through the aroused understanding and insistence of the peoples of the world.” Although Abolition 2000 has been insisting on nuclear abolition for five years, our goal of concluding negotiations on a nuclear weapons convention by the end of this year appears remote. The goal is worthy and achievable. But we need the support and clamoring of the world’s citizens.

As Helen Clark, Prime Minister of Aotearoa/New Zealand said in a recent speech: “Public opinion worldwide must be mobilized again as it was in the 1980s. Non-governmental organizations must play a vital role, working alongside committed governments. … The world must not retreat to the days when the doctrine of nuclear armament and deterrence seemed unchanged. Perhaps our greatest challenge is complacency. We must take the opportunities that are available in this new century of globalization to prevent a renewed nuclear arms race and to work for disarmament. We all have a stake in the security of the 21st century, and we must all work together to eliminate the dangers posed by weapons of mass destruction as we strive to free our world from the fear of the catastrophe of war.”

This edition of the Abolition 2000 Report Card is dedicated to Mordechai Vanunu. Its production was made possible with financial support from the EarthWays Foundation and the Lifebridge Foundation. Copyright 2000 The Atomic Mirror. Any or all parts of this report may be freely copied and distributed, with proper acknowledgement of the source. As a courtesy, please send copies containing any reprinted material to:

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Defense, Deterrence, or Disarmament?

Abolition 2000 Global Council Declaration

The Abolition 2000 Global Council held an open meeting at Saffron Walden, England, 7 - 8 May this year. It was attended by 29 participants from 10 countries: UK, USA, Sweden, Romania, Egypt, Russia, Japan, France, Australia, Belgium. At this meeting, the following Declaration was adopted:

The Abolition 2000 Global Council, meeting in Saffron Walden England, with participants from Australia, Belgium, Egypt, France, Japan, Romania, Russia, Sweden, the UK, and the USA, reaffirms the Abolition 2000 Statement, which calls for a world free of the nuclear threat, and the Moorea Declaration, which acknowledges the abuses of colonialism and the suffering of indigenous peoples caused by the production and testing of nuclear weapons. We remember the hibakusha – the atomic bomb survivors – and call on the nations of the world to heed their urgent plea: “Before the last of us leaves this world, nuclear weapons must be abolished forever.”

We recognise that Abolition 2000 now faces a new world context because of the continuing modernisation of nuclear weapons, the US drive to weaponise and nuclearise space, and the increasing burden on the world’s resources that this immoral and illegal quest for global domination creates. The western nuclear weapons states and their allies believe they can put a ‘lid’ on the rising tide of discontent at the economic inequity and lack of social justice among the vast majority of the earth’s people in order to maintain their access to world resources and their unsustainable levels of consumption. We assert that this dangerous and destabilising paradigm cannot endure.

We call instead for a new security framework that will serve all humanity, based on respect for international law and Treaties, conflict prevention and co-operation through a reformed United Nations. We call for immediate negotiations to abolish nuclear weapons, ban all missiles, and keep space for peace. We envisage a world that is free of nuclear weapons, free of the resultant environmental contamination, and free of social and economic injustice. We affirm our belief that this new framework is more than practical and ethical. It is imperative for our planet’s future.


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Abolition of Nuclear Weapons

Conclusions of Nuclear Weapons Working Group at the INES 2000 Conference

Initial Statement
We believe that no state has the right or special privilege to own weapons of mass destruction.

Our Goal
To achieve rapid and complete abolition of nuclear weapons and for immediate steps to be taken in this regard.

We remain dissatisfied with the progress of Nuclear Weapons States (NWS) towards dismantling their nuclear weapons and are deeply concerned that this may lead to further proliferation.

The greatest obstacle to progress in obtaining nuclear disarmament is the current plan of the United States to develop NMD/TMD systems which will stimulate a new nuclear arms race, missile proliferation and the militarisation of space.

Further obstacles include the continued development and modernising of nuclear weapons systems; the failure of some states to ratify the CTBT; continued adherence to deterrence strategy by NWS and their allies (e.g.NATO); and counter proliferation strategies.

Military intervention in conflicts outside the UN framework is a stimulation to proliferation.

The nuclearisation of India, Pakistan and Israel further raises the threat of the use of nuclear weapons in regional conflicts and of nuclear proliferation.

Positive Action that could be taken
1. National Missile Defense/Space
2. Nuclear Weapons States

NATO should not be deployed.

The ABM Treaty should be preserved, strengthened and internationalised.

The weaponisation of space should be prevented by International Law.

2. Nuclear Weapon States

NATO should abandon all strategies involving nuclear weapons.

Nuclear weapons should be withdrawn from Non Nuclear Weapons States (NNWS) and from areas of common heritage such as the oceans.

All NWS should provide legally binding security assurances of no use or threat of use of nuclear weapons against NNWS and give a commitment of No First Use of nuclear weapons by themselves.

Concrete and immediate steps must be taken by NWS to implement their obligations under International Law and to reduce nuclear threats. Steps to be taken should include de-alerting, an agreement on a Fissile Materials Cut-off Treaty, No First Use, the ratification of CTBT, etc.

Negotiations on START III should be accelerated.

3. Nuclear Weapons Free Zones (NWFZ)

Existing NFWZ should be strengthened and new ones created.

4. Nuclear Weapons Convention (NWC)

Negotiations on a NWC, including Comprehensive Verification and Security Systems, should be entered into and speedily completed.

5. Public awareness

There should be greater public education on these issues and greater educational work by scientists and engineers.

The rights and obligations of citizens should be strengthened (whistle blowing, societal verification, etc.)

Scientific Experts for Complete Nuclear Disarmament

Martin B. Kalinowski

Non-governmental organisations' achievements to ban the atomic bomb and the role of scientists and engineers

Since the first nuclear bombs exploded in 1945 scientists and engineers got involved in activities with the goal to free the world of the atomic bomb. Especially physicists felt their responsibility to ban this weapon of mass destruction that was made possible due to the results of nuclear physics. Non-governmental organisations (NGOs) were able to influence the politics of nuclear weapon states which are still extremely resistant against any concrete measures towards the global elimination of nuclear weapons. Over several decades the Pugwash Conferences for Science and World Affairs played a major role, and Pugwash was honoured together with its co-founder Prof. Joseph Rotblat with the Nobel Peace Prize in 1995. Some more recent NGO achievements will be described here with an emphasis on the role of scientists and engineers.

1. The World Court Project was started by IPPNW (International Physicians for the Prevention of Nuclear War) and IALANA (International Association of Physicians Against Nuclear Arms) and IPB (International Peace Bureau) in May 1992 in Geneva. Four years later, this project reached its goal. On 8 July 1996, the International Court of Justice in The Hague announced its Advisory Opinion on the “Legality of the threat or use of nuclear weapons”. Accordingly, nuclear weapons need to be regarded as generally illegal. Under the current international and humanitarian law, all states have the obligation to negotiate in good faith and bring to an early conclusion a treaty that bans all nuclear weapons.

2. In 1993, the International Coalition for a nuclear-weapon-free world (NWFW) was formed by IALANA, INESAP, IPB and IPPNW. The focus was put on the NPT (Non-Proliferation Treaty) Review and Extension Conference 1995. On this occasion, INESAP published the report „Beyond the NPT – a NWFW” which was co-authored by 50 scientists and engineers from 17 countries. During the NPT conference, INES (International Network of Engineers and Scientists for Global Responsibility) participated in the foundation of the international network Abolition 2000 with the goal of binding declarations for the abolition of nuclear weapons from all states by the year 2000. By November 1999, this network had grown to 1777 organizations in 89 countries who endorsed the Abolition 2000 statement.

3. A Model Nuclear Weapons Convention was drafted by a group of scientists and disarmament experts led by LCNP (Lawyers’ Committee on Nuclear Policy) and INESAP. The first draft was presented in April 1997 in New York. It was submitted to the United Nations by Costa Rica in October 1997 and became an official UN document with the number A/C.1/52/7. A second draft was released together with a commentary and responses in April 1999.

4. The Middle Powers Initiative was proposed by former Canadian ambassador Douglas Roche and formed by IALANA, IPB, INES, IPPNW, NAPF (Nuclear Age Peace Foundation), PGA (Parliamentarians for Global Action) and SOWF (State of the World Forum) in March 1998. Three months later, eight governments launched the New Agenda Coalition. Both follow the same goal of putting pressure from middle power states to the nuclear weapons states towards serious nuclear disarmament.

Where do we stand now? What should we do?

<table>
<thead>
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<th>Verification-related scientific activities</th>
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<td>1996 CTBT opened for signature</td>
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<td>Since 1997 The Provisional Technical Secretariat of the PrepCom for the CTBTO is being established in Vienna</td>
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Parallel development of the global verification system and the political conditions for the Comprehensive Nuclear-Test Ban Treaty (CTBT)
Before looking ahead, a closer look at the role of scientists and engineers in establishing the Comprehensive Nuclear Test Ban Treaty (CTBT) should help to draw lessons from the Nuclear Weapons Convention and identify the most urgent and success-promising activity that should be undertaken by scientists and engineers in the next couple of years towards this goal.

**Role of scientists and engineers in establishing a Comprehensive Nuclear Test Ban Treaty (CTBT)**

The parallel development of the global verification system and the political conditions for the Comprehensive Nuclear Test Ban Treaty (CTBT) is illustrated in the table. Obviously, there were simultaneous developments. However, it is very remarkable that there were phases when the political process was in a deadlock and, nevertheless, scientific activities were carried on even with a political mandate. For some years, the scientific activities kept up the momentum and prepared the ground for political progress. This was clearly the case with the Geneva Group of Experts (1958-1960) as well as with the Group of Scientific Experts (since 1976) which formed the main basis for continuity for almost two decades until the CTBT negotiations started in 1993.

**Lessons from the Geneva Group of Experts (1958-1960):**
- For the first time, scientists were given an independent role in negotiating security issues.
- Scientists negotiated before diplomats were able to negotiate.
- Scientists prepared the ground (verification, circumvention).
- Comprehensive treaty anticipated, limited achieved.

**Lessons from the Group of Scientific Experts (since 1976):**
- The GSE had a political mandate.
- Scientific members were appointed by governments.
- Progress was not at all times connected to political negotiations.
- At times, the GSE established a substitute for negotiations.
- International coordination of national technical means was started.
- The work was based on a lasting common agenda.
- The work was supported by infrastructure financed through states.
- The GSE created a common understanding and furthered knowledge.
- As a conclusion from these experiences and in view of the current deadlock in nuclear disarmament one can dare the conclusion that scientists and engineers may have the chance to make a significant difference in preparing the ground for a political breakthrough towards a nuclear-weapon-free world. It makes sense to start science-based work early and even when the comprehensive goal appears to be remote. The lessons learnt in the experience of the four decades lasting developments leading to the CTBT are encouraging and need to be carefully taken into account.

**Proposals for future work of nuclear scientists towards global elimination of nuclear weapons**

Two different but interconnected areas are described here which nuclear scientists could concentrate their efforts on. The global elimination of nuclear weapons is the more visionary goal that basically builds on a more imminent universal and comprehensive control of nuclear-weapons-usable materials. Nevertheless, it makes sense to initiate internationally coordinated and technically detailed scientific work on both areas as soon as possible. Therefore, appropriate proposals are made in this section for both areas.

**Nuclear-weapons material cut-off**

In March 1995, the Conference on Disarmament (CD) in Geneva reached consensus on a mandate to negotiate a *Fissile Material Treaty* (Cut-off). Since then, absolutely no progress was made. In August 1998, the Ad Hoc Committee met for the first time but did not achieve much. In 1999, the Ad Hoc Committee did not meet at all. Since the negotiations on the CTBT were concluded in 1996, the CD found itself most of the time in a deadlock. Other ways for progress on this issue are required.

Other international fora might play a role in strengthening fissile material controls. One important example is the conclusion of the international guidelines for the management of plutonium which was reached in December 1997. It is suggested here that scientists could establish an independent expert working group on technical issues of nuclear-weapons-usable materials, preferably mandated by the CD in Geneva. The goal of this group would encompass the following:

- a. Set-up national balances of weapons-usable materials and combine these to form a global balance.
- b. Compare different scopes for an international agreement on nuclear-weapons-usable materials and list the pros and cons of more or less comprehensive agreements.
- d. Suggest steps for an incremental approach.
- e. Develop, describe and possibly demonstrate reconstruction of past production (nuclear archaeology).
- f. Develop, describe and possibly demonstrate verification, especially for clandestine activities (e.g. krypton-85).

**Global elimination of nuclear weapons**

In 2000, the CD may pick up the NATO-5 proposal for a working group to study ways and means of establishing an exchange of information and views on nuclear disarmament. This would be an ideal opportunity for scientists to offer their expertise and to suggest the creation of an expert working group on verification of complete nuclear disarmament. Even without an agreement on formal political discussions on nuclear disarmament, scientists could offer to establish this working group. It would address the following critical issues:

- a. Verification of dismantlement of all nuclear weapons,
- b. Detection of nuclear weapons hiding,
- c. Detection of nuclear-weapons-usable material hiding,
- d. Detection of diversion of nuclear-weapons-usable material,
- e. Detection of clandestine production of nuclear weapons,
- f. Verification of non-development of nuclear weapons (beyond the scope of the CTBT).

Already in April 1998, INESAP proposes to start a study process, tentatively entitled „Beyond technical verification: Transparency, verification, and preventive control for the Nuclear Weapons Convention“. The main purpose of this proposed study would be to increase awareness concerning the scientific-technological constraints and boundary conditions for a way lead-
ing to a nuclear-weapon-free world. It would illuminate the verification needs and limits and it would stress especially the importance of transparency. Recommended is a comprehensive approach which carries the Nuclear Weapons Convention as the central element.


2 The revised edition of the briefing book Fast Track to Zero Nuclear Weapons by Rob Green is available through the Middle Powers Initiative, IPPNW, and INESAP German, Japanese and Finnish editions are available as well.


This paper was written for the workshop on „Abolition of Nuclear Weapons“ that was held in the framework of the INES 2000 Conference „Challenges for Science and Engineering in the 21st Century“. The conference took place in Stockholm, Sweden on June 14-18, 2000. More conference papers can be found at http://www.ines2000.org/Papers/.

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The Nuclear Weapons Convention (NWC) Monitor is a series of periodic bulletins exploring progress on and challenges to a Nuclear Weapons Convention (NWC) – a treaty to prohibit and eliminate nuclear weapons under a verifiable international regime. The opinions and analyses presented address political, legal, and technical questions critical to the future course of nuclear disarmament. The NWC Monitor is a continuation of the discussion surrounding the model NWC drafted by a non-governmental team of lawyers, scientists, and disarmament specialists and distributed by the United Nations as a discussion document in 1997. A revised and annotated version of the model NWC is contained in Security and Survival: The Case for a Nuclear Weapons Convention.

As an official UN document, the NWC is also available in Arab, Chinese, French, Russian and Spanish.

Security and Survival has also been published in a German translation: IPPNW, IALANA, INESAP (eds.), Sicherheit und Überleben. Argumente für eine Nuklearwaffenkonvention.

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To order the German book Sicherheit und Überleben, contact: IPPNW, Körtestrasse 10, 10967 Berlin, tel. +49-30-693 02 44, ippnw@ippnw.de, www.ippnw.de.

1. Nuclear Disarmament Today
- NWC Resolutions, Statements and Analyses
- Responses to the Model Nuclear Weapons Convention
- The Road to a Nuclear Weapons Convention by Alyn Ware
- Nuclear Weapons Convention Workshop by Peter Nicholls
- Are We on the Way to Nuclear Zero? by Jozef Goldblat
- Law As a Process by Penelope Simons
- Trident in the Dock by Kathleen Sullivan

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- Modern Nuclear War by Martin Butcher
- National Missile Defense: The Terms of the – Debate by Dan Plesch
- US Missile Defense and China’s Nuclear Arms Control by Hui Zhang
- Morality Play: Star Wars vs. Nuclear Abolition by Kevin Martin
- Amputating Realism by Felicity Hill
- Moving Beyond Missile Defenses – Concept Paper
- Nuclear Weapons Free Zones – Uppsala Declaration
- All India National Convention for Nuclear Disarmament and Peace – Interim Charter

3. Science and Verification
- Verification of a Nuclear Weapon Free World: Closing the Gaps by Oliver Meier
- Verifying Comprehensive Nuclear Disarmament from Verification Yearbook 2000
- Societal Verification from Verification Yearbook 2000
- A Comprehensive Missile Control Regime by Andrew Lichterman
- Scientists’ and Engineers’ Pledge to Renounce Weapons of Mass Destruction with Rationale
- Nuclear Verification United Kingdom – Working Paper

4. Health, Environment, and Energy
- Pangea: An Aid to Nuclear Disarmament? by Susan Wareham and Clare Henderson
- Pangea Exposed by Harry Cohen
- A Global Truth Commission on Nuclear Weapons Damage by Arjun Makhijani
- Engaged Democracy for the Nuclear Age – a Nuclear Truth Commission
- Safe Nuclear Disarmament – a Research Agenda

Nuclear Weapons Convention Monitor No. 2

New from IPPNW

Security and Survival

The Case for a Nuclear Weapons Convention

Martin B. Kalinowski

SIREN Bulletin No.18, September 2001 68
Defense, Deterrence, or Disarmament?

Principal Points drawn from Strategic Consultation of the Middle Powers Initiative

The Strategy Consultation convened by the Middle Powers Initiative (MPI) at the United Nations, New York, April 29-May 1, 2001, examined in detail the 13 Steps agreed upon by all 187 States Parties to the Non-Proliferation Treaty at the Sixth Review in 2000. Here are the Principal Points that emerged from the Consultation, which MPI recommends that governments take action on.

**De-alerting (step 9D)**
The persisting launch-on-warning status of some 5,000 US and Russian nuclear warheads is irresponsible and unacceptable, especially in light of US President Bush’s statement May 1, 2001 that “we are not and must not be strategic adversaries”. The goal should be global zero alert. The US should make this a central element of its Nuclear Posture Review, being prepared to take into account the asymmetrical nature of their respective strategic nuclear forces, and offering major proposals for the removal of all strategic nuclear warheads from what President Bush described as “hair-trigger alert.”

**Preserve and strengthen the ABM Treaty (step 7)**
The ABM Treaty must be preserved and strengthened, because of the potentially grave consequences for the whole treaty regime underpinning nuclear non-proliferation and disarmament – and thus for global security – if it is abrogated. Following President Bush’s May 1 speech, this becomes more urgent. His clear intention to proceed with multi-layered ballistic missile defence risks reviving a nuclear arms race and stimulating the weaponisation of outer space. Strong interest was expressed, therefore, for a proposal that a group of like-minded States establish a conference outside the CD with a mandate to prepare and start negotiating a Treaty to Prevent War in Space.

**Unilateralism versus the rule of law (steps 7, 9A, 9C)**
The treaty-based approach to nuclear disarmament must be continued and reinforced, not abandoned. Recent US resistance to this approach, evidenced by Senate rejection of the CTBT and expressed willingness to abrogate the ABM Treaty if necessary, must be reversed, especially in the wider context of its uncooperative stance towards such treaties as the Kyoto Climate Change Protocol. However, unilateral disarmament steps can be productive if they are carried out to support, not undermine, the rule of law.

Thus, President Bush’s stated intention in his May 1 speech to “move quickly to reduce nuclear forces” is welcome, echoing the mutual unilateral cuts in 1991 by his father and Gorbachev. However, unilateral cuts in nuclear weapons outside the framework of international treaties lack transparency and verifiability, which raises the possibility of reversion. It is important, therefore, that unilateral cuts be followed by transparency and verification measures, which should be codified as part of the disarmament treaty process.

**Irreversibility (steps 5, 6)**
Signatory states should insist that the unequivocal undertaking made by the NWS (Step 6) includes an understanding that the gains made in nuclear disarmament cannot be reversed by possible destruction of the non-proliferation regime following deployment of a US missile defence system. The principle of irreversibility should be applied to all cuts, including particularly the 1991 US/Russia unilateral reductions and dismantling of non-strategic nuclear weapons, systems covered by the START regime, and those removed from service by the UK and France. As part of this process, the work of nuclear weapons laboratories should be redirected to verification and dismantling.

**Non-strategic nuclear weapons (step 9C)**
There is an urgent need to address the serious problem of non-strategic nuclear weapons, which are most likely to be used first. Suggestions included: supporting a UN resolution focusing on this; pressure for all such nuclear weapons to be withdrawn to possessors’ national territory; codification of the 1991 Bush/Gorbachev declarations; establishment of a register with a view to much greater transparency and verification on numbers; and inclusion of them either in START III or a new global treaty.

**No testing, bring CTBT into force (steps 2, 1)**
All NPT member states are politically bound by the 2000 NPT Review Conference final document, which called for a moratorium on nuclear explosions pending the entry into force (EIF) of the CTBT. This was strongly endorsed, with a call for high-level ministerial participation – especially by the New Agenda and NATO 5 – at the EIF conference in New York September 25-27, 2001. A demand needs to come from that conference to the major holdout, the US, to ratify, without which little progress will be made. Meanwhile, pressure should be increased to close the test sites in the US, Russia and China (France has closed its site in the South Pacific).

**Inventory of all fissile materials (steps 3, 10)**
To help unblock the start of negotiations for a Fissile Materials Cut-off Treaty (FMCT), support was given to pressing for establishing an inventory of all weapons usable fissile materials (plus Plutonium) which would comprise a register and database. To this end, assistance should be sought from leading non-governmental agencies, such as ISIS and VERTIC, which would provide the leadership and expertise needed to kick-start the initiative. It was noted that the UN Department of Disarmament Affairs has a budget for a weapons of mass destruction database, of which this could form a part. It was proposed that informal meetings between NGOs and supportive governments should be arranged as soon as possible, with a view to preparing a message for delivery in September, 2001 to the UNGA.

**Standardised reporting (steps 12, 6, 9F)**
There is a need for the NWS to be required to present reports to the NPT PrepComs in a standardised way, which should be devised as soon as possible (perhaps by the UN Department of Disarmament Affairs with assistance from NGOs). Their reports should be annual, with specific criteria (e.g. number of weapons cut/dismantled, budgets, de-alerting), and covering intentions as well as achievements. Such reports should be linked to: their unequivocal undertaking (Step 6), in that it cannot be indefinitely deferred; Step 9F under which all the NWS are required to be engaged as soon as appropriate; and the final, unanimous subparagraph 10 of the 1996 World Court Advisory Opinion. Similar reports should also be demanded nationally in the NWS for annual presentation to parliaments.

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Urgency (all steps)

Ways should be pursued to convey a sharper sense of urgency to the nuclear disarmament process, built around the need to raise awareness that the central problem of nuclear weapons is the mindset of those possessing them. Following reports that some NWS were suggesting that nothing had changed with their agreement to the 2000 NPT Review final document, widely-supported suggestions included encouraging the UN Secretary General’s proposal for a global conference to eliminate nuclear dangers (this could be pursued if the 2002 NPT PrepCom ends in deadlock, and be planned to uphold, rather than threaten, the NPT); the NAC to raise their profile to President/Prime Minister level; leading middle power governments to engage directly with the US public (for example, Sweden’s Prime Minister Olof Palme did this over Vietnam, and helped establish the Six Nation Initiative); and both governments and civil society to contribute to the ongoing UN study on disarmament and non-proliferation education.

New conferences (all steps)

As an integral part of the need to inject urgency into nuclear disarmament, several suggestions were supported for new conferences and new use of bodies outside the existing framework of the NPT process and CD. Some examples: using the G8 summits to raise the nuclear disarmament crisis; a conference of NWFZ signatory states plus Mongolia to strengthen NWFZs and provide a forum for new initiatives; holding seminars on the margins of the CD to advance technical aspects pending agreement by the CD of a subsidiary body on nuclear disarmament.

2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

Extract from the final document

The Conference agrees on the following practical steps for the systematic and progressive efforts to implement article VI of the Treaty on the Non-Proliferation of Nuclear Weapons and paragraphs 3 and 4 (c) of the 1995 Decision on “Principles and Objectives for Nuclear Non-Proliferation and Disarmament”:

1. The importance and urgency of signatures and ratifications, without delay and without conditions and in accordance with constitutional processes, to achieve the early entry into force of the Comprehensive Nuclear-Test-Ban Treaty.
2. A moratorium on nuclear-weapon-test explosions or any other nuclear explosions pending entry into force of that Treaty.
3. The necessity of negotiations in the Conference on Disarmament on a nondiscriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices in accordance with the statement of the Special Coordinator in 1995 and the mandate contained therein, taking into consideration both nuclear disarmament and nuclear non-proliferation objectives. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate commencement of negotiations on such a treaty with a view to their conclusion within five years.
4. The necessity of establishing in the Conference on Disarmament an appropriate subsidiary body with a mandate to deal with nuclear disarmament. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate establishment of such a body.
5. The principle of irreversibility to apply to nuclear disarmament, nuclear and other related arms control and reduction measures.
6. An unequivocal undertaking by the nuclear weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI.
7. The early entry into force and full implementation of START II and the conclusion of START III as soon as possible while preserving and strengthening the Treaty on the Limitation of Anti-Ballistic Missile Systems as a cornerstone of strategic stability and as a basis for further reductions of strategic offensive weapons, in accordance with its provisions.
8. The completion and implementation of the Trilateral Initiative between the United States of America, the Russian Federation and the International Atomic Energy Agency.
9. Steps by all the nuclear-weapon States leading to nuclear disarmament in a way that promotes international stability, and based on the principle of undiminished security for all:
   - Further efforts by the nuclear-weapon States to reduce their nuclear arsenals unilaterally;
   - Increased transparency by the nuclear weapon States with regard to the nuclear weapons capabilities and the implementation of agreements pursuant to article VI and as a voluntary confidence building measure to support further progress on nuclear disarmament;
   - The further reduction of non-strategic nuclear weapons, based on unilateral initiatives and as an integral part of the nuclear arms reduction and disarmament process;
   - Concrete agreed measures to further reduce the operational status of nuclear weapons systems;
   - A diminishing role for nuclear weapons in security policies to minimize the risk that these weapons will ever be used and to facilitate the process of their total elimination;
   - The engagement as soon as appropriate of all the nuclear-weapon States in the process leading to the total elimination of their nuclear weapons.
10. Arrangements by all nuclear-weapon States to place, as soon as practicable, fissile material designated by each of them as no longer required for military purposes under IAEA or other relevant international verification and arrangements for the disposition of such material for peaceful purposes, to ensure that such material remains permanently outside military programmes.
11. Reaffirmation that the ultimate objective of the efforts of States in the disarmament process is general and complete disarmament under effective international control.
12. Regular reports, within the framework of the strengthened review process for the Non-Proliferation Treaty, by all States parties on the implementation of article VI and paragraph 4 (c) of the 1995 Decision on “Principles and Objectives for Nuclear Non-Proliferation and Disarmament”, and recalling the advisory opinion of the International Court of Justice of 8 July 1996.
13. The further development of the verification capabilities that will be required to provide assurance of compliance with nuclear disarmament agreements for the achievement and maintenance of a nuclear-weapon-free world.

Multilateral Approaches to Preventing the Weaponization of Space

Rebecca Johnson

At the international conference “Space Without Weapons Weapons – Arena of Peaceful Cooperation in the 21st Century”, held under United Nations auspices in April 2001, Rebecca Johnson from the London-based Acronym Institute gave a presentation that described the US plans to further militarize and also weaponize space. She then continued talking about the role of international space law and suggested that a “Treaty to Prohibit Weapons and War in Space” be negotiated. A written version of the presentation was published in Disarmament Diplomacy #56. The following is an extract from her paper.

Space Sanctuary: an alternative US view

Responding to the notion of putting weapons in space, Senator Tom Daschle (Democrat) of South Dakota was memorably direct. He called it “the single dumbest thing I have heard so far from this administration... It would be a disaster for us to put weapons in space of any kind under any circumstances. It only invites other countries to do the same thing.”

Three years earlier, Lt. Col. Bruce M. Deblois of the United States Air Force had come to the same conclusion. Rumsfeld's Commission reported that China was developing methods and strategies for defeating the US military in a high-tech and space-based future war, viewing this as a sign of vulnerability justifying US plans to enhance their military and weapon capabilities in space. Deblois challenges the prevailing assumption underlying US Space Command's mission, i.e. that “space will be weaponised; we only need to decide if the US will take the lead”. Despite accepting that the advantages of being the first nation to put weapons into space were “undeniable”, Deblois contends that the weaponisation of space is not inevitable and that crossing this threshold would not be the best long term strategy for US national security.

Arguing that weaponising space would be profoundly destabilising, invigorate a high tech arms race and potentially a new emphasis on mutual assured destruction (MAD) doctrines, and that the US would have the most to lose from such developments, Deblois advocates the pursuit of a policy he calls ‘space sanctuary’. Deblois describes three approaches for defending space assets: I. diplomatic/political defences (agreements aimed at building collective security); II. passive defences (hide and seek), and III. active defences (essentially Rumsfeld’s option of deploying ground ASAT and space-based weapons). Deblois recommends combining options I. and II. and the “active, aggressive avoidance of the third.” Deblois contends that seeking to control Earth from a space-based battle platform would conflict with wider American ideals and objectives, but he focuses most on the military reasons for not weaponising space. In particular, he argues that space weaponisation strategies lack the elements of survivability and would be militarily and politically self-defeating: they are expensive, provocative and escalatory; and they maintain a bogus centre of gravity (COG) of vulnerability, for which other strategies might provide better defence and protection. Finally, any initial advantage from being the first to put weapons in space would soon be neutralised as other major powers seek to develop space weapons of their own, while lesser powers could offset them with asymmetric responses. It must be recalled that the United States seriously underestimated the speed with which its advantage as the sole nuclear power in 1945 would erode. The heart-stopping near miss of the Cuban Missile Crisis occurred less than 20 years later.

International agreements and continuing concerns

Although weapons have not yet been placed on satellites, space is already substantially militarised. This fact has to be taken into account when looking at the kind of restraints that might be feasible now. US capabilities currently far outweigh the rest, but several countries have satellite-based surveillance and intelligence capabilities. Russia and the United States have for many years been researching and testing ASAT weapons, though not without technical problems. Over the past 30 years, a number of treaties and agreements have been concluded to protect assets in space, but with Washington pressing aggressively ahead with NMD, such measures look increasingly inadequate.

Of the agreements, the Outer Space Treaty is central. While it prohibits the placing or stationing in earth orbit or on celestial bodies of any objects carrying nuclear or other weapons of mass destruction, the treaty accepted that “passive military use” such as reconnaissance satellites, surveillance, early warning or communications would be allowed. Although military personnel could conduct scientific research, the testing of weapons in space or the holding of military manoeuvres or establishment of military bases was banned. Ballistic missiles carrying nuclear weapons through space were permitted, as were ‘conventional’ weapons not capable of mass destruction. A further confidence building Treaty was negotiated in 1975, the Convention on Registration of Objects Launched into Outer Space (the
the middle ground. Among the working out negotiations. Some countries sought decisions only as an end in themselves, ruling the prospect of cooperation for civil and scientific purposes.

The last time a CD ad hoc committee was convened on PAROS was in 1994. The committee considered whether existing space treaties were sufficient and speculated about what kind of legal instrument or measures should be employed or negotiated. The non-aligned states and China took the view that PAROS was still important and urgent, while most Western and Eastern-European countries advocated confidence-building measures instead of treaty negotiations, on the grounds that the end of the Cold War had brought about considerable changes and there was no longer an arms race in outer space.

With the advent of US plans for ballistic missile defences, that sanguine view has now been revised even by America's allies. In successive years the UN General Assembly resolution on PAROS has garnered increased interest and votes. In December 2000, UNGA resolution 55/32 was introduced by Sri Lanka and co-sponsored by a number of non-aligned countries plus Russia and China. It reaffirmed the importance of the Outer Space Treaty, emphasised the need for consolidation and reinforcement, including verification, of measures to prevent an arms race in outer space, and called on countries with major space capabilities to refrain from acts contrary to maintaining a peaceful outer space. The resolution received 163 votes in favour and none against. The United States, Israel and Micronesia abstained.

**Negotiate a new space treaty**

As Senator Daschle pointed out, turning outer space into a future battleground is demonstrably a mad idea. Unfortunately it is not something we can ignore and hope it will go away. US Space Command has been thinking, researching and planning for the military domination of space for a long time, and with Bush and Rumsfeld in power, they believe their time has come. The sooner the TV, telecom and electronics moguls and the rest of the world wake up to the importance of preventing the weaponisation of space the better, before much more US military commitment, finances and prestige are invested. Recognising the political realities, which mean that PAROS is unlikely to get properly addressed, let alone negotiated, in the CD in the near future, a space-focussed ‘Ottawa process’ should be considered.

The Ottawa process, whereby civil society and a few conscientious states led the way in getting a worldwide ban on landmines, is not easily reproducible, but space may be one area where the conditions prevail to make it seriously worth considering. In the first instance, the role of NGOs will be crucial. There are already signs in Europe that the peace-movements are experiencing a resurgence of public interest as a result of fears about ‘star wars’, missile defence and the Bush administration's rejection of the Kyoto protocol and other important agreements. While some NGOs need to take the arguments about weapons and war in space out to schools, churches, parliamentarians, the media and other public opinion shapers, others need to engage quietly with the telecommunications, navigation and entertainment industries. Countries and industries with significant commercial interests in non-military satellites, which include powerful lobbies in the United States itself, have a vested interest in keeping space peaceful.

Think tanks and experts are needed to work out some of the difficult technical and legal definitions and questions that will have to be resolved, such as: whether the production, testing and deployment of anti-satellite weapons can be distinguishe...
aggressive deployments and activities.

As civil society becomes more aware of the dangers associated with US plans for space dominance, it is time for a group of states concerned about keeping space peaceful to take the lead and establish a conference (probably outside Geneva) to look into these issues, with a view to preparing and then negotiating a Treaty to Prohibit Weapons and War in Space.

Both the 1959 Treaty of Antarctica and the 1971 Seabed Treaty provide good, though not exact, precedents. Since some military activities are already carried on in space, it will be important to agree clear definitions and parameters on what types of activity are to be permitted, regulated or prohibited. While some may wish to demilitarise space altogether, such a radical step would be dependent on a far-reaching and deeper demilitarisation of international relations. Not impossible in the future, but at this stage it is more feasible to concentrate on preventing future weaponisation and on seeking agreement to regulate military activities rather than the purer but considerably more difficult objective of banning military involvement in space altogether. It is also important to recognise that while the majority of satellites do have a military purpose, many also play a role as ‘national technical means’ for monitoring and verification of arms control and non-proliferation. Space is a fragile environment. The deployment of weapons in space, including the increased likelihood of ASAT retaliation, are unpredictable, but they could be devastating. Already 30 years’ worth of space debris have become a worrying hazard for satellites and space exploration.

**Treaty to Prohibit Weapons and War in Space**

Negotiations on a Treaty to Prohibit Weapons and War in Space would have to cover at least three main components:

I. a ban on the deployment and use of all kinds of weapons in space, thereby extending and strengthening the 1967 Outer Space Treaty’s prohibitions on weapons of mass destruction in space so that laser and other directed energy weapons and kinetic energy weapons are also banned, as well as any other potential offensive innovations that military researchers or planners might dream up;

II. banning the testing, deployment and use of anti-satellite (ASAT) weapons, whether earth-based or space-based; and

III. establishing a code of conduct for the peace-supporting, non-offensive and non-aggressive uses of space.

Individually, none of these proposals is new. Similar ideas have been put forward on all three components over the past decades. In 1981, 1983 and 1985, the Soviet Union put forward several initiatives, including a draft treaty banning the possession, use and testing of ASAT capabilities. In 1985 Sri Lanka proposed a moratorium on the testing and development of space weapons coupled with multilateral negotiations on a treaty to prohibit the stationing of weapons in space and the prohibition of any weapons (whether deployed on land, air or in space) designed to damage, destroy or interfere with any country’s space craft. The United States and the Soviet Union/Russia undertook voluntary restraints on ASAT. The CD discussed space ‘rules of the road’, a draft code of conduct that encompassed a formal renunciation of actions that might interfere with the operation of space objects, whether civilian (which are in any case protected from interference under the ITU Convention) or military. None of these got anywhere, in part because space was not seen as a priority issue for arms control. What is new is that plans for space weapons are now being taken seriously.

An independent route to start multilateral negotiations on a new space treaty has two major virtues: it removes PAROS from its blocking position in the CD; and it ensures that prevention of the weaponisation of space gets addressed sooner rather than later. Inevitably, the United States (and possibly others) will object and try first to prevent the talks from taking place. That is unavoidable, and advocates of a space treaty must be prepared to start negotiations without the Bush administration on board. As with the Landmines Treaty, the next US tactic if negotiations went ahead would be to evoke the NATO loyalty card, then perhaps to join in the multilateral talks in order to redirect them, and finally to try to scupper any agreements or treaties by refusing to sign.

If indeed the US were to stay completely outside of a treaty and international norm banning weapons in space, and if it were to pursue its Vision for 2020 unhindered, that would undermine the purpose and effectiveness of the measure. But though the current administration seems to care little about international treaties and opinion, President Bush listens to big money. There are very significant US commercial interests in space, not all linked to the military. They include some which are globally integrated with other international commercial interests. If transnational civil society and a strong cross-section of countries were to move forward to establish a treaty and norm against space weapons, and if the companies whose commercial interests would be most jeopardised by an ASAT free-for-all were prepared to lobby from the inside, it would be more difficult for the US government to proceed with space weapons regardless. A US boycott of the treaty would be particularly difficult to sustain if its code of conduct included technology sharing and commercial incentives for countries abiding by rules prohibiting the aggressive or offensive uses of space and loss of trade for enterprises belonging to countries that are not party to the agreements. Such commercial incentives played a part in bringing the United States into the Chemical Weapons Convention just before it entered into force in 1996.

Big money for BMD – some $60 billion and rising – may be dangled in front of US defence firms and their Congressional backers, but it needs to be shown that there is also big money – American and international – with vested interests in keeping space peaceful. If negotiations get underway, it should be a priority to build coalitions, not only among a large group of countries, but between civil society and major commercial enterprises, and even sectors of the military, for whom communications are the Achilles heel of ever more sophisticated, high precision, conventional weaponry. For some, there will be contradictions in dealing with such industries. Nor can it be our intention to make the heavens safe for ‘smart’ bombs! Nevertheless, a successful strategy to negotiate a new space treaty will require such alliances.

It is likely that some will argue for just an ASAT ban as an initial step. Back in 1987, the United States Office of Technology Assessment noted that “there is a strong relationship between ASAT and BMD technologies and the technical, political and diplomatic action taken in one sphere will almost certainly affect the oth-
Because of this complex relationship with BMD, an ASAT ban by itself is now out of reach, requiring that the question of space weapons be addressed comprehensively. In view of the interest some countries are now showing in the development of some limited kinds of missile defence, including land and sea-based, a further complication is that it would be difficult to distinguish between the testing and deployment of ASAT and ballistic missile defences that might be deemed legally acceptable or legitimate.

Since there are significant similarities between the technology and characteristics of forms of ASAT and BMD, two approaches could be considered, depending on feasibility and political conditions. By the more radical approach, a Treaty to Prohibit Weapons and War in Space could be combined with global restrictions on BMD. Alternatively, if the international community ends up accepting some level of missile defences, it might be necessary to focus on explicitly banning only the use of ASAT, thereby creating a norm-based regime with incentives for compliance and very severe penalties for violation. Such questions will need to be considered by technical and political experts during scoping talks at an early stage.

Conclusion

The growing international interest in finding collective ways to prevent space being turned into a battleground is fuelled by US plans to deploy ballistic missile defences and by a lack of clarity from the Bush administration over how far they mean to go. Bush has launched consultations with America’s allies and Russia and China. While a number of countries may now be prepared to discuss some aspects of missile defences, there are indications that they want to draw a red line to prevent the weaponisation of space. The difficulties should not be underestimated. But neither should the political and technical complexities be a reason to give up without trying. It is important to engage the United States as much as possible, while recognising that Rumsfeld and Bush seem already to have made up their minds about positioning the United States to weaponise and control space. It is necessary to distinguish between the concept of defending against missile attacks, which is quite understandable, and the context of how such defence is approached. The United States needs to look at how its own security could be harmed if it pushes ahead with BMD plans that turn outer space into a future battleground and destabilise international relations and collective non-proliferation and security arrangements. At the same time, US allies, Russia et al (not forgetting China) have to be prepared to work constructively with Washington to put in place more effective ways to combat missile proliferation and the threat of terrorists (whether state or sub-national) armed with weapons of mass destruction, of which missile deliverable weapons are only a part.

In 1985, Dhanapala noted that preventing an arms race in outer space “is an easier task than attempting to control and decelerate such a race after it has begun”. People are beginning to wake up to this fact and realise that the window of opportunity to keep space from becoming the site of the next arms race is fast closing. It is imperative now to translate the growing sense of urgency and the wider level of international commercial and military interests in the non-offensive uses of space into a transnational movement to prevent space from becoming a violent battleground in the future.

It is now clear that the Bush administration believes the United States needs to place weapons in space, to protect not only its military and commercial assets in outer space, but also to dominate and control activities on Earth from space. This paper argues that attempts to dominate space militarily will backfire, and could risk a new arms race and increase the vulnerability of important commercial, communication, verification and intelligence assets in space. Although I have considered proposals put forward by Russian diplomats and others for amending the 1967 Treaty or negotiating an additional protocol to it, I have deliberately not proposed this. I am concerned that any opening of discussion into the scope of the Outer Space Treaty could prompt arguments (particularly in the United States) that this treaty is outmoded and should be abandoned. In my view, therefore, it is vitally important to build on but not to seek to amend that treaty, thereby leaving its core prohibition against WMD in space enshrined in international law. What is needed is a new instrument to prohibit all weapons in space and regulate space-related activities. This will not necessarily exempt the 1967 Treaty from attacks by those who might want to pull out, but it will make it very much more difficult for them to do so.

Most importantly, this paper argues that the initiative to begin negotiations on a new treaty to prevent the deployment of space weapons must be taken now, by as large a group of states as possible, backed by a strong international push from civil society. The objective would be to convene preparatory meetings and then full negotiations on a Treaty to Prohibit Weapons and War in Space, to halt further militarisation, prevent weaponisation and a future war in outer space, and to preserve space as a sanctuary for exploration, communication, verification and non-violent purposes of benefit to life on Earth.

3 Deblois, p. 12.
4 Deblois, p. 18-19.
8 CD/1271, September 6, 1994.
9 For an excellent analysis of definitional questions and ambiguities, see the many writings of Prof. Bhupendra Jasani on satellites and ASAT, especially Peaceful and Non-peaceful Use of Space: problems of definition for the prevention of an arms race in outer space, UNIDIR, 1991; and Outer Space: A Source of Conflict or Cooperation, United Nations University Press and SIPRI, 1991.
10 In addition to France, Russia and China, whose position as nuclear-weapon states might render them unsuitable for taking the lead although their early support would be essential, Sri Lanka has shown long-time leadership in outer space issues, as have Canada and some of the New Agenda countries, but leadership may also come from unexpected quarters.

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Prevention of an Arms Race in Outer Space

Statement by G. E. Mamedov

Distinguished Chairperson, Ladies and gentlemen,

I would like to thank those who organized the international conference for the opportunity they have given me to open this Symposium on the matters of preventing an arms race in outer space.

We are sincerely grateful to all of you who have responded to the initiative launched by Russian President V. V. Putin at the UN Millennium Summit last September, and have come to Moscow to take part in our forum.

We are happy to note a representative and largescale character of the Conference. It has brought together participants from many States, senior officials of the United Nations and some other international organizations, heads of space agencies, prominent diplomats, experts, scientists, cosmonauts, space engineers and businessmen.

This Conference is not a negotiating forum. Nor is it a purely academic event. We expect its participants to hold an active and free discussion, a sort of “brainstorming” that would help to get a better insight into the core of the problems of common concern to the international community as a whole, and encourage search for their resolution.

Our meeting in Moscow is particularly significant. It is held on the eve of the 40th anniversary of the first manned space flight. This jubilee gives us a good occasion not only to look back at the way passed by the space powers but also to ponder over the direction of further space-related technical developments, and trends that will prevail in the policy of the States possessing space potential or interested in its creation.

In his welcoming address to the participants in the Conference President of the Russian Federation V. V. Putin noted that the whole international experience in space activity confirms the need for a careful and responsible attitude to space exploration. We must by joint efforts preserve peaceful space. And to do it for ourselves and for future generations. Because the space pioneer Russia has made its choice for the weaponfree space. Today it was reconfirmed by a concrete statement of the President of Russia concerning our readiness as from today to take practical steps and to elaborate together with other countries measures aimed at preventing an arms race in outer space.

And, indeed, speaking of space prospects for the 21st century, we can not disregard the fact that scientific and technological capabilities of a number of countries have approached now such a level that enables them to implement military programs of preparation for waging ‘star wars’. There is no need to expand on such programs specific aspects they are well known to experts. I would like to emphasize only that Russia can not agree with the opinion that ‘star wars’, whatever are justifications for the need for preparing to them, are ‘fataly imminent’ allegedly brought about by technical progress and the logic of the political development of the modern world. We are convinced that aspirations for the so-called ‘space weaponisation’ are incompatible with the very essence of the strategic stability concept. Their realization would mean not only the broadening of spheres of military rivalry, but its qualitative spur fraught with unpredictable consequences.

Today, Russia says “no” to deploying weapons in outer space, and not only because we want to avoid new and unnecessary military technological rivalry. Having gone through enormous expenses of the Cold War and global confrontation, we are against returning to the times of unrestrained distraction of tremendous funds and resources for purposes which are not compatible with the true needs of our people and the entire mankind.

Certainly, the ‘military’ space has its right to existence to the extent it serves the purpose of maintaining and strengthening strategic stability and is used primarily as a tool to reduce risks of nuclear war, monitor the implementation of agreements in the field of disarmament, etc. But it doesn’t mean at all that military activities in outer space should be based on the logic of military confrontation and used for achieving military superiority on the Earth.

Is it real under existing conditions to expect to tackle successfully the task of preventing the weapons from going into outer space? To answer this question let us recall that even in the period of tough confrontation between East and West the international community succeeded in achieving important results in halting the most dangerous lines of militarization of outer space. Thus, the 1963 Treaty on Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water vetoed such tests in outer space. The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space prohibited deployment of all types of weapons of mass destruction in outer space and on celestial bodies. An important sphere of bans was outlined in the 1977 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, which included outer space.

The 1972 Treaty between the USSR and the USA on the Limitation of Anti-Ballistic Missile Systems continues to play an exclusively important role. Under the Treaty the two powers undertook, in particular, “not to develop, test or deploy ABM systems or components which are... space-based” as well as not to interfere with the national technical means of verification of the other Party.

It is known that our country also undertook unilateral initiatives. In 1983 we undertook not to launch to outer space any kinds of antisatellite weapon, that is we unilaterally decreed a moratorium on such launches as long as other countries, including the USA, abstain from launching to outer space of any antisatellite weapon.

Thus, even in those difficult years we succeeded in creating a certain, even if not perfect, international treaty system which markedly narrowed the sphere of dangerous military use of outer space. Norms have been established to prohibit deploy-
Space Without Weapons – a Missed Chance
Regina Hagen

On April 11 - 14, 2001, the "International Space Conference: Space without weapons – area of international cooperation in XXI century" was held under UN auspices in Moscow. The event had been first announced by Russian President Vladimir Putin at the Millenium Summit in New York and coincided with the 40th anniversary of the first-ever manned spaceflight – that of Yuri Gagarin on April 12, 1961.

The conference was structured into five symposia with almost 40 topic-related sessions where about 350 presentations were given. In his speech on the first day, Deputy Foreign Minister of Russia Georgy Mamedov trusted that "an intensive and free discussion" would be held in the course of the next few days. That's what I had hoped for – and did not get.

■ Only the opening and closing session and the meeting on "Space and strategic stability" were interpreted into English. Consequently, it made no sense for non-Russian speakers to attend any of the other meetings unless they got hold of an individually assigned interpreter. Also, only 40 of the 250 delegates from 104 countries could book a seat for the excursion to space institutes and organizations in and around Moscow.

■ The program of the law- and policy-oriented sessions was so packed with presentations that no time was left for open discussion. To my knowledge, only two policy-oriented non-governmental organizations (NGOs) – INESAP and the Acronym Institute, with the latter being the only one considered for a presentation – participated in the conference outside an official government delegation.

■ NGO participation had been announced but critical voices were obviously unwanted. After some discussion, I could lay out printed material, but soon afterwards the papers were taken away and destroyed. I later learned that the European Space Agency’s head of mission had demanded the Foreign Ministry to confiscate all papers on the table. This conference was a missed chance in several respects. The US and Britain failed to send any delegates. Several US allies attended only with second and third level bureaucrats. To make things worse, the conference organization was such to confirm the boycott and frustrate many well-meaning participants, most of whom had come to exchange scientific and technical information.
The Conference on Disarmament this morning held its weekly plenary and heard statements from the Representative of China on the issue of the prevention of an arms race in outer space, and from its President concerning consultations to seek consensus on a programme of work.

Ambassador Hu Xiaodi of China said that his country was submitting to the Conference a working paper entitled ‘possible elements of the future international legal instrument on the prevention of the weaponization of outer space’. He said that negotiating such an international legal instrument was not only necessary, it was a pressing task in the field of multilateral arms control and disarmament. The danger was imminent and the issue most urgent. The danger came from the development of the missile defense system and the ‘space control’ plan.

Ambassador Hu said the consequences of the weaponization of outer space would be most serious and in no one’s interest. As the world’s single multilateral disarmament negotiating forum, the Conference on Disarmament should play its role in this regard.

Göttingen/Germany, November 4, 2000

Statements

Hu Xiaodi (China) said that his country’s position on the issue of the prevention of an arms race in outer space was very clear. China was committed to promoting the international community to negotiate and conclude a legally binding international instrument on the prevention of the weaponization of and an arms race in outer space. Today, upon the instruction of the Chinese Government, the delegation was submitting to the Conference a working paper entitled ‘possible elements of the future international legal instrument on the prevention of the weaponization of outer space’.

Mr. Hu said that if there was a serious examination of the current state of outer space utilization and the relevant developments in outer space, it would not be difficult to draw the conclusion that negotiating such an international legal instrument was not only necessary, but it was also a pressing task in the field of multilateral arms control and disarmament. It was well known that outer space was now faced with the danger of being weaponized, which manifested itself in two aspects, namely the development of the missile defense programme and the ‘space control’ plan. It had been made clear that the missile defense system currently under research and development would go beyond the constraints of the Anti-Ballistic Missiles Treaty. Equally alarming was the ‘space war exercise’ which took place in late January 2001. These developments clearly demonstrated that the weaponization of outer space was by no means a remote issue. The danger was imminent and the issue most urgent. For any preventive measure to have effect, the international community must act right away.

Mr. Hu said that if any country was really worried about possible menace to its space interests, this could certainly be alleviated through the negotiation and conclusion of a treaty on the prevention of space weaponization as suggested by China. However, if the real motivation towards outer space was to defy the obligations of international legal instruments and seek unilateral and absolute military and strategic superiority based on political, economic and military strength, that would be another matter. The consequences of the weaponization of outer space would be most serious and in no one’s interest. As the world’s single multilateral disarmament negotiating forum, the Conference on Disarmament should play its role in this regard. China reiterated its call to all countries to negotiate and conclude an international legal instrument on the prevention of the weaponization of and an arms race in outer space, on the basis of strict compliance with existing multilateral and bilateral treaties and agreements applied for outer space. [...]
I come from Darmstadt, a middle-sized town in Germany. It is a very emotional experience for me to visit Oswiecim—a town, whose German name, Auschwitz, will forever be engraved in the memory of humankind as a warning. A warning against racism. A warning against intolerance. A warning against war. A warning that is still very much needed, as racist attacks through the last ten years have proven that Germany has not yet overcome hatred and racism to this very day. I have not come, however, to speak about racism. My topic is the peaceful, or rather the un-peaceful use of space. And there again I found a close link to where I come from, to Germany, to Darmstadt.

The Origins of Space Technology

On October 3, 1942, the first successful launch of a rocket was performed. The test was conducted at Peenemünde in northern Germany, where Freiherr Wernher von Braun, Captain Werner R. Dornberger, and Walter Riedl, chief designer of the team, cheered about the flawless flight of an A4 ballistic missile, better known by the name V2. Dornberger commented this achievement as the start of "a new era in transportation: that of space travel" and added that "our most urgent task can only be the rapid perfecting of the rocket as a weapon."

This event marked the first major development step of a technology which has ever since been characterized by its military-civilian dual-use capability. Rocket enthusiasm in Germany and elsewhere in the world was originally fed by the dream to travel to the Moon. Its first use, however, was to bring death.

The 'V' in 'V2' stands for Vergeltung—that is vengeance in English. On September 7 and 8, 1944, the first V2 missiles were fired at London and Paris from mobile launch pads on the western front. In the following months, a total of 1,403 V2s showered down on London, the south of England, Antwerp, and Liège. Another model, the V1, a cruise missile, added to the destruction. A total of almost 13,000 people died as a consequence.

I found several facts which make the V2 particularly meaningful for me, a German born more than ten years after the war was brought to an end. For one, after the British Air Force had bombed Peenemünde and destroyed much of the facilities, V2 construction was moved to a place in the middle of Germany. Nordhausen, or the Mittelwerk Dora, gained a sad reputation for the use of concentration camp labor in an underground factory. The prisoners who had to produce the V2 were brought from Buchenwald and other concentration camps and lived and worked under conditions that made a survivor describe it as "the antechambers of hell." Half of the estimated sixty thousand prisoners who entered Dora did not leave it alive.

And yet another link connects Darmstadt with V2 development. In 1940, 238 scientists and engineers who worked at Peenemünde came from German universities—of these, 92 came from the Technical University of Darmstadt, thus, scientists of our local university played a crucial role in making the V2 attacks possible. Hermann Steuding e.g. made fundamental discoveries in guidance theory which were important to ensure targeting precision for the bombings. His former Darmstadt colleague Helmut Hoelzer not only improved the guidance technology but also built the first fully electronic analogue computer—a major breakthrough in calculating and simulating the missile trajectories.

And a last fact points to Darmstadt. As I mentioned above, the Nazi military fired the first V2s against London and Paris on September 7 and 8, 1944. A few nights later, on September 11, 1944, the British launched an air campaign against Darmstadt. 700 explosive bombs and 300,000 incendiary bombs destroyed much of the town in a fire storm and more than twelve thousand people were killed in that night.

The Military Race in Space

"The Faustian deal between the rocketeers and the butchers who were their beneficiaries would forever haunt von Braun and some of his colleagues. And elaborate ways to rationalize the arrangement would be found in years to come." The main argument for their cooperation with the German military put forward by the German rocket specialists was that space science was too expensive for private corporations and government was the only sponsor that could be found.

This tradition continued after World War II, the rocketeers changed only their masters. A few days before the German surrender, von Braun and many of his top staff surrendered to the U.S. military. Eventually, van Braun and some 120 of his colleagues were transferred to the US in the course of operations Overcast and Pappelgrip (and so were about 1,500 other scientists, engineers, research specialists, and managers who would then work for the U.S. warfighting machinery.)

Along with the people, the US Army shipped 100 operable rockets, numerous rocket components, and tons of scientific documents from Germany to the US. Thus, the V2 became the foundation for the American space program. Over several years, the V2 developed both into the tactical nuclear missile Redstone (which was deployed in Germany in 1958) and into the Saturn V that brought the first men to the moon. The Soviets also brought many scientists, rockets, parts, and documents to Russia during operation Ot-savakim and likewise used them to develop their own space capabilities.

This started a military race in space which continues to this very day. Nuclear-armed short, middle, and long range (intercontinental) ballistic missiles deployed on the ground, in planes, on ships, and on submarines have since dominated the military strategies of the United States, Russia, China, but also France and Britain. Recently, India and Pakistan joined the elite nuclear weapons club.

Military use of space, however, has
not been limited to providing for the delivery of weapons of mass destruction. Today, space technology and satellites are used for a wide range of military purposes. This is highlighted by a text released by the Directorate of Public Affairs, Headquarters, U.S. Space Command, on March 24, 1999, and entitled U.S. Space Command Supports Kosovo Operation: "PETERSON AIR FORCE BASE, Colo. – U.S. Space Command is providing substantial space support to the North Atlantic Treaty Organization (NATO) operation in Kosovo. A U.S. Space Command Joint Space Support Team is in theater to provide guidance to U.S. and allied warfighters in Europe and to coordinate the optimal use of U.S. space-based assets.

Space operations increase the combat effectiveness of U.S. and allied air, land, and sea forces through the control of satellites that provide ballistic missile warning, communications, weather, navigation, and imagery capabilities. Space assets also provide the means that help other services perform their missions.6

- Infrared satellites (which are designed to ‘see’ thermal radiation) are used to recognize the launch of (ballistic) missiles – but also to detect the heat that is dissipated by the engines of hostile tanks or temperature differences caused by submerging submarines.

- Communication satellites are needed to ensure the exchange of information; for command and control between other satellites, locally deployed troops, headquarters, military and political decision makers; and to provide media with the news which we then read in next days’ newspapers. Relay satellites downlink data rapidly to ground and other space stations, they function as ‘switchboard in the sky’.

- Weather satellites provide weather data which plays a crucial role in the planning of military missions. High-tech weapons are highly dependent on weather conditions due to the laser systems, sensors, etc. employed.7 Also, it would e.g. be difficult to conduct a ground campaign when the soil is wet from heavy rains.

- Navigation satellites are part of the Global Positioning System owned and operated by the US Department of Defense (DoD). Precise navigation data allows the troops, ships, planes, etc. to determine their exact location on the ground, on the sea, or in the air. Furthermore, it is also used to guide the so-called ‘intelligent precision bombs’, e.g. cruise missiles, to targets, even in bad weather.

- Geodetic satellites provide the data basis for self-guided cruise missiles and improve the targeting precision.8

- For reconnaissance, image and radar satellites are used. Image satellites use cameras to distinguish objects on the ground which are as small as ¼ of a meter. Radar satellites penetrate clouds, vegetation, and camouflage.

- Spy satellites intercept data, fax, and voice traffic all over the world – during the Kosovo war e.g. conversations among top Serbian officials.9

All of these systems have a dual-use capability. They can be used for the military purposes listed above. At the same time, they can be used for a multitude of civilian uses: weather forecast for disaster warning, navigation for freight ships and trucks, communication by telephone and computer, imagery and radar information for environmental studies...

Not enough, some of these technologies play an important role even in arms control. Many verification programs (e.g. to reduce the number of nuclear-armed missiles, to verify the Chemical Weapons Convention, to verify compliance with international treaties, etc.) rely on data gained from space.

**Ballistic Missile Defense**

Although military space systems are used by many countries on a daily basis, they are hardly ever discussed in public. In the center of public debate, however, are US plans to deploy a National Missile Defense system.

Plans to defend against ballistic missiles (Ballistic Missile Defense, BMD) are almost as old as the history of ballistic missile warfare. The German V2 attacks on allies’ cities came as quite a shock. The US began conducting research on ballistic missile defense shortly after World War II even though they did not face a missile threat of their own territory at that time. Since then, the US has spent over US$ 120 billion on missile defense but has not yet been able to develop a reliable system.10 Once before had the US developed, constructed, and deployed a missile defense system: Safeguard was designed to protect missile silos in North Dakota. It began operation on October 1, 1975, and was shut down again on January 27, 1976 – it was too obvious, that the concept wouldn’t work. The system had cost US$ 23,1 billion in today’s dollar – which makes US$ 194 million for each day it was in operation.11

Safeguard was the US system originally permitted under the Anti-Ballistic Missile (ABM) Treaty signed by the United States and the Soviet Union. It entered into force in 1972 and was amended in 1974. In the Treaty, both sides agreed to not try to defend the whole national territory against missile attacks. A maximum of 100 defense missiles are allowed to protect on site. The US built Safeguard, Moscow chose to deploy a missile defense system around Moscow which is in operation still today.

In the logic of the nuclear age, this deal makes sense. If one side had the ability to defend against missiles, the other would feel encouraged to increase the number of their offensive forces. By limiting the defense capability, both countries knew that their defense could be overwhelmed by a massive attack. Consequently, each side kept the capability to conduct a retaliatory strike in case it was attacked first. That means, that none of the two would dare to attack the other – the concept of Mutually Assured Destruction (MAD) was put into place to prevent a nuclear war.

This philosophy is still prevalent today. Therefore, current plans of the US to build a nationwide system to defend against ballistic missiles (National Missile Defense, NMD) provoke just as much outrage as did Ronald Reagan’s Star Wars plans in the 1980s.

Not only would NMD mean a violation of the ABM Treaty, it would likely also lead to a new arms race and destabilization. China, for example, has a mere 20 intercontinental ballistic missiles (ICBMs) in its arsenals. NMD would be designed to defend against two dozens incoming ICBMS in its third stage. If the US decided to deploy, China would most certainly increase the number of its offensive weapons. India, in turn, would feel threatened by this offensive potential and also speed up development of its own missile development. As a consequence, Pakistan would feel forced to do the same. This domino-effect is just one example of the type of reactions to be expected if NMD became reality.
In addition to the destabilization, critics point out that the intended NMD system could easily be overcome. The easiest way to attack US territory in spite of a ballistic missile defense would be either to launch a short-range missile from a ship close to the coastline or to transport a nuclear weapon by truck and to explode it in a major city. But even if ICBMs were chosen to attack US territory, simple decoy balloons (similar to children’s toy balloons) could be released together with the real warhead. The image sensors of the defending interceptor (the so-called kill vehicle) could hardly discriminate between the warhead and the balloons. If either the balloons are slightly heated or the warhead is cooled down, even the kill vehicle’s infrared sensors could not find out the difference between the warhead and the balloons. Therefore, each object released in the atmosphere would have to be dealt with as if it were an actual warhead – and the NMD system would soon be overwhelmed.12

NMD would depend heavily on space-based satellite systems. On the ground, existing early-warning radars would have to be upgraded and new X-band radars would have to be built. To make NMD work for the whole of the US territory, early warning – and therefore radar bases – would be needed all over the world. Currently, planned radar sites are located in Alaska, on the US East and West coast, on Greenland, in Great Britain, and eventually in South Korea. [...]

Waging War in Space or: The Ultimate High Ground

NMD is bad enough. Unluckily, it is just part of a larger picture.
“A recent Senate report argued that ... the Defense Department needs to start focusing on space as ‘the strategic high ground from which to project power’. That means developing lasers or ‘kinetic energy rods’ or other weapons that could be used to attack enemy spacecraft or missiles or even ground targets like bridges and building.”13

This is nothing new. Two years ago I listened to a presentation from a public relations officer with the U.S. Air Force. She works for the 21st Space Wing at the Peterson Air Force Base in Colorado Springs, Colorado/USA, which “is a part of the United States Space Command under Air Force Space Command”.14

The script for the presentation says: “The 21st Space Wing has two very important space operation missions – missile warning and space control. ... The space surveillance aspect of the space control mission allows the U.S. to maintain and dominate the ‘high ground’. ... Space control is evolving into space superiority to ensure the safe and free use of space by our forces and allies. ... The control of air and space is critical because it allows all U.S. forces freedom from attack and freedom to attack. ... We cannot allow space to be controlled by our adversaries. ... Team 21, first place in space. Dominating the high ground!”15

This is in full conformity with the overall space policy of the U.S. military: “Space has often been referred to as ‘the high ground’, in the sense of giving its occupier a dominating view (and prospective control) of a potential battlefield.”16 “Space forces play an increasingly important role in prosecuting modern warfare. They provide global and battlefield surveillance, ballistic missile warning, precise navigation, secure communications, weather, and intelligence information. Space assets facilitate effective command and control and enhance the joint utilization of our land, sea, and air forces.”17

In its glossy publication Vision for 2020, the US Space Command sets the stage for military engagement in space. The motto: “US Space Command – dominating the space dimension of military operations to protect US interests and investment. Integrating Space Forces into warfighting capabilities across the full spectrum of conflict.”18

The Space Command draws historical parallels: “Historically, military forces have evolved to protect national interests and investments – both military and economic. During the rise of sea commerce, nations built navies to protect and enhance their commercial interests. During the westward expansion of the continental United States, military outposts and the cavalry emerged to protect our wagon trains, settlements, and railroads. As air power developed, its primary purpose was to support and enhance land and sea operations. However, over time, air power evolved into a separate and equal medium of warfare. The emergence of space power follows both of these models. Over the past several decades, space power has primarily supported land, sea, and air operations – strategically and operationally. During the early portion of the 21st century, space power will also evolve into a separate and equal medium of warfare. Likewise, space forces will emerge to protect military and commercial national interests and investment in the space medium due to their increasing importance.”19

No doubt about it: in addition to supporting Earth-based armed forces, protecting commercial space activities – i.e. telecommunications and remote sensing satellites, industrial enterprises who want to ‘mine the sky’, visions for space-based colonies, etc. – serve as a justification to enforce U.S. dominance in space. “The political, economic, technological, and military trends hold significant implications for US SPACECOM. An increased dependence upon space capabilities may lead to increased vulnerabilities. As space systems become lucrative military targets, there will be a critical need to control the space medium to ensure US dominance on the future battlefields. ... Control of Space is the ability to assure access to space, freedom of operations within the space medium, and an ability to deny others the use of space, if required. ... Global Engagement is the application of precision force from, to, and through space.”20

In 1997, the US Space Command finalized its Long Range Plan (LRP). The plan “captures in one place a comprehensive roadmap for achieving our vision for 2020. ... It is our roadmap to prepare ourselves to not only do today’s job in military space better, but to plan for 2020’s challenges”.21 The LRP repeats the importance of protecting the national assets, to counter “... the nation’s dependence on space capabilities in the 21st Century which rivals its dependence on electricity and oil in the 19th and 20th Centuries. Electricity and oil were critical parts of the industrial revolution; space capabilities (e.g. communications, positioning and timing, imaging, earth resource monitoring, and weather) are emerging as vital to the information revolution. ... US interests and investments in space must be fully protected to ensure our nation’s freedom of action in space.”22

And industry responds to military demands. On its large poster “Revolutionizing Airpower for the 21st Century”,23 Boeing presents the Airborne Laser (ABL), a joint project by the U.S. Air Force, Boeing, TRW and Lockheed Mar-
tin. In the section “The Threat is Real and Growing”, the poster lists seemingly dan-
gerous proliferators like Romania, Bulgaria,
and the Slovak Republic. The publica-
tion is not a leftover from the Cold War –
it was published in 1997.

Development of a Space Based Laser (SBL) seems like a logical step ahead. At
the 1998 National Space Symposium in Colorado Springs, TRW proudly an-
nounced that together with Boeing it won a
study contract “to define concepts for a
Space-Based Laser Readiness Demonstrator
(SBLRD). Funded by the Ballistic Missile Defense Organisation, the con-
tract follows more than 15 years of TRW work developing technologies for
BMD-sponsored space-based laser ini-
tiatives. ... SBLRD is intended to demon-
strate the technical feasibility of using a
space-based laser system to intercept and
destroy theater ballistic missiles in their
boost phase.”24 (The boost phase is of
particular interest for any ballistic missile
defense as it is claimed that engaging tar-
gets over enemy territory would release all
debris – be it conventional, biological,
chemical, or nuclear – close to the launch
area, i.e. over enemy territory.) It should
not be ignored, however, that the SBL
could also be used offensively, e.g. to de-
stroy other satellites of even targets on
Earth like bridges, military equipment, or
other militarily sensitive facilities.

In all these plans, however, the mili-
tary is confronted with a major problem.
Space-based weapons like the Space Based
Laser need huge amounts of energy.
Therefore, in its 13 volume publication
New World Vistas, the US Air Force states:
“Power limitations ... currently make large
space-based radars and space-based
weapons relatively unfeasible. ... A natural
technology to enable high power is nu-
clear power in space.”25

Possible Action on a Local Level

In the text above, it was mostly the US who
has been used as an example. This has two
reasons: it is most advanced with respect to
technology – and therefore with plans for
the further militarization and weaponiza-
tion of space. On the positive side, it is usu-
ally easiest to get information from the US
as its information policy is more open than
that of other countries. Currently, the US
are undoubtedly on the technological fore-
front and pushing new developments.

However, the situation must also be
carefully observed in other countries.
France and Germany, e.g., signed a mem-
orandum of understanding in June 2000
to cooperate in the deployment of a mili-
tary satellite system.26 According to the
plans, France will contribute its optical re-
connaissance satellite Horus while Ger-
many contracted a private company to de-
velop the radar satellite SAR-Lupe.27

Though space is mostly considered a
field for commerce, science, and research
in Europe, even here it implies often pro-
duction for war, not to cover social needs.
Military space technology devours huge
amounts of money. Money that can be spent only once – either for war from
space or for improvements in a country’s
infrastructure, either for deployment of
military satellites or for better education,
either for National Missile Defense or for
the protection of the environment, either
for military reconnaissance or for social
welfare. This is true everywhere – in the
US, in Europe, in Russia, in Asia, Africa,
and Latin America. When it comes to a
communal level, therefore, everyone at-
tending this conference should have an
interest in learning more about the use of
space.

In many towns, public events are or-
ganized on a regular basis to educate peo-
ple about space. Often it is national space
agencies who sponsor these events. From
all said above it should be clear that we
should not leave the arena for public rela-
tions to praise space flight and space tech-
ology, to talk about the fascination. It is
our duty to learn about the negative as-
pects of space use, and to pass this infor-
mation on to others, and to let our gov-
ernments know that we oppose the
militarization and weaponization of space.

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This text was written for the 13th General
Assembly of the International Association
of Peace Messenger Cities, “Peace, Pover-
ty, Racism: the Role of the Cities” in the
City of Oswiecim (Poland), September 3,
2000.
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The International Network of Engineers and Scientists Against Proliferation (INESAP) is a non-profit, non-governmental network organization with participants from all over the world. It is part of the worldwide activities of The International Network of Engineers and Scientists for Global Responsibility (INES). The Interdisciplinary Research Group in Science, Technology and Security (IANUS) at Darmstadt University of Technology (Germany), as a member organization of INES, manages most activities in INESAP. The international Coordinating Committee has seven members in four continents. The main objective of INESAP is to promote nuclear disarmament, to tighten existing arms control and non-proliferation regimes, as well as to implement unconventional approaches to curbing the proliferation of weapons of mass destruction and delivery systems and to controlling the transfer of related technology.

INESAP projects and activities in 2000

**Model Nuclear Weapons Convention**

A main point of the work of INESAP within the Global Network Abolition 2000 continued to be the Model Nuclear Weapons Convention (mNWC) which has been adopted as an official United Nations document in 1997. In 1999, INESAP, the International Physicians for the Prevention of Nuclear War (IPPNW) and the International Association of Lawyers Against Nuclear Arms (IALANA) published the book “Security and Survival: The Case for a Nuclear Weapons Convention” which contains the full mNWC text. In 2000, INESAP in cooperation with the German IPPNW and IALANA sections sponsored the German edition of the book that was translated by Regina Hagen. [IPPNW, IALANA and INESAP (eds.), *Sicherheit und Überleben. Argumente für eine Nuklearwaffenkonvention*, Berlin, 2000; ISBN 3-800-006743-4; DM 29.80]

**Monograph on “Global Elimination of Nuclear Weapons”**

The book *Global Elimination of Nuclear Weapons* (edited by Martin B. Kalinowski) was published in April 2000. It analyses why elimination could not be achieved yet and how the current deadlock could be overcome. The authors are internationally reknown experts for nuclear disarmament. The book has an emphasis on scientific expertise. [Martin B. Kalinowski (ed.), *Global Elimination of Nuclear Weapons*, Nomos-Verlagsgesellschaft, Baden-Baden (Germany), 2000; [ISBN: 3-7890-6594-3; DM 78.]

**NPT Review Conference**

At the Non-Proliferation Treaty (NPT) Review Conference 2000, which was held in New York, INESAP contributed to the briefing program of non-governmental organizations (NGOs) with two panels. Both panels were very well visited by official delegations as well as by NGO and media representatives.

- “Achieving a Nuclear Weapons Convention – Legal, Political, and Technical Strategies for Nuclear Disarmament” (May 9; contributors: Ambassador Hasmy Agam from Malaysia, Merav Datan, Eugene Miasnikov, Jürgen Scheffran, Penelope Simons; chaired by Alyn Ware), sponsored by LCNP/IALANA, IPPNW, and INESAP!
- “From Counter-Proliferation to Counter-Disarmament Missile Defense, the ABM Treaty and the Prevention of an Arms Race on Earth and in Space” (May 10; contributors: Jackie Cabasso, Regina Hagen, George Lewis, Goetz Neuneck, Paul Podvig, Stephen Young; chaired by Jürgen Scheffran), sponsored by INESAP and IALANA, discussed alternatives to ballistic missile defense like international national control and a missile freeze, including a missile flight test ban.

**Contribution to the INES 2000 Congress**

At the INES 2000 Congress in Stockholm (June 14 - 18), INESAP organized the workshop on “Abolition of Nuclear Weapons” (contributors: Praful Bidwai, Dingli Shen, Martin Kalinowski, David Krieger, Bahig Nassar, Jürgen Scheffran, Hiro Umebayashi; Alla Yaroshinskaya; chaired by David Krieger and Martin Kalinowski.) The workshop consisted of six sessions, one of which focused particularly on Nuclear-Weapons-Free Zones (NWFZ). The status of the corresponding project (see below) was presented and future steps were discussed.

The workshop was actually the first international INESAP meeting since the conference in Shanghai in 1997 and brought together about 20 active members of INESAP and other experts who work on the reduction of nuclear dangers and on the elimination of nuclear weapons. Consequently, issues of future INESAP developments were also discussed. In particular, a decision was taken to launch a new INESAP project under the name of “Moving Beyond Missile Defense”.

The tentatively proposed goals of the project are to
- analyze the technical shortcoming and international political consequences of ballistic missile defense (BMD) systems and plans and
- assess possible alternatives to missile defense systems, including verifiable international agreements to control anti-ballistic missile systems, space weapons, ballistic missiles and other nuclear-weapons-capable and dual-use delivery systems.

The work will put emphasis on scientific-technical issues (e.g. in verification) in order to take advantage of the expertise within INESAP and will be done in cooperation with the Nuclear Age Peace Foundation (NAPF).

**Nuclear-Weapon-Free Zones project and seminar**

The project “Nuclear-Weapons-Free Zones” started in 1997, in cooperation with Praful Bidwai and Achin Vanaik (India), the Dag Hammarskjöld Foundation (Sweden), the Transnational Institute (Netherlands) and the Peace Depot (Japan). As the main activity of the project in 2000, an international seminar was held in Uppsala (September 14) in which INESAP played a major part. The seminar was attended by more than 50 scholars, experts, diplomats and representatives of civil society groups and campaigning organizations from six continents. The keynote address was given by the United
In 2000, INESAP participated in several disarmament negotiations as well as the present state of affairs of the existing NWFZs were reviewed. Then, the feasibility as well as practical steps to implement corresponding concepts in other areas were discussed, especially with regard to five specific zones. The relevance of long-standing demands for a Nordic NWFZ and the concept of 'single-state' NWFZs that are advocated for countries as varied as Austria, Mongolia and Sweden was underscored. The seminar also discussed the issue of verification of NWFZ agreements and concluded on the basis of expert opinion that fairly reliable and accessible technological means exist to verify compliance of all concerned states with their obligations.

The participants agreed to campaign for NWFZs in different forums, global, regional and national. The seminar adopted the “Uppsala Declaration”. It calls for Nuclear Weapons-Free Zones (NWFZs) to be established all over the world as transitional steps towards complete nuclear abolition and underscored the urgency of such zones particularly in South Asia, Northeast Asia, the Middle East and Central Europe.

It was decided to document the seminar in a book. Due to a lack of financial resources and in the absence of a project coordination, however, not much has been achieved in the NWFZ project since the seminar.

**Various**

In 2000, INESAP participated in several other activities:

- INESAP continued to support the Abolition 2000 (A2000) network.
- INESAP members are co-convenors of two A2000 working groups (Jürgen Scheffran on the Nuclear Weapons Convention, Martin Kalinowski on nuclear-weapons-usable materials/cut-off). INESAP was also represented at global strategy meetings of A2000.
- INESAP continued to be involved in the Middle Powers Initiative (MPI), as a co-sponsor as well as by the work of Professor Fernando de Souza Barros who represents INESAP on the International Steering Committee of the MPI.
- Several German INESAP members participated in an expert seminar on ballistic missile defense in Göttingen/Germany (November 4). The seminar adopted the „Göttingen Appeal”, calling upon the United Nations General Assembly 2001 to ban space weapons and abolish nuclear weapons.

**Organizational matters in 2000**

**INESAP Coordinator position**

In 2000, it was generally difficult to keep up INESAP work due to a lack of network coordination and to time restraints of the active INESAP members (this is why no INESAP Information Bulletin could be published throughout the year). In late 2000, however, INESAP was able to open a part-time position for a Coordinator. Among a number of Highly qualified applicants, Regina Hagen was selected. She accepted her appointment and took up work for INESAP in February 2001. With this encouraging development INESAP will certainly gain new momentum in the course of the year 2001.

**INESAP homepage**

The INESAP homepage has a new URL: http://www.inesap.org. The ‘look and feel’ of the homepage has been modified and the site has been upgraded. The INESAP Bulletin is available as PDF, many issues also in HTML format.

**INESAP email discussion list**

Since 1994, Johan Swahn facilitates an email discussion list for information exchange and networking among INESAP participants. The list currently reaches 63 addresses. To subscribe to the list, send an email to the administrator at inesap-owner@sfc.chalmers.se.

**Funding and support**

INESAP funding in 2000 came from the Nuclear Age Peace Foundation and by way of IANUS from public funds of the State of Hessa and the Darmstadt University of Technology. The office of INESAP is hosted by IANUS at the Darmstadt University of Technology. The office of INES in Dortmund continued to support the work of INESAP, especially with respect to the Abolition 2000 Network.

**Selected publications**

(for more details see above)


Nuclear Weapon-Free Zones: Crucial Steps Towards a Nuclear-Free World

The Uppsala Declaration on Nuclear Weapon-Free Zones

A decade after the end of the Cold War, the world faces a stark choice: achieve the complete abolition of nuclear weapons, or face a second Nuclear Age with new generations of even more horrifying nuclear and other high-tech weapons.

We believe there is an urgent moral, political, legal and security imperative to abolish these weapons, and build a strong momentum towards complete global nuclear disarmament. This is a precondition for human and environmental security.

Therefore, more than 50 scholars, peace activists, diplomats and experts from six continents met on September 1 - 4, 2000, at Uppsala in Sweden. The conference, convened by the Dag Hammarskjöld Foundation, the Transnational Institute, Peace Depot, Gensuikin (Japan Congress Against A- & H-Bombs) and INESAP (International Network of Engineers & Scientists Against Proliferation), discussed the feasibility of establishing Nuclear Weapon-Free Zones (NWFZs) across the world.

The dramatic threat of a new Nuclear Age highlights the urgent need for comprehensive nuclear disarmament and rapid destruction of the arsenals of all nuclear weapons-states. It also calls for incremental measures towards these goals. These include a nuclear test ban, a missile flight test ban, separation of warheads from missiles, a ban on the production of fissile materials used for making nuclear weapons and appropriate disposal or safeguarding of the accumulated stockpiles of such material.

Crucial among these transitional measures are Nuclear Weapon-Free Zones. These would ban the manufacture, deployment and transit of nuclear weapons in specific regions, and demand of nuclear armed states that the zones not be threatened or attacked with nuclear weapons. This would help make it possible to permanently fold the nuclear umbrella, the so-called nuclear protection that nuclear weapon states offer non-nuclear allies.

Such zones already exist in Latin America, the South Pacific, Africa, and Southeast Asia. They have prevented nuclear proliferation in those areas. A new zone is currently being negotiated in Central Asia. Several regions continue to face severe nuclear dangers, a challenge exacerbated by menacing attempts to build both National and Theatre Missile Defence systems. These regions include Northeast Asia, South Asia, the Middle East, and Central Europe. The creation of NWFZs here would not only limit proliferation, but support active nuclear disarmament with the dismantling of overt and clandestine nuclear weapons and fissile stocks and rolling back existing nuclear programmes. Such extension of NWFZs to the Northern hemisphere will enhance collective security and strengthen efforts to completely eliminate nuclear weapons.

An NWFZ treaty in Northeast Asia would effectively address security concerns in Japan and the Korean peninsula. A South Asian NWFZ would prevent India and Pakistan from making or deploying nuclear weapons in this volatile region, where the danger of a nuclear exchange is today the greatest anywhere in the world. In the Middle East, the establishment of a zone free of Israel's nuclear weapons, and all other weapons of mass destruction in the region, represents a key component of regional security. In Central and Eastern Europe an NWFZ would defend the post-Cold War peace gains now threatened by NATO expansion as well as facilitate withdrawal of remaining tactical nuclear weapons.

There are no technological obstacles to effective verification of NWFZ agreements. Establishing such zones requires political will, organisation and mobilisation. We hereby commit ourselves to:

- Creating a Nuclear Weapon-Free Zone Network to coordinate efforts in support of new and existing zones, including actively advocating the creation of NWFZs in Central Asia, Northeast Asia, South Asia, the Middle East and Central Europe.
- Public education on the horrors of nuclear weapons, the urgency of nuclear disarmament and the value of NWFZs.
- Supporting the Latin American proposal to the United Nations General Assembly for an international conference of all parties to the Nuclear Weapon-Free Zones.
- Strengthening the existing zones and demanding strict adherence to the treaty provisions by the nuclear weapon-states.
- Engaging policy-makers and parliamentarians worldwide in support of NWFZs.
- Supporting single-country nuclear weapon-free zones.
- Supporting nuclear-free cities, provinces, and other areas governed by local authorities.
- Opposing Theatre and National Missile Defence systems as an integral part of our opposition to nuclear weapons.
- Working to defend nuclear whistleblowers, such as Mordechai Vanunu, now entering his 15th year of imprisonment for having revealed Israel’s nuclear arsenal; we demand his immediate release.
- Peoples and governments everywhere, as well as the United Nations, have a contribution to make to the creation and expansion of nuclear weapon-free zones. We urge others to join us in mobilising energies and resources towards achieving the noble goal of global nuclear disarmament.

The Declaration and Press Release are the result of an international seminar that took place on September 1 - 4, 2000, in Uppsala, Sweden. The Seminar was sponsored by the Dag Hammarskjöld Foundation and co-convened by Gensuikin, Peace Depot, Transnational Institute, and INESAP.

For more information: Dag Hammarskjöld Foundation, Övre Slottsgatan 2, 75310 Uppsala, Sweden, tel. +46-18-12 88 72, secretariat@dhf.uu.se.
Conference calls for Nuclear Weapon-Free Zones with Emphasis on South Asia, Northeast Asia, the Middle East and Central Europe

Press Release, 4 September 2000 Uppsala (Sweden)

An International Seminar, attended by more than 50 scholars, experts, activists and diplomats from six continents, has called for Nuclear Weapons-Free Zones (NWFZs) to be established all over the world as transitional steps towards complete nuclear abolition. It underscored the urgency of such zones particularly in South Asia, Northeast Asia, the Middle East and Central Europe.

The Seminar, held between September 1 and 4 at Uppsala, was inaugurated by United Nations Undersecretary General for Disarmament Affairs, Jayantha Dhanapala, who delivered the keynote address. It deliberated on the moral, political, legal and security imperative of nuclear weapons abolition, highlighting the need for both comprehensive and incremental measures of disarmament.

"At a time when some 30,000 nuclear weapons remain, NWFZs offer one of the few activities open to non-nuclear-weapon States not just to quarantine themselves from the nuclear contagion, but to pool their efforts to resist it," said Mr Dhanapala.

The Seminar participants were unanimous that a decade after the Cold War, the world faces a stark choice: achieve complete nuclear abolition, or face a second Nuclear Age with new generations of even more horrifying nuclear and other high-tech weapons.

NWFZs, which ban the manufacture, deployment and transit of nuclear weapons in specific regions, and make them safe from nuclear attacks and threats from the nuclear weapons-states, are an important step towards nuclear abolition. Treaties to establish NWFZs have so far been reached in respect of Latin America (1967), South Pacific (1985), Africa (1996) and Southeast Asia (1997).

"It is imperative that the treaties come into force fully and that the Nuclear Powers strictly adhere to their protocols," said Olle Nordberg, Executive Director of the Dag Hammarskjöld Foundation, the Seminar host and one of its five international co-sponsors.

"But it is even more crucial that the concept of NWFZs is itself radically transformed: from a measure of non-proliferation to a pro-active means of nuclear disarmament, i.e. thinning out, removal and actual dismantling of nuclear weapons where they already exist", Mr Nordberg said.

After reviewing recent developments in disarmament negotiations, as well as the working of the existing NWFZs, the Seminar discussed at length the possibilities of such a transformation at a conceptual and practical level, especially as regards five specific zones.

In Central Asia, the emergence of a zone treaty, which seemed imminent, now faces some political obstacles. These need to be overcome.

In Northeast Asia, with Japan and the two Koreas at its centre, an NWFZ would offer the best guarantee of security without nuclear weapons while ensuring that no country crosses the nuclear threshold. "This is an eminently sensible proposal," said Hiro Umebayashi of Japanese civil society group, Peace Depot.

In volatile South Asia, which witnessed a nuclear breakout with the Indian and Pakistani tests of 1998, an NWFZ could prevent the deployment of nuclear weapons. "The demand for such a zone has been made for over 20 years in UN resolutions," said Achin Vanaik and Praful Bidwai, Indian anti-nuclear campaigners and initiators of the seminar. "Today a South Asian NWFZ is more relevant than ever."

In the Middle East, the establishment of a zone free of Israel’s nuclear weapons, and all other weapons of mass destruction would be a key component of regional security. Said Fawzy H. Hammad, former chairman of Egypt’s atomic energy commission: "All the participants from our region agree that a zone free of all mass-destruction weapons is a realistic step forward."

In Central and Eastern Europe, an NWFZ would defend the post-Cold War peace gains now threatened by NATO expansion and facilitate withdrawal of remaining tactical nuclear weapons. Fiona Dove, director of the Amsterdam-based Transnational Institute, another Seminar co-sponsor, said: "A Central European NWFZ would greatly enhance security and impel NATO de-nuclearisation in Europe."

NWFZs have an advantage over other transitional measures towards disarmament. They involve a concerted effort by a whole region towards a common security structure. They carry the potential to include non-signatories to the Non-Proliferation Treaty (NPT) and Comprehensive Test Ban Treaty. They do not suffer from the infirmities of the NPT, which does not impose effective disarmament obligations upon the nuclear states.

The Seminar participants emphasised the tremendous public education as well as disarmament potential of NWFZs. They welcomed declarations of nuclear weapons-free cities and local authorities. "Such nuclear-free areas have great moral and political value although lacking legal force", said Masa Takubo of Gensuikin (Japan Congress against A- and H-Bombs).

The Seminar also discussed the issue of verification of NWFZ agreements and concluded on the basis of expert opinion that fairly reliable and accessible technological means exist to verify that all concerned states comply with their obligations.

Seminar participants, who included a variety of civil society groups and campaigning organisations, underscored the relevance of the long-standing demand for a Nordic NWFZ and the concept of ‘single-state’ NWFZs being advocated for countries as varied as Austria, Mongolia and Sweden.

The participants dedicated themselves to campaigning for NWFZs in different forums, global, regional and national. In the Uppsala Declaration they adopted (attached below), they outlined a programme of future activities, including regional-level campaigns, publications and creation of a Website.
Scientists’ and Engineers’ Pledge
To Renounce Weapons of Mass Destruction

I pledge never to participate in
- the design, development, testing, production, maintenance, targeting, or use of nuclear, biological, or chemical weapons or their means of delivery; or in
- research or engineering that I have reason to believe will be used by others to do so.

Why we are launching this Pledge

Science and its practical application have brought many benefits to society but have also at times been a source of profound social harm. This has particularly occurred when the uses of scientific knowledge have strayed outside the ethical boundaries of society, or escaped lawful political control.

Military technologies have proven to be among the most difficult applications of science to control. Today’s shield can become tomorrow’s sword, either in our own hands or in those of an adversary. The device one person or nation builds in order to protect, another may use to coerce – or when that fails, to destroy. Advances in modern weaponry, far from making war obsolete or more humane, have only increased its potential violence.

Among all weapons, weapons of mass destruction are especially abhorrent to the conscience of humanity. A category that includes nuclear explosives, radiological and chemical toxins, and biological agents, these weapons cannot, by their very nature, reliably discriminate between either combatants and civilians on the one hand, or belligerent and neutral countries on the other. Far more than conventional weapons, they can destroy the ecological foundation upon which any future peace could be built, and harm generations far into the future. Their destructive effects are disproportionate to any legitimate or rational military objective, and escalate the probability and violence of future conflicts in incalculable ways.

For this reason, whether used to coerce or to overtly destroy, these weapons can never serve justice. As the International Court of Justice has recognized, their overt use would be incompatible with the slowly but steadily expanding fabric of humanitarian law that constrains the violence of war. Further, their use as a coercive instrument offers potent political and military rationalizations for compensatory efforts by other states, factions within them, or non-state actors, diminishing the security of all.

The use of biological and chemical weapons is banned under international law, and legal regimes outlawing their possession, with verification measures adopted or under development, are widely adhered to, including by the major powers. But there is as yet no comparable global and explicit prohibition on use of nuclear weapons, and the Nonproliferation Treaty prohibition on possession, while applying to almost all states, does not reach the most powerful, who have not fulfilled their legal obligations to negotiate effective measures relating to cessation of the arms race and the elimination of nuclear weapons.

Yet nuclear weapons remain in many ways the most dangerous of all weapons of mass destruction. In defiance of their disarmament obligations based on the Nonproliferation Treaty and other international law, and ignoring the requirements of humanitarian law, the states which possess them continue to insist on their prerogatives to retain, produce, and further develop these weapons, as well as to use them in battle. It is to the completion of this unfulfilled obligation that this pledge is especially addressed. Where nations and institutions lag behind, individuals can and must lead.

The continuing presence of nuclear weapons in the world’s arsenals casts a dark shadow on humanity’s hopes for the new millennium, and on the scientific community itself. In the United States alone, tens of thousands of scientists and engineers work on nuclear weapon systems, for the most part in powerful, semi-autonomous institutions that effectively shape government policy in favor of continued and increased reliance on these terrible weapons. While these scientists and engineers hold a variety of personal views regarding disarmament, their participation gives to these institutions and their political advocates the power to perpetuate the continued maintenance and development of weapons of mass destruction. Regardless of their individual beliefs, each one of these scientists and engineers becomes a tacit supporter of nuclear weapons and other weapons of mass destruction.

Scientists may do research without the ability to know or control how their work might be used. This is especially true for military related science and technology. In most science, presumed benefit is likely to outweigh lack of perfect foresight. In the case of weapons of mass destruction, it does not. We therefore call on scientists and engineers to recognize their moral obligations as global citizens to exercise due diligence regarding the potential applications of their research to the further development, testing, production, maintenance, targeting, or use of nuclear and other weapons of mass destruction. Under established principles of international humanitarian law, willful ignorance or blind obedience in such matters do not by themselves constitute a plausible defense against the assignment of responsibility for crimes carried out with such weapons.

Nowhere on earth are more resources being devoted to developing, producing, and maintaining weapons of mass destruction than in the United States. In the U.S., new uses for nuclear weapons are being examined, new doctrines for nuclear weapon use are being developed, modified nuclear weapons with significantly-improved military capabilities are
being designed and deployed, and the budget for research, development, testing, and production of nuclear weapons is approaching an all-time high. But while the U.S. continues to outspend all the other nuclear weapons states in developing new infrastructure for nuclear weapons development, the others have not been idle. In fact, nuclear weapons are now increasing in legitimacy, sophistication, and importance in some if not all of the nuclear weapon states. Additionally, other nations continue to remain outside the biological and chemical weapons conventions.

A decade after the end of the Cold War, as the assumptions underlying the perversely logic of mutually assured destruction crumble, the U.S. is putting forward new justifications for maintaining and modernizing its nuclear arsenal. There is an increasing emphasis on “counterproliferation,” a doctrine that contemplates nuclear retaliation and even preemptive attacks against potential users of chemical or biological weapons. Thus the deadly cycle of deterrence feeds on itself, and, as nuclear, chemical and biological weapons spread, everyone everywhere becomes less secure.

Scientists and engineers embody traditions that are rooted in the devotion to truth and the enhancement of human dignity. As a human being, one cannot ignore the ethical responsibilities inherent in every aspect of life, including one’s work. In taking this pledge, scientists and engineers categorically forswear work on weapons of mass destruction in all their forms, as a step toward ensuring that their talents and energies are devoted, not to the destruction of life, but to its protection and enhancement.

Remember your humanity and forget the rest.
The Einstein-Russell Manifesto, 1955

Summer Symposium 2001 in Berlin

Eryn MacDonald

The 13th International Summer Symposium on Science and World Affairs was the latest in an annual series of meetings designed to encourage and support the development of young scientists working on international security and arms control research. The main goal of these meetings is to develop an international community of independent analysts with technical expertise who also understand the policy aspects of international security issues. A particular focus has been on encouraging the development of such analysts in countries where there is not a strong tradition of public interest science and on integrating them into the international community of researchers with similar interests and backgrounds. Participants are encouraged to approach security issues from an international perspective, in keeping with the philosophy that the security of individual nations is best served by enhancing the security of all nations.

The Summer Symposia are organized each year by the Union of Concerned Scientists and a local co-host. This year’s co-hosts were the IANUS group at Darmstadt University of Technology and the Radiological Measurements Laboratory, Department of Physics at Bremen University. The meeting is funded by grants from the W. Alton Jones Foundation and the Ploughshares Fund.

This year’s meeting was held from July 21 - 29 2001, at the European Academy, Berlin. Thirty seven participants from eleven countries – including China, Germany, India, Iran, Pakistan, Russia, South Korea, and the United States – spent the eight days discussing their research and the role that scientists can play in policy debates. In keeping with the meeting’s goal of increasing the number of technically trained researchers working on these issues, about half of the participants had not been to a previous meeting. This year’s meeting included a particularly strong Indian delegation, with five participants, three of whom were new to the Symposia, and all of whom were physicists. Because the meeting was held in Germany, it also included a relatively large German group, and was able to include a good number of the younger researchers in Germany’s technical arms control community.

During the Symposium, each participant gave a talk on research that they were working on now or that is in the planning stages. These talks offer newer participants an opportunity that they might not have at more traditional meetings to discuss their own research, and give both new and more experienced participants a chance to get feedback on their projects from others in the field. Talks this year covered a wide range of issues, reflecting the interests of individual participants, with some topics such as missile defense issues the subject of a large number of talks. In addition to the talks, participants organized several supplementary discussions on topics of interest such as how scientists can affect policy, the South Asian nuclear situation, and fellowship and funding opportunities.

For more information on the Summer Symposium, see the website at http://www.summersymposium.org. The date and location for next year’s meeting have not been determined yet, but will be posted to the site when they are available.
Global Elimination of Nuclear Weapons

Edited by Martin Kalinowski

In 1996, the International Court of Justice in The Hague confirmed with an advisory opinion that the threat and use of nuclear weapons is generally illegal according to the existing international right. Nuclear weapon states do have a legally binding obligation to disarm completely.

This volume analyses why this goal has not been achieved yet and how the current deadlock could be overcome. To this end, unconventional disarmament proposals are presented, first of all the proposed Nuclear Weapons Convention that would ban nuclear weapons. This would follow the example of the Biological and Chemical Weapons Conventions. As an immediate step towards the ultimate goal, qualitative instead of the conventional quantitative disarmament measures are suggested. The control of the fusional weapons material tritium is used as an example. It is further suggested that in addition to the USA and Russia, the other nuclear weapons states should join in the disarmament process. Nuclear Weapons Free Zones are a possibility to prepare for global elimination of nuclear weapons on a regional scale.

This collection of papers establishes a profound introduction to the position and the proposals of proponents for a complete nuclear disarmament. It is particularly suited for scientists, politicians and concerned citizens who are engaged in disarmament issues.

The authors are internationally well respected experts for nuclear disarmament with some emphasis on scientific expertise. Among them are co-initiators and main authors of the model Nuclear Weapons Convention that was introduced as an official document of the United Nations in 1997.

Out of The Nuclear Shadow

Edited by Smitu Kothari and Zia Mian

Outraged conscience, careful argument, poetry, political analysis – gathered here is the diversity of voices, traditions, and approaches that are weaving themselves into an antinuclear movement in India and Pakistan.

In these essays written before, during, and after the May 1998 nuclear explosions, scholars and activists from these two countries attempt to understand and challenge the nuclearisation of South Asia. These essays are an act of resistance against governments that see nuclear weapons as a currency of power, as symbols of prestige, as sources of security, as moments of glory in an otherwise dismal contemporary history.

The collection includes Mahatma Gandhi’s response to the bombing of Hiroshima, and recent writings by Eqbal Ahmad, Rajni Kothari, Ashis Nandy, Arundhati Roy, Amartya Sen, and veteran anti-nuclear activists, academics and journalists. The volume also contains the texts of many of the historic public statements protesting the May 1998 nuclear tests that helped mobilise public opposition to the bomb in South Asia. There is a resource guide to books, films and websites on nuclear weapons, as well as information on many organisations now working on this issue.

Smitu Kothari is based at Lokayan in Delhi, where he coordinates research and campaigns on political, cultural and ecological issues, and co-edits the Lokayan Bulletin. He is a member of the Indian Coalition for Nuclear Disarmament and Peace.

Zia Mian is a physicist and writer from Pakistan at Princeton University’s Center for Energy and Environmental Studies, and a visiting fellow at the Sustainable Development Policy Institute, Islamabad. He has written extensively on nuclear weapons issues, and is active in the South Asian peace movement.

Published in 2001, 525 pages

Lokayan, 13 Alipur Road , Delhi 110054, tel. +91-11-39 69 380

Pakistan and India Under the Nuclear Shadow

A video documentary from the Eqbal Ahmad Foundation, produced and directed by Perez Hoodbhoy; script by Zia Mian

In May 1998, over a billion people were thrust into the nuclear shadow as India and Pakistan blasted their way onto the world stage as nuclear weapons states. This path-breaking 35 minute independent documentary made in Pakistan takes a critical look at what the bomb has done for the two countries since then. Senior Indian and Pakistani military leaders assess the consequences of nuclear testing in South Asia and the possibility of war. Heads of Islamic religious organizations and militant groups engaged in jihad explain the hopes they have for the bomb and why they believe it strengthens Pakistan and Islam. Leading peace activists, academics and journalists make the case that nuclear South Asia is spiralling into instability, an arms race, deepening poverty, and an ever-greater threat of nuclear war, both deliberate and accidental. Through interviews, graphics, and archive footage, the film spells out in stark and urgent terms the nuclear danger that now imperils the people of Pakistan and India and the desperate need for peace.

To order Pakistan and India under the Nuclear Shadow, $35 must be paid by check, drawn on a US bank, or money order. Please indicate the correct format (VHS-PAL for Europe and Asia, VHS-NTSC for USA and Canada, or Compact Disk for viewing on personal computer) and the language (English or Urdu).

Send your order to: Eqbal Ahmad Foundation, P.O.Box 222, Princeton, NJ 08542-0222, USA.

New Publications

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New publication in German

INESAP member Wolfgang Liebert and JANUS member Wolfgang Bender edited a collection of German papers on the approach to a nuclear weapons free world.

New Publications

Weapons in Space
by Karl Grossman with a foreword by Dr. Michio Kaku

Why is the U.S. moving forward with its program of weapons in space in the face of international opposition and the promise of an escalating arms race with Russia?

President George W. Bush’s recent trip to Europe was an exploding cigar. Instead of increasing international support for Bush’s ‘missile defense’ plan, Europe continue to denounce the U.S. plan to violate the ABM Treaty and militarize space. During a press conference, Bush was confronted with the embarrassing question of why he will not sign the Kyoto Treaty due to “lack of scientific evidence” when he is willing to spend billions of dollars on a weapons in space system for which there is even less scientific support. While thousands of protesters chanted protests against Bush during his stops in Spain, Belgium, and Sweden, Russia responded with the alarming promise to arms its single warhead missiles with multiple nuclear bombs in order to easily ‘overwhelm’ any missile defense system the U.S. could devise in the next 25 years. The Russians, offended by U.S. plans to violate the ABM Treaty, interpret U.S. actions as a challenge to their security, and are signaling that they will escalate. In Weapons in Space, award-winning investigative journalist Karl Grossman examines why the U.S. is so single-minded about the militarization of space. Based on excerpts from U.S. government documents, Grossman outlines the U.S. military’s space doctrine, its similarity with the original Stars Wars scheme of Ronald Reagan and Edward Teller, and the space-based lasers it plans to deploy in its mission to ‘dominate’ earth. Grossman shows the intimate link between flow of billion of U.S. tax dollars to the corporations that research and develop weapons for space. His book explains the Outer Space Treaty and gives a history of the Global Network Against Weapons and Nuclear Power in Space: what it is doing, what it plans to do – and what the reader can do to challenge U.S. plans to turn the heavens into a war zone.

Star Wars Returns
Narrated by Karl Grossmann

The powerful documentary Star Wars Returns reveals how the United States is moving to make space a new arena of war. It presents military documents declaring the U.S. intention to “control space” and from space “dominate” the world below. It exposes U.S. development programs now underway to produce space-based laser weapons. And, it shows how the George W. Bush administration and, especially, its Defense Secretary Donald Rumsfeld, is pushing ahead rapidly with Star Wars that far more than “missile defense” is involved. It tells how, at the UN, because of the U.S. program for space warfare, a vote was recently held to reaffirm the Outer Space Treaty the basic international law which sets aside space for “peaceful purposes.” Some 163 nations voted yes. The U.S. abstained. Star Wars Returns explores the international opposition to Star Wars. It spotlights the strong challenge to Star Wars being made at the grassroots level worldwide by the Global Network Against Weapons and Nuclear Power In Space.

Star Wars Returns is narrated and was written by investigative reporter and journalism Professor Karl Grossman, directed and edited by Emmy Award-winner Steve Jambeck and produced by Joan Flynn.

To order the Star Wars Returns video, send $21.95 ($19.95 + $2 shipping and handling) (institutions $49.95 + $2 shipping and handling) to EnviroVideo, Box 311, Ft. Tilden, NY 11695, USA, call +1-800-326-8846, or fax +1-718-318-8045, or send an email to research@napf.org, call the Foundation at +1 (805) 965-3443, or send a letter to Nuclear Age Peace Foundation, PMB 121, 1187 Coast Village Road, Suite 1, Santa Barbara, California 93108-2794, USA.

A Maginot Line in the Sky: International Perspectives on Ballistic Missile Defense
Edited by David Krieger and Carah Ong

This book brings together the views of eighteen contributors of different nationalities, including Americans, on the proposed US Ballistic Missile Defense plans.

Among the international authors of the book are Senator Douglas Roche and Michael Wallace from Canada, Sir Joseph Rotblat from the UK, Alla Yaroshinskaya from Russia, Samsung Lee from South Korea, Achin Vanaik from India, Nic Macellan from Fiji. Views from the US are covered by Admiral Eugene Carroll, Bruce Gagnon, and Leah Wells.

In addition, many authors who wrote for this issue of theINESAP Information Bulletin have also contributed articles for A Maginot Line in the Sky: David Krieger, Dingli Shen, Hiro Umebayashi, Bahig Nassar, Andrew Lichterman and Jacqueline Cabasso, and Jürgen Scheffran.

These perspectives should be included in any intelligent discussion of whether or not the US should proceed with development and deployment of missile defense systems.

The book is available at $14.95 per copy plus shipping and handling ($4.00 US/$7.00 International). To order a copy, please send an email to research@napf.org, call the Foundation at +1 (805) 965-3443, or send a letter to Nuclear Age Peace Foundation, PMB 121, 1187 Coast Village Road, Suite 1, Santa Barbara, California 93108-2794, USA.

This book combines papers written in the context of the conference „Space Use and Ethics“ convened by IANUS/INESAP and several other groups in March 1999. (For a conference report, see INESAP Information Bulletin #17, August 1999.) A second volume with a comprehensive collection of space-related documents is to follow.

– Space Use and Ethics. Much Ado About a Conference, Regina Hagen and Jürgen Scheffran
– Welcome Address, Wolfgang Bender

Criteria for Space Research and Space Use
– Ethical Criteria for the Assessment of Space Projects, Wolfgang Bender
– Peaceful and Sustainable Use of Space Principles and Criteria for Evaluation, Jürgen Scheffran
– On the Justifiability of Space Missions, Hartmut Sax
– Ethical Criteria for Space Use – a Russian Perspective, Ruben G. Apressyan

Use of Nuclear Power in Space
– Alternative Power Sources for Deep Space Missions, Kai Petzke
– Plutonium Releases into the Atmosphere, Roland Wolff
– German Participation in the NASA ‘Mars Surveyor’ Program, Göstler Klinkelhöfer
– Reducing the Energy Requirements of the Payload on Space Missions, Uwe Bonnes

Missile Defense
– NMD System Architecture and Its Compatibility With the ABM Treaty, Götz Neunke and Michael Schaaf

Military Use of Space
– Dual-Use of Satellite Remote Sensing, Wolf von Kries
– Dual-Use and European Military Space Systems, Dieter Engels
– The Weaponization and Nuclearization of Space, Karl Grossman

Science and Manned Space Missions
– Small Space Philosophy for Big Knowledge Gains, Wolfgang Engelhardt
– Manned Space Missions – Useless or Key to the Future?, Johannes Weyer

New INESAP Coordinator
INESAP has appointed Regina Hagen (Darmstadt, Germany) as its new coordinator as of February 2001. Born in 1957, Regina worked as a free-lance translator (English, Russian) in the recent years. She joined the German peace movement in the early 80s.

A few years back, Regina became involved in IANUS/INESAP activities, and subsequently, in national and international Abolition 2000 networking, as well as in the Global Network Against Weapons and Nuclear Power in Space, and other organizations. Since then, she started focusing on nuclear weapons, the militarization of space, and missile defense. Ever since, she also did related translations (e.g. of the book Security & Survival which includes the draft Nuclear Weapons Convention), much writing, and some editing work.

Regina was invited to join the interdisciplinary working group IANUS at the Darmstadt University of Darmstadt in whose offices she is now located. She can be reached at: inesap@hrzpub.tu-darmstadt.de.

Russian Perspectives of Space Projects, Igor Gabelko

Conflict and International Space Law
– Who Controls Space?, R. Balasubramaniam
– Peaceful Uses of Outer Space and International Law, Hans-Joachim Heintze
– Space Law and the Principle of Non-Appropriation, Kai-Uwe Schrögl

Space Research and Space Policy
– The Future of Space Research and Policy, Andreas Schlossarek
– Social Responsibility in Research, Arbeitsgemeinschaft der Betriebs- und Personalräte der außeruniversitären Forschungseinrichtungen (AGBR)
– Demands to Future Space Research and Policy, Regina Hagen

Wolfgang Bender, Regina Hagen, Martin Kalinowski, Jürgen Scheffran (eds.), Space Use and Ethics, agenda, Münster, 300 pages, due in October 2001.

For more information and ordering information, contact INESAP, Hochschulstrasse 4a, 64289 Darmstadt, Germany, tel. +49-6151-16 44 68, fax +49-6151-16 60 39, inesap@hrzpub.tu-darmstadt.de.