Counter-Proliferation Spurs WMD Threat

- Non-Proliferation and Preventive War
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Shock and Awe Destroy Order and Law
The New American Dream is a Nightmare

The dream of George W. Bush became true: he conquered Iraq and smashed the regime of Saddam, concluding the work of his father. Like other emperors before him he did not care about the costs nor the casualties. As long as victory can be declared, the blood of the victims on the hands of the victors may be ignored and concealed with the oil from the soil of Iraq that is now under control. This was worth any price.

From history’s view there is not so much new with this American War. Killing the Indians, nuking Japan, burning Vietnam, to name just a few: millions were murdered in the name of the American Dream. Of course, for the United States the last World War was not just a war but a truly just war, liberating one half of Europe. The other half fell in their hands when those in the East won the Cold War and tore down the Wall that served to protect them against the Big Mac. Now they enrich their health with the fruits of the wealth and split Europe once more.

Bush’s message is simple: God likes US. God’s Own People in God’s Own Country is good by all values, true by all measures, fair by all standards. In preventive wars, they kill, bomb, destroy whenever they can, wherever they want, whomever they get. Only those who obey, and bow heads like a prey, will not be the targets of goodness.

Bombing a country that cannot defend is terror attack from the sky. Is mass murder noble because it just works? Whether thousands are killed or even much more, civilians and soldiers, doesn’t count for the warriors. All that counts is the number of dollars in the pockets of those who earn profits—profits from arming Iraq, profits from destroying Iraq, profits from rebuilding Iraq, profits from rearming Iraq. Some are always the same in this cycle. They have no “sorry”, no sorrow for those who are killed by the terror. Collateral damage kills without noble reasons and acknowledged intentions. Those who cause the disaster are pretending good acts but ignore bad effects, two sides of one coin.

Invading Iraq was seemingly easy, building peace and stability is likely more tough. After the war, those who survive dance on the graves of the dead. They applaud the winners because these now rule. While these lines are in writing, Iraq slides into disorder, violent chaos, and anarchy, as was to be expected. Everything’s looted that’s left from decades of sanctions and war, worsening the humanitarian disaster. Those who survived war, wounded, in hospitals, are attacked in their beds by the mob ruling the streets. Women are raped, children frightened by horror. The occupation regime is equipped well enough to destroy civil order, but lousy prepared to preserve it, as for them chaos is not a threat. It’s enough to protect the oil wells, as their loss is really a threat.

Those who commit murder don’t want the truth to become public. On US TV you won’t get the real from reporters embedded in the arms of the army. Free press is a threat that has to be bombed. Winners take all, including the truth.

But why this disaster? To disarm Saddam of his weapons of mass destruction, as Bush and his buddies pretend? After months of inspections and weeks of warfighting the proof is still not there. Whatever the winners will finally find to mask their obvious reasons—no-one will care, because the proof of the truth cannot make war undone. Everyone knows: Iraq was attacked not as a threat but because it was none and weak enough to serve as a prey for the global predator. Strangely enough, inspectors proving the lack of the threat diminished the risks of invasion. After Iraq got rid of its weapons, promptly the punishment followed. This is the lesson proliferators draw: build nukes as soon as you can. For this reason, Yong Yang is to deter by all means the US, the only real global threat.

The message is clear: Law is for others, but not for US. Shoot the bad guy outside the law, kill all around him— this is bad fiction, not the script for a good Western movie. The world in the hands of a Stupid White Man, fighting wars for fictitious reasons, neither representing freedom nor peace nor democracy. Deregulation, globalization, privatization, violation of international law—that’s all to ensure maximum freedom of corporate action. Iraq’s people are now free to experience the same fate as people in other developing countries. They have but one role to play: as consumers in the globalized market, giving away all their resources. Those who can’t pay the goods in Bush’s pray may starve on the American Way.

Afghanistan and Iraq are just the beginning, many more targets are yet on the list. How many shall die in revenge for the hell of September 11? How many innocent will be murdered, to how many terrorists will this terror give rise? The chains of reaction leave pains of destruction, without any reason and end.

The lesson for the world, protesting the war, emerged as a global player: go your own way, do not depend on the US, ignore the hegemon wherever you can, build coalitions. Not might is right, but the right might limit the might without flight. Preventive diplomacy is the choice for Europe over preventive war, sustainable peace much better than ever sustained war. If Shock and Awe destroy Order and Law, the world should no longer buy the lie of the new American Dream. It’s not a dream, but a nightmare.

Jürgen Scheffran, April 13, 2003

On this issue
This Bulletin was planned prior to the Iraq War, and concluded in its final phase. The topics in this issue are most relevant in this context. One focus is on the double non-proliferation standards between Iraq and North Korea. A second focus are the results from the INESAP Conference on "International Arms Control, Transparency and Verification in a European-Russian Framework of Co-operative Security" which took place in Berlin January 24–26, 2003, around the time when the German-French-Russian axis was formed against the Iraq War. The meeting covered various issues of non-proliferation and disarmament of weapons of mass destruction, including delivery systems and missile defense. Additional topics are the current nuclear non-proliferation regime in the context of the NPT PrepCom meeting in Geneva in a few weeks and dangers deriving from the nuclear weapons complex.
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As delivered
Security Council, 7 March 2003
Oral introduction of the 12th quarterly report of UNMOVIC
Executive Chairman Dr. Hans Blix

Thank you, Mr. President,

Mr. President, for nearly three years, I have been coming to the Security Council presenting the quarterly reports of UNMOVIC. They have described our many preparations for the resumption of inspections in Iraq. The 12th quarterly report is the first that describes three months of inspections. They come after four years without inspections. The report was finalized ten days ago and a number of relevant events have taken place since then. Today’s statement will supplement the circulated report on these points to bring the Council up-to-date.

**Inspection process**

Inspections in Iraq resumed on 27 November 2002. In matters relating to process, notably prompt access to sites, we have faced relatively few difficulties and certainly much less than those that were faced by UNSCOM in the period 1991 to 1998. This may well be due to the strong outside pressure.

Some practical matters, which were not settled by the talks Dr. ElBaradei and I had with the Iraqi side in Vienna prior to inspections or in resolution 1441 (2002), have been resolved at meetings which we have had in Baghdad. Initial difficulties raised by the Iraqi side about helicopters and aerial surveillance planes operating in the no-fly zones were overcome. This is not to say that the operation of inspections is free from frictions, but at this juncture we are able to perform professional no-notice inspections all over Iraq and to increase aerial surveillance.

American U-2 and French Mirage surveillance aircraft already give us valuable imagery, supplementing satellite pictures and we would expect soon to be able to add night vision capability through an aircraft offered to us by the Russian Federation. We also expect to add low-level, close area surveillance through drones provided by Germany. We are grateful not only to the countries which place these valuable tools at our disposal, but also to the States, most recently Cyprus, which has agreed to the stationing of aircraft on their territory.

**Documents and interviews**

Mr. President,

Iraq, with a highly developed administrative system, should be able to provide more documentary evidence about its proscribed weapons programmes. Only a few new such documents have come to light so far and been handed over since we began inspections. It was a disappointment that Iraq's Declaration of 7 December did not bring new documentary evidence. I hope that efforts in this respect, including the appointment of a government-civilian commission, will give significant results. When proscribed items are deemed unaccounted for it is above all the evidence that is needed—or the proscribed items, if they exist.

Where authentic documents do not become available, interviews with persons who may have relevant knowledge and experience may be another way of obtaining evidence. UNMOVIC has names of such persons in its records and they are among the people whom we seek to interview. In the last month, Iraq has provided us with the names of many persons, who may be relevant sources of information, in particular, persons who took part in various phases of the unilateral destruction of biological and chemical weapons, and proscribed missiles in 1991. This provision of names prompts two reflections:

The first is that with such detailed information existing regarding those who took part in the unilateral destruction, surely there must also remain records regarding the quantities and other data concerning the various items destroyed.

The second reflection is that with relevant witnesses available it becomes even more important to be able to conduct interviews in modes and locations, which allow us to be confident that the testimony is given without outside influence. While the Iraqi side seems to have encouraged interviewees not to request the presence of Iraqi officials, so-called minders, or the taping of the interviews, conditions ensuring the absence of undue influences are difficult to attain inside Iraq. Interviews outside the country might provide such assurance. It is our intention to request such interviews shortly. Nevertheless, despite remaining shortcomings, interviews are useful. Since we started requesting interviews, 38 individuals were asked for private interviews, of which 10 accepted under our terms, 7 of these during the last week.

As I noted on 14 February, intelligence authorities have claimed that weapons of mass destruction are moved around Iraq by trucks and, in particular, that there are mobile production units for biological weapons. The Iraqi side states that such activities do not exist. Several inspections have taken place at declared and undeclared sites in relation to mobile production facilities. Food testing mobile laboratories and mobile workshops have been seen, as well as large containers with seed processing equipment. No evidence of proscribed activities has so far been found. Iraq is expected to assist in the development of credible ways to conduct random checks of ground transportation.

Inspectors are also engaged in examining Iraq's programme for Remotely Piloted Vehicles (RPVs). A number of sites have been inspected with data being collected to assess the range and other capabilities of the various models found. Inspections are continuing in this area.

There have been reports, denied from the Iraqi side, that proscribed activities are conducted underground. Iraq should provide information on any underground structure suitable for the production or storage of weapons of mass destruction. During inspections of declared or unde-
declared facilities, inspection teams have examined building structures for any possible underground facilities. In addition, ground penetrating radar equipment was used in several specific locations. No underground facilities for chemical or biological production or storage were found so far.

I should add that, both for the monitoring of ground transportation and for the inspection of underground facilities, we would need to increase our staff in Iraq. I am not talking about a doubling of staff. I would rather have twice the amount of high quality information about sites to inspect than twice the number of expert inspectors to send.

**Recent developments**

On 14 February, I reported to the Council that the Iraqi side had become more active in taking and proposing steps, which potentially might shed new light on unresolved disarmament issues. Even a week ago, when the current quarterly report was finalized, there was still relatively little tangible progress to note. Hence, the cautious formulations in the report before you.

As of today, there is more. While during our meetings in Baghdad, the Iraqi side tried to persuade us that the Al Samoud 2 missiles they have declared fall within the permissible range set by the Security Council, the calculations of an international panel of experts led us to the opposite conclusion. Iraq has since accepted that these missiles and associated items be destroyed and has started the process of destruction under our supervision. The destruction undertaken constitutes a substantial measure of disarmament—indeed, the first since the middle of the 1990s. We are not watching the breaking of toothpicks. Lethal weapons are being destroyed.

However I must add that the report I have today tells me that no destruction work has continued today. I hope this is a temporary break.

Until today, 34 Al Samoud 2 missiles, including 4 training missiles, 2 combat warheads, 1 launcher and 5 engines have been destroyed under UNMOVIC supervision. Work is continuing to identify and inventory the parts and equipment associated with the Al Samoud 2 programme.

Two ‘reconstituted’ casting chambers used in the production of solid propellant missiles have been destroyed and the remnants melted or encased in concrete.

The legality of the Al Fatah missile is still under review, pending further investigation and measurement of various parameters of that missile.

More papers on anthrax, VX and missiles have recently been provided. Many have been found to restate what Iraq already has declared, and some will require further study and discussion.

There is a significant Iraqi effort underway to clarify a major source of uncertainty as to the quantities of biological and chemical weapons, which were unilaterally destroyed in 1991. A part of this effort concerns a disposal site, which was deemed too dangerous for full investigation in the past. It is now being re-excavated. To date, Iraq has unearthed eight complete bombs comprising two liquid-filled intact R-400 bombs and six other complete bombs. Bomb fragments were also found. Samples have been taken. The investigation of the destruction site could, in the best case, allow the determination of the number of bombs destroyed at that site. It should be followed by a serious and credible effort to determine the separate issue of how many R-400 type bombs were produced. In this, as in other matters, inspection work is moving on and may yield results.

Iraq proposed an investigation using advanced technology to quantify the amount of unilaterally destroyed anthrax dumped at a site. However, even if the use of advanced technology could quantify the amount of anthrax said to be dumped at the site, the results would still be open to interpretation. Defining the quantity of anthrax destroyed must, of course, be followed by efforts to establish what quantity was actually produced.

With respect to VX, Iraq has recently suggested a similar method to quantify a VX precursor stated to have been unilaterally destroyed in the summer of 1991. Iraq has also recently informed us that, following the adoption of the presidential decree prohibiting private individuals and mixed companies from engaging in work related to WMD, further legislation on the subject is to be enacted. This appears to be in response to a letter from UNMOVIC requesting clarification of the issue.

Mr. President,

What are we to make of these activities? One can hardly avoid the impression that, after a period of somewhat reluctant cooperation, there has been an acceleration of initiatives from the Iraqi side since the end of January.

This is welcome, but the value of these measures must be soberly judged by how many question marks they actually succeed in straightening out. This is not yet clear.

Against this background, the question is now asked whether Iraq has cooperated “immediately, unconditionally and actively” with UNMOVIC, as is required under paragraph 9 of resolution 1441 (2002). The answers can be seen from the factual descriptions that I have provided. However, if more direct answers are desired, I would say the following:

The Iraqi side has tried on occasion to attach conditions, as it did regarding helicopters and U-2 planes. It has not, however, so far persisted in these or other conditions for the exercise of any of our inspection rights. If it did, we would report it.

It is obvious that, while the numerous initiatives, which are now taken by the Iraqi side with a view to resolving some long-standing open disarmament issues, can be seen as “active”, or even “proactive”, these initiatives 3–4 months into the new resolution cannot be said to constitute “immediate” cooperation. Nor do they necessarily cover all areas of relevance. They are nevertheless welcome and UNMOVIC is responding to them in the hope of solving presently unresolved disarmament issues.

Mr. President,

Members of the Council may relate most of what I have said to resolution 1441 (2002), but UNMOVIC is performing work under several resolutions of the Security Council. The quarterly report before you is submitted in accordance with resolution 1284 (1999), which not only created UNMOVIC but also continues to guide much of our work. Under the time lines set by that resolution, the results of some of this work is to be reported to the Council before the end of this month. Let me be more specific.

Resolution 1284 (1999) instructs UNMOVIC to “address unresolved disarmament issues” and to identify “key remaining disarmament tasks” and the latter are to be submitted for approval by the Council in the context of a work programme. UNMOVIC will be ready to
submit a draft work programme this month as required.

UNSCOM and the Amorim Panel did valuable work to identify the disarmament issues, which were still open at the end of 1998. UNMOVIC has used this material as starting points but analysed the data behind it and data and documents post 1998 up to the present time to compile its own list of “unresolved disarmament issues” or, rather, clustered issues. It is the answers to these issues which we seek through our inspection activities, and it is also from the list of these clustered issues that UNMOVIC will identify the “key remaining disarmament tasks”. As noted in the report before you, this list of clustered issues is ready.

UNMOVIC is only required to submit the work programme with the “key remaining disarmament tasks” to the Council. As I understand, several Council members are interested in the working document with the complete clusters of disarmament issues, and we have declassified it and are ready to make it available to members of the Council on request. In this working document, which may still be adjusted in the light of new information, members will get a more up-to-date discussion about the period after 1998, primarily because of paucity of information. Nevertheless, intelligence agencies have expressed the view that proscribed programmes and items are located in underground facilities that I mentioned, and that proscribed items are being moved around Iraq. The working document contains some suggestions on how these concerns may be tackled.

Mr. President,

Let me conclude by telling you that UNMOVIC is currently drafting the work programme, which resolution 1284 (1999) requires us to submit this month. It will obviously contain our proposed list of key remaining disarmament tasks; it will describe the reinforced system of ongoing monitoring and verification that the Council has asked us to implement; it will also describe the various subsystems which constitute the programme, for instance, for aerial surveillance, for information from governments and suppliers, for sampling, and for the checking of road traffic, etc.

How much time would it take to resolve the key remaining disarmament tasks? While cooperation can and is to be immediate, disarmament and at any rate the verification of it cannot be instant. Even with a proactive Iraqi attitude, induced by continued outside pressure, it would still take some time to verify sites and items, analyse documents, interview relevant persons, and draw conclusions. It would not take years, nor weeks, but months. Neither governments nor inspectors would want disarmament inspection to go on forever. However, it must be remembered that in accordance with the governing resolutions, a sustained inspection and monitoring system is to remain in place after verified disarmament to give confidence and to strike an alarm, if signs were seen of the revival of any proscribed weapons programme.

Thank you, Mr. President.

This and other UN information on Iraq are available at www.un.org/apps/news/info/cenwri/iraq&Body=inspect.
Before You Become Too Flushed With Victory

David Krieger

We don’t view war in the right way. Our television networks discuss strategy and show pictures of bombings, artillery fire and advancing troops. Rarely do they show pictures of the victims, and particularly of the children who are killed, maimed and orphaned. But war is about children as well as about soldiers and strategy. Take, for example, the story of Ali Ismael Abbas.

Ali is 12 years old. He is in Kindi hospital in Baghdad with both of his arms blown off by a missile. His mother, father and brother were killed in the attack. His mother was five months pregnant. Ali asks the reporter from Reuters, “Can you help get my arms back? Do you think the doctors can get me another pair of hands?” It is heartbreaking.

The reporter for Reuters, Samia Nakhoul writes, ‘Abbas’ suffering offered one snapshot of the daily horrors afflicting Iraqi civilians in the devastating U.S.-led war to remove President Saddam Hussein.’

Or, take this report which appeared in The Guardian in London: “Unedited TV footage from Babylon Hospital, which was seen by the Guardian, showed the tiny corpse of a baby wrapped up like a doll in a funeral shroud and carried out along with large pools of blood on the floor of the hospital.”

At the hospital, a stunned man said repeatedly, “God take our revenge on America.”

But on American television we see none of this. The newscasters chatter endlessly about strategy and victory, and engage in inane ponderings about whether Saddam is dead or alive. Their human-interest stories are about American or ‘coalition’ casualties. There is virtually nothing about the victims of the war, including children like Ali.

We need a new way of understanding war, in terms of children, not strategy. We need to understand war in terms of its costs to humanity rather than in terms of victory alone.

Wouldn’t it be refreshing to have our newscasters talking to pediatricians as well as political pundits, to professors of international law in addition to retired military officers? Wouldn’t it be meaningful to have reporters speaking to us from Baghdad’s hospitals as well as from their positions embedded with our military forces?

The report continued, “Horribly injured bodies were heaped into pick-up trucks, and were swarmed by relatives of the dead, who accompanied them for burial. Bed after bed of injured women and children were pictured along with large pools of blood on the floor of the hospital.”

Ali Ismael Abbas told the reporter who visited him, “We didn’t want war. I was scared of this war. Our house was just a poor shack. Why did they want to bomb us?”

Lying in his hospital bed, Ali told the reporter, “If I don’t get a pair of hands I will commit suicide.” Tears ran down his cheeks.

The next time you hear our newscasters, our political leaders or our pundits celebrating our “victory,” think about 12 year old Ali in his hospital bed. He is only one of potentially thousands of children who have paid the price in life, limb, and loss of parents in what Dick Cheney calls “one of the most extraordinary military campaigns ever conducted.”

This article was written on April 10, 2003.

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Different Perceptions


The world has watched as the regime of Saddam Hussein began passing into history. The conflict continues in Iraq, and our military may still face hard fighting. Yet the statues of the dictator, and all the works of his terror regime, are falling away, never to return.

American and Coalition forces have conducted themselves with all the skill and honor we expect of them. Our enemies have seen their valor. The people of Iraq are seeing their compassion, as our military provides food, water, and medical treatment to all in need, even captured Iraqi soldiers.

As Saddam’s reign of fear is brought to an end, the people of Iraq are revealing the true hopes they have always held. It should surprise no one that Iraqis, like all people, resent oppression and welcome their own freedom. In every nation, and every culture, the human heart desires the same good things - dignity, liberty, and a chance to build a better life.

As people throughout Iraq celebrate the arrival of freedom, America celebrates with them. We know that freedom is the gift of God to all mankind, and we rejoice when others can share it.

The nightmare of Saddam’s rule in Iraq is ending. Soon the good and gifted people of Iraq will be free to choose leaders who respect their rights and reflect their character. In all that is to come, they will have the good will of the entire world. And they will have the friendship of the people of the United States.
Losing All Three Wars on Iraq

Jan Øberg

There are basically three wars or struggles in the Iraq conflict. There is the war the media is waging for the hearts and minds of people. Second, there is the military war and the promised removal of the Iraqi regime. And, third, there is the war to control and run post-war Iraq and live up to the official motives of bringing freedom, democracy, welfare and prosperity to its 24 million citizens.

War #1: The Public Relations War

The public relations war is aimed at the hearts and minds of people around the globe. It attempts to demonise the Baghdad regime while contrasting it with the noble, altruistic goals to be achieved by the war. Heads of state and governments that were in favour of war have promoted these aims through propaganda, public relations campaigns, psychological warfare, etc., in an effort to sell the war to audiences in the West, in the Arab world—including Iraq's citizens—and to other parties around the world, including the UN.

It goes without saying that this war for people's hearts and minds that, by the way, cost hundreds of million dollars ended in defeat. Millions upon millions of citizens around the globe mobilised in defiance and created the largest ever pre-war, anti-war sentiment. Mainstream media sensed it and raised more critical questions than, say, during the wars in Bosnia, Serbia/Kosovo, Somalia and Afghanistan. So, selling the war turned out to be anything but a 'cake-walk.'

War #2: The Military War

So, too, with the second war, the military war, that rages at the moment. It is neither re-asserting nor convincing when Pentagon officials, as well as General Tommy Franks and Vincent Brooks at the US Central Command in Dohar, repeat the mantra that everything is going according to plan. If this is so, even a civilian like myself suspects that it must have been a pretty lousy plan.

Here are a few of the failures that have become rather obvious after 14 days of fighting:

- **The Mother of all Bush/Blair Miscalculations**
  - The mother of all Bush/Blair miscalculations maintained that the Iraqis would welcome the invaders (‘coalition’) as liberators.
  - One might almost believe that this was a conspiracy of:
    - parts of the Iraqi opposition abroad,
    - CIA and MI5,
    - Israel-friendly experts, and
    - hawkish think tanks who were against the two leaders. Convinced about their own excellence, no one in their administrations seems to have asked: what if America is not that loved by the Iraqis—and what if they struggle for Iraq, for their country, for their pride and not (only) for Saddam Hussein?
  - What if they want to get rid of Saddam but don't trust the US and UK because they gave Saddam the weapons in the first place and humiliated the country?

- **What if the people, educated and informed as they are, knew perfectly well that the US and the UK have been the staunchest advocates of the cruel sanctions?** These sanctions have been one long economic war on the people during the last 12 years, the main reason for Iraq’s misery and have crippled the economy, education and health of the people. What if they felt just a little annoyed by repeated statements that they would be bombed as no one had ever been before in history?

- The intellectual level of the US and UK leadership did not permit the hypothesis that not liking Saddam didn’t automatically imply loving Bush. And, surprise, surprise, not even the Shia Muslims in the south rose in any great number to help topple the regime leaders in Baghdad.

- Intoxicated with the power of their high-tech military muscle, the US and UK thought they could afford to abandon working on the brain and the heart.

  - This war has become a terrible reality check for the architects of what may turn out to be the largest US foreign policy misjudgement in decades.

The Military Problems

- In contrast to the promised “shock and awe”, the war started out with the unplanned “target of opportunity” to kill Saddam Hussein and the other leaders in one go. It wasn’t successful. Then there was the idea that troops could push rapidly toward Baghdad going around towns and cities. It didn’t work as the Iraqi military resisted far more than had been predicted in Umm Qasr, Basra, Najaf, Kabala, Nasiriyah, etc; these were euphemistically described in the first days as “pockets of resistance. After two weeks, Umm Qasr is the only important town under (almost) full “coalition” control. Then there were the problems with the number of troops and with the long and very vulnerable supply lines. And then there was the Turkey that did not obey. And there was the problem of conducting both regular warfare and guerrilla warfare on land and in towns which the defenders, of course, knew much better than the invaders.

- And then there are the stray missiles that are landing in Iran and Turkey. As if this was not enough there is also:

Friendly Fire

There were ‘coalition’ helicopters colliding in the air. A Patriot missile shot down a British Royal Air Force Tornado GR4 fighter near the Kuwaiti border, killing both crew members. A frustrated officer threw hand grenades around, killing and wound- ing a dozen of his own. There was an F-16 that attacked a US Patriot missile battery. Patriot missiles went astray over Saudi-Arabia. And what about the missile in the heart of Kuwait City? Would it have disappeared that quickly from the media if it had really been fired by Saddam? A British soldier died and four were wounded in a friendly fire (“blue on blue”) incident near Basra.

- Here is another example:

  “London – There is anger and bitterness among the British soldiers who survived a friendly-fire incident in Iraq in which one of their comrades was killed by a U.S. aircraft, exacerbating broader tensions between the two allies over strategy and the conduct of the war. Four British soldiers also were injured in the incident on Friday, when a U.S. A–10 Thunder-
bored aircraft, also known as the Tank-buster, attacked two British Scimitar armoured reconnaissance vehicles, apparently mistaking them for Iraqi tanks.

Lance-Corporal Steven Gerrard, who suffered shrapnel wounds in the attack, accused the American pilot of having "absolutely no regard for human life. I believe he was a cowboy."1

All this raises very legitimate doubts, of course, about the de facto versus presumed precision of modern weaponry—and thereby about the likelihood that civilian casualties can be minimised in the future.

The Grotesque Amount of "Collateral Damage."

On April 2, The Iraq Body Count stood at between 565 and 724 innocent civilians killed, about 50 a day in average.2 Just think of the girls’ school in Basra. The Syrian bus hit. The missile in the market area of Baghdad. The killing of civilians in a bus at a checkpoint. The demolished apartment houses. The 56 civilians killed by bombing raids over Baghdad in the night between March 31 and April 1. See the telling pictures and analysis by a world expert, Professor Marc W. Herold in Dissident Voice.3 And see an article about US precision weapons.4

And, while this was being written, news came in of American human shields in a bus moving towards the border being hit by US missiles. What a high-tech-low-moral defeat!

Perhaps it is too early to draw the conclusion that this second type of war is already lost due to technicalities that ripple into ethics and legitimacy. This war comes on top of a war policy that is deemed to counter international law; it comes without a United Nations mandate and with stiff public opinion resistance. If the leaderships in London and Washington were not in the grips of autism and group think, they should be very, very worried already.

It may well be argued that some assumptions always turn out to be wrong, that a war never goes exactly according to plan—weather is difficult to predict, too. Sure, there will always be some friendly fire, and civilian casualties can never be completely avoided in this type of war. There is no perfect war. As in peacetime, both humans and machines malfunction. I am no expert in these matters, but I can’t help wondering whether all these arguments mean a damn thing to the innocent Iraqi children, men and woman who suffer from the ‘unavoidables’ which stem from the self-assured motives of doing Good to the people.

I don’t know whether to laugh or cry when on March 28, 2003, President Bush spoke to American war veterans and said, “We care about the human conditions of those in Iraq. In every way Allied forces are showing kindness and respect to the Iraqi people.” Later he also stated, “every Iraqi atrocity has confirmed the justice and the urgency of our cause.”

A few hours before, however, two Allied 4,700-pound ‘bunker busters’ struck a communications tower in Baghdad. And a few ours later, Reuters put these two stories on its front page: “Iraqis die in Baghdad market Fri March 28, 2003 03:55 PM ET BAGHDAD (Reuters) – Iraqis said more than 50 people were killed on Friday in an air raid they said targeted a popular Baghdad market after the United States unleashed some of the heaviest air strikes of the war on the capital.”

“Half a Million Iraqi Children May Suffer Trauma Fri March 28, 2003 01:52 PM ET – By Karen Iley GENEVA (Reuters) – Half a million or more Iraqi children caught in fighting may be left so traumatized they will need psychological help, the United Nations children’s agency said on Friday.”

Whether there will be more or less of it in this war than in other wars remains to be seen. But judged on its own premises, the first two weeks of this war look more like a fiasco-in-the-making than as the predicted, successful ‘cake-walk’. For invading forces that aim to win the hearts of the Iraqi people and be seen as legitimate and as liberators, nothing could be more devastating than a prolonged war in which the above things happen repeatedly.

Because, if they do, the third type of war will be lost too.

How the War May Develop into Disaster

Nobody knows the outcome of this “Operation Iraqi Freedom”. I sense three possible scenarios:

- it will be a prolonged, lower-intensity, war with months of suburban and street-to-street fighting and thousands of civilian casualties on the Iraqi side and considerable human loss on the “coalition” side;
- the invading forces will try to make short work of the Iraqis, civilian as well as military, give up their concerns about causing civilian casualties, do a series of high-intensive shock and awe operations, flatten, bulldoze and destroy the cities physically and thereafter move into them to fight the military (and civilians who may have chosen to remain in the ruins); in short, the Jenin “solution” with unspeakable human losses;
- the coalition will get bogged down, warfare will spread to other parts of the Middle East and boomerang effects will hit the West itself; the coalition will be forced to leave Iraq.

There could be other options and combinations. However, this war cannot but be very ugly, in total contrast to any understanding of words such as liberation, freedom, welfare, respect, tolerance, cooperation and reconciliation. With the war option being chosen against all odds and world opinion, with the war beginning the way it has, there are no good outcomes possible anymore. For that to be the case, the diplomatic, civilian, UN-based options should have been chosen. Whatever the outcome, it will mean a moral defeat for the coalition; no means will be able to achieve the official goals.

War #3: The Post-War Struggle to Control and Run Iraq

People may surrender, and they may do so increasingly as the overwhelming technological power of the coalition forces advances. But there will be few, if any, who welcome the coalition forces as the occupiers they will be. In the aftermath of one of the scenarios just mentioned, they will be hated. This does not preclude of course, that more people in Iraq will find Western occupation more acceptable if or when Saddam Hussein’s regime is gone, after all what choice would they have?

But even those who may see it as a liberation will feel deeply hurt and humiliated for a very long time. It will not be possible to buy them with any amount of humanitarian aid and promises of economic aid. They know the potentials of their country without foreign occupiers.

During my one-month fact-finding mission, I never met a single Iraqi who said he or she would welcome a war of liberation or foreign occupation. Even regime-critical people told me that although they would be happy to see Saddam leave, they would prefer him to any foreigner running...
their affairs. Dozens of internationals who have worked there for years and know the sentiments of the people confirmed my impressions, although they made different assessments as to how this general attitude was expressed or what would happen to it should the war break out.

While you can hope to avoid killing many civilians when you only bomb from the air, there is no way you can attack, invade, occupy and take over a country without killing many civilians and increase the resilience, aversion, hatred—as well as the cohesiveness and determination—of the subjects. It is here the mother of all miscalculations lies: the West did not understand Iraqi society and people, the view they have of us, the strength of the 'Arabness' and 'Iraqiness' in them in spite of their internal differences (which are many). The West, including its media, has been operating on a series of foolish assumptions and myths, including the one that the Iraqis would embrace invading soldiers voluntarily. The complexities of that society have been lost completely on the strategists and the politicians.

Most of the West had no embassies in place, no direct person-to-person contacts with that society and its sweet and proud people. It became easy to target them. Leaders also forgot what Sun-Tzu, writing 2300 years ago, said, that you must know yourself and the enemy well to win the battle. The Iraqis know the West much better than we know them and their culture. Military high-tech was to solve all problems, it seems, in our poor imaginations of the self-righteous.

During the last 10 weeks I have given 80 public lectures and interviews in 8 countries. Everywhere I spoke, I said that if you ever see the Iraqis welcoming American and British soldiers with flowers, it’s certain they have been paid a few dollars to do so. Because I cared enough to go to Iraq and listen with an open heart, tried to empathize with what they have been through not only because of Saddam Hussein's ruthless regime but also because of Western policies in the past and now. I began to understand what assumptions and myths, including the one that the Iraqis would embrace invading soldiers voluntarily. The complexities of that society have been lost completely on the strategists and the politicians.

The Iraq War was not yet over, when some voices made it clear that Syria and Iran should be the next countries on the target list. One of these voices is Michael A. Ledeen, Resident Scholar at the American Enterprise Institute for Public Policy Research (www.aei.org). Comments from US President Bush and from members of his Administrations indicate that these voices are heard.

Syria and Iran Must Get Their Turn
By Michael A. Ledeen
National Post (Canada) – April 7, 2003

A year ago, as I was finishing the first draft of The War against the Terror Masters, I wrote that Syria and Iran could not tolerate an American success in Iraq, because it would fatally undermine the authority of the tyrants in Damascus and Tehran...

The United States will have to deal with the terror masters, here and now. Iran, at least, offers Americans the possibility of a memorable victory, because the Iranian people openly loath the regime, and will enthusiastically combat it, if only the United States supports them in their just struggle. One may legitimately ask if the Iraqi people are fully prepared for the burdens of democracy after the mind-numbing years of Saddam (I think they are, mind you, but the question is fair), but there is no doubt that the Iranians are up to it. And Syria cannot stand alone against a successful democratic revolution that topples tyrannical regimes in Kabul, Tehran and Iraq.

This is the path – the correct path – that President George W. Bush has charted, despite the opposition of so many of his diplomats, and despite the near-total indifference of the Western press to the plight of the Iranian, Iraqi and Syrian people. It is the path that most fully expresses the American revolutionary tradition, and gives the peoples of the Middle East the chance to recapture their dignity by empowering them to govern their own lands. Finally, for those obsessed by the Arab-Israeli question, it is the best chance for peace between the Israelis and Palestinians. President Bush has said that he will not support a Palestinian state that is governed by people hostile to democracy. Yet it is impossible for a democratic Palestine to emerge, let alone survive, so long as the dominant countries in the region are tyrannical supporters of terrorism.
Long before the beginning of Gulf War III, newspapers and commentators focused their attention on the military capabilities of Iraq. Although reliable information on weapons numbers and capabilities are mostly missing, it is safe to assume that Saddam Hussein's military potential has decreased significantly compared to his capabilities during the 1991 Gulf War. This is the result of UNSCOM and UNMOVIC weapons destruction efforts, of sanctions and the embargo, and of the lack of military support from other—in particular western—countries which supplied military technology to Iraq prior to 1991.

But how about Iraq’s neighbors? What is the status of their efforts to acquire weapons of mass destruction (WMD) and to build-up weapons stockpiles? These questions are crucial variables in a highly complex formula, and the answers have considerable impact on the prospects of war and peace in this unstable region which is bristling with weapons.


Armed conflicts such as these are likely to have far reaching impact on the political and military order of the region. As of today, there is little hope for a stable post-war order in Iraq, and yet this is of utmost relevance for the stability of the region. Failing this, a further escalation of the Israeli-Palestinian conflict and fragmentation trends within Iraq are probable outcomes. This constellation, aggravated by the massive presence of US forces in the region, has a high potential to entangle other states in conflict, as well as to shatter the fragile balance between the populace and the political elites.

The following, largely quantitative description of military capabilities is meant to show the tremendous potential of military capabilities in the Middle East.

When investigating into and adding up military arsenals and secret weapons programs, one has to be extremely cautious. Much of the information on the various armed forces are estimates or derive from intelligence sources which cannot be considered objective. Moreover, a sufficient picture of the strategic environment should be complemented by political, as well as economic and geographic, factors. In addition, military arsenals should not only be evaluated by their quantity, but also by their quality and their utility in the context of the prevailing military strategy and the underlying political ends.

The level of militarization in this region is exceptionally high if the number of armed forces, the military budget, and weapons holdings are used as indicators. According to the International Institute for Strategic Studies (IISS), 2.9 million men are under arms, not counting reserves and paramilitary units. This corresponds to one soldier per 109 inhabitants. This ratio increases in the center region of the Near East, where there is one soldier for every 99 inhabitants.

Within the last 10 years, the military spending in the Middle East rose from US$ 52.3 billion to US$ 72.4 billion—an increase of 20.1 billion dollars, or 38%. And this trend seems unbroken: in 2002, Israel increased its defense budget by US$ 983 million to a total of over US$ 10 billion. Israel's Arab neighbors, in turn, are likely to follow suit.

In the last decade, the Near East is the most heavily armed region in the world after East Asia. The slight decline in heavy weapons can be partly put down to the heavy weapons embargo against Iraq. Moreover, existing systems have become increasingly obsolete and unreliable.

Over 6% of the gross domestic product (GDP) in the region is spent on defense. The leading nations are Saudi-Arabia (11.6%), Israel (8.0%), and Jordan (9.5%). In relation to the gross national product (GNP), the military budgets are slightly decreasing. This is probably caused by the excessive armament after the 1991 Gulf War, and by the precarious economic situation of some countries. To this day, the huge arsenals are a heavy burden for the corresponding countries. In the aftermath of the new war in Iraq, additional weapons procurement might further increase this burden. The attempt of the United States to reorder the region might fuel a new arms race in the region.

The Middle East continues to be the greatest 'weapons bazaar’ in the world. The military buildup occurred in several waves, especially after the wars of 1967 and 1973. The rearmament was supported by the Soviet Union, the US, France, and the UK. Until the Arab-Israeli war of 1973, Egypt got its weapons from the Soviet Union, then from the US. To this day, successor states from the former Soviet Union deliver weapons to Syria, Jordan, Kuwait, and most weapons for Saudi Arabia are supplied by the US. Israel imported French military material until the late 1960s, when the US took over the role of the principal supplier.

The Six Day War of 1967 gave Israel a reason to build up their own defense industry. Today, Israel is the only state in the region that maintains its own defense industry. Although dependant on US technology, this nuclear weapons state runs native production facilities for tanks, missiles, airplanes, unmanned air vehicles, electronics, personnel carriers, and small arms. Israel not only produces for its own defense forces, but is part of the “dirty dozen” of the world’s leading arms suppliers. Both weapons exports and military-technological cooperation (e.g. with China and Turkey) represents an important economic factor. Around one fourth of the Israeli exports consist of armament goods. In 2000, these exports amounted to US$ 3.5 billion, and accounted for 2.2 % of global weapons sales.
However, neither Israel nor the Arab states are independent in the field of defense technologies. All states in the region import their weapons for the most part. Arms imports and the continued military buildup in the region run in parallel. Since the end of the Cold War, around 25% of all arms transfers went to the Middle East. All Middle East states can be found in the upper third of import statistics. With weapons imports of US$ 4.8 billion in 2001, Saudi Arabia is the world’s third largest importer of armament goods. The main import products are heavy tanks, armored vehicles, anti tank missiles, mobile air defense, attack helicopters, and fighter jets. The overall objective is general modernization of the armed forces. In 2001, imports totaled US$ 2.1 billion. This exceeds weapons imports to South Asia (US$ 2.0 billion). By comparison, Europe imported weapons for US$ 3.9 billion.8

Conventional Forces of Middle East Majors States

This section will outline the heavy land and air weapons systems that would play a prominent role in major military operations.9

Israel

The Israeli Defence Forces (IDF), are without question the most modern army in the Middle East (160,000 personnel). This applies, primarily, to the larger part of 3,700 tanks and to the air force. Also, the 2,800 artillery systems, 400 rocket launchers, and 1,300 antitank systems are quiet up to date. Israel seeks to modernize its Navy in order to integrate it into the littoral warfare concept. It also seeks to upgrade its reconnaissance capabilities and wants to introduce a “battle management” system. Of equal importance is the Arrow anti-missile system, with a budget of US$ 1.3 billion.12

Saudi Arabia

Although quantitatively small (124,000 personnel), the Kingdom’s army is reported to be quite modern. 315 modern Abrams tanks constitute the heart of the heavy divisions, comprising 1,000 tanks in total. The artillery with its 300 cannons and 60 rocket launchers is of minor importance. The air force has 600 vehicles of differing ages.

Iraq

Contrary to public opinion, the Iraqi military is seriously weakened. The sanctions and embargoes have forestalled the rebuilding of a strong army. The Republican Guards are just an instrument to guarantee and exercise power inside Iraq. Combat readiness of the other military forces is estimated at around 50 %. The military equipment is largely obsolete. According to IISS, the air force can use only 55 % of the 350 aircrafts. The artillery has 2,200 systems, and 200 rocket launchers. The number of tanks—2,600—seems impressive, but they are mostly outdated. Overall, Iraq does not pose a significant conventional threat.10

Syria

Like many other armies in the region, the Syrian armed forces have to cope with a serious modernization crisis. Equal in numbers to the Israeli forces, their weapon systems (3,700 cannons, 500 rocket launchers, 4,700 tanks) are outdated. A modern air defense is lacking, and air force equipment is not combat-ready (approx. 600 fighter jets).11

Smaller Gulf States

The smaller Gulf States14 do not carry much weight by numbers: taken together, they hardly reach the capacity of even one of the Arab Ring states15 or of Israel. Radical changes are not to be expected in the near future. An exception are the United Arab Emirates, which have ordered 390 tanks and 140 aircrafts, some of which have already been delivered. Kuwait ordered a notable amount of antitank systems (728).16

USA

Even in times of peace, the US forces represent a considerable military potential in the region. The 20,000 personnel are mainly based in Turkey and the Gulf Region. According to Global Security, the US troops were increased to 48,000 in November 2002 and include 400 aircraft and two attack carrier units. The ground units are a mix of special operation forces and expedition troops. Those numbers were increased to approximately 230,000 before the war. Due to a lack of reliable information, accurate numbers and a meaningful assessment are hard to come by.19

Israel and the Arab Ring States

The most probable intra-regional conflict would occur between Israel and its neighbors. Although there is open hostility between Israel and other Arab states, the latter do not pose a direct threat to Israel at this time. Even though an Arab alliance has a quantitative advantage, Israel can rely on its technological and military dominance. Summing up the military personnel of the Arab Ring States, the ratio is 1:5 to Israel’s disadvantage. The figures are similar for the major weapon categories (tanks 1:2.6; artillery 1:2.8; aircraft 1:2.7; helicopters 1: 1.6).20

The Israeli Defence Forces are held in high qualitative esteem. They are very well trained, have first-class equipment at their disposal, and are permanently involved in combat missions. Additionally, Israel has made much better use of the developments from the “revolution in military affairs” than its neighbors. Only the IDF have an integrated command, control, and communication system (C3) that connects all vital elements of warfare – from data gathering to target acquisition and the use of precision munitions. Furthermore, new high tech weapons are on the ordering list.21
For these capabilities, the country is not fully dependent on imports. Israel is the only state in the region that invests a significant amount of its defense budget in military research and development: approx. 10% of its budget in 2000 (USA: 13%, Germany: 4.3%). A further advantage is its high number of reservists in Israel, who can provide high-quality reinforcement in comparison with the Arab reservist troops. In times of war, the size of Israeli troops would be almost equal to the opposing forces (1:1.3). The IDF have proven on many occasions that their quality makes up for quantitative disadvantages.

Additional positive effects derive from the permanent professionalization of the IDF by constant involvement in combat missions and by the integration of its functional units. No other state in the region can compete with that. It seems possible, however, that Arab troops initiate smaller military operations. In this case, the victims in this populous region will always be the civilians.

Weapons of Mass Destruction

According to many statements and analyses, various Middle East states run programs for the production of weapons of mass destruction (WMD), or they already have operational stockpiles. Chemical weapons (CW) have already been used by Iran (1984–1988) and Iraq (1983, 1978–1988). As in Syria, Egypt, and Libya, these two countries have probably chemical weapons arsenals in the form of artillery shells and missile warheads as well as on board aircraft. Moreover, Egypt (1963–1967) and Libya (1987) have been accused of using chemical weapons. Israel certainly has the capability to take up production of biological and chemical weapons. Most of these missiles are Scuds acquired from the former Soviet Union. In the past, Iran and Iraq have used missiles extensively against each other. Iran, which is envisaged as a potential military antagonist of Israel, as well as some of its neighboring states such as Syria, Egypt, Saudi Arabia, and Libya own short range ballistic missiles.

Israel

Israel is the leading Middle East nation in terms of missile arsenals. It holds an independent technological capacity to manufacture medium-range ballistic missiles as well as deployed systems that can be equipped with nuclear warheads. The Israeli defense industry has far-reaching knowledge of the production of cruise missiles and drones, and can produce such systems with a range of 200–400 km. The Jericho missile makes it possible to attack targets in all neighboring countries and in Iran as well as in parts of Turkey, Greece, and Libya. On the other side, Israel is surrounded by countries that own short-range ballistic missiles and that allegedly develop intermediate range missiles. The Arrow and the American Patriot missile defense system shall provide additional protection against SCUD missile attacks.

<table>
<thead>
<tr>
<th>Country</th>
<th>Nuclear</th>
<th>Biological</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>Research</td>
<td>Research</td>
<td>Stockpiled?</td>
</tr>
<tr>
<td>Iran</td>
<td>Development</td>
<td>Development</td>
<td>Deployed Used in 1984–88</td>
</tr>
<tr>
<td>Israel</td>
<td>Deployed</td>
<td>Production capability</td>
<td>Production capability</td>
</tr>
<tr>
<td>Libya</td>
<td>Research</td>
<td>Development?</td>
<td>Deployed Used in 1987</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>None?</td>
<td>None</td>
<td>None?</td>
</tr>
<tr>
<td>Sudan</td>
<td>None</td>
<td>None</td>
<td>None?</td>
</tr>
<tr>
<td>Syria</td>
<td>Research</td>
<td>Development?</td>
<td>Deployed</td>
</tr>
<tr>
<td>Turkey</td>
<td>Research</td>
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<td>None</td>
</tr>
<tr>
<td>United States</td>
<td>Deployed</td>
<td>Terminated</td>
<td>Dismantling</td>
</tr>
<tr>
<td>Yemen</td>
<td>None?</td>
<td>None</td>
<td>None?</td>
</tr>
</tbody>
</table>

Table: Estimates of WMD in the Middle East and their state of development

Finally, some Middle East states possess imported, modified, or self-produced short or intermediate range missiles which can carry biological and chemical weapons. Most of these missiles are Scuds acquired from the former Soviet Union. In the past, Iran and Iraq have used missiles extensively against each other. Iran, which is envisaged as a potential military antagonist of Israel, as well as some of its neighboring states such as Syria, Egypt, Saudi Arabia, and Libya own short range ballistic missiles.

Iran

Iran also becomes the focus of political discussion. US and Israeli experts and politicians warn of an “aggressive program” to develop WMDs and ballistic missiles with a range up to 2000 km. Civilian nuclear projects done in cooperation with China and Russia fuelled speculations that Iran might use its economic power to provide for a nuclear option. In 1992, Moscow and Teheran concluded a treaty on the construction of two nuclear power stations. While Russia hopes for exports of its nuclear technology, the US protests such cooperation because it fears the boosting of Iran’s nuclear ambitions.

Further concern was caused by the native development of an Iranian ballistic missile (Shihab–3) with a range of 1,300 km to which Russia and North Korea contributed. Moreover, Iran has two versions of SCUD missiles, with ranges of 300 and 500 km, respectively. It is also assumed that Iran is capable of producing chemical weapons agents and has constructed at least two production facilities. Allegedly, nerve gas production was taken up in 1994. As to biological weapons, it is believed that Iran can start production of Anthrax and Botulinum toxin if necessary. The threat analysis by the US intelligence services (NIE 2001) points out North Korea assisted Iran in building long-range missiles. The similarities between the Shihab–3 and the Nodong missile seem to
support this claim. The partly civilian launch platforms Shihab–4, –5, and –6 show remarkable similarities to North Korean missile projects.

Egypt

Besides Israel, Egypt owns the furthest developed industrial potential in the region and manufactures some conventional weapons on its own. In the 1950s (with German support), as well as in the 1980s, Cairo had a native development program for ballistic missiles with a range of up to 1,000 km. Currently, the armed forces have imported ballistic missiles (Frog–7, SCUD–B) and anti-ship missiles from China (HY–2 Silkworm). It is suspected that Egypt operates production facilities for a limited amount of mustard and other nerve gases. Small research activities supposedly take place in respect to biological and nuclear weapons.

Syria

For a long time, the Syrian missile capabilities depended on Soviet imports. Syria invested large amounts of money in its missile program, but neglected modernization of its air force. Moscow delivered Frog–7, SCUD–B, and SS–21 missiles. Reports have it that Syria also obtained a limited number of longer range SCUD missiles from North Korea. Possibly, Syria is able to produce nerve gas agents. This would pose a serious threat to Israel. Some sources assume that Syria also conducts research on biological weapons agents. Syria denies all such activities.

Saudi Arabia

Saudi Arabia exposed its missile ambitions by the import of Chinese intermediate range missiles. In 1988, Riyadh obtained an unknown number of modified CSS–2 missiles from Beijing. This missile can be used to deliver nuclear warheads and has a range of 3,500 km. The CSS–2 could possibly attack cities with conventional warheads. With this missile, Saudi Arabia could threaten its direct neighbors as well as parts of Turkey and Iran. Saudi Arabia is member to the Nuclear Non-Proliferation Treaty (NPT), and has announced several times that it will not mount nuclear or chemical warheads on its missiles. King Fahid explained that his country would use these weapons strictly for self-defense only. Israel repeatedly expressed its concern that these missiles could be equipped with chemical warheads.

Conclusion

In sharp contrast to the military potentials that exist in the Middle East, no attempts at arms control and cooperative security have so far been undertaken in order to contain conflicts or prevent escalation. Several existing treaties could be used as a starting point for regional arms control: the Treaty of Pelindaba (1996), which establishes a nuclear-weapons-free zone in Africa; the Nuclear Non-Proliferation Treaty; and the Chemical Weapons Convention. First confidence-building measures should urgently be taken to deal with the missile arsenals amassed in this region.

UN Resolution 687 of 1992, which deals with the disarmament of Iraq, states that the actions taken for the monitoring and destruction of Iraqi weapons “represent steps towards the goal of establishing in the Middle East a zone free from weapons of mass destruction and all missiles for their delivery and the objective of a global ban on chemical weapons.” However, no apparent efforts are made to reach any of these objectives. On the contrary, the US, as the de facto ordering power, has withdrawn from all arms control negotiations. Washington favors arms exports to this region, stimulating demand by new wars, and prefers classical alliance strategies to fulfilling its responsibility in the region by instigating stability-oriented policies that rely on civil instruments of change. On the global level, one arms control treaty has been cancelled, and several other cannot enter into force. No reasonable initiatives are undertaken to regulate the existing military capabilities, let alone to begin disarmament.

For the time being, solutions seem to rely on the use of force, not on diplomacy.
Non-Proliferation and Preventive War

Appeal for an Advisory Opinion of the International Court of Justice

IALANA

The International Association of Lawyers Against Nuclear Arms (IALANA) is appealing to the governments of the UN Members States to ask for decision of the UN General Assembly for an Advisory Opinion of the International Court of Justice (ICJ) on the legality of the use of military force against Iraq.

According to Art. 96 of the UN Charter, the General Assembly can ask for such an Advisory Opinion. IALANA hopes that an advisory decision of the ICJ will describe the use of military force against Iraq as illegal and will thereby increase the pressure to stop the war.

Advisory Opinion of the International Court of Justice

Expected Result of the Advisory Opinion

Of course, it is not for IALANA to anticipate the decision the judges of the ICJ may make, but the illegality of this action seems patently clear for a number of cogent reasons which cannot be brushed aside, not the least of which is the contravention of the basic prohibition against war contained in the UN Charter. It is only in the very limited exceptional case provided in the Charter dealing with self-defence under actual attack and always subject to control of the Security Council that force is permitted. It is also absolutely clear that authority to use force must be explicitly granted by the Security Council, that the Security Council and not individual states would be the master of interpretation of its resolutions, that the clear understanding of parties at the time of Resolution 1441 was that another resolution would be required to authorize military action, and that war cannot be unleashed upon a member state on the basis of speculation and questionable interpretations of uncertain language. This is especially so when it concerns the interpretation of a thirteen year old resolution after which numerous other resolutions have been passed from time to time to deal with particular situations as and when they arise. That resolution, S/RES/678 (1990), the only resolution which authorized the use of force, cannot suddenly be reactivated at this point of time on the basis of interpretations by individual members of the Security Council.

It is our expectation that this reasoning would commend itself to experienced judges of international law.

Whatever rules of interpretation are used, it seems that there is only one possible conclusion, if those rules are reasonably applied. When the awesome question of war and peace depends on an interpretation, it is manifest that this conclusion needs absolute unambiguity of language and is not a conclusion that should leave open the possibility of any reasonable doubt. If there is any possibility of a doubt, that doubt must necessarily be resolved against the interpretation that results in war. A deliberately vague phrase such as "serious consequences" cannot be interpreted to cover resort to war without specific endorsement of this position by the Security Council.

Importance of International Law

International law has evolved over the centuries as a means of curbing the raw forces of realpolitik. It starts off as an ideal, but this ideal gradually translates itself into a rule of law through common acceptance by the community of civilised nations. It then develops a force and validity of its own, and one of the sanctions attached to it is that no nation that values its prestige and authority in the community of nations likes to be seen as a 'law-breaker'. There is an instinctive compliance with it which becomes the norm and will eventually prevail. To treat international law as if it did not exist or as if it was impotent merely because it lacks an enforcement arm is to turn the clock back by centuries.

Even though the ICJ has no enforcement arm yet, its judgments and decrees are respected and complied with in the vast majority of cases. To give one example, in the case of Libya v Chad, decided a few years ago, Libya moved an entire army from disputed territory, purely on the basis of the decision of the ICJ, which did not have one soldier to enforce its decree.

That is the level of compliance that international law commands and would command in the community of Nations. Libya respected international law and obeyed this order. Should not the United States and Great Britain comply in the same fashion with international law?

The days when force was the accepted means of settling disputes and when philosophers of war like Clausewitz considered war to be a natural extension of diplomacy, were left behind with the UN Charter, a document achieved after centuries of effort and the sacrifice of millions of lives in two World Wars. That was a watershed in the story of humanity's struggle towards the international rule of law and the whole purpose of that Charter was "To save succeeding generations from the scourge of war which twice in one life time has brought untold sorrow to mankind". The present action is in direct contravention of those central aims and of the spirit of the Charter and could well open the door to a Third World War, for the ramifications of hostilities once commenced are totally unpredictable.

The distinction between law and politics achieved with so much cost and effort is a real value which we must all struggle to preserve.

Chances of Getting a Majority Vote in the General Assembly

The nearly 200 members of the General Assembly need to give their minds to this question and to have a vote upon it. This necessarily takes some time, but as far as
our information goes, such deliberations are progressing. While the Security Council is the custodian under the UN Charter of matters dealing with threats to security, the General Assembly is not without power in this regard. The “Uniting for Peace” Resolution passed by the General Assembly under US persuasion at the time of the Korean war, showed that the General Assembly has residiary authority in relation to matters of security and especially so when the Security Council is in deadlock or unable to act. This is eminently an occasion for the General Assembly to assert its authority in a matter concerning the peace and security of the entire world.

However, an advisory opinion may not be sought from the ICJ by a single country. The Statute of the ICJ gives certain bodies the authority to request such an opinion. Among them are the General Assembly, the Security Council, and the World Health Organisation. Individual countries do not have this right.

**Time Span for an Advisory Opinion of the ICJ**

ICJ procedure can be extremely expeditious when required. The ICJ was once able to turn around a request within 48 hours in a case concerning the execution of a foreign national in the United States. That was of course a much simpler matter than the present situation. But the ICJ could certainly act very expeditiously when required particularly in urgent circumstances such as the present. It is of course necessary that there should be a public court hearing for such a matter. Countries concerned would certainly have an opportunity to state their position. The Court has no procedures to compel state leaders to appear before it.

**Consequences of an Advisory Opinion by the ICJ**

Once a decision concerning the legality or illegality of an action is determined by the Court, major consequences follow from it, including the legality and validity of all actions pursuant on the original action. If the original action is pronounced illegal so would all the other actions based on it or on authority deriving from it.

The danger in the present case is that the disregard of international law is by the world’s pre-eminent superpower and another powerful country. Still, these are only two members of the world community and their disregard of law cannot form the basis of a practice that would be considered as a precedent in the future, particularly because the actions in question are so diametrically at variance with the basic rules of international law and even violate what may be considered as *ius cogens* (a bedrock principle of international law), which even national parliaments and congresses cannot override. We are at a turning point because there has never before been such a groundswell of international opinion asserting the importance of international law against the will of powerful nations who seek to override and disregard its principles. This may well be the counterpart in international affairs of similar manifestations of groundswell opinions in domestic situations where governments attempting to override democratic principles and the rule of law have been restrained by the collective force of public opinion (sometimes described as ‘people power’). International public opinion as well as the collective opinion of the majority of nation states is rallying as never before and countries seeking to ignore this will sooner or later realise that the damage to their own image and authority may well be irreparable. It may well be that we are at a turning point in international law, where international law compels the powerful to retrace their steps.

It is important to take such a positive view rather than the negative view that the powerful can override the law with impunity.

**How You Can Support the Appeal**

We are asking all organizations which support our appeal to approach the governments in their respective countries and lobby for such a decision. Supporting activities can include the following:

- Write letters to the respective foreign ministries and other government entities, asking them to support the appeal in the UN General Assembly, and encourage members of your organization to act likewise;
- Approach influential politicians well known to your organizations and make them aware of the appeal;
- Publish the appeal in magazines or websites of your organization;
- Write letters to the editor of newspapers in your country that support the appeal.

**IALANA Draft Resolution for the UN General Assembly**

The General Assembly,

Noting that Article 96, paragraph 1 of the Charter of the United Nations empowers the General Assembly to request the International Court of Justice to give an advisory opinion on any legal subject,

Recalling that in his report entitled “Agenda for Peace” the Secretary-General recommended that United Nations organs competent to seek advisory opinions should turn to the Court more frequently for such opinions,

Observing that certain States members of the United Nations are propounding a novel theory of preemptive war which may legally be waged against countries which have neither used nor are threatening to use force against the territorial integrity or political independence of another State,

Noting that certain States members of the United Nations are using force against another member State absent a decision by the Security Council that the measures not involving the use of force previously authorized by the Security Council would be inadequate or have proved inadequate to maintain or restore international peace and security,

Decides, pursuant to Article 96, paragraph 1, of the Charter of the United Nations, to request the International Court of Justice to render, on an extremely urgent basis, its advisory opinion on the following question:

Are individual member States of the United Nations legally entitled to use force against another member State, basing their claim to legality on the fear that such State may, at some undetermined time in the future, use, directly or indirectly, weapons of mass destruction against another State, or on their own determination, unsupported by the Security Council, that measures previously authorized by the Council against the State in question would be inadequate or have proved to be inadequate to maintain or restore international peace and security?

IALANA can be contacted as follows:

Southern Office: southernoffice@ialana.org
Northern Office: northernoffice@ialana.org
UN Office: unitednationsoffice@ialana.org
Open Letter on the Use of Depleted Uranium in Iraq

IPPNW

Mr. George W. Bush
President of the United States of America
The White House

Mr. Tony Blair
10 Downing Street

April 4th 2003
Re: Use of depleted uranium weapons in Iraq

Dear Mr. President, Dear Prime Minister,

The German affiliate of the International Physicians for the Prevention of Nuclear War (IPPNW) demands an immediate end to the use of weapons containing depleted uranium (DU) in the war on Iraq. In the last few days, reports from the battlefield indicate that these have indeed been used. We believe that weapons containing depleted uranium should be banned. The mass of circumstantial evidence on the detrimental effects of the use of depleted uranium on health and the environment is sufficient for a ban to be necessary.

Colonel James Naughton of the US Army Materiel Command stated in a press briefing on March 14th 2003 that the USA has no compunction about the use of DU weapons. He implied that the US military will use DU weapons in the war on Iraq: "...We don't want to fight even. Nobody goes into a war and wants to be even with the enemy. We want to be ahead, and DU gives us that advantage. We can hit, and they can't hit us. During the Gulf War we had tanks engaged in situations with multiple Iraqi tanks that were shot, hit — not penetrated — and proceeded to destroy all three of the targets that engaged them, including shooting through a sandbag and destroying one of the Iraqi tanks. It really happened. That's how much advantage it gives us. So we don't want to give that up, and that's why we use it."

According to a report by the Iranian News Agency IRNA on March 24th, 2003, DU weapons were used by US and British forces in an attack on Iraqi tanks on Basra. A report on NBC TV on March 23rd quoted a US soldier in Kuwait saying the DU weapons were uploaded and ready to go. The British newspaper The Guardian reported on March 31st that the British tank that was attacked by a US A-10 the Sunday before was destroyed by weapons containing DU. An eyewitness account stated that the dead body of the soldier in the tank was recovered by men wearing clothing to protect them from DU. On being asked by a correspondent in Qatar from the German TV station ZDF whether the US or Britain were using DU in Iraq, military representatives refused to confirm or deny.

After firing more than 300 tons of DU munitions in the 1991 Gulf War, Iraqi doctors have recorded a marked increase in cancer rates, particularly in South Iraq. Children were observed playing with the remains of tanks that had been destroyed by DU weapons as well as the remains of the shells. IPPNW has received comprehensive documentation from Iraqi doctors that show a significant increase in both cancers in children and congenital malformations. Whether the use of depleted uranium is the cause of these increases, or has contributed to them, has not yet been substantiated, nor has it been definitively ruled out.

For this reason, IPPNW demands that the US and British governments take responsibility for the burden of proof that depleted uranium causes no damage to the health of civilians or the environment.

In 1995, the US Army Institute for Environmental Policy warned that depleted uranium can have a significant medical effect on health when inhaled or ingested. The World Health Organisation (WHO) recommends that areas contaminated by DU be cleaned up. The most recent report of the UN Environment Programme (UNEP) states that DU has been found in the drinking water 8 to 9 years after it was used in Bosnia-Hercegovina. Klaus Töpfer, Executive Director of UNEP, recommended that the water therefore be monitored over several years and that in the meantime other sources of water should be used.

All the above indications amount, when added up, to a significant body of circumstantial evidence that there is real cause for concern. And since we are not convinced of the lack of danger to civilians caused by the use of DU we demand that these weapons be withdrawn from the arsenal and no longer be used, produced or sold.

Yours sincerely,

Xanthe Hall
Programme Director IPPNW Germany

Xanthe Hall can be contacted as follows: Körtestrasse 10, 10967 Berlin, Germany; tel. +49-30-69 80 74 12; fax +49-30-69 38 166; xanthe@ippnw.de; www.ippnw.de.

According to a press release from April 6, 2003, the United Nations Environment Programme (www.unep.org) is recommending that a scientific assessment of sites targeted with weapons containing depleted uranium (DU) be conducted in Iraq as soon as conditions permit.

UNEP Executive Director Klaus Toepfer said that “Given the overall environmental concerns during the conflict, and the fact that the environment of Iraq was already a cause for serious concern prior to the current war, UNEP believes early field studies should be carried out. This is especially important to protect human health in a post-conflict situation.”

Dr. Michael Kilpatrick, a top Pentagon health official, sees no reason for this: “The bottom line is, there’s going to be no impact on the health of people in the environment or people who were there at the time,” he said at a Pentagon press event.
The Looming Crisis
North Korea’s Nuclear Weapons Program and U.S. Policy

Tim Savage

When inspectors from the International Atomic Energy Agency discovered in 1993 that the Democratic People’s Republic of Korea (DPRK, or North Korea) had lied on its initial declaration of its past nuclear activities, the resulting crisis almost led to war. The United States was seriously considering air strikes against DPRK nuclear facilities when former President Jimmy Carter called the White House from Pyongyang and announced that he had the basis of a deal to defuse the situation. The U.S.–DPRK Agreed Framework, signed in October 1994, effectively froze DPRK nuclear activities in exchange for a U.S. promise to build two light-water reactors and to move toward normalization of relations.

From the beginning, the agreement faced a number of problems, from the technical to the political. The idea of building 2 gigawatts of nuclear production capacity in a country with an energy infrastructure as dilapidated as that of North Korea was ambitious, to put it kindly, and even in the best-case scenario, the 2003 target date for their completion was unlikely to be met. Given the continued abnormal state of U.S.–DPRK relations, however, the Agreed Framework was being implemented in far from ideal conditions. Shortly after its signing, the Republican Party gained control of both houses of Congress, and the Clinton administration decided to fulfill only the minimal letter of the agreement rather than risk a political fight with Congress over its DPRK policy. North Korea meanwhile continued to take provocative actions, most notably testing a multi-stage rocket that overflew Japan in August 1998. During its waning days in office, the Clinton administration attempted to negotiate a new agreement on the DPRK missile program, but ran out of time before a deal could be reached. When Clinton left office, the DPRK’s nuclear plants remained frozen, and the spent fuel rods were canned and under International Atomic Energy Agency (IAEA) safeguards. The Agreed Framework, however, left the all-important question of inspections to verify the DPRK’s past nuclear activities to a later date.

The new administration of President George W. Bush included many neoconservatives who see any truck with Pyongyang as appeasement of an “evil” regime. The incompleteness of Clinton’s attempt to disarm North Korea left these critics in the position to begin the process of dismantling the policy. After rudely rebuffing ROK (Republic of Korea; South Korea) President Kim Dae-Jung’s request to soften his stance, Bush subsequently refused to certify that North Korea was in compliance with the terms of the Agreed Framework, as required under an act of Congress. While the move had no practical effect, as Bush then used his executive privilege to waive the certification requirement, it was a clear attempt to put pressure on North Korea to come into compliance with the International Atomic Energy Agency earlier than called for under the Agreed Framework.

Withdrawal from NPT Increases Crisis

For its part, North Korea had not fully embraced the agreement either. While it did freeze operation of its 5 Mwe reactor at Yongbyon, and halt construction on two larger reactors, it also began work on a clandestine uranium enrichment program with aid from Pakistan. When U.S. Undersecretary of State James Kelly visited Pyongyang in October 2002, he confronted his interlocutors with evidence of the program, which the North Koreans first denied but later admitted to. North Korea argued that its nuclear program was justified by the “hostile policy” of the Bush administration and demanded that the United States sign a non-aggression pact. The United States responded that it would not negotiate with North Korea unless the DPRK first verifiably dismantles its nuclear programs.

Since the Kelly visit, North Korea has once again resorted to provocations in an attempt to bring the United States to the negotiating table. Pyongyang announced that it was withdrawing from the Non-Proliferation Treaty, while at the same time maintaining that it did not intend to build nuclear weapons. It removed cameras and expelled IAEA inspectors who were monitoring the freeze on the Yongbyon plant, and re-started the 5 Mwe reactor. It is unknown whether North Korea removed any of the spent fuel rods, although spy satellites have shown “furious activity” around the storage site. To date, North Korea has not restarted its reprocessing center, but it is unknown whether the failure to restart is deliberate or due to technical difficulties in the antiquated plant.

The Bush administration, however, has shown little inclination to engage North Korea in direct negotiations. Instead, they have argued that the issue is not between North Korea and the United States, but between North Korea and the international community, as the DPRK breached its obligations under the Nuclear Non-Proliferation Treaty (NPT). In contrast to Iraq, where President Bush only reluctantly agreed to consult the Security Council, the United States has been pushing for the IAEA to refer the matter of DPRK’s nuclear weapons to the United Nations. Rather than indicating a new-found U.S. commitment to international organizations and processes, however, this is a calculated tactical move on Washington’s part. The preferred strategy of many of Bush’s advisors is to isolate North Korea, squeezing it through sanctions until the Kim Jong Il regime collapses. For any sanctions regime to be effective would require the active support not only of U.S. allies Japan and South Korea, but also of China and Russia, both of whom share borders with the DPRK. By referring the matter to the UN Security Council, the
United States can claim the moral high ground for upholding international non-proliferation norms. Russia and China, which have thus far turned a deaf ear to U.S. calls for sanctions, would then be put in the position of being forced to either go along with the program or veto a UN Security Council sanctions resolution, opening them up to charges of aiding and abetting nuclear proliferators. The U.S. policy is thus regime change masquerading as multilateralism.

Throughout the crisis, the United States has shown a distinct lack of urgency to find a resolution, despite DPRK moves to restart its nuclear program. The reason for this is a strong belief in Washington that time is not on Kim Jong Il's side. Neo-conservatives take it as a matter of faith that the DPRK regime is hanging by a thread, and they blame Clinton's engagement policy for prolonging its lifespan. In contrast, they point to the "Reagan buildup" of heavy military spending, which they credit for causing the collapse of the Soviet Union. Proponents of this argument cite CIA reports that North Korea may already have two nuclear weapons. Even should it re-start the reprocessing plant, in the short-term, North Korea could only obtain enough fissile material for an additional three or four weapons, which, the argument goes, would not greatly shift the balance of power on the Korean peninsula. Therefore, the United States can afford to continue concentrating on the war against Iraq, biding its time and relying on deterrence until the tides of history inevitably sweep away the regime in Pyongyang.

There are several problems with this strategy, if it is even worthy of the term. In the first place, the contention that North Korea already has nuclear weapons, although cited as fact by many commentators, is actually a matter of conjecture. North Korea has never tested a nuclear explosion. The speculation of its existing weapons arsenal is based on the knowledge that the DPRK has stockpiled sufficient fissile material for at least two weapons, and has had ample time to weaponize them. Furthermore, this sanguine attitude toward the possibility of North Korea becoming an open nuclear power ignores the great and lasting damage that such a development would do both to regional security arrangements and global non-proliferation efforts.

Neo-conservatives also greatly underestimate the staying power of the Pyongyang regime. Despite years of food shortages and a collapsing infrastructure and economy, there are no signs that Kim Jong Il is losing his grip on power. The source of legitimacy of the DPRK regime has never been its ability to provide its people with a high standard of living, at which task it has failed miserably, but rather its success in defending the fatherland against foreign domination. The Pyongyang government portrays itself as the first truly independent regime in Korean history, constantly deriding signs of "puppetry" on the part of its southern brethren. President Bush's harsh anti-DPRK rhetoric—terming the country part of the "axis of evil," publically expressing his disdain for Kim Jong Il, and espousing a doctrine of pre-emption—only serve to reinforce the regime's propaganda of an impending U.S. attack.

**Playing for Time Is Not A Solution**

Opponents of an engagement policy also overestimate the degree to which the Clinton administration's limited degree of aid helped keep the DPRK regime in power. In particular, they exaggerate the importance of the heavy fuel oil supplied under the Agreed Framework, which never amounted to more than a small percentage of the country's electrical generation. Far more important is the amount of food and fuel that China provides North Korea, some as grants and some as trade at reduced prices. While China is opposed to the DPRK's acquisition of nuclear weapons, its interests in the Korean Peninsula do not coincide with those of the United States, making it highly unlikely to support any sanctions program. A DPRK collapse would likely cause a flood of North Koreans fleeing over the border, exacerbating the refugee problem China already faces. It could also result in an ROK-U.S. military intervention that could end with U.S. troops along the Yalu River. China has been maintaining a carefully calibrated dual-Korea policy that has allowed it to maintain close political relations with the North Korea while greatly expanding its economic ties with South Korea. Beijing's concerns about the DPRK nuclear program are thus outweighed by its strategic calculus for retaining its influence on the peninsula.

North Korea is unlikely to sit back and allow Washington's containment policy to take its course. Pyongyang knows that, once the war with Iraq is over, the United States will be in a much stronger position for dealing with North Korea. North Korea therefore will continue to push the proliferation envelope, and if Washington fails to respond, will likely proceed towards weaponization. To prevent that from happening, the U.S. may consider applying the Bush doctrine of pre-emptive military strikes. Doing so, however, risks DPRK retribution against Seoul, which is home to 12 million people and lies within range of DPRK artillery. ROK President Roh Moon Hyun, who rode a wave of anti-American sentiment to victory in December's polls, has consistently reiterated that he will not support any military solution to the nuclear crisis. Any indications that the United States is seriously considering a first strike option could lead to a rupture in the 50-year old U.S.-ROK alliance, driving South Korea into the waiting arms of China and greatly damaging U.S. interests in Northeast Asia.

A negotiated solution to the DPRK nuclear crisis is thus necessary not only to preserve peace in Northeast Asia and uphold non-proliferation norms, but also to preserve U.S. influence in a region vital to its security and economic interests. Critics maintain that North Korea has no intention of ever giving up its nuclear program, and views negotiation as a means of extorting goodies from its enemies. While it is certainly true that Pyongyang has yet to abandon its nuclear ambitions, it is equally true that the United States has never fully committed itself to a policy that accepts the DPRK's continued existence. It is time for both sides to cease halfway measures and lay their cards on the table. North Korea must finally and irrevocably make the choice between becoming a garrison state with nuclear weapons or joining the international community and receiving the developmental aid it desperately needs. But the United States needs to offer North Korea the breathing room it needs as a reward for good behavior, and stop simply wishing the problem would go away.

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Stepwise Approaches to Resolve the North Korean Nuclear Conundrum

Jungmin Kang

While the U.S. remains preoccupied with Iraq, the crisis on the Korean peninsula continues to intensify. Confrontation between the U.S. and North Korea (Democratic People's Republic of Korea, DPRK) has been being accelerated since the U.S. announcement of October 16, 2002, that North Korea had acknowledged a secret uranium enrichment program during U.S. Assistant Secretary of State James Kelly's visit to Pyongyang in early October 2002. If the present circumstances on the Korean peninsula keep escalating, the U.S. and North Korea might collide in the very near future.

Background

North Korea acceded to the Nuclear Non-Proliferation Treaty (NPT) in December 1985 under pressure from the former Soviet Union. However, for more than six years North Korea delayed ratifying a safeguards agreement with the International Atomic Energy Agency (IAEA) before finally doing so on January 30, 1992. The agreement called for the IAEA to inspect the North Korean peninsula before finally doing so on January 30, 1992. The agreement called for the IAEA to inspect the North Korean nuclear facilities after ratification.

North Korea and the IAEA began their inspections in North Korea in late May 1992, following the North Korean provision of its initial nuclear inventory report on May 4, 1992. The IAEA discovered discrepancies in the North Korean declaration of nuclear materials, and in February 1993 invoked the right for "special inspections" to inspect two sites that North Korea had not declared and that the IAEA suspected of housing nuclear waste. However, North Korea refused on the grounds that those two sites were military installations, and announced its intention to withdraw from the NPT in March 1993. Tensions on the Korean peninsula increased, and the prospect of war hung over the peninsula in the spring of 1994. Following three high-level negotiations between the U.S. and North Korea, the two countries on October 21, 1994, concluded the U.S.–DPRK Agreed Framework (hereafter referred to as the “Agreed Framework”) to produce an overall settlement of the nuclear issues on the Korean peninsula and to calm the crisis on the Korean peninsula.

Agreed Framework

The Agreed Framework was eventually supposed to dismantle the North Korean nuclear facilities relevant to plutonium production and separation in return for the supply of two pressurized light-water reactors with a generating capacity of 1,000 MWe each (the so-called light-water reactor (LWR) project) and annual deliveries of 500,000 metric tons of heavy fuel oil (HFO) to North Korea until the PWRs became operational.

In addition, the Agreed Framework required that the U.S. and North Korea “move toward full normalization of political and economical relations” including the following:

- The U.S. would provide formal assurances to North Korea that it would not be threatened or attacked with U.S. nuclear weapons.
- North Korea would cooperate with South Korea to implement the North–South Joint Declaration on the de-nuclearization of the Korean peninsula.

If the work had gone well, the concerns over the North Korean nuclear issue would be resolved and the LWR project would be almost completed at this point. However, the implementation of the Agreed Framework has been delayed for several years. The U.S. had insisted that North Korea should already have allowed the IAEA to inspect its nuclear facilities. North Korea, however, had insisted that it would start talks on the inspections with the IAEA after a significant portion of the LWR project is completed. And North Korea had demanded compensation from the U.S. for the delay of the LWRs construction and the resulting loss of electricity supply. Since the Agreed Framework does not clarify when North Korea should start that process, the ambiguity about the timing of the IAEA’s inspection to North Korea had been the source of controversy between the U.S. and North Korea.

Revisited Crisis

In November 2002, the U.S. cut off the supply of HFO that the U.S. had been providing to North Korea since 1994, accusing North Korea of having a secret uranium enrichment program in violation of the Agreed Framework. The HFO was alternative energy for heating and electricity generation to offset the energy foregone by shutting down its 5 MWe reactor and by not completing the construction of 50 MWe and 200 MWe reactors. Responding to this, North Korea expelled the IAEA inspectors in late December 2002 and announced its withdrawal from the NPT on January 10, 2003, once again. Furthermore, North Korea restarted the 5 MWe reactor in late February 2003 that it had shut down as a result of the Agreed Framework and as of early April 2003 has been preparing to restart its reprocessing facility. It could then separate enough plutonium from already-produced spent fuel for several Nagasaki-type bombs.

The U.S. responded by moving two dozen heavy bombers to Guam within range of North Korea. The U.S. announced that if North Korea begins plutonium separation, it would be making a serious mistake. The situation on the Korean peninsula continues to deteriorate.

Stepwise Approaches

North Korea has been demanding since late October 2002 that the U.S. agree to a bilateral non-aggression pact with North Korea, which goes beyond the commitments in the Agreed Framework, because of its great concerns that its security is threatened by a conceivable U.S. nuclear attack.

In January 2002, the U.S. put North Korea back on the U.S. nuclear target list
in the context of the Nuclear Posture Re-
view. This contravenes the U.S. commit-
ment that it had made not to threaten non-
nuclear-weapon states with nuclear
weapons and violates the U.S. commit-
ment under the Agreed Framework as well.

I suggest that the following steps
should be taken by the U.S. and North Ko-
rea to defuse peacefully the current rising
confrontation between the two countries:

First of all, both the U.S. and North
Korea should immediately stop aggressive
actions that suggest a willingness to take
military action. They should also send
diplomatic signals that, considering the ur-
gency of the Korean crisis, they are ready
for immediate dialog to avoid military con-
frontation between them. At the same
time, the UN Security Council should
issue a similar resolution to the one from
1993, and request North Korea to remain a
party to the NPT as a non-nuclear-weapon
state. This resolution would send the mes-
sage that this is not just a U.S.-North Ko-
rea but also an international security issue.

Secondly, the U.S. and North Korea
should clarify the secret North Korean
uranium enrichment program that set off
the current Korean crisis. The U.S. an-
nounced that North Korea acknowledged
the existence of its clandestine uranium
enrichment program when James Kelly
visited Pyongyang last October. It is said
that James Kelly simply told North Kore-
an officials that the U.S. government had
known that North Korea was violating the
agreement by covertly enriching uranium
and that if North Korea ever wanted to re-
cive the benefits of normal relations and
other aid, it would have to stop. Respond-
ing to this, it is said that North Korea in-
sisted that it was entitled to have nuclear
weapons to safeguard its security in the
face of a growing U.S. threat. There is dis-
agreement between their arguments.

Thirdly, at the same time, North Ko-
rea should suspend its nuclear activities, ac-
cept the return of IAEA inspectors immedi-
ately, and state its willingness to live up to
all its obligations under the NPT and the
Agreed Framework in return for the U.S.
resumption of its HFO supply to North
Korea until the first LWR is constructed.
This is based on the prerequisite conditions
that the U.S. should provide its official
commitment not to attack North Korea as
long as North Korea is trying to keep its ef-
forts to reduce tension on the Korean
peninsula. Official guarantees can be pro-
vided by China and Russia, considering
their influence on the Korean peninsula.

Fourthly, both the U.S. and North
Korea should agree to negotiate issues that
were sources of controversy in the imple-
mentation of the Agreed Framework, such
as the timing of special inspections of
the IAEA in North Korea, removal from North
Korea of the 8,000 plutonium-containing
spent fuel rods stored in Yongbyon, dis-
mantlement of all its graphite-moderrated
reactors and of its reprocessing facility, and
moving toward full normalization of U.S.-
North Korea political and economic rela-
tions to accomplish the nuclear-free Korean
peninsula.

In the course of renegotiations de-
scaling and defusing the current nuclear
tension between the U.S. and North Korea,
South Korea could contribute significantly
by convincing North Korea to stop provok-
ing the rest of the world and demanding the
U.S. to talk with North Korea.

South Korea could take the follow-
ing actions to convince North Korea:

- Provision of electric power to North
Korea in exchange for import of a signifi-
cant portion of electricity to be generated
from the two LWRs until North Korea’s
grid can accommodate the power reactors;
- Joint collaboration with North Ko-
rea in decommissioning and decontami-
nation of the frozen nuclear facilities, with
significant payment; and
- Joint collaboration with North Ko-
rea in development of its energy infra-
structure, including upgrading the electri-
cal grid system, rehabilitating power
plants, etc., along with other members of
the Korean Peninsula Energy Develop-
ment Organization (KEDO).

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**US-DPRK Agreed Frame-
work (extracts)**

I. The U.S. and the DPRK decided to take the
following actions for the resolution of the nu-
clear issue:

I. Both sides will cooperate to replace
the DPRK’s graphite-moderrated reactors and
related facilities with light-water reactor (LWR)
power plants.

1) In accordance with the October 20, 1994
letter of assurance from the U.S. President, the
U.S. will undertake to make arrangements for
the provision to the DPRK of a LWR project
with a total generating capacity of approximate-
ly 2,000 MW(e) by a target date of 2003. (…)
2) In accordance with the October 20, 1994
letter of assurance from the U.S. President, the
U.S., representing the consortium, will make
arrangements to offsets the energy foregone
due to the freeze of the DPRK’s graphite-mod-
ernated reactors and related facilities, pending
completion of the first LWR unit. (…)
3) Upon receipt of U.S. assurances for the
provision of LWRs and for arrangements for
interim energy alternatives, the DPRK will
freeze its graphite-moderrated reactors and
related facilities and will eventually dismantle
these reactors and related facilities. (…)
4) As soon as possible after the date of this
document U.S. and DPRK experts will hold
two sets of experts talks. (…)
II. The two sides will move toward full normal-
ization of political and economic relations.

1) Within three months of the date of this
Document, both sides will reduce barriers to
trade and investment, including restrictions
on telecommunications services and financial
transactions.
2) Each side will open a liaison office in
the other’s capital following resolution of con-
siderable and other technical issues through ex-
pert level discussions.
3) As progress is made on issues of con-
cern to each side, the U.S. and the DPRK
will upgrade bilateral relations to the Ambas-
sadorial level.
III. Both sides will work together for peace and
security on a nuclear-free Korean peninsula.

1) The U.S. will provide formal assurances to
the DPRK, against the threat or use of nu-
clear weapons by the U.S.
2) The DPRK will consistently take steps to im-
plement the North-South Joint Declaration on
the Denuclearization of the Korean Peninsula.
3) The DPRK will engage in North-South dial-
ouge, as this Agreed Framework will help
create an atmosphere that promotes such di-
ologue.
IV. Both sides will work together to strength-
en the international nuclear non proliferation
regime. (…)

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The Majority Opinion
Toward a Nuclear-Free World: An Annual Assessment

Janet Bloomfield and Pamela S. Meidell

in which representatives of the majority of the world speak their truths about the state of our nuclear world

United Nations Day, October 24, 2002

“It feels as though some kind of contract has been broken, some unspoken agreement guaranteeing that we in the North Atlantic world would be spared the majority human experience of insecurity and physical dread. What Faustian contract did we think had been made on our behalf? How could we imagine that, in a shrinking world, we could forever postpone being touched by the majority experience? In the global village, fire can jump more easily from roof to roof.”

Rowan Williams, Archbishop-elect of Canterbury

The Unfinished Agenda
what the countries left out when they agreed to grade themselves on nuclear disarmament

In the year 2000 at the Non Proliferation Treaty (NPT) Review Conference, all of the countries that had signed the NPT agreed to a set of 13 “practical steps for the systematic and progressive efforts to implement” the disarmament obligations set forth in Article VI1 of the treaty. With this one step, the countries themselves took up most of the agenda outlined by nuclear abolition groups around the world in the Abolition 2000 Statement of 1995.2 Since 1996, this document, and the accompanying Moorea Declaration,3 has served as the criteria for grading the world on progress (or not) on nuclear abolition. Starting in 1996, the Atomic Mirror has produced a series of report cards4 tracking a diminishing effort by the world in getting rid of nuclear weapons. We are not doing well. Now that the countries themselves have committed to report on a regular basis their compliance with the 13 disarmament steps to which they have agreed,5 nuclear abolition groups have the opportunity to focus on The Unfinished Agenda, i.e. those points not taken up. In this report, we focus on the two main points neglected by the countries, but outlined in the Abolition 2000 Statement:

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

The Moorea Declaration (which states in part): Colonized and indigenous peoples have, in the large part, borne the brunt of ... nuclear devastation.... [Therefore,] 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.

Obviously, these two ideas are deeply connected: the involvement of citizens in monitoring and keeping alive the indefinite human experience of insecurity and physical dread. What Faustian contract did we think had been made on our behalf? How could we imagine that, in a shrinking world, we could forever postpone being touched by the majority experience? In the global village, fire can jump more easily from roof to roof.”

Regional Reports from the Majority World
in which we hear from our global colleagues (i.e., we multilateralize our dialogue...)

In an era of US unilateralism, we believe it is crucial to bring forward the voices from many parts of our world. We asked our colleagues to address these two overlooked points with respect to the realities of life in their regions, specifically: How do you ensure the participation of citizens (including indigenous and/or colonized peoples) and NGOs in your nuclear abolition campaigns and activities? How do you address the issue of decolonization, i.e. what are you doing in your region to free people from reliance on nuclear weapons, and their production? What support do you need or can you offer? What specific proposals do you recommend?

Australia: In our region, the anti-nuclear and anti-war communities work closely together, opposing uranium mining, nuclear and depleted uranium weapons production, and Australia’s very close military alliance with the United States. Our country is laced with uranium deposits. In our campaigns, we honor the rights of the aboriginal peoples, who are the traditional owners of the land, by supporting them, and working with sympathetic legislators to enact laws to protect them. A bill currently before the Western Australia State parliament would ban all further uranium mining, the transport of nuclear material, and international dumping of radioactive materials. If enacted, it would effectively make Western Australia a nuclear-free state.8

On the federal level, we are looking to two Greens senators to initiate legislation blocking Pangea, the international nuclear waste-dumping consortium, from turning Australia into one of the world’s nuclear waste dumps. Community education about the dangers of transporting such material across the high seas is required to ensure that it doesn’t become a...
Europe still remains a nuclear continent. Britain and France continue to maintain and invest in the development of nuclear weapons. US nuclear weapons are still stationed in Belgium, Britain, Germany, Greece, Italy, the Netherlands and Turkey. European activists have been among the most determined in using the International Court of Justice (ICJ) advisory opinion of 1996 to challenge the illegality of nuclear weapons installations. Thousands of people have taken action in Scotland against the Trident nuclear submarine system, and in Belgium against NATO.

Janet Bloomfield, British Coordinator, The Atomic Mirror, Britain

India/South Asia: The world remains very much under the nuclear shadow. Raring the first five years after the end of the Cold War (when genuine steps towards actual nuclear disarmament and not just arms management were being made) in the post-Cold War period now unfolding, the dangers of nuclear war are even greater, albeit different, from what they were during that past. Then the justified fear was of a global holocaust. Now it is of a regional or ‘limited’ nuclear war or exchange. Supporters of nuclear weapons in India do not want to believe this reality. On the contrary, they want to use the example of that Cold War past, as the reassurance that we need not fear the use of nuclear weapons now. Deterrence assured peace then, so it will do so now! Nuclear peace was not the result of deterrence but much more because of the existence of a taboo established by the very horror of what happened at Hiroshima and Nagasaki 47 years ago. The longer this taboo lasted—and credit here must go to the much derided peace movements and to the general public sentiment that viewed these instruments of war as uniquely evil—the more difficult it became to break the taboo. Now, it is a very different situation. There are three possible positions one can take regarding the prospects of a nuclear war in South Asia arising from an India-Pakistan conventional military conflict escalating into a nuclear exchange. The first view, widespread outside India and Pakistan among both pro-nuclearists and anti-nuclearists, is that such an exchange sometime in the future between the two countries is almost inevitable. A second view is that the danger of this is so small it is negligible. This is certainly the position of most of those in India who supported India going nuclear. Interestingly, among Pakistani supporters of the bomb there is a greater degree of pessimism, with a greater proportion who, even as they support Pakistan’s acquisition of the bomb, are fearful that there could well be a nuclear exchange between the two countries. There is, of course, a third position that is far and away the most sober one - the possibility of a nuclear exchange is not negligible but in-between; that is to say, it is a real-case scenario, not just a worst-case one, and that its likelihood varies depending on how serious conjunctural tensions are between the countries. Short of again creating a disarmament momentum, it will be folly to think that over the next 57 years, nuclear weapons will not be used. (excerpted from Unlimited Damage by Achin Vanaik, The Telegraph, Calcutta, September 10, 2002)

Achin Vanaik, The Coalition for Nuclear Disarmament and Peace, India

Middle East: In the Middle East, the only way to involve broad masses of people in disarmament campaigns is to highlight the interrelationship between the arms build up and the arms race with the current economic, political, and national clashes of interests. These activities lead to wars and military conflicts, and consequently underscore the necessity of disarmament, nuclear and conventional, as a major factor for the solution of people’s problems. Disarmament in this case is not merely technical measures leading to a model of zero nuclear weapons, but a socio-political phenomenon. Therefore, the disarmament measures stipulated by the documents of NPT Conferences must be tightly connected to the steps necessary to eliminate political, economic and social causes of wars and military conflicts. This approach will help bring the basic interests of people to the core of our campaigns. One of the best ways to address this core issue is to transform the Middle East into a zone free from all weapons of mass destruction (WMD), together with their delivery systems. Such a step would free the Middle East from Israeli nuclear weapons, and WMDs that may be acquired by other states in the region. It will also deal a severe blow, for example,
to the US Nuclear Posture Review (NPR)\textsuperscript{11} which lays out contingency plans to target several Middle Eastern states with nuclear weapons\textsuperscript{12}. Instead of US aggression, the only assured way to prevent the proliferation of WMD is to free the region from these weapons. The political will necessary for this reality to happen will only manifest itself when the efforts to free the region from all WMD are tied with efforts to ensure the basic needs of the people are met.

Bahig Nassar, Coordinator of Arab Coordination Center of NGOs, Egypt

Russia: The world was shaken twice in the last decade: once when the USSR dissolved, and once when terrorists attacked the US on September 11. In the Gorbachev era, we actually lost our way to change the world for the better. We lost some wonderful possibilities to begin a process for deep reductions of the stockpile, and to eliminate nuclear weapons once and for all. Now one of the main obstacles to achieving a nuclear-free world is the new US Nuclear Posture Review (NPR). What can we do? Leaders are still sure that peace is possible because their countries have nuclear weapons. I am sure nuclear threats and nuclear weapons are the last argument of weak, stressed and irresponsible politicians. People must act very quickly to stop the movement to nuclear war. But Russian people do not wish to spend money for new weapons of mass destruction; Russian people wish to build a new peaceful life after years of the Communs’ totalitarian regime and many years of transition-period chaos. Russia today wishes to build its civil economy, not military industry. But the US NPR and the US deployment of space-based national missile defense (NMD) will provoke Russia to build new nuclear armaments. Combined with NATO expansion (to the Russian border), these US initiatives will break down the whole world order, and every nation will pay their own political and economic price for that nuclear apartheid.

Alla Yaroshinskaya, Ph.D., former advisor to President Boris Yeltsin, current advisor to Mikhail Gorbachev, Russia

The United States: In an era when the US unilateral policies sail forth on a regular basis, US citizens need to remember more than ever their responsibilities as citizens—of the US and of the world. We live in a democracy, and we must practice it on a regular basis or risk losing it. Citizen groups in the US, meeting to craft a nuclear abolition campaign in the heart of the beast, drafted a document entitled “Democracy, Power and Nuclear Weapons.” Here are some excerpts:

“Organizing to abolish nuclear weapons is a significant moral and ethical undertaking that inherently defies the status quo. Because nuclear weapons are so closely bound to the power of the governments that hold them, promoting open public debate regarding nuclear weapons policies requires us to question state authority directly. Thus, efforts to abolish nuclear weapons can lead to citizens reclaiming sovereignty over society’s decision-making processes, and hence to an expansion and reinvigoration of democracy… The process for getting rid of the bomb will both require and make possible increased openness, truthfulness, cooperation and citizen participation. … Nuclear weapons, like slavery, are symptoms of social degradation and a climate of fear and confusion, which have much deeper roots. History teaches today’s Abolitionists (here we refer to the slavery abolitionists in the 19th Century who we recognize as our forebears) that the road to world security, justice, and to the abolition of nuclear weapons must lead as well to a fundamental reconstruction of our economy and our politics.”\textsuperscript{13}

Many voices of resistance cry out around the United States. In Nevada, despite decades of persistent protest and opposition, the US government continues to conduct various kinds of nuclear weapons tests on Western Shoshone land and has plans to bury the nation’s nuclear waste there. First steps in siting National Missile Defense in Alaska met citizen opposition, as we hear from the far North:

The state of Alaska needs increased citizen involvement in planning and monitoring the nuclear weapons industry. Information is the first step in ensuring citizen involvement in a robust democracy and abolishing nuclear weapons. Historically, the nuclear and defense industries have taken advantage of the size and remoteness of Alaska for their most dangerous testing and experiments. The environment, upon which many indigenous peoples depend for subsistence, already has widespread negative impacts from decades of military pollution. Today, the people of this state are purposefully kept uninformed about Missile Defense Agency activities that could endanger them. Promoting educated opposition to missile defense in Alaska by disseminating critical information is the primary goal of No Nukes North.

An excellent model of how communities can work together to gain some control over the nuclear industry’s actions did evolve during the past year. An investigative journalist in Fairbanks exposed a secret Missile Defense Agency plan to launch Scud missiles from the University’s rocket research facility. This information resulted in public knowledge of the project’s risks and the true safety record of the launch facility, and raised questions about future Missile Defense Agency projects. Subsequently, there was enough support within the University to set up a diverse panel of faculty and community leaders to review and make recommendations to accept or reject each proposed classified military project, based partially on if and how projects would serve local residents.

NGOs had to sue the Department of Defense to enforce adherence to the National Environmental Protection Act (NEPA) laws for new Alaska missile defense sites. Meaningful observance of those laws and respect for their intent would benefit citizens, the land, and the public’s trust in their defenders, yet the national trend of increasing secrecy and exemptions from environmental standards has direct negative impacts on both environment and attitudes.

Stacy Fritz, No Nukes North, Alaska, USA

The Way Forward
in which we set forth three specific proposals for action

(1) What Shall We Do? The Unfinished Agenda Expands…

Our regional rapporteurs’ comments revealed yet additional items ignored by the countries that agreed to the 13 points of the 2000 NPT Review Conference. All three of these points have a crucial bearing on current events in our world:

Immediately make an unconditional pledge not to use or threaten to use nuclear weapons. (#2 of the Abolition 2000 Statement) One strategy for dealing with potential nuclear terrorism and “rogue states” would be to stop threatening nuclear use (as the US does in the NPR), especially

Janet Bloomfield and Pamela S. Meidell

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against countries that don’t have or haven’t been shown to have nuclear weapons. Public diplomacy is not enhanced with such a stance. How can we work together across borders to address the ultimate injustice of the NPR and the shift in US policy from deterrence to preemptive strikes?

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. (#6 of the Abolition 2000 Statement) The problem of “loose nukes” and potential terrorist access to nuclear materials could be minimized immensely with the common sense move to create a single standard of nuclear accounting. Such an act would give weapons inspections real credibility in all quarters. How do we ensure that this inventory takes place?

Create additional Nuclear-Weapons-Free Zones (NWFZ) such as those established by the treaties of Tlatelolco and Rarotonga. (#8 of the Abolition 2000 Statement) The world’s Nuclear Weapons Free Zones form the heart of the untold success story of the road to a nuclear-free world; they are one of our best hopes for bringing it into being. Currently, NWFZ treaties cover nearly half the globe (most of the global Southern Hemisphere): Treaty of Rarotonga (South Pacific), Treaty of Tlatelolco (South America), Treaty of Bangkok (Southeast Asia), Treaty of Pelindaba (Africa). NWFZs in the Middle East, South Asia, Northeast Asia, Central Asia, and Central Europe are currently under discussion at the UN and in respective regions. It’s a glaring omission that the states parties to the NPT left out such a likely path to our goal. Our majority opinion contributors see NWFZs as preventive disarmament measures that could be negotiated by regional bodies as a way of taking action without the need for US involvement. In the US itself (which has never acknowledged the genocidal nature of its foundations with respect to the original inhabitants of the land), First Peoples have been successful in enacting the lion’s share of the region’s NWFZs. Citizen groups of all persuasions can build on these successful initiatives.

(2) How Shall We Do It? Democracy, Dialogue, Direct Action

It’s all well and good to lay out what should happen. But the real question remains: How is it going to happen? Joseph Rotblat, in his critique of the US Nuclear Posture Review (NPR)¹⁴, cites the immorality and rampant destruction of nuclear weapons as ethical imperatives for abolishing them. But Bahig Nassar argues that, like the goals reiterated above, “these are already among the main bases which NGOs have been adopting in their campaigns for many years. Yet these campaigns get nowhere.” He’s right. Where are we? This analysis begs disarmament/abolition NGOs to conduct a serious and thoroughgoing assessment and critique of ourselves, especially in light of the anti-globalization campaigns of the last few years. Clearly, people will act when they perceive that their interests are ignored. How they take action is as important as the actions they take. We propose the following approach: democracy, dialogue, direct action.

In engaging with our democracies, we need to recapture politics from the politicians. We need to recapture it for the people, and recognize that politics is what we are practicing. Politics, as a full public discourse that engages all citizens, has been atrophying for too long in the comfortable democracies of the North. Notice the word, “discourse.” That means talk, as in talk to your neighbors, to your elected representatives, to people on the street and to people standing in line at the post office. Have a dialogue, air the issues that concern you, practice freedom of speech. And then embark on the next step of reclaiming our democracies. As Mary Kaldor of the Centre for the Study of Global Governance at the London School of Economics says: “What is needed, above all, is a political project based on inclusion, democracy, and the international rule of law. Such a project can supplant the exclusivist political thinking that leads to war; it does not offer technical solutions but changes the way people perceive the world. This is just as important in the societies that are considered peaceful, such as the United States or Europe, as in the regions currently engulfed by war… But the task of grassroots activists is not to educate (or miseducate) the public about technical approaches; the task is to change global consciousness.”

Nothing is better at changing people’s consciousness than creative, non-violent direct action. One of the most innovative campaigns on the planet is currently underway in a quiet loch on Scotland’s West Coast, aiming to rid Britain of its Trident submarines and their nuclear weapons. Using the legal and moral weight of the 1996 World Court Judgement¹⁵, Trident Ploughshares 2000¹⁶ involves thousands of people in an open, accountable and non-violent campaign challenging nuclear weapons. It organizes regular large acts of resistance at the UK Trident base at Faslane, Scotland. Since the formal launch of the campaign on May 2, 1998, over 1800 people have signed the Pledge to Prevent Nuclear Crime, over 1700 people have been arrested, and 277 trials have taken place. Trident Ploughshares 2000 has given people a supportive framework in which to exercise their responsibilities as global citizens, and kept Trident in the public eye at a time when nuclear weapons have been low on the media agenda.

Another new global initiative developed in the wake of the highly publicized United Nations weapons inspections of Iraqi sites, and the 1996 ICJ opinion. Teams of citizens have taken up implementation of the ICJ opinion by attempting to conduct “citizen verification inspections” at nuclear sites around the world. Citing international law affirmed by the ICJ, these Citizen Inspection Teams inspect nuclear weapons facilities, with varying degrees of success, to ascertain whether illegal activities are continuing.¹⁷

We would further recommend the following steps: Increase citizen involvement by requiring all states to include NGO representatives in their delegations to future NPT PrepComs and Review Conferences. Bring the issue of nuclear abolition to other regional and international arenas, including bilateral talks between the nuclear weapons states. Continue to develop mechanisms to make the nuclear weapons states more accountable to their treaty obligations and to their citizens.

(3) The Moorea Declaration: Decolonizing Our Hearts and Minds

In using the term “decolonization” here, we remember the admonition of Gabriel Tétiraréha, our Maohi colleague in French-occupied Polynesia, to “Decolonize your minds!” We assert that the planet has been colonized by the nuclear enterprise and those responsible for it, since nuclear activities were undertaken in secret and therefore without consultation and the
consent of the people. We are all colonized. We need to work in solidarity with our brothers and sisters of the indigenous lands and communities around the world, because they can teach us so much about what it means to decolonize our minds. They have the intimate experience and the awareness: they’ve been awake to colonization and we are just beginning to wake up to it. So, with the people of the Pacific (and especially the Nuclear Free and Independent Pacific movement), we agree that decolonization and denuclearization must go hand in hand.

With these reflections in mind, we propose the following recommendations: Return French-occupied Polynesia to the United Nations decolonization list. Hold the nuclear weapons states, and other responsible parties, legally accountable for the human and environmental consequences of usurping land and resources for nuclear enterprises. Honor the sovereignty of indigenous peoples, and uphold treaties made with them. Support the efforts of local, affected and indigenous peoples to restore the natural balance of their environments, and to preserve knowledge about nuclear materials for future generations. Decolonize our own minds and hearts.

To inspire us, we offer the following heartening example, which occurred during the writing of this report. On Wednesday, September 25, the US government returned Thule Air Force Base18 in Dundas, Greenland to the local citizenry. In three years, it will revert to the Inuit people19.

**Last Words**

In this report, we have set forth the views of a number of people who are not normally heard in the corridors of power. They represent the vast majority of the world’s citizens whose basic needs for real human security in jobs, health and education are not being met. Let us reflect too, on Albert Einstein’s words for Americans, spoken in 1921, which are still valid today. Speaking of his first impressions on a visit to US shores, the famous scientist described a state of affairs that is identical or perhaps even worse today. He said in a news interview for *Nieuwe Rotterdamsche Courant*:

> “The United States is the most powerful among the technically advanced countries in the world. Its influence on the shaping of international relations is absolutely incalculable. But America is a large country, and its people have so far not shown much interest in great international problems, among which the problem of disarmament occupies first place today. This must be changed, if only in America’s own interest. The last war [WWI] has shown that there are no longer any barriers between the continents and that the destinies of all countries are closely interwoven. The people of this country must realize that they have a great responsibility in the sphere of international politics. The part of passive spectator is unworthy of this country and is bound in the end to lead to disaster all round.” (emphasis added)

“Recall the face of the poorest and most helpless man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he be able to gain anything by it? Will it restore him to a control over his own life and destiny? In other words, will it lead to swraj (self-rule) for the hungry and also spiritually starved millions of our countrymen.”

Mohandas K. Gandhi (known as The Gandhi Talisman and engraved at his house/ashram in New Delhi)

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1 Article VI states: Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.


4 See www.abolition2000.org/reports/.


6 We are using the term “decolonization” here to mean the need to free humanity and life on earth from colonization by the nuclear enterprise. See the Recommendations under the Moorea Declaration at the end of this report.

7 The “majority world” a term coined at the end of the Cold War to include the 80% of the world population who are not part of the North American system.

8 We assert that currently we are all held hostage to nuclear weapons as instruments of public policy, both foreign and domestic. In this sense, we all rely on nuclear weapons for our security.

9 The 13 points also leave out the expansion of existing or creation of new nuclear free zones as preventive disarmament measures. See the Recommendations under What Shall We Do? at the end of this report.


11 See www.wolfweb.org/nukes/nt.htm for complete text of NPT.

12 In the current climate, the real threat is war in Iraq and the possible use of nuclear weapons by Israel. The US NPR calls for the US, in this scenario, to retaliate with nuclear bombs against Iraq, with unimaginable consequences and disaster all around.

13 See www.wolfweb.org/abolition/demo.htm for complete document.


15 On July 8, 1996, the International Court of Justice in The Hague issued an Advisory Opinion declaring nuclear weapons to be “generally illegal,” and required the nuclear weapons states to complete negotiations to get rid of them. See www.lcnp.org/wcourt/opinion.htm.

16 See www.tridentploughshares.org.

17 See www.lcnp.org/wcourt/Cir%20Weapons%20Inspections.htm for a list of inspections.

18 Site of several ‘near miss’ nuclear accidents during the Cold War.

19 As reported by BBC World (radio) in an interview with Greenland’s Deputy Minister for Foreign Affairs, Nikolai Engle, September 25, 2002.
The NPT Under Siege

Alice Slater

The upcoming Non-Proliferation Treaty Preparatory Committee (NPT PrepCom) meeting scheduled from April 29th to May 9th, will hardly be “business as usual”. The parties will meet against the backdrop of an illegal, aggressive war against Iraq, unsanctioned by the UN Security Council, which may still be raging as they gather in Geneva. With North Korea having withdrawn from the NPT to pursue the acquisition of a nuclear arsenal, with Iran using the cover of the NPT to develop nuclear weapons under the permissible so-called “peaceful use” of nuclear technology—and the United States having violated many of the promises extracted from the nuclear weapons states at the 2000 NPT Review Conference, non-governmental organizations (NGOs) wonder whether there is any life in the NPT to be saved.

As the scaffolding of the treaty begins to crumble before our very eyes, it seems a lifetime ago that members of INESAP together with other NGOs from around the world came together in New York in 1995, at the NPT Review and Extension Conference to adopt a call for nuclear abolition and the negotiation of a treaty to ban the bomb by the year 2000. At that review conference, “systematic and progressive steps” toward nuclear disarmament were promised by the nuclear weapons states. Shortly after that meeting, France began a series of underground nuclear tests at the fragile coral atoll of Mururoa, despite the 1995 promises to negotiate a test ban. Using the internet to create a worldwide boycott of French wine and cheese, an extraordinary network of nuclear abolitionists, Abolition 2000, in over 90 countries, working with the indigenous people of the Free and Independent Pacific, were able to generate enough pressure to stop the French, after six tests, from completing the last two tests in their planned series.

Working with scientists, lawyers, and knowledgeable experts, Abolition 2000 produced a model Nuclear Weapons Convention, now an official UN document, which laid out the road map for nuclear disarmament. Nevertheless, a number of the nuclear weapons states continued to design new nuclear weapons in the weapons labs using computer-simulated cyberspace. The US and Russia continued to test nuclear materials in so-called “sub-critical” tests at the Nevada test site and at Novaya Zemlya. In 1997, India and Pakistan, two of the then four non-parties to the NPT, began their nuclear testing and went overtly nuclear. (Israel and Cuba were the other two non-parties, but in 2002, Cuba agreed to sign the NPT.)

The New Agenda Coalition of Ireland, New Zealand, Mexico, Sweden, Brazil, and Egypt formed to influence the outcome of the 2000 NPT Review, and NGOs all celebrated the results. In a series of thirteen “practical” steps, the nuclear weapons states made a number of promises for nuclear disarmament, among which were early ratification of the Comprehensive Test Ban Treaty (CTBT), making steps for nuclear disarmament irreversible, an unequivocal undertaking for the total elimination of nuclear arsenals, preserving and strengthening the Anti-Ballistic Missile (ABM) Treaty (ABM) as a cornerstone of strategic stability, and a diminishing role for nuclear weapons in security policies.

To the world’s dismay, the Bush Administration has blatantly disregarded these prior commitments. President Bush has refused to submit the CTBT to the Senate for ratification—indeed the House Republicans released a report calling on Congress to shorten the time-frame for the resumption of full-scale underground tests to no more than 18 months, and possibly as low as 12 months. Instead of making nuclear disarmament irreversible, the Bush Administration has plans in the works for new smaller, more “usable” nuclear weapons. The new Strategic Offensive Reduction Treaty (SORT) with Russia, disposed of all the carefully negotiated points for START III and allows the parties to literally do whatever they want. The SORT treaty does not require the destruction of a single weapon, providing only for cuts in “deployed” weapons. The parties can put these weapons on the shelf and reuse them at will—hardly irreversible nuclear disarmament as promised at the 2000 NPT. Further, rather than maintaining the ABM Treaty, the US walked out of the treaty to pursue the provocative folly of controlling and dominating the military use of space. As for the promise to diminish the role of nuclear weapons in national security policies, the Bush Nuclear Posture Review (January 2002) reserves the right to use nuclear weapons in a preemptive attack on a threatening foreign country.

Is it any wonder, that after Bush’s infamous speech, in which he named Iraq, Iran and North Korea as the “axis of evil”, and after his huge manipulation and ultimate flouting of the UN Security Council to wage an illegal war against Iraq, that North Korea and Iran are pursuing their own nuclear arsenals!? What are NGOs to do now as we approach this badly battered NPT regime?

We are not powerless. We have seen what the New York Times has characterized as the “second super-power”, the millions of people demonstrating across the globe against the unjust, illegal war on Iraq. Nuclear abolitionists have a particularly unique stake in seeing the UN inspections work. We know that inspections are the only way to verify nuclear disarmament. Without an impartial, global inspection process for ALL nuclear weapons states, we will never be able to create the trust required that will enable states to feel safe enough to dismantle their nuclear arsenals. The super power of the people cannot be denied. Although we were unable to stop the deadly assault on Iraq, we continue to organize and press for an end to the war. Right now there is an initiative to take the issue to the General Assembly and it is most likely that our “people power” will carry the day to have the Iraq war addressed in that body, through the legal mechanisms of the UN.

There is another possibility for us, stated in an initiative put forth by Secretary-General Kofi Annan at the Millennium Conference in 2000, just before the 2000 NPT Review Conference to hold a special global conference to eliminate nuclear dangers. Annan said:
Nuclear Non-Proliferation under Review

“This month’s review conference on the Non-Proliferation Treaty [April 2000] is likely to be a depressing affair unless there are clear signals that all parties, including the nuclear weapons states, are ready for a real effort. I am suggesting that a broader-based international conference, to identify ways of eliminating nuclear dangers of all kinds, should now be seriously considered.”

Annan’s proposal is worthy of NGO support. It would enable a meeting with all the nuclear weapons states, including India, Israel, and Pakistan, who are not members of the NPT. Billed as a conference to eliminate nuclear dangers “of all kinds”, it would also allow us to address the unholy bargain of the NPT in which the nuclear weapons states give civilian nuclear technology to non-weapons states—in effect handing over the keys to the bomb factory—as we see with India, Pakistan, North Korea, and now Iran. At any time, any one of the 40 plus nuclear-capable states with civilian technology can walk out of the NPT and use their technological know-how to build their own bombs. Calling for worldwide support for Annan’s Conference on Nuclear Dangers may allow us to set up a new regime for true nuclear disarmament with all of the parties at the table. Perhaps it could serve as an “Ottawa Process” for nuclear weapons. Let those who would stay away do so at their peril. The power of the people can and must push the nuclear abolition agenda forward!

In Geneva, during the NPT, on May 3, from 9:00 am to 6:00 PM, Abolition 2000 will hold its Annual General Meeting at Centre Universitaire Protestant, 2 ave. du Mail, Plainpalais, Geneva. If you’re there please join us to work on the abolition of nuclear weapons. There will be panels, workshops, roundtables, morning caucuses, and NGO presentations during the course of the Prep-Com. If you can’t join us in Geneva, check out our website at www.abolition2000.org, for petitions supporting Annan’s millennium call, and other material to forward our work to rid the world of the nuclear scourge.

The power of the people can and must push the nuclear agenda forward! For petitions supporting Kofi Annan’s millennium call, and other material to forward our work to rid the world of the nuclear scourge, please go to www.abolition2000.org.

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New Approaches to Nuclear Verification and Nuclear Security

Tariq Rauf

On 24-26 February 2003, some 50 international experts from research institutes and media outlets met at IAEA (International Atomic Energy Agency) Headquarters in Vienna to participate in a Seminar on New Approaches to Nuclear Verification and Nuclear Security. The seminar, organized by the IAEA’s Office of External Relations and Policy Coordination and co-sponsored by the United Nations Institute for Disarmament Research (UNIDIR), the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL), the Carnegie Endowment for International Peace, the PIR Centre (Moscow), the Monterey Institute Center for Nonproliferation Studies, and the Nuclear Material Control Centre (Japan), provided a forum for senior Agency staff and seminar participants to exchange information and ideas regarding the Agency’s evolving approaches to nuclear verification and nuclear security.

During the seminar’s opening session, concern was expressed on the current challenges facing the nuclear non-proliferation regime. Such challenges include finding a uniform approach in addressing cases of non-compliance; in this regard, the difficulty in distinguishing between intention and capability was acknowledged, particularly in approaching more sensitive technologies such as enrichment or reprocessing facilities. The question was raised as to whether security arrangements based on direct or indirect reliance on nuclear weapons truly allowed all States to feel secure without the nuclear weapons option.

The follow-on session saw further discussion of issues facing the nuclear non-proliferation regime, with emphasis on nuclear terrorism and challenges to the Nuclear Non-proliferation Treaty (NPT) and to the IAEA. Several participants focused heavily on the prospect of military action in Iraq, the nuclear program underway in Iran, and the recent actions taken by the DPRK (Democratic People’s Republic of Korea). Ways to achieve universality of the NPT were also discussed. Descriptions were provided of the Agency’s plan of action to protect against the threat of nuclear terrorism and of Agency efforts to incorporate the concept of “proliferation resistance” into future nuclear energy systems. Participants also discussed changes within the global security environment, including plans for a more “usable” generation of nuclear weapons and new threats posed by non-State actors, and the possible consequences of those changes.

The second session covered the legal aspects of the IAEA safeguards system, including efforts to strengthen both IAEA safeguards and the Convention on the Physical Protection of Nuclear Material, as well as the Code of Conduct for Safety and Security of Radioactive Sources. Agency officials described the rights and obligations provided to the Agency in the original INFCIRC/153
safeguards agreements, the strengthened 93+2 version, and the new tools provided by the Additional Protocol (INFCIRC/540 Corr.). The origin and scope of the Convention on the Physical Protection of Nuclear Material (CPPNM) were also discussed, as well as revisions to the Convention currently under consideration. Adherence to strengthened safeguards agreements was noted as a possible avenue of demonstrating renewed political commitment to the NPT, although it was also cautioned that strengthening verification tools should be balanced with continued attention to the root causes of proliferation.

Session three addressed the Agency’s efforts in enhancing nuclear security, nuclear safety, and nuclear verification, with particular focus on strengthening physical protection measures and combating illicit trafficking in nuclear and radioactive materials. Agency officials explained the four primary nuclear security threats identified by the Agency, and the eight areas of activities that constitute the Agency’s revised nuclear security plan. Agency efforts to assist in the improvement of physical protection of nuclear and radioactive materials and to prevent the illicit trafficking of those materials were also described. Suggestions were given as to additional areas where verification and security measures required improvement, including research institutions and spent nuclear fuel ponds, and weaknesses were highlighted in the current methods of detecting and tracking illicit trafficking incidents.

Seminar participants also received a briefing on the mandate of the Iraq Nuclear Verification Office as provided by the various UN Security Council resolutions (687, 707, 715, 1051, 1284, 1409, and 1441), along with the rights provided through those resolutions. The Agency’s past and current activities in Iraq and the capabilities that Iraq had achieved in its past nuclear program, as well as the lessons learned from past and current inspections, were discussed.

Day two of the seminar began with discussions on the progression and evolution of the strengthened safeguards system, including the present status of comprehensive safeguards and Additional Protocols, as well as Agency activities to promote universality of the safeguards system. The analogy of periodical medical check-ups was used to explain the purpose of the safeguards system, which cannot prove healthiness but can only provide assurances that there is no evidence to the contrary. Changes to the safeguards system through the Additional Protocol were described, and emphasis was placed on the financial impact being placed upon the Agency by its continuously increasing verification responsibilities. Participants generally showed support for the current strengthened safeguards system while identifying obstacles to achieving universality of the system and offering suggestions on ways to improve Agency safeguards outreach efforts. The assessment and adequacy of the Agency’s current significant quantity thresholds were also discussed.

Session five included descriptions of new technology, detection techniques, and verification tools currently utilized by the Agency, and an explanation on the implementation of integrated safeguards. It was noted that some States may perceive the safeguards system and the non-proliferation regime as an obstacle to their self-defence, and attention was again drawn to the difficulty in finding the appropriate approach with regard to sensitive nuclear facilities.

The sixth session addressed both legal and other responses to cases of non-compliance by States. While the IAEA’s legal responses are based upon the Agency Statute and INFCIRC/153 (Corr.), participants also discussed other alternatives, such as “coercive inspections,” “natural transparency,” and pre-emptive action. Several participants stressed that each case of non-compliance must be addressed on a case-by-case basis, as differing perspectives of national and international security affect a State’s willingness to renounce the nuclear option. It was also commented that a binary world in which States are judged to be either in compliance or non-compliance may no longer be sufficient, as the time needed for a State to obtain a “break-out” capability decreases. Consideration must also be given, however, to maintaining strengthened verification capabilities free from subjective political prejudices.

The final session of the seminar consisted of a discussion on challenges faced by the media in covering nuclear verification and nuclear security issues, in separating fact from fiction, and obstacles faced by both journalists and the IAEA in promoting public awareness. While many participants agreed that deadlines, understaffed offices, and other constraints faced by journalists often unintentionally resulted in reporting inaccuracies, participants representing the media encouraged more proactive efforts by the Agency and by other participants to correct such inaccuracies, particularly those by government officials. Methods of increasing media access to credible sources and information, and ways to prevent misquotes or quotes taken out of context were also among the issues discussed.

In concluding the seminar, many participants felt that conversations had only just begun, and many voiced a desire to see continued interaction between the IAEA and the non-governmental and journalistic community.

[Footnotes added by the editor.]


2 Beginning in 1992, the IAEA Board of Governors adopted a number of decisions designed to strengthen the safeguards system. In December 1993, the IAEA launched a study known as “Programme 93+2” to develop a proposal for a strengthened and more cost-effective safeguards system within two years (therefore the name “93+2”).

New Brazilian Government and Nuclear Weapons

Fernando de Souza-Barros

I would like to start with some considerations regarding Brazil’s new administration. I do this because I have lately received many requests to clarify declarations that were made by members of that administration, including President Luiz Inácio himself.

During the presidential campaign, President Luiz Inácio Lula da Silva was invited to meet with representatives of the Brazilian armed forces. Asked about his position in connection with the nuclear question, the then-candidate Luiz Inácio (Workers Party) had the opportunity to comment about the main weakness of the NPT: the fact that the nuclear powers have not implemented its Article VI.

President Lula’s wording however allowed the interpretation that he considered unfair that under the NPT only the five nuclear powers could have nuclear arsenals. This was then transformed into an issue by the campaign staff of his opponent, candidate José Serra. The point being that if the Workers Party’s candidate won the Brazilian presidential elections he would promote a nuclear-weapon project. The Workers Party clarified its position immediately afterwards—and the Brazilian press did report about Lula’s response two weeks before the second election round, on October 27, 2002. The main points presented by the Brazilian Workers Party’s campaign officials were:

1. The 1988 Brazilian Constitution forbids nuclear weapons and a President from the Workers Party would never violate the Law.
2. The Workers Party recognizes that Brazil has signed three international safeguards treaties against nuclear weapons (the Treaty of Tlatelolco, the Brazil-Argentina Mutual Inspection Treaty, and the Nuclear Non-Proliferation Treaty). However, one should be aware that there is a strong nationalistic “wind” in Brazil, and that nationalistic leaders backed President Lula’s candidacy. Brazilian left-wing parties supported the Workers Party candidate in the second election round. Comments made by these Brazilian political leaders called the attention of the international press.

Members of the political parties who supported the Workers Party candidate have been invited to join President Lula’s government. In Brazil left-wing parties—but not the Workers Party—keep up the 1950’s vision of nuclear power and of its necessity for a “powerful and respected” Brazil. We cannot hide under the carpet that these “visions” are shared by many Brazilian nationalistic groups—including many nuclear engineers. And lately, this notion has been reinforced by decisions and statements of the U.S. Administration. But besides the official position of President Lula da Silva, influential members of President Lula’s administration know better and have already proven to be vigilant and active against technologies leading to weapons of mass destruction.

Key sources of the international press, however, played up any ambiguous statements that might add ammunition against a government that came into power “expectedly”. On November 1, 2002, an article in the National Post stated that Lula da Silva pledged to expand the military and to develop nuclear weapons. It was a bewildering article, as it also linked President Lula da Silva to terrorist groups. These shallow appraisals by the international press brought Brazil in a very difficult position that needs special attention. The implications from these appraisals are that the present Brazilian leadership shall affect Brazil’s standing within the Nuclear Non-Proliferation Treaty regime and within the United Nations.

The newly appointed Minister of Science and Technology said in an interview with the Brazilian BBC Service on January 5, 2003, that “We cannot renounce any form of scientific-technological knowledge, whether the genome, DNA, or nuclear fission.”

The BBC Service continued, “These remarks by Mr. Amaral coming as we face the ‘nuclear crisis’ between the United States and North Korea and the U.S. preparing for war with Iraq over its weapons programs, has reawakened debate over Brazil’s own nuclear energy and research program, the most advanced in Latin America.”

But BBC also added “The new Brazilian government had a quick reaction and Mr. André Singer—the spokesman for President Luiz Inácio Lula of the Silva—was quick to distance the new president from Mr. Amaral’s pronouncement saying that the minister’s remarks were not an expression of official policy.”

My colleague Prof. Luiz Pingueli Rosa, Brazil’s most prominent scientist in the new government (he is Advisor to the President), declared to the Brazilian press on January 8, 2003, that—and I quote again—“Brazil does not have, does not need and should not obtain the knowledge of this technology. The bomb is the plague of mankind.”

Yet, according to an article in the New York Times of January 8, 2003, (Brazil Needs A-Bomb Ability, Aide Says, Setting Off Furor, by Larry Rohter), “Mr. Amaral’s declarations echoed the certain discontent expressed by Mr. da Silva when he criticized the Nuclear Non-Proliferation Treaty as unjustly favoring the United States and other nations that already had nuclear weapons.” Mr Rohter then states that “those remarks were made to a group of retired military officers, many of whom supported the ambitious nuclear program undertaken by the military dictatorship that ruled Brazil from 1964 to 1985, and caused immediate alarm here.” Mr. Rohter also added that—and I quote again—a dozen members of the United States Congress, complaining of his longstanding relation with and admiration for the Communist dictator and sponsor of terrorism Fidel Castro, sent a letter to President Bush saying that Mr. da Silva’s remarks raise grave questions concerning the international policies a government of Brazil might pursue under his presidency.” Finally Mr. Rohter stated that “Brazil already has a joint rocket program with China.”
The last statement is the easiest to deal with, for Mr. Rohter made a mistake: Brazil has asked China’s collaboration for the launching of its satellites.

The truth is that the Brazilian Constitution—promulgated in 1988—forbids the development of nuclear weapons or their presence on Brazilian territory. It is also a fact that Brazil signed the Nuclear Non-Proliferation Treaty only in 1995, but that it agreed to all the safeguards provisions that are part of the Non-Proliferation Treaty much earlier. Since the mid-1980s, Brazil and its neighbor Argentina negotiated an end to any nuclear projects for weapon technology and began a policy of technical cooperation and exchange of information that lead to a fairly efficient mutual inspection system. On January 14th, 2002, Presidents Lula and Duhalde reaffirmed the commitment of Brazil and Argentina to restrict the “use of the nuclear energy exclusively to peaceful purposes”.

The official position of President Lula’s platform is of explicit support to international treaties against weapons of mass destruction. The present administration includes individuals who have been actively involved in initiatives against these weapons - both within the UN and in scientific organizations. In particular the Brazilian Minister of Foreign Affairs, Ambassador Celso Amorim, played a fairly important role in the New Agenda Coalition; and our colleague, Prof. Luiz Pingueli Rosa, now member of President Lula’s administration, is a former Pugwash World Council member. Officials in charge of finance and trade affairs have also presented their positions to the press and openly declared that any initiative related to weapons’ development plows damaging to current prospects of increasing international relations.

In the early 1990s, Ambassador Celso Amorim—the new Minister of Foreign Affairs—was a key person in the reshaping the new Brazilian posture against weapons of mass destruction. In recent years, Celso Amorim also had an active role at the Conference on Disarmament Framework in Geneva. I am sure that Ambassador Amorim shall keep these initiatives up in his agenda.

Ambassador Bustani is active again in our foreign relations. As you know, Ambassador José Maurício Bustani was the former General Director of the Organization for the Prohibition of the Chemical Weapons (OPCW). In this position, Ambassador Bustani had the mandate to bring countries like Iraq and North Korea into the organization. This was not welcomed by the U.S. administration. After his sudden dismissal, in a speech in the International Seminar on Civil Defense in the Control and Surveillance Against Chemical Weapons, held in Brasilia in 2002, Bustani said: “I let it to your consideration to evaluate the aspects of justice, correctness, and transparency as represented in the recent events.”

This paper was written for the conference “International Arms Control, Transparency and Verification in a European Russian Framework of Cooperative Security” organized by INESAP and the Nuclear Age Peace Foundation on January 24-26, 2003, in Berlin, Germany.

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### New Brazilian Government and Nuclear Weapons

| Hiromichi Umebayashi |

“A Civil Society Initiative for Northeast Asia Regional Security Frameworks” is a research project largely funded by the Toy ota Foundation. It is a three-year project which will culminate in an international conference in 2005, for which funding must still be sought. This paper is intended to describe the purpose and research outline of the project, primarily for the benefit of overseas collaborators and concerned colleagues.

#### Background

Article 9 of the Japanese Constitution “renounce(s) war” and “the threat or use of force as means of settling international disputes.” Moreover, in order to accomplish this aim, it calls for non-maintenance of force and non-recognition of the right of belligerency of the state. Efforts to demonstrate the effectiveness of such a principle of non-violence relative to international peace are becoming increasingly valuable for humankind in its pursuit of a world free from war.

According to the current mainstream interpretation in Japan, Article 9 does not deny the right of self-defense; thus, maintenance of a force for self-defense purposes is accepted. Under this interpretation, the Japan Self-Defense Force (JSDF) is deemed to be constitutional. Although some remain opposed to this interpretation, for purposes of this project, this interpretation of Article 9 will be adopted in the belief that even this interpretation can serve as a realistic starting point for maintaining and developing the more positive understanding of Article 9.

Japanese peace movements have exerted great effort to protect Article 9. However, successive security policies of the Government of Japan (GOJ) have been undermining the spirit of the Constitution. It is no exaggeration to say that the GOJ in its security policies has been eager to free itself of Article 9, considering it to be an impediment, rather than something of which to be proud and make use. Unfortunately, the struggle of Japanese civil society against this trend is gradually losing its power. This is mainly a result of the GOJ’s long-standing and fundamental posture which discounts the Constitution. The range of evidence of adverse impacts in Japan of such neglect can be found in education and an attitude of indifference in the public, to international diplomacy and national defense. However, there is an additional critical consideration in analyzing the public’s perception and attitudes about security.

Currently, in a situation where armed conflict has erupted all over the world, there is an additional critical consideration in analyzing the public’s perception and attitudes about security. This is the direct result of the GOJ’s long-standing and fundamental posture which discounts the Constitution. The range of evidence of adverse impacts in Japan of such neglect can be found in education and an attitude of indifference in the public, to international diplomacy and national defense. However, there is an additional critical consideration in analyzing the public’s perception and attitudes about security.
world and outside armed intervention has become common practice, the notion that security cannot be sustained without military power has penetrated into civil society by way of mass media reports. Thus, the majority of civil society understands the issue of security only in terms of military power. In contrast, very few reports on practical efforts to prevent and solve conflicts by non-military means are available to the public. Where such reports exist, they are too modest or too technical to be widely known and to inform the public about the feasibility of non-military options. As a result, knowledge and creative thinking about non-military security is not well-developed in civil society. As well, efforts to overcome this shortcoming have been insufficient among Japanese civil forces of peace whose major contribution has been one of reaction and resistance to often rapidly developing threats to peace.

In order for Japanese civil society to regain its confidence in the fundamental correctness of Article 9 and to revitalize a movement to protect and enhance it, it is vital to present plans for non-military security frameworks that are both imaginative and practical, and are conducive to civil society engagement. The Japanese public is now paying more attention to security issues, in part due to the missile and nuclear weapon programs of the DPRK (North Korea), mysterious ships, abductions, famine, and refugees. Against such a background, it is not only timely, but also urgent to propose new security frameworks in Northeast Asia as a result of our own initiative.

**Introduction**

The underlying cause of tension and instability in Northeast Asia can be traced back to the history of Japanese colonial rule and aggressive war, the consequent division of the Korean Peninsula, and the rise of the Taiwan issue. Japanese peace activists have undertaken various activities to spread a fair understanding of this history, investigate the facts, and remedy uncompensated damages. Though insufficient, these important efforts are ongoing.

This project will review the current status of such efforts as a basic component of confidence building measures essential for regional security. However, the primary object of this research is to develop policy proposals for establishing cooperative regional systems for conflict prevention and resolution. We will focus on themes that might inspire public interest and invite the participation of Japanese civil society.

From this perspective, research will explore the following four themes with the understanding that as new and innovative ideas are identified, they will be added and developed as additional research themes.

1. A Northeast Asia nuclear-weapon-free zone (NEA-NWFZ)
2. A zone for exclusively defensive defense (ZEDD)
3. A regional missile control system
4. Enhanced utilization of the ASEAN Regional Forum (ARF)

To date, the extent of knowledge and discussion about these subjects varies to a great degree. For instance, while there is a good international body of knowledge on the subject of a NEA-NWFZ, the idea of a ZEDD is totally new and is related to the controversy in Japan over Article 9 of the Constitution. In the current research, we will take varying approaches to the different themes, based on their respective stage of development.

**A Northeast Asia Nuclear-Weapon-Free Zone (NEA-NWFZ)**

Among existing proposals for a NEA-NWFZ, this project will concentrate on the "3 plus 3 plan", in which ROK (South Korea), DPRK (North Korea), and Japan form the core of the zone and seek provision of non-military security assurances from the United States, Russia, and China. A modification of this plan would involve Mongolia. The research tasks include:

1. To demonstrate that the establishment of a NEA-NWFZ contributes to the enhanced security of all countries involved.
2. To draft a NEA-NWFZ treaty. In so doing, to include discussion of the following points:
   a. Maritime issues, including international straits and exclusive economic zones
   b. As a provision unique to this region where many atomic bomb survivors live, the obligation of the NEA-NWFZ’s three core nations to preserve and disseminate A-bomb experience; along with the GOJ’s obligation to adopt a non-discriminatory aid policy for non-Japanese Hibakusha (A-bomb survivors).
   c. With regard to verification, examination and analysis of past IAEA inspections
   d. Reference to other weapons of mass destruction
   e. Reference to the effort for the abolition of nuclear weapons
3. Analysis of the current positions of the ROK, the DPRK and Japan regarding a NEA-NWFZ
4. Analysis of the positions of the governments of the United States, Russia and China
5. Analysis of political and social obstacles to a NEA-NWFZ in each country and measures to counter them. As part of this task, we will also consider possibility that Japan will adopt an internationally recognized nuclear-weapon-free status such as that of Mongolia as a first step leading to an eventual NEA-NWFZ.

**A Zone for Exclusively Defensive Defense (ZEDD)**

Research on exclusively defensive defense can be divided roughly into the following three tasks:

1. Clarification of the concept of “Exclusively Defensive Defense” (EDD)
2. Examination of subjects related to defense arms and equipment, and defense postures
3. Examination of subjects related to potential means by which to regionalize the zone

Regarding the clarification of the concept of EDD, we will make reference to the concept of self-defense in the UN Charter, past debates on Article 9 in the Japanese Diet (parliament) and courts, studies of exclusively defensive defense by the UN (e.g. Study on Defensive Security Concepts and Policies, 1994), opinions of scholars on international law, approach taken by the Global Action to Prevent War, and other sources. In addition, we will study how the definition of EDD might be transformed from a unilateral to a bi-lateral or multi-lateral concept, and to formulate a possible regional system to implement such a definition. Also, the relationship between the concept of EDD for Japan and the Japan-US Security Treaty regime requires clarity.

The subjects of defense arms and equipment, and defense postures, will be analyzed in close relation to the above-mentioned EDD concept. We believe it is not appropriate to begin by arguing what we should do in case of a sudden attack against Japan, but rather to analyze the
A Regional Missile Control System

In order to initiate a mechanism to eliminate missile threats in Northeast Asia, we should begin with a regional threat analysis—"why and how a missile can be a threat." To be more precise, a missile threat is related to both its capability to deliver weapons of mass destruction and to its ability to attack with a short warning period. With this in mind, we must take into consideration both ballistic and cruise missiles in studying this region which is characterized by short geographical distances.

The research tasks include:
1. Creation of a database of relevant missiles of concern in Northeast Asia
2. Review of the history of missile control and disarmament, along with their existing concepts (e.g. advance notice of testing, test moratorium, verification of space development programs, prohibition of deployment within missile range from targets, advance notice of any launch platform's movement, reduction and elimination, and so forth).
3. Impacts of the US ballistic missile defense (BMD) program in the region
4. Missile and BMD concerns in China (in relation to Taiwan, India, and the US)
5. Current status of Japan-US technical research cooperation on BMD and its regional impacts
6. Participation of South Korea in the BMD program and its regional impacts
7. Possible regional missile control systems reflective of the regional characteristics of Northeast Asia

Enhanced Utilization of the ASEAN Regional Forum (ARF)

The ARF is a high-level multilateral security forum that involves all concerned nations in the region. Its concept paper defines its evolution as following three broad stages: (1) Confidence building, (2) Preventive Diplomacy, (3) Approaches to conflict resolution. Therefore, an initiative for non-military security in Northeast Asia can be integral to the agenda of the ARF.

Moreover, since the establishment of the ARF in 1994, unresolved security matters on the Korean Peninsula have been one of the main agenda items of the ARF. In addition, ASEAN, the central player in the ARF process, has practical experience in establishing the Southeast Asia Nuclear-Weapon-Free Zone and has been in difficult and protracted negotiations with the nuclear weapon states to secure their adherence to the protocols of the Treaty. The ARF has been indirectly supporting this effort. In this respect, the ARF is very familiar with the issue of nuclear-weapon-free zone.

Although the ARF itself is a foreign ministers' conference lasting only one or two days each year, there are many inter-sessional meetings, including Track II sessions, in which specialists have been discussing specific subjects related to security. The Pacific Campaign for Disarmament and Security (PCDS), an Asia-Pacific regional NGO closely related to the Peace Depot, has been following the ARF's development from an NGO perspective since 1994. The results of PCDS's research will be very useful to this project.

The research tasks include:
1. Review of ARF discussion on issues related to a nuclear-weapon-free zone
2. Review of ARF discussion on Korean Peninsula issues
3. Review of ARF discussion on confidence building and preventive diplomacy
4. Examination of the potential usefulness of the ARF in promoting cooperative security frameworks in Northeast Asia. Among subjects to be studied are the roles of inter-sessional meetings, Track II sessions, effectiveness of NGO intervention, and potential leadership roles that might be assumed by Canada, New Zealand and others.

Structure of Research Project

Roles and Responsibilities

This joint research project will be conducted by thirteen (13) coworkers. In addition, we will seek the cooperation of experts in various fields. The nature of the contribution of project coworkers and co-operators and the means by which to credit their contribution will be discussed during the research process. In addition, a role for coworkers from China and the ROK is anticipated to assist in organizing conferences in Shanghai and South Korea, respectively. Patti Willis, from PCDS in Canada, will be requested to visit Japan for a seminar on the ARF. (…)

Events

The theme coordinators will organize various seminars. In addition, briefing sessions for interim project reports will be held approximately every 6 month. If warranted, outside lecturers (including from overseas) will be invited to contribute to this project.

Additionally, international conferences, including small-scale meetings in South Korea, a Northeast Asia panel discussion at the UN Headquarters in New York during the UN Disarmament Week (Fall 2003), a symposium on missile defense and NWFZ in Shanghai (Summer 2004), and a symposium to summarize the whole project in South Korea (Summer or Fall 2005), are to be pursued. While funding from the Toyota Foundation will cover the expenditures for core participants and logistics, we will seek other funding sources to expand participation by other potential contributors.

Reports

The final report to the Toyota Foundation will be submitted in November 2005. In addition, the outcome of the research will be published in Japanese and English in the form of policy proposals and recommendations to the GOJ and others. A more concrete plan about the nature and format of the report will be discussed in due course. Theme coordinators and the project leader will draw up a draft framework for the report and request relevant coworkers and co-operators to assist in its revision.

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Putting the Genie Back in the Bottle
Uranium and Nuclear Weapons Proliferation

Alexander Glaser

The emphasis of proliferation analyses, in recent years, has been on weapons plutonium disposition, namely, what to do with the plutonium released from dismantled U.S. and Russian nuclear weapons to make it difficult to steal or re-use for weapons. However, the proliferation risks associated with excess stocks of highly enriched uranium (HEU) and those associated with the continued use of HEU in the nuclear fuel cycle pose additional challenges for the international non-proliferation regime. More recently, the potential theft, diversion, or loss of HEU has also raised particular concerns due to its usability in crude nuclear explosive devices and its potential role in nuclear terrorism scenarios.

This article summarizes some general aspects of existing HEU stocks and the current use of this material in the nuclear fuel cycle. Options, perspectives, and challenges of ending the use of HEU for non-weapons purposes are discussed. The overview is based on the implicit assumption that at least excess HEU stocks will indeed be eliminated by their owners once the material can no longer be used for military or civilian purposes.

Characteristics of HEU

Diluting HEU with natural or depleted uranium and reducing the uranium–235 fraction to less than 20% (low-enriched uranium, LEU), essentially eliminates the proliferation risks associated with the material. In particular, and most importantly, this is due to the critical mass of uranium, which increases quickly with lower enrichment (close to 20% and below, cf. Figure 1). The material essentially becomes unusable as fissile material in a nuclear explosive device.

In practice, however, due to the outstanding performance of HEU as fuel for certain reactor types and in spite of international efforts to avoid and to discourage the use of this material for non-weapons purposes, HEU is still used in some civilian research reactors and in naval propulsion reactors.

Production, Role, and Use of HEU in the Past

The production of enriched uranium began during World War II as part of the Manhattan Project. Although, HEU was available at an early stage, and used in the nuclear weapon that destroyed Hiroshima, the production capacity was low at that time. The large enrichment facilities under construction were completed only after the war. From 1945 to 1947, the HEU production capacity in the U.S. was eight times higher than the production capacity of weapons plutonium in dedicated production reactors.

In Table 1, the military stocks of fissile material are summarized. The mass ratio of the world inventory of HEU compared to the inventory of weapons plutonium is currently greater than six. All major nuclear weapon states obtained significant quantities of HEU that exceed the corresponding weapons plutonium inventory in every case.

The high HEU to plutonium ratio is remarkable since the nuclear weapons programs in some countries were initially focused on plutonium and the HEU production capacity was added at a later time only. While HEU can be used in implosion type primaries, the high inventory of military HEU in the nuclear weapon states suggest additional explanations:

- Gun-type weapons: Only HEU (and not plutonium) can be used in the simple, but inefficient, gun-type design. Nevertheless, even the gun-type method apparently allows weapon designs that are much more compact and lighter than the first gun-type device (Little Boy, Mk–I), which contained 62 kg of HEU and weighed approx. 4,000 kg. For instance, the W33 warhead, an artillery shell developed in the 1950’s, had a total weight of approx. 100 kg only. Especially the U.S. army was interested in these robust small diameter warheads and promoted the production and use of HEU for gun-type weapons. As a consequence, several gun-type weapons were designed early in the nuclear weapons age and kept in the active U.S. stockpile until the 1980’s.

- High-yield fission weapons: Pure fission weapons, designed to have a very high yield of up to 500 kt (TNT), required unusually high quantities of fissile material. Apparently, HEU was preferred for this purpose because the pre-detonation probability of corresponding
plutonium quantities was high even when advanced implosion technologies were used. The interest in high-yield fission weapons decreased only when the feasibility of thermonuclear weapons had been confirmed in October 1952.4

Thermonuclear weapons: In the thermonuclear stage (i.e. the secondary) of a nuclear weapon, significant quantities of uranium are placed next to the fusion fuel. This component is usually called the “pusher.” When high energy neutrons emerge from the deuterium-tritium fusion reactions, the uranium is fissioned and contributes significantly to the total yield of the weapon. Even though natural uranium can be used for this purpose, HEU is the preferred material due to its higher fission probability.5 Apparently, weapons designers shifted from natural uranium to HEU when the latter became available in sufficient quantities in the 1980’s.6

In addition to these weapons applications, HEU is used to fuel military naval and civilian research reactors. Around 4 metric tonnes of HEU are currently used per year to fuel naval (mostly U.S. and Russian) reactors.7 The inventory of HEU in the civilian sector is small compared to the current military stockpiles: it has been estimated at approx. 20 metric tonnes,8 which is still enough material for some 1,000 nuclear weapons. Although the number of HEU-fueled research reactors in the world is decreasing, the remaining facilities, still operated in more than 20 different countries, require a total of approximately one metric tonne of fresh HEU per year.9

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<tr>
<th>HEU (wg-eq)</th>
<th>Plutonium</th>
<th>Mass Ratio</th>
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<tbody>
<tr>
<td>United States</td>
<td>635 t</td>
<td>100 t</td>
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<tr>
<td>Russia</td>
<td>970 t</td>
<td>130 t</td>
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<td>United Kingdom</td>
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<td>India</td>
<td>0.3 t</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>0.4 t</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>0.7 t</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1665.1 t</td>
<td>247.4 t</td>
</tr>
</tbody>
</table>

Table 1: Military stocks of fissile material, end of 199910

<table>
<thead>
<tr>
<th>Warhead/Weapon</th>
<th>Yield</th>
<th>Weight</th>
<th>Number</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>B61–7/–11</td>
<td>100–500 kt</td>
<td>320 kg</td>
<td>2,300</td>
<td>1,600</td>
</tr>
<tr>
<td>W62</td>
<td>170 kt</td>
<td>330 kg</td>
<td>600</td>
<td>1,200</td>
</tr>
<tr>
<td>W76</td>
<td>100 kt</td>
<td>160 kg</td>
<td>3,072</td>
<td>2,736</td>
</tr>
<tr>
<td>W78</td>
<td>335 kt</td>
<td>360 kg</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>W80–0</td>
<td>5–150 kt</td>
<td>120 kg</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>W80–1</td>
<td>5–150 kt</td>
<td>120 kg</td>
<td>800</td>
<td>860</td>
</tr>
<tr>
<td>W87</td>
<td>300 kt</td>
<td></td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>W88</td>
<td>300–475 kt</td>
<td></td>
<td>384</td>
<td>384</td>
</tr>
</tbody>
</table>

Table 2: Operational US nuclear weapons, 2000 and 2002

Estimation of de facto Excess HEU Quantities

In addition to the total amount of HEU listed in Table 1, it is of particular interest to look at the quantities that are effectively surplus to current military uses (i.e. as long as nuclear weapons arsenals are reduced rather than increased). Russia and the U.S. provided corresponding numbers. Russia declared 500 metric tonnes of HEU (assumedly weapons-grade) excess. This material is being blended down to LEU and purchased by the U.S.11 Similarly, in March 1995, the U.S. declared 174 metric tonnes of HEU surplus to its military needs, of which only 33 metric tonnes are enriched to at least 90%.12 Due to the lower enrichment level, the 174 tonnes correspond to a much lower amount of HEU wg-eq. Vice versa, these numbers of declared excess material, however, cannot be correlated to the quantities absorbed by operational nuclear weapons. By way of an example, the situation in the U.S. is discussed below.

Discussion of the U.S. Case

In Table 2, the operational U.S. nuclear weapons are listed by type and estimated number deployed in the years 2000 and 2002.13 The amount of HEU absorbed in these weapons can be estimated very roughly by two simple approximations.14

Number and mass: Based on the assumption that the maximum number of nuclear weapons ever deployed by the U.S. (approx. 32,000 in 1967) absorbed the main portion of the HEU stockpile available for military purposes in the U.S. (500-600 metric tonnes of HEU wg-eq), the average amount of HEU per warhead would be 15–20 kg.15 Using this average value for the roughly 7,600 nuclear weapons operational today, an active HEU inventory of 120-150 metric tonnes is deduced.

Yield: Based on the maximum cumulative yield of the operational U.S. nuclear weapons (max. 1,790 Mt (TNT) according to Table 2) and using the fact that the fission of one kilogram of uranium-235 is equivalent to the energy of at least 18 kt(TNT), the total HEU inventory can be estimated making the following additional assumptions: 50% of the total explosive yield stems from HEU fission, which is certainly a very conservative number (i.e. a high percentage),
and a fraction of not more than 50% of the HEU in the weapon is fissioned. These assumptions lead to an estimated HEU inventory in use of approx. 100 metric tonnes.

These simple approximations suggest that the active HEU inventory in the U.S. should be 100—150 t, probably even less. Consequently, more than 400 metric tonnes of U.S. HEU are potentially surplus. The situation is similar in Russia, although a significant portion of excess HEU has been addressed in the 1993 HEU-agreement with the U.S.

As a consequence, and especially if the number of operational nuclear weapons reaches the currently envisioned levels in the mid-term future, the de-facto excess HEU quantities in the world may reach values close to 1,000 metric tonnes. This quantity would be the result of a successful disarmament process. However, it will have to be carefully analyzed how the corresponding disposition process should be organized, bi- or later possibly multilaterally, and what influence the possible non-weapons uses of HEU might have on the disposition process.

The HEU Life Cycle

In order to assess potential proliferation risks associated with HEU, the broader context in which the material is embedded has to be taken into account. In Figure 2 a highly simplified "flow chart" for the HEU life-cycle is given. As long as no new HEU is produced, proliferation risks are associated with the use or storage of existing materials. A major step to reduce the proliferation risks associated with HEU is to phase out its use as soon as technically and politically feasible. As will be discussed below, in the past, the main focus of corresponding efforts was directed at HEU fuels for a number of research reactors globally. These efforts led to the conversion of many facilities, provided funding for alternative LEU fuels with very high uranium densities, and prevented the construction of new HEU-fueled reactors.

The use of HEU in the military sector, where the material is used to fuel naval reactors, attracted much less attention so far. In the U.S., significant quantities of HEU are reportedly placed in reserve for the weapon is fissioned. As a consequence, and especially if the number of operational nuclear weapons reaches the currently envisioned levels in the mid-term future, the de-facto excess HEU quantities in the world may reach values close to 1,000 metric tonnes. This quantity would be the result of a successful disarmament process. However, it will have to be carefully analyzed how the corresponding disposition process should be organized, bi- or later possibly multilaterally, and what influence the possible non-weapons uses of HEU might have on the disposition process.

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A Special Case: The New German Research Reactor FRM-II

In 1996, construction of a new research reactor, FRM-II (Forschungsreaktor München II), started in Garching near Munich in Bavaria (Germany). The facility will be operated by Munich University of Technology (TUM), which received the
The future policy of Russia in this field could be crucial in this context. With reference to fuel disposition of the relevant German research reactors, operators have outlined the effect a Russian offer could have: “If Russia will take the waste this can be an excellent option, which will be taken by nearly all research reactors”.

Unfortunately, as some operators (who converted their facilities) have pointed out, the use of LEU is economically not necessarily more attractive than HEU fuel, which indicates a serious flaw in pricing policies.

**Ending the Use of HEU: Incentives and Disincentives**

From a purely technical point of view, HEU is always superior to LEU due to the higher percentage of the fissile isotope U–235 it contains. Consequently, in the absence of other criteria, there is no a priori incentive for a (military or civilian) reactor operator not to use HEU.

This may be evident in the military case, but it also holds true, in general, for research reactor operators. Their primary task is to operate their facility reliably, economically, and at an optimum performance level. Hence, for a conversion process to take place, additional elements have to be introduced. Interests of operators and possible measures that may trigger or support conversion are summarized in Table 3. The RERTR program, supported by several other programs, is the most important driving factor for the research reactor conversion process. These programs use push and pull mechanisms. On the one side, restricting the supply of HEU is an effective—opponents would argue: unfair—measure to make the choice of LEU more attractive. In the U.S., this policy is substantiated in the Schumer Amendment. Unfortunately, as some operators (who converted their facilities) have pointed out, the use of LEU is economically not necessarily more attractive than HEU fuel, which indicates a serious flaw in pricing policies.

**Table 3: Incentives for an operator of a research reactor (top) and of a naval propulsion reactor (bottom) to convert to low-enriched uranium.**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Scientific</th>
<th>Techno-political</th>
<th>Social</th>
<th>Military</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of high-density fuels</td>
<td>No loss in neutron flux</td>
<td>Cheap fuel and operation</td>
<td>“Peaceful image”</td>
<td>No loss in vessel’s performance</td>
</tr>
<tr>
<td>Subsidizing LEU fuel</td>
<td>Reliable fuel supply</td>
<td>Restrictions on HEU</td>
<td>Awareness of non-proliferation and arms control issues</td>
<td>Design of new reactors</td>
</tr>
<tr>
<td>Spent Fuel acceptance program</td>
<td></td>
<td></td>
<td></td>
<td>Development of new fuels (!)</td>
</tr>
</tbody>
</table>

Additional incentives for conversion of research reactors can be introduced at the back-end of the fuel cycle. Since the number of countries that operate research reactors is much higher than the number of countries that operate commercial power reactors, it is evident that most of them were and will be unable to implement domestic fuel disposition programs for research reactor fuels. In the past, it was common practice that suppliers took the irradiated fuel back in order to re-use the remaining enriched uranium after re-processing.

In this respect, the current U.S. Foreign Research Reactor Spent Nuclear Fuel Acceptance Program, which was initiated in 1996 for a duration of 10 years, is a new key element. For the first time ever, research reactor fuels are taken back by the country of origin without the intention to reprocess the fuel for further use. The U.S. might develop and apply the so-called Melt & Dilute process to prepare the spent fuel for direct disposal.

**Conclusion and Outlook**

Due to the outstanding performance of HEU as fuel for certain reactor types and in spite of international efforts to avoid and discourage the use of this material for non-weapons purposes, HEU is still used in some civilian research reactors and in naval propulsion reactors. The fact that these applications continue to exist perpetuates the risk of theft by non-state actors and the risk of HEU diversion by states for weapons-purposes. The technical means are now at hand (or in reach) to abandon the use of HEU in research and to some extent also in naval propulsion reactors. Advanced LEU high-density fuels reach or exceed the performance of HEU fuels still in use. Therefore, regarding the
latest fuel generation, it has to be guaranteed that adequate funding is made available to develop and qualify these fuels without delay.

As long as non-weapons applications of HEU exist, there is no driving momentum to blend the entire stocks of excess military material down to LEU. The material remains either in the military sector for the intended future use as fuel in nuclear reactors, or it is offered for use in civilian research reactors. If excess HEU stocks were not available, there would be no incentive to supply HEU for existing or planned research reactors that could be fueled with LEU. Similarly, a clear HEU ‘shortage’ could prevent operators from designing new research reactors with HEU in the first place. The elimination of excess HEU stocks would also strongly support the irreversibility of the disarmament process.

In the civilian context, the new German research reactor FRM–II represents a dramatic exception of the emerging non-proliferation norm to fuel new research reactors with LEU only. For the first time in more than ten years, an operator deliberately challenged the measures and instruments provided, by RERTR and other support programs, to make the use of LEU fuel more attractive. In the near-term future, the activities related to conversion, operation and management of research reactors have to be carefully observed. The related programs must eventually be equipped with new and more effective tools in order to reach the goal of phasing out the use of HEU in the mid-term future.

A “Global Cleanout and Secure” effort for HEU can only be successful if the use of this material is terminated without narrowing the focus on specific countries where the near-term proliferation risk is considered especially high. Since a major fraction of HEU is currently used in the nuclear weapons states, it is crucial that HEU users worldwide, even those with unrestricted access to the material, participate in this important effort to maintain and actively support global security.

3 Only the UK obtained a relatively low HEU inventory that amounts to “only” twice the plutonium inventory. The relatively low ratio might indicate a different design of components in UK nuclear weapons.

4 It is reasonable to assume that the only reason why HEU became available for widespread use in non-weapons and non-military applications in the late 1950’s (such as the possibility to use HEU in research reactors) is due to the fact that thermonuclear weapons turned out to be technically feasible in the early 1950s. Ultimately, high-yield pure fissile weapons were no longer needed—a circumstance that set substantial (and already existing) HEU production capacities free.

5 While the neutron capture process is irrelevant in uranium for neutron energies close to 14 MeV, the fusion to total (cross-section) ratio of uranium—235 is approximately 0.35. The corresponding ratio for uranium—238 is close to 0.20.

6 It can be assumed that the retirement of the previously mentioned high-yield fissile weapons set significant quantities of HEU free that were then available for this new purpose. On the use of HEU in the secondary of nuclear weapons, see for instance: R. Alvarez, D. Sherman, U.S. to resume uranium production for weapons. The Bulletin of the Atomic Scientists, Vol. 41, No. 4, April 1985, pp. 28–30.


10 Data from Institute for Science and International Security (ISIS) website (www.isis-online.org), based upon updated information from Albright et al., op. cit. Production is believed halted in China and assuredly halted in all other nuclear weapons states Parties to the Nuclear Non-Proliferation Treaty.

11 The blending and transfer of material is currently underway and absorbs roughly 30 metric tonnes of HEU per year. A new initiative seeks to accelerate this process without making the blended product directly available for the uranium supply market.

12 Albright et al., op. cit., p. 93.


14 Due to their high fissility, these approximations contain, however, inherently wrong assumptions.

15 In Albright et al., op. cit., for similar approximations and assuming that a typical weapon may contain 15–30 kg HEU, an average value of 22.5 kg HEU per warhead is used.

16 Based on the SORT agreement, the U.S. and Russia are allowed to deploy no more than 1,700–2,200 strategic nuclear warheads by the end of 2012.

17 However, the attractiveness of (clandestine) uranium enrichment as compared to the diversion of existing HEU has to be taken into account for a complete analysis of proliferation risks existent or to be expected.

18 According to a DOE official cited in Albright et al., op. cit., pp. 93–94.

19 A. Travelli. Status and Progress of the RERTR Program in the Year 2002. 24th International Meeting on Reduced Enrichment for Research and Test Reactors (RERTR), November 3–8, 2002, San Carlos de Bariloche, Argentina.

20 N. A. Hanan, R. S. Smith, J. E. Matos, Alternative LEU Designs for the FRM-II With Power Levels of 20–22 MW, paper presented at the 22nd International Meeting on Reduced Enrichment for Research and Test Reactors, October 3–8, 1999, Budapest, Hungary. Additional calculations, based on the proposed LEU designs and providing more detailed information required for the then on-going debate, have been published in: A. Glaser, C. Pistor, W. Liebert, FRM-II Conversion Revisited, 23rd International Meeting on Reduced Enrichment for Research and Test Reactors (RERTR), October 1–6, 2000, Las Vegas, Nevada (USA).

21 According to the Schuster Amendment, an export may take place only if no appropriate LEU fuel is available. In addition, the recipient has to agree to convert the corresponding facility to LEU as soon as technically feasible.

22 Fuel that is irradiated until May 2006 can be returned to the US until May 2009.


An earlier version of this article was presented at the 13th International Summer Symposium on Science and World Affairs, July 21–30, 2001, European Academy, Berlin (Germany).
Moving Beyond Missile Defense (MBMD), a joint project of the International Network of Engineers and Scientists Against Proliferation (INESAP) and the Nuclear Age Peace Foundation, held its third international conference at the European Academy in Berlin from 24 to 26 January, 2003. For three days, 40 experts from Brazil, China, Denmark, Germany, the Netherlands, Russia, the United Kingdom and the United States gathered, among them scientists, security and policy experts, scholars, journalists, and representatives of international organizations like the United Nations Department for Disarmament Affairs and the Organisation for the Prohibition of Chemical Weapons.

While the regional focus of the conference was on a European-Russian framework of cooperative security, the entire context was shaped by the current policy of the United States and the Iraq crisis. The opening conference sessions provided an overview of US strategies and actions that affect global security, and their impact on existing arms control measures and on the possibility of further arms control initiatives.

Conference speakers identified the following U.S. policies as having particular importance:
- The explicit willingness to engage in preventive war, including acting to eliminate threats “before they are fully formed”;
- The potential use of nuclear weapons in response to any weapons of mass destruction (WMD), including chemical or biological weapons;
- The apparent willingness to act unilaterally, outside the international legal framework;
- Moving forward with multi-tiered ballistic missile defense, including components in Europe and space-based elements;
- Continuing research and development on weapons that operate through or from space.

A number of conference participants noted that these policies are not mere paper pronouncements, but are being implemented through weapons development and deployment decisions. The U.S. is, for example, intensifying research on making nuclear weapons more useable in ordinary warfare, expanding its military budget and appears ready to launch a war—with or without UN approval—against Iraq.

There was some range of opinion on the impact and appropriate response to these policies and programs, but a number of speakers stressed the following points:
- The disruptive effect of these policies on existing arms control treaties, both because these policies legitimate the unilateral use of force and the possession of nuclear weapons, and because states that believe they are threatened by the US, with its overwhelming conventional forces, may be more likely to seek to retain or expand existing missile and WMD arsenals, or to seek to obtain missiles and WMD;
- The need to make clear that military force is not an appropriate response to the proliferation threat;
- The necessity of acting multilaterally, within the framework of international law and institutions;
- The key role that Europe, Russia, and other leading states can play, particularly on insisting on resolving disputes multilaterally, through the United Nations.

Several speakers also stressed that related European policies must be re-examined in light of the current crisis, including NATO nuclear sharing, out of area operations, and European theater missile defense development.

The opening session also included an overview of relevant security treaties and related measures. It was noted that there are elements of this system that remain in place and continue to be effective and important. In the current climate where new arms control efforts are at an impasse and even existing treaties are threatened, it is important to sustain key arms control measures that are already in place.

These include the Comprehensive Test Ban Organization. Although the Comprehensive Test Ban Treaty (CTBT) has not yet entered into force, the nuclear test moratorium has held since the 1998 round of Indian and Pakistani tests, and must be sustained. Also of central importance is the Nuclear Non-Proliferation Treaty (NPT). Although under great stress due to the lack of progress on disarmament, the emergence of new declared nuclear weapons states, and the current North Korea crisis, the great majority of states parties still remain committed to the NPT.

**Perspectives on Missile Defense and Space Warfare**

The second set of presentations and discussions addressed “European and Russian Perspectives on Missile Defense and Space Warfare.” There was a wide range of opinion on the fundamental acceptability of missile defenses. Some participants stated that ballistic missile defenses against shorter range systems (Theater Missile Defense, TMD) could be useful for Europe or Russia. It was noted that it is difficult to generalize about missile defense perspectives, as there are supporters and opponents of various types of missile defense schemes in most countries. It also was stressed that short range systems, like Patriot or MEADS, should be considered separately, more in the category of air defenses, because of their less significant strategic implications.

A number of participants thought that Ballistic Missile Defense (BMD) is fundamentally flawed for a variety of reasons: it is inherently destabilizing in a world where large arsenals of missiles and nuclear weapons persist, missile defenses may pose insurmountable technical problems inherent in the interaction of defensive and offensive weapons technologies, and missile defenses will be enormously expensive. Several participants also stressed that the ballistic missile defense programs also can induce both technology development and infrastructure for the possible weaponization of space.
Speakers then provided perspectives from particular countries. In Russia, opposition to BMD long was closely tied to the Anti-Ballistic Missile (ABM) Treaty. There was strong concern in the 1990’s about the potential for U.S. TMD programs to develop technologies that would be applicable for defense against strategic missiles. As it became clear that the system the U.S. envisioned for the near term would be unlikely to be effective against Russian nuclear forces, the level of concern was reduced. Currently, there are elements in the Russian military industries that are very interested in collaborating with the United States on BMD technologies, but on the official level there is concern that the U.S. will obtain technologies from Russia, without giving much in return. There is a strong chance that there will be cooperation on BMD, despite suspicion that U.S. overtures on technical cooperation were a device to smooth the way for acceptance of U.S. withdrawal from the ABM Treaty.

On the issues of the militarization of space, the panelists observed that the position of the Russian government generally is opposed to further space militarization. It is unclear, however, how strong the objections are, since many in the military favor continued military space development, but Russia currently cannot afford it. In the end, the Russian position is unlikely to change dramatically in the near term. Russia is likely to remain opposed to the placement of weapons in space, but to accede to further development of other forms of military space technology.

In Europe, there is currently not an in-depth public debate on missile defense. The way the issue plays out is dependent on the relationship of particular countries to missile defense development and deployment. In countries that appear to be ready to accept U.S. BMD components—the United Kingdom and Denmark—public debate has been very limited and has failed to look at the long-term implications. These include the potential for deployment of interceptors in Europe and the long-term costs of the systems to host countries.

In the remainder of Europe, there is not a great deal of public debate about BMD. Many European military contractors, however, are trying to get BMD work. The enormous amounts of money being spent on BMD is having significant political effects. The more European contracting involvement there is the more difficult BMD will be to stop. This may have effects within the U.S. debates on missile defense as well as in Europe, with multinational corporations based outside the U.S. (and hence even more insulated from domestic political pressure than U.S. contractors) lobbying to continue the programs.

Speakers identified some specific aspects of currently proposed European missile defenses that they considered of particular importance. The types of TMD systems under consideration would rely on the global infrastructure of the US military system, e.g. satellites for launch detection and communication. Any system, whether integrated with U.S. systems or not, will be extraordinarily expensive. If TMD is developed in Europe (essentially providing Europe with the equivalent of a national missile defense), it will be difficult to argue that the U.S. should not develop and deploy its NMD system.

In the end, most participants agreed, BMD is a global issue. To be useful, the missile defense debate must extend beyond the immediate implications for the states most directly involved. Even though the ABM Treaty has been abrogated by the U.S., the problem it was designed for still exists. As long as significant nuclear arsenals and the idea of nuclear deterrence persist, deployment of ballistic missile defenses will provoke a response. It will affect the calculations of states and the arguments made concerning what is needed to maintain an acceptable nuclear deterrent. Consequently, continued BMD development will likely be a permanent obstacle to nuclear weapons reductions.

Finally, BMD development cannot be separated from high-tech weapons development in general. The growing superiority in high technology weaponry on the part of the most powerful states impels states that feel threatened to obtain missiles, thus providing the rationale for the most powerful states to develop missile defenses. BMD programs also develop technology base and infrastructure for further militarization, and eventually the weaponization, of space.

Lesson from Various Arms Control Regimes

The next panel examined several existing arms control measures and considered lessons that can be drawn for future arms control and disarmament progress.

The first treaty considered was the Nuclear Non-Proliferation Treaty (NPT). It was noted that the NPT was a significant achievement, holding the number of new nuclear weapons states below the level expected by most experts before the NPT entered into force in 1970. However, the inherent double standard of the NPT, allowing the original nuclear weapons states to maintain their nuclear arsenals without a time framework for their elimination, while forbidding other treaty parties from possessing nuclear weapons, was a central weakness that has grown increasingly important over time. Dissatisfaction with the double standard has been exacerbated by the fact that the NPT failed to achieve its goal of preventing the nuclear arms race of the 70’s and 80’s, and also has had little success in facilitating significant progress towards eliminating nuclear arsenals in the post-Cold War period. In addition, the assumption that the spread of civilian nuclear technology could occur without proliferation of nuclear weapons, even with the NPT’s system of controls on nuclear materials and technology, seems questionable in retrospect. The number of nuclear weapons-capable countries expanded, and several either had plans or went forward with nuclear weapons programs.

From the NPT experience, we have learned that universal arms control measures are more likely to succeed if they aim for the establishment of universally applicable standards, which in turn will be facilitated by open access to the process of negotiating the treaty at the outset. In addition, materials safeguards, verification, and monitoring are important, but not sufficient. More effective non-proliferation measures are needed. These could include technological measures that provide “proliferation resistance” in technology systems. Inherently weapons capable technologies should be avoided where possible.

A second set of arms control measures addressed were bilateral agreements. In this type of agreement, transparency measures are critical—in the case of modern nuclear arms control treaties for example, such items as telemetry data allow determination of whether states are adhering to warhead limits on delivery systems. An emerging issue in U.S.-Russia arms control is the development of increasingly capable long-range precision conventional systems, at the same time that the U.S. is...
pressing to remove dual-capable systems armed with conventional warheads from verification regimes. Both types of systems have strategic significance, and must be encompassed if strategic arms control is to be effective in the future.

Regional Arms control efforts, ranging from modest bilateral agreements to Nuclear Weapons Free Zones, are of particular importance in a time when global disarmament efforts are blocked. Apart from their intrinsic value in reducing regional dangers, they provide concrete experience relevant to broader arms control efforts on verification and other issues. Exploring the technical requisites for arms control and disarmament measures is an important way to improve the chances for treaties both to be negotiated and to be effectively implemented once the appropriate political conditions exist.

In the case of the CTBT, although the Treaty has not entered into force, the Comprehensive Test Ban Treaty Organization is creating the infrastructure for monitoring and verification. In addition to providing the necessary means for CTBT implementation, this effort is providing valuable experience in a variety of areas that may be useful for other forms of arms control, ranging from the technical challenges of integrating large amounts of data from diverse types of sensors to the challenges of assembling the people and creating that institutions that will have the capacity to analyze the data and present it within the time span necessary. It was also noted that the CTBT’s history holds important lessons about disarmament efforts over the long term. People began thinking seriously about the technical and political requisites for a test ban treaty and for monitoring and verification decades before the CTBT was signed. These efforts, although they might have appeared utopian at the time, helped make the Treaty feasible when political circumstances changed, and changed in a way and at a pace that few anticipated.

Missile and Space Control Regimes

A principle difficulty in developing effective measures for the control, much less the elimination, of ballistic missiles is the lack of a global norm against their use. Modern militaries employ ballistic missiles in a variety of roles. Due to these factors, existing missle arms control is limited to efforts to control the export of missile technology.

These measures have value in the near term because they slow the spread of missile technology, particularly of more advanced missile technologies. But they are inherently discriminatory, allowing some states to maintain extensive missile arsenals while attempting to deny them to others, and thus are unlikely to be sustainable in the long run.

A universal treaty aiming at controlling and eventually eliminating ballistic missiles over some range threshold may appear politically unfeasible in the current context. As noted above with regard to the long process that led to the CTBT, there is significant value in serious work to explore verification issues, likely obstacles to a treaty in particular strategic settings, the relationship of missiles to other systems, and other relevant issues. These efforts will help to facilitate the more rapid development of missile disarmament measures if political circumstances become more hospitable.

Several past and current proposals for treaties aimed at controlling and eventually eliminating long range ballistic missiles call for a flight test ban as a first step. A missile flight test ban halts technology development—and hence the emergence of new threats—and is verifiable. It is easily understandable as an arms control measure, and hence helps to mobilize public pressure on the issue, and to build towards a norm against ballistic missile possession and use.

The next theme discussed was the growing dangers posed by the possible weaponization of space. These dangers include not only weapons in orbit, but other types of weapons that could operate through or from space, such as conventional intercontinental ballistic missiles, and space operations vehicles that could both deliver weapons and make the deployment of military systems in space cheaper and more reliable.

There have been a number of proposals for the prevention of an arms race in space. However, the U.S. has refused to negotiate any new space arms control measures, and the abrogation of the ABM Treaty removed an important obstacle to the development of space-based military systems. In addition, proposals for an agreement on the Prevention of an Arms Race in Outer Space (PAROS) in the Conference on Disarmament remain blocked by linkage to a fissile materials ban, and by the larger inability of states to agree on a common agenda for disarmament.

Here too, however, exploring the requisites for arms control and disarmament measures should continue, in the hopes of future opportunities. There will be a growing international capacity to verify provisions concerning the placement of objects in space, so progress will not necessarily be limited by dependence on U.S. technology for verification and monitoring. The concept of space as “common heritage,” partially embodied in the current Outer Space Treaty, should be extended and elaborated to include a vision of common security in space.

Environment and Security

An important aspect of arms control and disarmament is the profound ecological impacts of decades of arms production and of associated industries such as nuclear materials and nuclear power whose development was shaped by their relationship to the strategic imperatives of the Cold War. A set of presentations provided an overview of one part of this complex set of issues, the impacts of nuclear technologies on the Arctic regions. These include the cumulative effects of military activities from nuclear testing and disposal of reactor cores, waste from nuclear weapons production facilities, and the impacts of the civilian nuclear industry, including reprocessing facilities in France and the United Kingdom.

Although the panel focused on radioactive contamination, conference participants observed that the Cold war arms race and high tech weapons activities that continue today have left behind a variety of other types of toxic contamination, from rocket fuels and high explosive waste to heavy metals and industrial solvents.

Among the points stressed regarding efforts to study and remedy contamination were the need for ongoing monitoring by both governments and non-governmental organizations to avoid corruption and to assure that cleanup monies are spent in ways that are useful and productive and the need to involve affected communities in assessing both the potential impacts of proposed disarmament activities (e.g. missile or chemical weapons destruction) and the appropriate way to go about environmental cleanup of weapons facilities.
Looking Forward

The final set of presentations looked at prospects for arms control and disarmament. The Cold War and post-Cold War efforts to reduce the enormous Cold War arsenals provided a great deal of useful experience. There are a number of significant arms control measures we now take for granted, but that nonetheless are being faithfully implemented. The Conventional Forces in Europe (CFE) agreement, the Open Skies agreement, and others are effective in themselves and can provide lessons for the future.

The CFE, for example, was an ambitious treaty. It has led to the elimination of a main concern of the Cold War, that of large-scale conventional conflict in Europe, and provided transparency and confidence measures that helped get us through a momentous historical change, into a period of cooperation in security matters. It is important to consider what lessons this experience has for other regions—e.g. the Middle East, South Asia or North-East Asia.

It is essential to strengthen the credibility of existing regimes, particularly in the nuclear field. There is a great deal of talk about the crisis of the Nuclear Non-Proliferation Treaty. Although the Treaty parties still largely agree on its value and its goals, it is important to take concrete steps that demonstrate continued commitment by the parties, particularly the nuclear weapon states. There should be an understanding that nuclear weapons cannot be maintained indefinitely, and that lack of progress in disarmament will erode the NPT regime. There must be adherence to the commitments made by the treaty parties at the 1995 and 2000 review conferences (these include, for example, the “unequivocal undertaking” to eliminate nuclear arsenals, entry into force of the CTBT, reduction of the military role of nuclear weapons, and making arms reductions irreversible). There also must be renewed emphasis on achieving universality for the NPT. Of particular importance is to prevent states from having an advantage by remaining outside the NPT.

To improve the chances for progress on nuclear disarmament, we need to move from bilateral to multilateral nuclear weapons reduction efforts. Both Russia and many states in Europe want more drastic, rapid, and irreversible reductions in nuclear arms. The United Kingdom and France need to engage in multilateral negotiations for elimination of nuclear arsenals, in accordance with their NPT Article VI obligation. Their reductions so far have been unilateral, and hence, in principle, reversible. In general, as the status of the European Union grows, Europe can play a much more active role in arms control and disarmament.

Diplomacy First!

The final discussion focused on the need for renewed emphasis on diplomacy. States need to engage in preventive diplomacy, looking down the road, preventing problems, as opposed to reacting to crises. Many types of crises—even widespread famine and outbreaks of genocidal violence—can be prevented or mitigated, and often we know enough, if we are paying attention, to see them coming. Every effort must be taken to avoid isolating any state, and there must be a greater emphasis on both mediation efforts and multilateral solutions.

In the current context, efforts to preserve existing multilateral arms control agreements are particularly important. This includes the CTBT, which must be held together until the climate improves for ratification by key states, and the Chemical and Biological Weapons Conventions, of particular value because they eliminate entire classes of weapons.

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International Arms Control, Transparency, and Verification in a European-Russian Framework of Cooperative Security
Berlin, January 24-26, 2003

Opening Session
Convened by Martin Kalinowski
– Welcome and status of the project (Jürgen SCHEFFRAN, David KRIEGER)

Global Hot Spots
Convened by Martin Kalinowski
– Breakdown of the Security-Related Treaty Regime (Ian KENYON)
– Missile Defense, Space War, and Information Superiority in the US National Security Strategy (Götz NEUNECK)
– US Nuclear Policy (David KRIEGER)

Preventive War Against Terror? The Case of Iraq
Public discussion at Rathaus Schönefeld
Convened by Regina Hagen
with David KRIEGER, Sharon RIGGLE, SHEN Dingli, Fernando de SOUZA BARROS

European and Russian Perspectives on Missile Defense and Space Warfare
Short Statements from panelists and plenum discussion
Convened by Ian Kenyon
with Preben BONNÉN, Eric CHAUVISTRÉ, Ivan SAFRANCHUK, Dave WEBB, Wilbert van der ZEIJDEN

Transparency, Confidence-Building and Verification: Lessons from Different Control Regimes
Convened by Sharon Riggle and Shen Dingli
– Nuclear Non-Proliferation and Disarmament (Martin KALINOWSKI, Wolfgang LIEBERT, Eugene MIASNIKOV, Fernando de SOUZA BARROS, Ambassador Roland TIMERBAEV)
– Biological and Chemical Weapons [Convention] (Iris HUNGER, Oliver MEIER, Kathryn NIXDORFF, Ralf TRAPP)
– Missiles & Space [Control Regimes] (George LEWIS, Randy RYDELL, Ivan SAFRANCHUK, Jürgen SCHEFFRAN, Mark SMITH)
– Discussion: Consequences for Future Missile and Space Control Regimes

Environment and Security
Convened by Dave Webb
– Cleanup of Cold War Legacies in the Baltics: The Ongoing Contamination of the Arctic Region (Ulrike KRONFELD, Aleksandr NIKITIN)

Challenges and Perspectives for European–Russian Cooperative Security
Convened by Randy Rydell
– Diplomacy First – Alternative Approaches of Threat Prevention (Paul WALKER)
– European and Russian Interest in Disarmament (Rüdiger LÜDEKING, Ambassador Roland TIMERBAEV)
– Cooperative Security and International Law (Derlev WOLTER)
– Further Activities of MBMD Study Groups (all)
– Conference Conclusion (David KRIEGER, Jürgen SCHEFFRAN)

Making Progress with the MBMD Project and Study Groups
Convened by Jürgen Scheffran
Brainstorming and discussion session with all conference participants

FONAS Expert Briefing: Moving Beyond Missile Defense – Practical Steps Against Proliferation
Breakdown of the Security Related Treaty Regimes?

Ian R. Kenyon

In the second half of the Twentieth Century (between 1945 and the first part of 2002) Goldblat lists 145 documents, ranging from UN registered treaties through UN Resolutions to unilateral statements, which have some bearing on security and the control of armaments. Only about 10% of these are likely to have been noticed outside a specialist circle but they all represent some aspect or other of the attempt to use negotiation of documents, valid in international law, as a means to enhance international security.

In order to address the question of the health of the regime it may be helpful to analyse this collection for original purpose and continuing validity before going on to see what current problems might be appropriate for negotiation of similar instruments and to assess chances of success.

Bilateral – United States/USSR (Succeeded by Russia)

Unarguably the most important objective of the attempts to create a security related treaty regime in the period under review was the prevention of a Third World War between the two superpowers (the United States (US) and the Union of Soviet Socialist Republics) and their allies. These had two main components—procedures to prevent the accidental triggering of hostilities,—and agreements to cap—and later to reduce strategic armaments. The prevention of accidental war was the subject of eight agreements starting with the 1963 Hot-Line Agreement (updated from time to time to keep abreast of communications technology) and ending with the 1989 Agreement on Notification of Major Exercises. A full list is in Table 1. These agreements offer potentially useful precedents for use in future situations of tension but their relevance to relations between the United States and Russia is much reduced as the Cold War is over.

Table 1: Prevention of War (Bilateral United States/USSR (Russia))

<table>
<thead>
<tr>
<th>Agreement Title</th>
<th>Document Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Line Agreement</td>
<td>1963 Memorandum of Understanding between the US and the USSR Regarding the Establishment of a Direct Communications Link, Annex</td>
<td></td>
</tr>
<tr>
<td>US-Soviet Nuclear Accidents Agreement</td>
<td>1971 Agreement on Measures to Reduce The Risk of Outbreak of Nuclear War</td>
<td></td>
</tr>
<tr>
<td>US/USSR Incidents at Sea Agreement</td>
<td>1972 Agreement on the Prevention of Incidents on and over the High Seas</td>
<td></td>
</tr>
<tr>
<td>US/USSR Nuclear War Prevention</td>
<td>1973 Agreement on the Prevention of Nuclear War</td>
<td></td>
</tr>
<tr>
<td>US/USSR Risk Reduction</td>
<td>1987 Agreement on the Establishment of Nuclear Risk Reduction Centers, Protocols</td>
<td></td>
</tr>
<tr>
<td>US/USSR Launch Notification</td>
<td>1988 on Notifications of Launches of Intercontinental Ballistic Missiles and Submarine-launched Ballistic Missiles</td>
<td></td>
</tr>
<tr>
<td>US/USSR Major Exercises</td>
<td>1989 Agreement on Reciprocal Advance Notification of Major Strategic Exercises</td>
<td></td>
</tr>
</tbody>
</table>

The 1972 Anti-Ballistic Missile Treaty (ABM Treaty) provided the certainty that neither side could win a nuclear war and hence, through the acceptance of the Mutually Assured Destruction (MAD) principle, ensured the strength of deterrence, which underpinned strategic stability through the remainder of the existence of the Soviet Union. Strategic Arms Reduction Treaty I (SALT I) (1972), Vladivostok Accord (1974), and SALT II (1979) started the process of putting ceilings to heavy bombers and land-based and submarine-based missiles, bringing the numbers to equivalence and setting the basis for reductions. However, deterioration in relations resulting from the Soviet invasion of Afghanistan meant that SALT II never came into force.

Arms control talks were restarted in the early eighties and the first concrete outcome was the 1987 Intermediate-Range Nuclear Forces Treaty (INF Treaty) which required the destruction of two entire classes of missiles—cruise and ballistic missiles of intermediate range. Whilst these weapons were not significant in the two countries’ ability to threaten each other from homeland to homeland, their destruction was of great significance to the European allies on whose territory they were based and who, at least on the Western side, would have provided their targets. This treaty provides the first example of disarmament, complete with appropriate intrusive verification, in the nuclear area (although it only involves delivery systems and the warheads remain available for redeployment).

1991 saw both the completion of negotiation of the Treaty on the Limitation of strategic Arms (START I) and the final collapse of the USSR. The latter event brought the necessity for multilateralising the START Treaty, as the weapons of the former Soviet arsenal were partly deployed in what are now the independent states of Belarus, Kazakhstan and Ukraine. These three states opted for non-nuclear-weapon state status under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and transferred all their nuclear warheads to Russia. The end of the Cold War and the development of a new set of relationships between the states which had formerly been on either side of
the iron curtain led to a series of changes in nuclear forces, mostly codified in unilateral or bilateral presidential statements but only in the case of START II (1993) involving formal negotiations. Both the United States and Russia (matched, where appropriate by the United Kingdom and France) announced further reductions in strategic warhead deployments, the de-targeting of strategic systems, and the removal of tactical nuclear warheads from aircraft, ships, and artillery systems. START II has not been ratified, partly because of Russian concern over United States withdrawal from the ABM Treaty, but the Bush administration, having initially proclaimed that such treaties were not necessary between friends, signed SORT Treaty in May 2002. The principal concern today is the early dismantling of surplus Russian nuclear warheads and safe disposition of the fissile material. The release by President Bush of $500 million for the Co-operative Threat Reduction Program in January 2002 is good news.

In terms of our investigation into the health of the regime we can conclude that:

- It is not necessary to maintain the structure built to contain the dangers of the Cold War.
- It is necessary to encourage a controlled reduction of the strategic systems in the two large nuclear arsenals down to much lower numbers on both sides, and the decommissioning of all excess warheads, tactical and strategic.
- Physical protection of fissile material and of nuclear weapons has gained even greater significance following 9/11.

### Other Bilateral

Unfortunately, the use of bilateral instruments to improve strategic stability in other areas of tension has been infrequent. Table 3 shows only four examples. Opportunities for emulation in South Asia and the Korean Peninsula of some of the US/USSR achievements are evident. As was shown in the superpower case, however, it is easier to negotiate such instruments as the need for them diminishes.

### Multilateral (Open)

Table 4 shows that only four disarmament treaties, open to all states, have been successfully completed in the period under

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**Table 2: Control of Strategic Armaments (Bilateral United States/USSR (Russia))**

<table>
<thead>
<tr>
<th>Treaty/USSR (Russia)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALT I 1972</td>
<td>Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms, Protocol</td>
</tr>
<tr>
<td>Vladivostok Accord 1974</td>
<td>Joint statement by the USA and the USSR on strategic offensive arms</td>
</tr>
<tr>
<td>SALT II 1979</td>
<td>Treaty on the Limitation of Strategic Offensive Arms, Protocol, Statements by the USA and the USSR of data on the numbers of strategic offensive arms</td>
</tr>
<tr>
<td>US/USSR Chemical Weapons 1990</td>
<td>Agreement on destruction and non-production of chemical weapons and on measures to facilitate the multilateral convention on banning chemical weapons (US—Soviet Chemical Weapons Agreement), Agreed Statement</td>
</tr>
<tr>
<td>START I 1991</td>
<td>Treaty on the Reduction and Limitation of Strategic Offensive Arms, Annexes, Protocols, Memorandum of Understanding, Agreements, Statements, Declarations; see also 1992 Lisbon Protocol to the START I Treaty</td>
</tr>
<tr>
<td>US unilateral reductions 1991</td>
<td>US President’s announcement regarding unilateral reductions of nuclear weapons</td>
</tr>
<tr>
<td>USSR unilateral reductions 1991</td>
<td>Soviet President’s announcement regarding unilateral reductions of nuclear weapons</td>
</tr>
<tr>
<td>De-MIRVing Agreement 1992</td>
<td>Joint Understanding on further reductions in strategic offensive arms</td>
</tr>
<tr>
<td>START II 1993</td>
<td>Treaty on Further Reduction and Limitation of Strategic Offensive Arms, Protocols, Memorandum of Understanding</td>
</tr>
<tr>
<td>De-targeting 1994</td>
<td>Agreement between the USA and Russia to de-target strategic nuclear missiles, contained in the Moscow Declaration of the US and Russian Presidents</td>
</tr>
<tr>
<td>Future reductions 1997</td>
<td>Joint Statement by the USA and Russia on parameters on future reductions in nuclear forces</td>
</tr>
<tr>
<td>PMDA 2000</td>
<td>Agreement Concerning the Management and Disposition of Plutonium Designated as no Longer Required for Defense Purposes and Related Cooperation (Plutonium Management and Disposition Agreement)</td>
</tr>
<tr>
<td>SORT 2002</td>
<td>Treaty on Strategic Offensive Reductions</td>
</tr>
</tbody>
</table>
The Enmod Convention can be discounted as its authors ensured that its scope only covered activities that no-one knew how to do! The other three are highly significant achievements, likely to be of lasting value. The Biological Weapons Convention (BWC) and the Chemical Weapons Convention (CWC), between them, ban use as weapons of the entire spectrum of dangerous substances from living organisms, such as bacteria and viruses, through the toxins, whether produced by biological process or chemical synthesis, to simple chemicals, such as hydrogen cyanide. Thanks to its negotiation at the period covering the end of the Cold War and to side negotiations of a bilateral nature (see Tables 2 & 3), it was possible to give the CWC strong provisions for verification. Although the BWC does not have such provisions and attempts to negotiate a protocol to strengthen it have so far been unsuccessful, it does provide a clear, unambiguous prohibition in law of the acquisition of such weapons. The recent establishment of a mechanism for annual consideration of bioweapons-related issues should help its effective implementation. The APM convention sets an important precedent, first in that it requires destruction of all stocks and the ban of future production or use of a weapon that had been widespread in its application and, second, in that it was negotiated and brought into force without the concurrence of the United States, Russia, or China but with the full involvement of many of their allies. In that it was driven by concerns for civilian victims (often killed or injured long after the conflict which caused the mines to be sown), this treaty could also form part of the humanitarian section below, but undoubtedly deserves to be considered as a major disarmament achievement.

The BWC and CWC have a high degree of universality of membership, although there is a worrying gap in the Middle East, and their parties clearly support them. The Review Conference of the CWC in April 2003 and the new BWC consultation process will provide opportunities for this support to be demonstrated.

**Nuclear Non-Proliferation**

Table 5 shows the treaties related to the wish to prevent the spread of nuclear weapons beyond the small group of states that already possess them. The most im-

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**Table 3: Other Bilateral Agreements**

<table>
<thead>
<tr>
<th>Agreement Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pak/India nuclear facilities</td>
<td>1988 Agreement between Pakistan and India on the Prohibition of Attack Against Nuclear Installations and Facilities</td>
</tr>
<tr>
<td>Korean de-nuclearisation</td>
<td>1992 Joint Declaration by South and North Korea on the de-nuclearization of the Korean Peninsula</td>
</tr>
<tr>
<td>Pakistan and India chemical weapons</td>
<td>1992 Joint Declaration by Pakistan and India on the Complete Prohibition of Chemical Weapons</td>
</tr>
<tr>
<td>US/DPRK Agreed Framework</td>
<td>1994 Agreed Framework between the USA and North Korea</td>
</tr>
</tbody>
</table>

**Table 4: Disarmament (Multilateral – Open)**

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWC</td>
<td>1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction</td>
</tr>
<tr>
<td>Enmod Convention</td>
<td>1977 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (Enmod Convention), Annex, Understandings</td>
</tr>
<tr>
<td>CWC</td>
<td>1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Annexes</td>
</tr>
<tr>
<td>APM Convention (Mine Ban)</td>
<td>1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction</td>
</tr>
</tbody>
</table>

**Table 5: Non-Proliferation of Nuclear Weapons (Multilateral – Open)**

<table>
<thead>
<tr>
<th>Treaty/Treaty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Proliferation Treaty, NPT</td>
<td>1968 Treaty on the Non-Proliferation of Nuclear Weapons</td>
</tr>
<tr>
<td>INFCIRC 153</td>
<td>1971 The Structure and Content of Agreements Between the International Atomic Energy Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT Model Safeguards Agreement); IAEA Information Circular 153</td>
</tr>
<tr>
<td>Physical Protection Convention</td>
<td>1980 Convention on the physical protection of nuclear material, Annexes</td>
</tr>
<tr>
<td>CTBT</td>
<td>1996 Comprehensive Nuclear Test-Ban Treaty, Annexes, Protocol</td>
</tr>
<tr>
<td>INFCIRC 540</td>
<td>1997 Model Protocol Additional to the Agreement(s) Between State(s) and the International Atomic Energy Agency for the Application of Safeguards (Model Additional Safeguards Protocol), Annexes</td>
</tr>
</tbody>
</table>
Important of these must be the NPT itself. This is underpinned by the IAEA Statute of the International Atomic Energy Agency (IAEA Statute) (listed in Table 11); INFCIRC 153 (the model for the individual legally binding agreement that each party to the NPT is obliged to enter into with the IAEA); INFCIRC 540 (model protocol to extend INFCIRC 153 agreements); the Physical Protection Convention; and the UN Security Council Resolution 984, setting out the security assurances provided to NPT parties by the five NPT recognised nuclear weapon states. The NPT is extremely strong as the great majority of its members are determined to avoid having to cope with additional nuclear weapon states. The NPT is extremely strong as the great majority of its members are determined to avoid having to cope with additional nuclear weapon states. (However, they find complaining about non-compliance with Article VI a useful tool for pressing the United States to reduce its nuclear arsenal). The treaty has achieved near universality of membership. India and Pakistan will only join if given the status of a nuclear weapon state. Israel prefers to stay outside and neither to confirm nor deny its nuclear weapon capabilities. The Democratic People's Republic of Korea (DPRK) has just announced its denunciation of the treaty for the second time. And a small group of parties in the Middle East, including Iraq and Iran, are suspected of non-compliance in secret. The five yearly Review Conferences and their Preparatory Committee (PrepCom) meetings provide a focus for international efforts to maintain this particular regime.

International attempts to achieve the cessation of nuclear tests are normally seen as a part of nuclear non-proliferation so the relevant instruments are included here apart from the Threshold Test Ban Treaty (TTBT) and Peaceful Nuclear Explosions Treaty (PNET), which, being bilateral, are included in Table 2. The test ban regime is in a strange limbo. The moratorium is holding among the five permanent members of the UN security council (P5) but the US Senate has refused to ratify the Comprehensive Nuclear Test-Ban Treaty (CTBT) and while there is very little chance of that treaty entering into force because of the requirement for particular states to ratify, the Provisional Technical Secretariat (PTS) of the Comprehensive Nuclear Test-Ban Treaty Organization (CTBTO) is establishing a worldwide monitoring system, to which the US continues to pay its subscription.

### Multilateral (by Invitation)

Some important multilateral treaties are not designed to be universal but are open, often on a regional basis, to certain states by invitation of the other members. Table 6 lists two instruments which were originally open to members of NATO and the Warsaw Pact as part of the winding down of the Cold War. They offer important precedents for other areas of tension but their continuing relevance in the Twenty-First Century Europe must be in doubt.

<table>
<thead>
<tr>
<th>Table 6: Arms Limitation, etc. (Multilateral – By Invitation Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFE Treaty</td>
</tr>
<tr>
<td>Open Skies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 7: Non-Proliferation [Export Control] (Multilateral – By Invitation Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTCR</td>
</tr>
<tr>
<td>Wassenaar Arrangement</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 8: Weapons Free Zones (Regional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antarctic Treaty</td>
</tr>
<tr>
<td>Outer Space Treaty</td>
</tr>
<tr>
<td>Treaty of Tlatelolco</td>
</tr>
<tr>
<td>Moon Agreement</td>
</tr>
<tr>
<td>Treaty of Rarotonga</td>
</tr>
</tbody>
</table>
Another group of instruments, set out in Table 7, are those by which like-minded states co-ordinate their export control systems for goods of strategic importance. These have usually started in secret among a small group of states and have become more formal when the original members decide to expand the group. The ’Australia Group’, which co-ordinates export controls on chemical and biological weapon-related items, has yet to reach this formal stage. These mechanisms are highly valued and enthusiastically policed by their members and deeply resented by some excluded states, who challenge their legality in the light of provisions of the NPT, BWC, and CWC, which guarantee access to relevant technologies for peaceful purposes.

Regional Instruments

Table 8 includes another regime, which is designed to prevent the proliferation of nuclear weapons by the creation of zones into which such weapons should not be introduced. The Antarctic Treaty, Outer Space Treaty, and Moon Treaty include this provision in instruments largely intended for other purposes. Together with the Sea Bed Treaty these all create Nuclear-Weapons-Free Zones (NWFZ) in areas which are neither populated nor under the jurisdiction of a particular state. The Treaty of Tlatelolco was the first attempt, in 1967, to create a nuclear weapon free zone on the territory of a group of states. It was very ambitious, covering the whole of the Americas south of the United States, including the islands of the Caribbean. Last year it finally achieved the ratification of Cuba, the last of the 33 states of the region eligible to join. More recently, new zones have been created by the treaties of Rarotonga (South Pacific), Bangkok (Southeast Asia) and Pelindaba (Africa). Treaties creating NWFZs are important political statements but have little practical effect if their parties are already parties to the NPT.

Table 9 provides a home for a few regional treaties that don’t fit elsewhere.

Humanitarian Treaties

Table 10 lists treaties that affect the laws of war but do not perhaps add to international security in terms of our main investigation.

United Nations

The last table, Table 12, lists some important UN documents, including those relating to the attempts to disarm Iraq.

The Legacy

The number of issues whose health is important to security in the new century is much smaller than the 145 we set out to study. The residue of the Cold War requires implementation of SORT with the elements of previous treaties on which it relies. Physical protection and the various
aspects of Cooperative Threat Reduction are also important. The three great multilateral treaties relating to weapons of mass destruction—NPT, BWC, and CWC—are as important in this time of ‘war on terrorism’ and regional instabilities as they were in the past. They seem strong enough at present, but their health cannot be taken for granted and the pressure for universality must be maintained. The export control regimes are likely to be needed for some time yet but need to be supplemented by stronger efforts to bring the problem countries into the fold. The efforts to promote the International Code of Conduct (ICoC) were at least an attempt in this direction, although not very successful.

**The Future**

The arms control agenda contains no shortage of worthwhile objectives to pursue, in particular, restrictions on the weaponisation of space and the ban on the production of fissile material for nuclear weapon purposes. It should be remembered that the last fifty years contained long periods when little was achieved and that many of the instruments in the tables below were achieved late in their potential period of utility when the need for them was disappearing. It is important to work to persuade political leaders in the countries that are the key players in a particular field that properly drafted legal instruments with appropriate verification mechanisms can be a worthwhile tool for enhancing state security.


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**Table 11: UN System Agreements**

| UN Charter | 1945 Charter of the United Nations |
| IAEA Statute | 1956 Statute of the International Atomic Energy Agency |
| UNSCR 255 | 1968 United Nations Security Council Resolution 255 on security assurances to non-nuclear-weapon states |
| UNSSOD I Final Document | 1978 Final Document of the First Special Session of the United Nations General Assembly devoted to disarmament |
| UNSCR 687 | 1991 United Nations Security Council Resolution 687 imposing arms restrictions on Iraq and establishing the UN Special Commission on Iraq (UNSCOM) |
| UNGA Resolution 46/36 Register of conventional arms | 1991 UN General Assembly Resolution 46/36 on transparency in armaments, Annex: Register of conventional arms |
| ICC | 1998 Rome Statute of the International Criminal Court |
| UNSCR 1284 establishing UNMOVIC | 1999 United Nations Security Council Resolution 1284 establishing the UN Monitoring, Verification and Inspection Commission on Iraq |
| UNSCR 1325 | 2000 Women, Peace and Security |
| UNSCR 1441 | 2002 Inspections in Iraq |
The Terrorist Attacks of 9/11 and the Iraq War
The Debate in the United States

Paul Walker

To many Americans, the terrorist attacks of September 11th seem like they happened just yesterday. The striking images of aircraft slicing into the World Trade Center in New York City, and then into the Pentagon in Washington, DC, crashing in Pennsylvania, and the subsequent collapse of New York’s twin towers have all been indelibly imprinted into the minds of Americans today. We will all remember the final chilling phone call from the Pennsylvania aircraft passengers—“Let’s roll!”—apparently relating to a fight which broke out between the passengers and hijackers.

Although many of us are wary of a future war in Iraq in the coming month, for many Americans we are already at war, chasing Al Qaeda members from the Canadian border to the mountains of Afghanistan. An attack by U.S. forces against Baghdad is therefore seen by many only as another necessary step in the ongoing fight against terrorism and Al Qaeda. By a growing number of Americans and Europeans, however, it’s perceived as an unnecessary escalation in global conflict.

I still very well remember that unique and horrifying Tuesday in September, almost seventeen months ago. I had driven to Logan Airport in Boston to take my weekly flight to my office in Washington, and was waiting at my gate when all flights were suddenly delayed. A few minutes later we learned that at least two aircraft which had departed from our Logan terminal an hour earlier had flown into the Trade Center. We stood in shock as we watched the terrorist attacks on television and kept thanking our lucky stars that our own flights that Tuesday were not those hijacked. Suddenly the airport filled with police, all flights were cancelled, and we all were evacuated from the airport, at a complete loss for words to explain the horrific events of that historic morning.

The loss of some 3,000 Americans that day, followed by still unsolved anthrax attacks in Washington DC, New York, and elsewhere the next month, has catalyzed a serious sense of loss and vulnerability throughout the U.S. Americans, long grown used to the natural protection of two oceans on either coast, and friendly neighbors in Canada and Mexico to the north and south, quickly realized that their homeland was now a vulnerable target to some obscure enemy. At the time we had no idea who could have perpetrated such an act of terror and only over several months were we able to piece together the conspiracy with at least nineteen kamikaze attackers. But the victims of September 11th remained visible on a daily basis in full page articles and photos in the New York Times and other print and electronic media throughout the U.S.

This shock has left Americans asking many fundamental questions. Perhaps the most important is trying to define the enemy. What is the threat, or threats, today to our security? And how do and should we deal with it? Do we need to attack Iraq? What should we do with North Korea? How do we best meet these crises in the immediate future, while preserving peace and security for all over the longer run?

**Threat Assessment**

One of the very basic steps in building a secure environment is to define the threat to one’s vital interests—citizens and investments both at home and abroad. For decades since the 1950s the U.S. defined its defense policy in terms of being able to simultaneously wage 2 ½ wars two major wars in Europe (against the Soviet Union and the Warsaw Pact) and in Asia (likely against North Korea), and a smaller war in Southeast Asia, Cuba, or the Middle East.

After the fall of the Berlin Wall in 1989 and the disintegration of the Soviet Union and the Warsaw Treaty Organization, this threat assessment was reduced to 1 ½ wars—a major war in Asia, and a smaller war elsewhere, likely in the Middle East. Active duty troops in the U.S. were reduced by over a third, from 2.1 million to 1.3 million. Over 350 military bases were closed or reduced through four large rounds of base closures in the late 1980s and early 1990s. And former enemies in the East turned into allies, friends, and members of the North Atlantic Treaty Organization.

And yet there was still a search for what the new threat environment might bring. Some defined this as military alliances such as NATO “in search of a mission” to justify its own existence; others envisioned new potential threats on the horizon and wanted to “keep the gunpowder dry,” so to speak. The good news, I believe, was that the likelihood of a massively destructive world war involving nuclear weapons became almost nil. This lifted a tremendous psychological burden from us all. The bad news is that, in light of the undefinable nature of future threats, any projected economic peace dividend from military savings evaporated quickly. This year’s U.S. military budget—some US$ 380 billion, for example, had the largest annual growth since the early 1980s during the massive buildup under President Ronald Reagan.

And yet serious questions remain about the applicability of traditional Cold War weapons and military units to today’s potential threats. For example, will heavy investment in space warfare and ballistic missile defense protect us from terrorists and September 11th attacks? Do the Marines still need the capability for massive amphibious landings? Are thousands of nuclear warheads a good investment in non-proliferation? Does NATO need to continue to plan for major wars with large investments in traditional military equipment—aircraft, ships, and tanks, tough burdens especially for new members from Eastern Europe?

**The Looming War in Iraq**

The invasion of Kuwait in 1990 by Saddam Hussein was a wake-up call to the
risks and dangers in regional conflict areas. The subsequent Persian Gulf War, launched twelve years ago by the U.S. and a support coalition of forces, successfully pushed the Iraqi army out of Kuwait but left a legacy of thousands of deaths of both soldiers and civilians and widespread environmental and economic damage. Iraq was placed under strict economic and military sanctions, and played along with intrusive United Nations inspections until 1998. The ouster of U.N. inspectors four years ago really started the clock ticking on the crisis today.

President George Bush has accused President Saddam Hussein of seeking weapons of mass destruction in this recent period, although prohibited by U.N. resolutions after the Gulf War. He cites reported Iraqi efforts to purchase weapons materials, including nuclear fissile materials, and the fact that Iraq has still not accounted for thousands of chemical weapons and tons of biological material since the end of inspections in 1998.

The recent discovery of sixteen empty, 122 mm chemical weapons shells in Iraq lends some credibility to these allegations, but for many insufficient evidence—no "smoking gun"—to warrant a massive invasion.

So where does this place us today, especially after the January 27th reports of chief U.N. inspector Hans Blix and IAEA inspector Mohamed ElBaradei to the U.N. Security Council? Some 100,000 U.S. troops, hundreds of fighter aircraft, 4–5 naval aircraft carriers, and thousands of additional weapons have been deployed around Iraq in preparation for a major attack, most likely in February or March. Inspections have built up over the past two months, but this week's report lends evidence that Iraq has not been fully truthful or fully cooperative with inspection efforts.

Six months ago, still suffering from the September 11th images, and the ongoing terrorist attacks in Pakistan against Daniel Pearl, against military and commercial ships in Yemen, and elsewhere around the globe, most Americans were supportive of a unilateral attack on Iraq. As discussion was raised at high levels in the national and international communities, especially in the United Nations, and U.N. Resolution 1441 was passed demanding complete compliance by Iraq with disarmament requirements, American public opinion split. Al-most two weeks ago hundreds of thousands of Americans marched in Washington DC, Boston, New York, San Francisco, and other cities to protest a war. Just four days ago a major two-page advertisement signed by 45,000 Americans including prominent politicians, writers, and entertainers also called for a peaceful resolution to this crisis.

None of us, I believe, would call President Hussein a stabilizing force in the Middle East. He is well known as a brutal, ambitious, and dangerous dictator who has killed perhaps as many as a million Iraqis in the wars against Iran and Kuwait and in maintaining his power in Baghdad. But the larger question is whether Iraq can be contained, guaranteed without nuclear, chemical, or biological weapons, and whether there are less violent options for bringing these changes about.

After months now of debate, and sixty days of intrusive inspections in Iraq, it remains unclear whether the lack of a "smoking gun" will halt the march to war. A majority of Americans now believe that the U.S. should not go to war unilaterally, but only if more evidence is found and if a war is supported by the United Nations Security Council. Americans are increasingly concerned about the costs of a war in terms of lives and money—potentially thousands dead and tens of billions of dollars in costs; about the possible negative impact on the U.S. economy which is already in a recession; about the long-term risks for destabilizing the Middle East, with Arab allies such as Saudi Arabia continuing to voice deep concern; about the long-term needs for rebuilding Iraq, with no clear successor group to Saddam Hussein and deep splits among the many Iraqi factions; about the impact on Turkey, a NATO ally, and the Kurds; and about the potential for a long-standing U.S. military force occupying Iraq, raising historical images of our past Vietnam ‘quagmire.’

We've now been in Afghanistan for over a year and still have yet to find Osama bin Laden. Just this week was another major firefight along the border with Pakistan with opponents of President Hamid Karzai. Could the same take place in Iraq? How long, how many lives, and how much money will it take to bring peace and security to these regions? Is it really our responsibility? Will a war in Iraq worsen our problem with terrorism? That is, will it increase Islamic recruits for Osama bin Laden and anti-Western terrorism?

There is also the concern that a pre-emptive war in Iraq could open the door to other unilateral attacks around the world. Russian colleagues tell me that they will feel free to invade Georgia to chase down Chechen rebels. Would India attack Pakistan? Would the Israelis invade the West Bank and Gaza, more than they are at present? A unilateral attack on Iraq, without more justification, will therefore set dangerous precedent for such unilateral actions.

It is still too early to predict what might happen in Iraq, but I remain optimistic that a resolution short of war may be feasible. The inspections, with more intelligence and intrusiveness, will likely become more successful. The military buildup has already served some purpose in forcing Saddam Hussein to co-operate with the United Nations. And long-term trade and military restrictions could very well solve the problem from an international perspective, if not from a domestic Iraqi human rights perspective.

The Korean Crisis

Interestingly, we have a second crisis on our hands as well. Kim Jong Il in North Korea has recently thrown out United Nations inspectors, shut down U.N. inspection cameras at the Yongbyon nuclear facilities, announced withdrawal from the Nuclear Non-Proliferation Treaty, threatened to use either plutonium from spent fuel or enriched uranium to build nuclear weapons, and also threatened to break out of a missile testing moratorium.

The United States has in turn stopped food aid and support for light-water reactor construction, part of a 1994 accord, and at first refused any discussion with North Korea until they stopped their nuclear weapons program. However, this dangerous political standoff has been softened somewhat with the informal diplomacy of South Korea, Russia, and China. The U.S. has now shown willingness to talk, if not formally negotiate, with North Korea.

But, why are we not threatening North Korea, which already may have a couple of nuclear weapons in its arsenal and is well known to also have chemical weapons, like we are threatening Iraq? Primarily because the use of force against North Korea is not a feasible option. War on the Korean Peninsula would likely decimate the whole region, possibly also af-
fecting Japan and China, which makes the risks too high.

I recall a briefing I had with the Clinton Administration in 1994 when a similar Korean crisis developed. I was on the staff of the Armed Services Committee in the House of Representatives at the time. The White House was seriously considering a ‘first-strike’ against the nuclear weapons development program in North Korea at that time. When we asked whether an attack could preclude the release of radioactivity on the Korean Peninsula, or whether we could guarantee that the North would not respond by attacking Seoul, the response was negative. We therefore told the Clinton Administration that war was not an option and subsequently the 1994 food and reactor deal was signed. My hope and expectation is that a new agreement can be reached with North Korea in the coming months which will both stop nuclear weapons proliferation and also aid the people of North Korea.

Preventive Engagement

The era of violent, unpredictable terrorism that we find ourselves in today illustrates that we need a policy other than all-out war and military force to meet and defeat these threats. We can neither be isolationist, as the United States historically has been known to be, nor can we be interventionist in a unilateral fashion. Human rights and international law must be supported, along with multilateral enforcement of these international norms.

I would propose a policy of ‘preventive engagement,’ that is, addressing crises before they arise, and in a preventive way. If I can use a public health analogy, we all know that we should maintain a good personal exercise and diet regime to maintain our health. But many of us tend to overlook this good advice and wait until we have our first heart attack.

We are all notoriously crisis-oriented, thus requiring major intervention—heart surgery or, in international politics, war—when the crisis takes place, with the hope that we don’t die on the operating table or in the violence.

The two contemporary cases of Iraq and Korea both well illustrate that crisis intervention is too little too late. We will pay a high immediate price in terms of lives and costs, and possibly an even higher price in terms of regional destabilization. We need to resolve these cases in a non-military, preventive way or live with new nuclear powers, potentially in a more destabilized regional context.

The following steps would help bring us into a more effective, peaceful, and preventive world:

1. **Abide by the Nuclear Non-Proliferation Treaty (NPT).** If the nuclear powers, especially the original five—the U.S., Russia, China, France, and Britain—want to inhibit or even stop proliferation of weapons of mass destruction, they must begin to take their obligations under Article VI of the NPT more seriously, that is, move towards full elimination of all nuclear weapons. The NPT was signed twenty-five years ago and yet it still maintains a double standard between nuclear ‘have’ and ‘have-nots.’ It’s ironic that we decry a few nuclear weapons in North Korea, and yet refuse to eliminate any of our 7,000 or so in the U.S.

2. **Support destruction of Cold War weapons stockpiles.** The U.S. has spent some US$ 5 billion over the past decade to help the former Soviet Union destroy its stockpiles of nuclear, chemical, and biological weapons in a safe and environmentally sound manner. Yet the Europeans have been terribly slow to join in this historic effort until the July 2002 pledge of the G–8 to spend up to US$ 20 billion over the next decade. Included in this effort is the abolition of chemical weapons, the first time a whole class of weapons is being eliminated. It would behoove all states, including Poland and Eastern Europe, to help in this effort to overcome dangerous legacies of the Cold War, vulnerable to theft and diversion.

3. **Focus military forces in NATO and elsewhere on peacekeeping and anti-terrorism.** The new challenges which face the world are not major world wars but rather limited use of force in regional, ethnic, religious, and civil wars, as well as the use of force by subnational, terrorist groups such as Al Qaeda. Our military troops must be trained and their equipment oriented towards meeting these new challenges. This requires changing old Cold War structures including the NATO alliance.

4. **Develop a professional mediation and peacekeeping service, perhaps under the United Nations.** Wève had much success in the past in Northern Ireland, the Middle East, most recently Cote d’Ivoire, and elsewhere in mediating resolutions to crises and conflicts. But these efforts by George Mitchell, Kofi Annan, Bill Clinton, Jimmy Carter, and others have always been on an ad hoc basis. We need a quick-strike, professional mediation team as much or more than we need quick-strike military forces. We need a larger toolbox of options to address crisis situations and to engage in preventive engagement.

5. **Preserve arms control regimes and develop new ones.** With U.S. withdrawal from the 1972 Anti-Ballistic Missile (ABM) Treaty last year, and now North Korea’s withdrawal from the NPT, the long-standing arms control regime, including some twenty treaties and agreements, is now increasingly threatened. We need to preserve these stabilizing agreements and work to ratify the Comprehensive Test Ban Treaty; place limits on missile testing, fissile material, and arms trade; strengthen the Biological Weapons Convention; and universalize the Chemical Weapons Convention. Bilateral and multilateral arms control and disarmament agreements, when backed with strong verification and implementation, are a central part of a future, peaceful world.

6. **Link development and disarmament.** Many of the countries and regions burdened with Cold War stockpiles are in dire need of socio-economic development. We need to use development assistance to bolster efforts in stockpile destruction, especially in the former Soviet Union. Much of our work in the Green Cross Legacy Program is focused on chemical weapons destruction in the U.S. and Russia; the stockpile sites in these countries must have substantial infrastructure investment to complement their weapons burden. A development-disarmament link is a win-win for all.

7. **Address environmental security.** With the closure of innumerable military bases, the destruction of weapons stockpiles, and the need to continue some military training and firing ranges, facing the global need for cleanup of military environmental pollution will provide tremendous gains in global security, both for our troops and for our citizens.

8. **Speak softly, but carry a big stick.** This phrase was spoken by former U.S. President Teddy Roosevelt and is good advice today for the U.S. and others. I am concerned that the Bush Administration is not taking this advice seriously, especially when senior officials make
bellicose and non-diplomatic statements. For example, Defense Secretary Donald Rumsfeld’s description of our European allies as “old Europe” this month was an unnecessary and undiplomatic step backwards for NATO relations. Likewise, President George Bush’s use of the phrase “axis of evil” to describe potential enemies has only exacerbated international relations. A policy of active engagement and negotiation, for example, with both Iraq and Korea now, will provide much more effective and peaceful results over the longer run than policies of hardball confrontation and possibly war.

This script was written for a conference at the University of Breslau, Poland, on January 31, 2003, and also summarizes the presentation of Paul Walker at the conference “International Arms Control, Transparency and Verification in a European Russian Framework of Cooperative Security” organized by INESAP and the Nuclear Age Peace Foundation on January 24–26, 2003, in Berlin, Germany.

After the Cold War, the traditional pattern of arms control and disarmament changed radically. For fifty years—during the Cold War and its immediate aftermath—it was almost a bilateral, U.S.–Russian exercise, with very few exceptions (e.g. the Chemical Weapons Convention and the Comprehensive Test Ban Treaty). The Moscow Treaty of May 2002 is perhaps the last bilateral arms control and disarmament treaty—although it is rather a codification of the unilateral commitments made by the two states.

From now on, arms control and disarmament, including non-proliferation of weapons of mass destruction, will, in all probability, gradually convert from a bilateral to a multilateral paradigm. This has already been in certain ways manifested, in particular at the 1995 and 2000 Nuclear Non-Proliferation Treaty (NPT) Review Conferences, which adopted programs of multilateral disarmament. Many factors are contributing to this transformation and subsequent internationalization of disarmament:

- For over 15 years, the two major nuclear weapons states have been increasingly reducing their nuclear arsenals and will, in all probability, continue this process.
- Both countries have, over the years, developed certain rules of conduct with regard to strategic weaponry, which are quite rigorously observed by both sides. Though mutual nuclear deterrence still exists and will continue to stay with us for some time to come, with the continuous downsizing of strategic weapons arsenals, deterrence will progressively be acquiring the less hazardous role of a ‘hedge’ for situations and challenges that may be forthcoming from unpredictable countries or sub-national groups.
- These rules of conduct include a tangible progress with an increase in transparency, monitoring, and verification procedures. This includes what some call “natural transparency”, which is developing in many areas of cooperation—especially in the implementation of the so-called Cooperative Threat Reduction program that is now being expanded into the Global Partnership for combating the spread of weapons and materials of mass destruction.
- The next factor is what I would call the focus of nuclear tensions which has been steadily moving from the West to the East and South (South Asia, Iraq, Iran, China, North Korea, and, quite possibly, Japan).

Take, for instance, Japan. According to Asia Times (14.01.03), “Japan for two decades or more has had the scientific and technological capability and the tools and materials to make nuclear bombs in short order—and by now not just crude but highly sophisticated ones... [A]t the end of 2001, the country owned 38 tons of separated reactor-grade plutonium—about six tons stored in Japan, the remainder in reprocessing plants in France and the United Kingdom. The amount stored at home increased by 400 kilograms during the year 2000 at the Tokai facility of the Nuclear Fuel Cycle Development Institute. This percentage will grow rapidly when a larger commercial-size reprocessing plant in Rokkasho comes on line in 2005”. With the modern technology that Japan possesses, reactor-grade plutonium could easily be upgraded to weapons-grade plutonium. So, the nuclear option is merely the question of a political decision.

Unlike the strategic modus vivendi that has developed over the years in the traditional areas of nuclear confrontation, in these relatively new regions of nuclearization, there is so far no clear understanding or sophisticated know-how of nuclear weaponry (for instance, they lack permissive action links, an important feature of nuclear weapons needed for their safety and security). Take, as an example, India. The country is still in a rather early stage of nuclear development, but there is already talk of building up a nuclear triad in the not too distant future. In addition, growing nuclear contradiictions in the East and South are aggravated by territorial, ethnic, religious, and other long-standing bilateral conflicts, which do not exist between the West and East. The situation is further upset by strategic...
The current wave of international terrorism, whatever may be its roots, is coming from the South. What is more, there is a growing concern that terrorists may resort to the use, or threat of use, of nuclear or radiological means in their hostile actions against countries of the North.

Common Interests in Russia and Europe

The above factors cause similar security concerns both for Russia and Europe as a whole, and point to a commonality of interests in dealing with problems and challenges in the field of non-proliferation and disarmament. Let me indicate some of them. Russia and Europe are, in my view, interested in the following:

- a more drastic, rapid and irreversible reduction of strategic nuclear arms (Russia will probably have about 1,000 nuclear warheads by 2012 unless it decides to SS–27s with multiple warheads, while the U.S. would, in all probability, keep 2,200);
- maintaining tight control, accountability, and physical protection of nuclear materials and radioactive sources;
- finding more effective means of management and disposition of excess weapon-origin nuclear materials, including the disposition of decommissioned nuclear-powered submarines;
- exploring ways of more vigorously dealing with existing non-strategic nuclear weapons;
- starting without any delay, negotiations on a universal Fissile Material Cut-Off Treaty in the framework of the Geneva Conference on Disarmament;
- preventing placement of weapons in outer space;
- increasing transparency, monitoring, and verification of nuclear arms control.

I am of a strong view that, with the expansion of the European Union and its ever growing status in the world community of nations, a united Europe can play a much more active and productive role in pushing for disarmament - a role that so far has not been on a par with Europe’s capabilities. And this is, certainly, in Russia’s interests.

It was noted at the April 2002 Preparatory Committee to the NPT that the so-called “NATO–5” (Belgium, Germany, Italy, Netherlands, and Norway) struggled to come up with a common position on disarmament—and in the end gave up, although Germany put forward an interesting proposal. It was entitled “Attaining a Nuclear-Free World”, and was a conceptual exploration of the pre-requisites for the complete and permanent elimination of nuclear weapons, focusing on “disaggregated and reliable data exchange, effective verification and non-circumvention”, as well as on enforcement. The idea of data exchange, it should be recalled, was first put forward in 1993 by the then-Foreign Minister Klaus Kinkel who came out with a proposal for a Nuclear Weapons Register. At the Preparatory Committee meeting, Germany also submitted at a paper on confidence-building measures and enhanced security precautions, including reporting by Russia and the U.S. on the implementation of the 1991/92 Presidential Nuclear Initiatives concerning tactical nukes.

In introducing the two working papers, Germany emphasized that “The NPT is no license to perpetuate the status of the nuclear ‘haves’ versus the nuclear ‘have nots’. By way of an incremental approach, declared the German delegation, we must make determined, steady and irreversible progress towards achieving the total elimination of nuclear weapons.”

A joint paper on non-strategic nuclear weapons was also tabled by Finland and Sweden.

Building up a nuclear-weapon-free world would require certain political pre-requisites, but also a system, or systems, of transparency, monitoring, and verification. Disarmament and verification are indivisible.

So far, two European nuclear weapons states—the UK and France—have not yet taken part in negotiations on nuclear disarmament in contravention of their commitments under Article VI of the NPT, having preferred to reduce their nuclear weapons unilaterally. However, unilateral and unverified reductions are not irreversible reductions. And this gives an excuse to China to avoid negotiations on nuclear arms control too.

With Russia and the U.S. continuously working through legally binding agreements towards downsizing their strategic nuclear stocks, it is high time for other nuclear weapons states, both officially recognized and not recognized, to embark on multilateral negotiations with a view to moving in the direction of reduction and eventual elimination of nuclear weapons.

Finally, there is a need to accelerate research and practical application of transparency, monitoring, and verification procedures. The U.S. and Russia have already accumulated a large store of experience in this field—namely with the Intermediate-Range Nuclear Forces Treaty, START–1, the Cooperative Threat Reduction Treaty, the HEU/LUW Agreement, lab-to-lab cooperation, the Trilateral Initiative (U.S./Russia/International Atomic Energy Agency), etc.

Europe is capable of contributing to these efforts. The UK undertook research into verification, and, in 2000, the Atomic Weapons Establishment at Aldermaston produced a very interesting report, Confidence, Security & Verification. It is expected that further reports will follow. France, however, as far as I know, has not yet undertaken any research in this area. Euratom, in my view, can also contribute to such research, within the constraints of Article II of the NPT.

Last, but not the least, I would suggest that the issue of multilateral disarmament should be discussed at the G–8 Summits, perhaps starting with the next one in Evian.
The Bush administration came into office with the clear intention to strengthen US military dominance, including its nuclear dominance, and it has been true to this major policy goal. While the Bush administration views nuclear weapons as central to US security, it has a larger vision of US military dominance as a principal means for serving US national security interests. The administration has shown scant concern for US treaty obligations, particularly in the area of arms control. Most prominently, the administration has disavowed the Anti-Ballistic Missile (ABM) Treaty, arguing it is no longer relevant in a post-Cold War environment. It has also been hostile to the Comprehensive Test Ban Treaty (CTBT) and to US obligations under the Nuclear Non-Proliferation Treaty (NPT). The Bush administration also acted to undermine the protocol to the Biological Weapons Convention that would have provided for verification and enforcement of that treaty.

The US Nuclear Posture Review

The clearest statement of US nuclear policy can be found in the administration’s Nuclear Posture Review Report, a classified document mandated by Congress, which was leaked to the press in March 2002. This report lays out a “New Triad,” composed of offensive strike systems (nuclear and non-nuclear), defenses (active and passive), and a revitalized defense infrastructure to meet emerging threats. The old strategic triad of land-based missiles, sea-based missiles, and long-range bombers now fits into the nuclear branch of the New Triad’s offensive strike systems.

The Nuclear Posture Review states, “Nuclear weapons play a critical role in the defense capabilities of the United States, its allies and friends. They provide credible military options to deter a wide range of threats, including WMD [weapons of mass destruction] and large-scale conventional military force. These nuclear capabilities possess unique properties that give the United States options to hold at risk classes of targets [that are] important strategic and political objectives.” This is an extraordinary admission of the benefits that US leaders attribute to nuclear weapons in US defense policy, benefits that they are clearly reserving for themselves and a small group of other nuclear weapons states.

The report also finds utility in the use of nuclear weapons under certain circumstances: “Nuclear weapons could be employed against targets able to withstand a non-nuclear attack (for example, deep underground bunkers or bio-weapon facilities).” The report further calls for development of contingency plans for the use of nuclear weapons against seven countries: Iraq, Iran, North Korea, Syria, Libya, Russia, and China. As five of these countries are non-nuclear weapons states, the US threat to use nuclear weapons violates the negative security assurances that it gave to the non-nuclear weapons states that are parties to the Nuclear Non-Proliferation Treaty at the time of that NPT’s Review and Extension Conference in 1995.

Bush Policy Goals

As a candidate for President in 2000, Mr. Bush announced that he wanted to reduce the level of strategic nuclear weapons in the US arsenal to the lowest number compatible with US security. Based on military studies, that number was placed at between 1,700 and 2,200 deployed strategic nuclear weapons. According to the Nuclear Posture Review, “Based on current projections, an operationally deployed force of 1,700–2,200 strategic nuclear warheads by 2012 ... will support U.S. deterrence policy to hold at risk what opponents value, including their instruments of political control and military power, and to deny opponents their war aims.”

The upper end of 2,200 strategic nuclear weapons is nearly identical with
the 2,500 strategic nuclear weapons that Presidents Clinton and Yeltsin had agreed upon for START III, when the method of counting is taken into consideration. Under the counting system proposed in the Bush administration's Nuclear Posture Review, the weapons aboard submarines being overhauled are not counted. Even the lower end figure of 1,700 strategic nuclear weapons is above the level of 1,500 (or less) that President Putin had proposed.

As a candidate, Bush also promoted development and deployment of a National Missile Defense to protect the United States against nuclear attacks by so-called rogue states, a proposal that would have been prohibited under the Anti-Ballistic Missile (ABM) Treaty. Upon assuming the presidency, Bush dealt with the impendency of the ABM Treaty by withdrawing from it. He gave the six months’ notice required by the Treaty for withdrawal on December 13, 2001, and US withdrawal became effective on June 13, 2002.

Prior to providing notice of withdrawal from the ABM Treaty, both the Chinese and Russians attempted to dissuade Mr. Bush from taking this step. Chinese officials told the Bush administration that deployment of a US missile defense system would necessitate an increase in the Chinese nuclear arsenal capable of reaching the US in order for China to maintain an effective although minimal deterrent force. The response of the Bush administration was that it had no problem with a build-up of Chinese nuclear forces capable of threatening US territory since the US missile defense system was aimed at ‘rogue’ nations and not at China. Having abandoned the ABM Treaty, Bush has announced plans to deploy the first twenty interceptor missiles in Alaska and California by 2004.

**Strategic Offensive Reductions Treaty**

In Spring 2002, Mr. Bush also reached agreement with President Putin on a Strategic Offensive Reductions Treaty (SORT). The two Presidents signed this treaty in Moscow on May 24, 2002. In the treaty, the two governments agreed to reduce the actively deployed strategic nuclear weapons on each side to Bush’s preferred numbers, as set forth in the US Nuclear Posture Review, of between 1,700 and 2,200 by the year 2012. The treaty made no provisions for interim reductions, and thus, despite SORT, it remains possible for either or both sides to actually increase the size of their arsenal between the inception of the treaty and 2012, so long as the reductions to the agreed numbers occur by 2012. The treaty is also set to terminate, unless extended, in 2012.

The treaty also made no provision for the nuclear warheads that were removed from active deployment. The US has announced that it intends to put many or most of these warheads into storage in a reserve status, where they will remain available to be reintroduced to active deployment should this decision be taken in the future. Presumably Russia will follow the US lead on this, thus making many of its strategic nuclear weapons more prone to theft by criminal organizations, including terrorists.

The Strategic Offensive Reduction Treaty was announced with considerable fanfare. It gave the public a sense of progress toward nuclear disarmament, when in fact it was far more of a public relations effort than an actual arms reduction treaty. Although it did provide for removing several thousand nuclear weapons on both sides from active deployment, and in this sense it was a de-alerting measure, it did not make these reductions irreversible as agreed to by the parties to the Nuclear Non-Proliferation Treaty at the 2000 NPT Review Conference.

**US Strategy to Combat Weapons of Mass Destruction**

In December 2002, the Bush administration released a document entitled *National Strategy to Combat Weapons of Mass Destruction*. The document recognized the dangers of the “massive harm” that weapons of mass destruction could inflict upon the United States, its military forces, and its friends and allies. “We will not permit,” the document stated, “the world’s most dangerous regimes and terrorists to threaten us with the world’s most destructive weapons."

In setting forth its plan to deal with weapons of mass destruction, the document made the threat to counter such weapons with “overwhelming force—including through resort to all of our options.” Such statements by the Bush administration must be provocative to other countries and suggest that the US reserves to itself the right to use its own weapons of mass destruction, including nuclear weapons, as it deems appropriate.

**Failure to Lead toward Nuclear Disarmament**

The Bush administration's nuclear policies have not been favorable to nuclear disarmament. Many of its policies have been contrary to the 13 practical steps for nuclear disarmament set forth in the Final Document of the 2000 NPT Review Conference. Not only has the Bush administration withdrawn from the ABM Treaty, the President has made it clear that he does not intend to send the Comprehensive Test Ban Treaty back to the Senate for ratification. His administration has given indications that it wishes to shorten the time needed to resume underground nuclear testing, and is developing more usable nuclear weapons and contingency plans for their use.

In sum, the Bush administration is not taking seriously, nor attempting to fulfill, US obligations for nuclear disarmament under Article VI of the NPT. Nor has it shown good faith in fulfilling the 2000 NPT Review Conference’s 13 practical steps for nuclear disarmament, including pursuing the promised “unequivocal undertaking by the nuclear weapons states to accomplish the total elimination of their nuclear arsenals.” And without US leadership to achieve the abolition of nuclear weapons, there is not likely to be significant progress.

**The Role of the Anti-Nuclear Movement**

The effectiveness of the anti-nuclear movement in reaching the US public and policy makers has diminished during the Bush administration. While the promise of this movement seemed bright in the immediate aftermath of the Cold War, this promise has not been realized and at the moment is receding. In part, this is because the ideologues in the Bush administration are not receptive to proposals, no matter how reasonable, to reduce nuclear arsenals or even nuclear risks. Another factor in the diminished effectiveness of the US anti-nuclear movement is that the issues of terrorism and war have moved to the forefront and taken precedence over
nuclear weapons issues in the aftermath of the September 11, 2001, terrorist attacks on the US.

In the aftermath of September 11th, public receptivity to challenging Bush's nuclear policies became highly restricted. The concern and fear generated by the terrorist attacks created a greater willingness to use force for protection of the US civilian population and foreclosed possibilities for public consideration of any reductions in armaments, nuclear or conventional, other than those proposed from above, such as the SORT agreement. The attacks also strengthened Bush's position of leadership in the US, a fact that was reconfirmed in the 2002 US elections. However, Bush's overreaching in attempting to proceed to war against Iraq has begun to erode his high level of public support in the US and has seriously undermined his credibility abroad.

One challenge to the Bush administration's defense policy was mounted by 32 members of Congress, led by Dennis Kucinich (D-Ohio). Kucinich and his fellow members of Congress challenged in federal court the President's authority under the Constitution to withdraw from the Anti-Ballistic Missile Treaty without congressional approval. The lawsuit was based on the theory that the Senate must ratify a treaty for it to enter into force, and that once it does enter into force the treaty becomes the "supreme Law of the Land" under Article 6(2) of the Constitution. The congressional challengers argued that once a treaty becomes law under Article 6(2), it is not within the President's unilateral authority to terminate that law and that the President must seek congressional approval before acting to terminate a treaty. The federal court that heard the case dismissed the plaintiffs for lack of standing, arguing that the issue was a political question that Congress needed to address as a whole.

Many important proposals from non-governmental organizations, including ratification of the Comprehensive Test Ban Treaty, agreement on a Fissile Material Cut-off Treaty, and de-alerting of the deployed nuclear arsenal, were simply taken off the table as the administration focused its efforts on rooting out terrorists, the war in Afghanistan, and its threat of war against Iraq. But, while the anti-nuclear movement in the US has receded, the peace movement in the US and throughout the world has grown in response to the Bush administration's build-up for war against Iraq.

**Global Dangers**

Throughout the world nuclear dangers are increasing. In South Asia, India and Pakistan continue to posture and threaten each other with their nuclear forces. These two countries continue their periodic outbreaks of violence in their long-standing dispute over Kashmir. In Northeast Asia, on the volatile Korean peninsula, North Korea, according to the CIA, may have developed a few nuclear weapons. North Korean representatives have admitted to enriching uranium, which may be used to develop nuclear weapons, and have taken a series of other provocative steps toward nuclear weapons proliferation, including withdrawing from the Non-Proliferation Treaty and once again beginning to reprocess spent nuclear fuel. It is reported that North Korea has sufficient spent nuclear fuel on hand to extract plutonium for up to six nuclear weapons in a six-month period.

In the Middle East, the Israeli nuclear arsenal of some 200 nuclear weapons and sophisticated delivery systems, including submarines, continues to provoke attempts by other countries in the region, including Iraq, Syria, and Saudi Arabia, to develop or acquire their own nuclear arsenals. The security of the Russian nuclear arsenal cannot be guaranteed, and the US is developing more usable nuclear weapons and contingency plans to use them. Should terrorists succeed in obtaining nuclear weapons, anything could happen. These alarming circumstances create an incendiary set of conditions that could explode suddenly and without warning into nuclear holocaust. US policies under the Bush administration are adding fuel to these incendiary conditions.

The likelihood that nuclear weapons will be used in the next five to ten years is greater today than at any time since the end of World War II. Yet, at the present moment, the world seems to be preoccupied with other issues, while critical issues of nuclear control and disarmament are removed from the public mind and agenda. Rather than distracting the world from nuclear disarmament, the increasingly grave threats of terrorism should be providing additional impetus for fulfilling the already well-established obligations to achieve complete nuclear disarmament.
It should also give us pause to consider the relationship of nuclear weapons to terrorism. In the end, nuclear weapons may serve the poor and disenfranchised better than they serve the rich and powerful. The rich and powerful countries have far more to lose, and their cities are extremely vulnerable to nuclear, radiological, chemical, or biological terrorism. In a more rational world, such considerations would lead the most powerful nuclear weapons states to act in their own interests by leading the world toward nuclear disarmament. Alas, this lesson has yet to be grasped by leaders in the United States and other powerful nations. In the meantime, it is these powerful nations that threaten the use of nuclear weapons, and this must be seen by objective viewers to constitute its own form of terrorism.

An active and effective nuclear disarmament movement has never been more needed. Our best hope is that this movement will re-emerge with renewed energy and spirit from the anti-war activities in the US and throughout the world. It is extremely important now that the nuclear implications of the current global crisis not be lost on the anti-war movement, nor on the citizens of the world’s most powerful nations. The failure to make these connections and to act upon them could result in tragedies beyond our greatest fears.

Lessons from Various Arms Control Regimes

Roland Timerbaev

Over more than thirty years, the international community has accumulated a rich and diverse store of experience in applying collective institutionalized methods for limiting the spread of nuclear weapons. They include the Nuclear Non-Proliferation Treaty (NPT), the International Atomic Energy Agency (IAEA) system of safeguards, the Nuclear Suppliers Group, the Zangger Committee, and a recent acquisition—the IAEA Additional Protocol. These regimes, which provide for widespread transparency and verification, have laid down a solid groundwork for further steps leading to verifiable reductions and eventual elimination of nuclear weapons and their means of delivery.

One should not overlook the fact that if and when the nuclear weapons states, both officially recognized and de facto, would be ready to do away completely with nuclear weapons, the problem of nuclear non-proliferation would not disappear since nuclear materials, technology, and know-how are to stay with us forever. It is, therefore, not accidental that in 1995, the parties to the NPT were wise enough to extend this treaty indefinitely.

The existing international nuclear non-proliferation regime, while overall successful in constraining the dissemination of nuclear weapons, is by no means perfect. It needs continuous and persistent improvement and upgrading. As nuclear technologies become more sophisticated, so methods of preventing the diversion of nuclear materials from peaceful uses to nuclear weapons or other nuclear explosive devices should not lag behind, and should be concurrent with this endless process.

The most immediate task is to widen accession to the IAEA Additional Protocol by states, especially those that conduct significant nuclear activities. As of now, only 64 states have signed the protocol and 28 have ratified it. The U.S., Russia, and European Union members have not yet done so. Another needed step is the accession to, or association with, the Nuclear Supplier Group’s Guidelines for Nuclear Transfers by those states that are current, or potential, suppliers of nuclear materials, equipment, or technologies. Of special importance in this respect are such countries as China, India, Pakistan, and Israel, which are not members of the Nuclear Supplier Group.

Notable progress has also been achieved in setting up regional systems of transparency and verification in the framework of Euratom, the Treaties of Tlatelolco, Rarotonga, Bangkok, and Pelindaba, as well as the Argentine-Brazilian Agency for Accounting and Control of Nuclear Materials. It is highly meaningful that these systems work hand-in-hand with the universal safeguards system of the IAEA.

While welcoming the recent achievement of full implementation of the Treaty of Tlatelolco (owing to its ratification by Cuba), one has to admit that the process of entering into force of some of the above Nuclear-Weapons-Free Zones, and the establishment of new ones, has recently slowed down. The international community is awaiting the speeding up of the entry into force of those treaties, as well as the finalization of negotiations on a new agreement that would set up a Nuclear-Weapons-Free Zone in Central Asia.

In other areas of nuclear arms control, serious achievements in the development of transparency, confidence-building, and verification methods have also been made.

The Intermediate-Range Nuclear Forces (INF) Treaty of 1987, and the START–I Treaty on the reduction of strategic nuclear arms of 1991 have opened yet another page in setting up highly sophisticated and, whenever necessary, intrusive systems of arms control verification. The INF Treaty, which is of indefinite duration, was fully implemented by the end of May 2001. This treaty is largely centered on verifying the elimination of launchers and the means of delivery for nuclear warheads. In addition, it provides for radiation control in certain cases, such as during the utilization of mobile launchers, which were originally designed for missiles now destined for elimination (namely the three-warhead SS–20s), with one warhead SS–25s. Verification was achieved by the use of radiation sources in accordance with mutually agreed procedures.
The implementation of the START–I Treaty, which was completed in December 2001, is also based on an extremely comprehensive system of diverse transparency, confidence-building, and verification procedures, including radiation control. These provisions are to be applied to the new Russia-U.S. Moscow Treaty for strategic reductions (the Strategic Offensives Reductions Treaty of May 2002), at least until December 2009, when the START Treaty is to expire. Hopefully, verification of the Moscow Treaty, which was concluded for a duration of ten years, will be continued to extend respective compliance provisions of the START Treaty, or by superseding it with a new treaty which provides for more radical reductions and, accordingly, more comprehensive verification procedures.

The Comprehensive Test Ban Treaty also contains an exceptionally sweeping system of verification of compliance. Its fundamental component, the International Monitoring System, which comprises over 300 seismological, radionuclide, infrasound, and hydroacoustic stations, would be the only system with the potential ability to operate in a provisional mode even if the treaty does not enter into force by the time this system becomes functional. The monitoring system is being progressively installed throughout the world by the Preparatory Commission for the Comprehensive Test Ban Treaty Organization, with the effective assistance of its Provisional Technical Secretariat. It is expected that the International Monitoring System could become operative by 2006 or 2007.

Transparency and Monitoring

Over the last decade, Russia and the United States have gathered immense experience in the practical application of transparency and monitoring (some call it “natural transparency”), which has occurred as Russia and the U.S. work closer together on the disposition of excess weapon-origin fissile materials, as well as on many other industrial, scientific, and technological projects, including joint exploration of outer space.

A good example is the ongoing implementation of the Cooperative Threat Reduction (Nunn-Lugar) Program, which is now being expanded under the $20 billion Global Partnership Against the Spread of Weapons and Materials of Mass Destruction program ("10 Plus 10 Over 10"), agreed to by the G–8 Summit in June 2002 in Kananaskis (Canada). Contributions to the amount of up to $18 billion have already been announced, with Russia's forthcoming contribution of $2 billion second in size only to the United States. According to the official spokesman of the Russian Ministry of Foreign Affairs, the rough amounts of financing for the Global Partnership up to year 2012 are (in billions of US dollars): U.S.—10.00, Russia—2.00, UK—0.75, Canada—0.65, Japan—0.20; (in billions of euros) Germany—1.50, Italy—1.00, France—0.75, and the European Union—1.00.

Lab-to-lab cooperation under the U.S.-Russia Warhead Safety and Security Exchange Agreement is yet another illustration of the efforts pursued by both sides to promote the study, in-depth research, and transparency of complex technical issues associated with nuclear weapons monitoring and verification. Progress in this area, however, has been slow and should be significantly accelerated.

Transparency and verification are important features of the U.S.-Russian agreement for the purchase of low enriched uranium (LEU) diluted from 500 tons of Russian weapon-origin highly enriched uranium, and of the bilateral agreement concerning the management and disposition of plutonium designated as no longer required for defense purposes. As of January, 2003, up to 170 tons of highly enriched uranium (HEU) had been diluted and shipped to the U.S.

It was announced in Vienna in September 2002 that the so called Trilateral Initiative providing for the verification by the IAEA of weapon-origin fissile material in Russia and the United States had been largely fulfilled. The Ministers of the two states and the Director General of the Agency recognized the value of the groundbreaking work that has been completed over the last six years and directed technical experts to begin work on future cooperation in implementing agreed arrangements within the trilateral format. The proposed verification process to be used by the Agency will be based on a system of “information barriers”, designed to allow IAEA inspectors to derive sufficient information to make the verification credible and independent, while preventing access to classified information, in keeping with the obligations under Article I of the NPT.

One should also note an important contribution, leading to transparency and monitoring of nuclear arms control, by the Moscow-based International Science and Technology Center, which is conducting a two-year project on transparency of nuclear weapons reductions with the active participation of Russian experts from Sarov and Snezhinsk—two major Russian federal nuclear laboratories. The project is to be completed by June 2003. Meaningful work in this field is also being pursued by the Program on Science and Global Security of Princeton University's Woodrow Wilson School of Public and International Security Affairs, in cooperation with experts from the U.S. national nuclear laboratories.

And last, but certainly not least, the overarching authority in matters of transparency and verification belongs to the UN Security Council, which, under the UN Charter, bears “primary responsibility for the maintenance of international peace and security”. In accordance with the Summit Declaration adopted by the Security Council on January 31, 1992, the proliferation of all weapons of mass destruction constitutes a threat to international peace and security.

In practice, the Security Council has already used its authority in the above matters, in particularly by establishing the United Nations Special Commission (UNSCOM) and the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) to deal with the problem of disarming Iraq of weapons of mass destruction.

Further progress in exploring and promoting transparency, confidence-building, and verification methods for nuclear non-proliferation and nuclear disarmament would depend not only on the efforts of the two major nuclear weapons states, but also on the active involvement in this process of other nuclear weapons states. Beyond any doubt, this is a task and responsibility of enormous international significance.

An incipient and encouraging work in this area has been undertaken in the United Kingdom. In 2000, the UK Atomic Weapons Establishment at Aldermaston produced a study entitled Confidence, Security & Verification. Let us hope that this research, which is of significant interest to many states, will be continued. It is highly desirable that other
NWS, in particular France, and other European countries, within the constraints of the NPT, would join this very complex but essential effort.

**Active Role for Europe**

In general, Europe could play a much more active and dynamic role in leading the world towards abolishing nuclear weapons and their means of delivery. With the growing strengthening of all-European institutions, including common or coordinated foreign policy affairs and defense cooperation, Europe could definitely aim at becoming one of the principal actors in promoting transparency, confidence-building, and the monitoring of nuclear arms reductions and their eventual elimination.

The European continent, which has been the main arena of two fatal world wars, bears an unavoidable responsibility to be among the world leaders in the global effort to do away with the weapons that are capable of bringing doom to modern civilization.

The extensive experience gained over the years in different spheres of arms control, as well as the current atmosphere of growing trust in politico-military relations between former Cold War adversaries—in particular, against the backdrop of the common struggle against international terrorism—creates new perspectives for advancing transparency and confidence-building in dealing with challenges presented by the potential militarization of outer space.

Last June, Russia, in cooperation with a number of other countries, submitted to the Geneva Conference on Disarmament (CD) a working paper containing Possible Elements for a Future International Legal Agreement on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects. The basic obligations would require from States Party not to place in orbit around the Earth any objects carrying any kinds of weapons; not to resort to the threat or use of force against outer space objects; and not to assist, or encourage, other states to participate in prohibited activities.

The working paper suggested certain confidence-building measures that would require States Party to announce their outer space programs, to declare launching sites and the dimensions of areas of launching, to inform about owners and parameters of objects to be launched into outer space, and to report their launching activities. The paper also suggested the establishment of an international executive organization that would oversee the implementation of the proposed agreement, including arranging consultations in cases of suspicions of non-compliance with the terms of the agreement, and undertaking necessary measures for cessation of non-compliance by any State Party.

While strongly supporting the initiation of negotiations on outer space in a CD ad hoc committee on the basis of a negotiating mandate agreed upon a few years ago, Russia, unlike some other members of the CD, does not seek to link negotiations on outer space with the negotiations of the Fissile Materials Cut-off Treaty that it considers of great significance on its own merits. There have been reports that China might no longer insist on immediate outer space negotiations and would settle for less formal discussion of this issue. That, however, has yet to be seen when the CD meets again.

As to a suggestion of adopting an integrated approach for future disarmament negotiations, this, in my view, would be counterproductive, at least at present. When future negotiations on various disarmament issues prepare the appropriate groundwork for undertaking the ambitious task of reaching a comprehensive disarmament agreement, then it might be advisable to consider a more integrated approach to negotiations.

There have been many complaints in different quarters about the ineffectiveness of the 66-member Conference on Disarmament—the single multilateral disarmament negotiating forum established by agreement and approved by the UN General Assembly in 1978, which functions by consensus. Though it has been deadlocked for the last few years, in the past it produced a number of important international agreements, including the Chemical Weapons Convention and the Comprehensive Test Ban Treaty. It is hardly possible now to renegotiate its composition and rules of procedure. Any attempt to change the forum may, in my view, be doomed to failure. The success of the CD depends on the political will of member states rather than on its format and procedure. This, however, does not preclude the setting up in the framework of the CD of auxiliary negotiating bodies of limited membership, as was suggested by some experts.

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PIR is the acronym for the Russian words Policy Studies in Russia. The PIR Center is a non-profit, independent, Moscow-based research and public education organization, which was founded in April 1994. The Center is currently focused on international security, arms control, and nonproliferation issues that are directly related to Russia’s internal situation.

That the PIR Center is a Russian NGO is important, because it avoids the current tension between Russian officials and foreign non-governmental organizations conducting research and working on international security issues related to Russia.
Missile Norms in a Changing World

The Road Ahead

Randy Rydell

Options for dealing with long-range missiles or space weapons—regardless of whether the goal is to regulate, to eliminate, or to prohibit such weapons—are constrained by many conditions. Some are national in scope and some are global. Decisions to create or to implement such options are shaped by historical circumstance, by economic and bureaucratic interest, by pressures from public opinion (as expressed through the activities of legislatures and interest groups), and numerous other factors, both technical and political. This is especially true with respect to efforts to deal with threats arising from missiles and space weapons, including efforts by non-governmental organizations (NGOs) and the United Nations. The history of arms control and disarmament efforts in these areas also affects the selection of negotiating fora. The following remarks address these specific issues.

The launching of Sputnik in 1957 triggered a "missile gap" debate in the political struggle leading to the US presidential election of 1960. Did the Soviet Union really have more missiles than the US, or was it the other way around? While the existence of this "gap" was later determined to have been imaginary, there is in 2003 another missile gap that is all too real. The evidence for "Missile Gap II" is not found in merely counting relative stockpiles of missiles. It is seen instead in the growing gap between rapidly-evolving international missile capabilities and the paucity of global norms to deal with the threats these capabilities pose to international peace and security. By all indications, this second missile gap is far more dangerous and real than the first.

The Historical Discontinuity of Missile Controls

Missile Gap II represents a historical incontinuity in many respects. First, it runs contrary to the historical evolution of efforts to strengthen the humanitarian laws of war, especially the efforts over generations to protect civilians from military attack. Long-range missiles, even highly accurate ones, entail serious risks to civilian populations. Because of their expense and limited number, such systems are typically reserved for purposes of delivering "weapons of mass destruction" (WMD). Yes, ICBMs can be used to deliver conventional warheads, but the fact remains that the overwhelming purpose of such missiles is to deliver WMD—weapons that inherently jeopardize civilians. Second, the world has been trying over the last century at least, to improve the transparency of weapons stockpiles. After the First World War, the Secretariat of the League of Nations diligently gathered data on the weapons holdings of its member states and published these data in its annual Armaments Yearbook. It similarly compiled details about military spending, which it published separately. While the UN today performs similar functions (by publishing its Disarmament Yearbook, its Register of Conventional Arms, and its compilation of data supplied to the UN pursuant to the Standardized Instrument for Reporting Military Expenditures)—missiles remain a glaring omission from the scope of this effort. The third historical discontinuity relates to verification: while the history of arms control is replete with efforts to limit the production, sale, or use of various weapons systems, there remains no global system for verifying commitments made with respect to missiles. Worse yet, there are no binding multilateral legal norms with respect to such weapons.

How have long-range missiles—weapons that UN scholar Inis Claude once called "infernal combustion engines!"—escaped the application of binding international norms? While there are many possible explanations, the most likely explanation for the failure of the "rule of law" in this field lies in a combination of factors, including: nationalism, greed, bureaucratic inertia, the lure of technological opportunities, public ignorance or apathy, secrecy, and the imperatives of military planning. For some states, missiles represent a crowning achievement in technical excellence—a source of great pride and a symbol of national strength. Many vested interests benefit handsomely from their continued development, production, and even use: weapons labs, specialized suppliers of equipment and materials, offices in government bureaucracy, constituencies of members in legislative bodies, think tanks and universities that hire themselves out for missile research projects, allies that import missiles and their related paraphernalia, and other such constituencies. The entertainment industry—books, television, and the cinema—helps to give missiles and space weapons a certain romantic cachet as well. Hence the emergence of a "missile industrial/entertainment complex," which helps to sustain the push for missiles (or more missiles) and the emergence one day of space weapons.

Similar political conditions of course, also shape policies vis-à-vis various WMD, yet there nonetheless exists a Chemical Weapons Convention (CWC) and a Biological Weapons Convention (BWC), as well as a near-universal commitment to global nuclear disarmament in the Nuclear Non-Proliferation Treaty (NPT). With respect to these weapons, however, the mass public has a far deeper appreciation of their horrific effects—it recognizes that the threat from missiles derives from their special warheads. The recent wave of concern in the United States about the missile threat from so-called "rogue states" arguably derives less from the missiles per se than from the deadly payloads they might someday deliver.

One sign of the lesser public concern with missiles is the weaker sanctions that exist in US laws (and no doubt other countries) for export control violations involving missiles relative to violations involving items related more directly to WMD. On an international plane, the total absence of binding multilateral
norms for the production, sale, testing, or use of missiles is further evidence of the absence of an international norm against such weapons per se.

Though strategic missiles have existed for over a half-century — and recognizing that the NPT (which entered into force in 1970) included in its Preamble the goal of eliminating all nuclear-weapon delivery systems — efforts to regulate their export did not really get underway on a global scale until 1987, when a group of missile supplier states met and created the Missile Technology Control Regime (MTCR). Not surprisingly, this first effort had many shortcomings: it adopted a purely regulatory orientation and did not require the elimination of a single missile; it was far from universal in membership (though it did represent a large proportion of missile suppliers); it was totally voluntary (or what some charitably or euphemistically call “politically binding”); it lacked a verification system; it lacked important transparency measures (like any requirement to disclose data on export license approvals either to other members or to the public); and it had no enforcement system to ensure compliance or to impose sanctions for violations.

The MTCR was never intended as a club for disarmament—at best, it amounted to a grudging recognition by the world community of the need for global standards; at worst, however, the standards could be seen as permissive. To the extent that the MTCR legitimated continued missile possession, development, sale, testing, and use, it lost hope of linkage with disarmament and became in effect a gentleman’s agreement on how to regularize missile competition.

Despite its many crippling shortcomings, however, the regime undeniably marked a step forward in the development of some rudimentary global norms for missiles. It did lead to the harmonization of export control standards in many of the world’s most significant missile exporters. It clarified some important missile-control definitions and standards. It led to regular consultations on missile issues and to some limited information sharing (e.g. on certain threats and export license denials). And it contributed modestly to the development of a bureaucratic subculture of missile control inside the participating governments, thereby indirectly sowing the seeds of a new constituency for the control—rather than the military exploitation—of missile technology.

To this extent, the MTCR marks an important stage in the development of global norms—an evolutionary stage somewhat equivalent to the leap from the Stone Age of no norms at all, to the Iron Age of nascent (though non-binding) norms applicable to some, but still not fully global in the scope of their adherents. Yet the adequacy of Iron Age controls in our globalized Information Age is obviously suspect.

On 15 April 1999, Secretary-General Kofi Annan issued a brief, one-paragraph statement that called the attention of the world community to the lack of global multilateral norms for missiles. Later that year, Iran introduced a resolution on missiles in the UN General Assembly, which the Assembly later adopted, albeit by a sharply divided vote. The resolution requested the Secretary-General to assemble an experts group to address “missiles in all its aspects.” In 2002, the Secretary-General submitted the completed report to the General Assembly—the report, while lacking both in substantive depth or recommendations, was remarkable mainly for its very existence, given that the countries from which the experts were chosen represented virtually all the major missile possessing states. In 2002, the deeply-divided General Assembly adopted another resolution on missiles that requested another experts group, to report in 2004.

Efforts to ban weapons from space have only met with partial success, as is best represented in the entry into force of the Outer Space Treaty, which prohibited the orbiting of any WMD. The treaty marked a significant but very limited step forward—limited, because of its lack of universal membership, its lack of a verification system, and perhaps most seriously of all, its failure to prohibit explicitly the basing in space of weapons other than WMD. Space control efforts have also been frustrated by the prolonged stalemate in the Conference on Disarmament in Geneva—the world’s single multilateral negotiating forum—over the negotiation of a treaty to prevent an arms race in outer space (PAROS), specifically to ban all weapons from space.

Today, many of the traditional problems of missile control remain. Transparency remains more the exception than the rule, as some states have even enacted laws prohibiting the public disclosure of export licensing data (e.g., section 12(c) of the U.S. Export Administration Act of 1979). Such practices of “statutory opacity” are accompanied by the customary practice in the MTCR of not sharing data on export license approvals. Thus neither the members of this regime nor the general public has a comprehensive picture of the existing world market for missiles and related components and technology. Such enforced ignorance does not help the process of building global multilateral norms—it sets back hopes for holding states accountable for their missile non-proliferation obligations; it frustrates the process of assessing the effectiveness of the MTCR and national export control regimes; it denies information that would be useful to researchers, academics, and arms control NGOs in analyzing missile-related security issues; and it serves to protect companies against potentially embarrassing exports. There are extreme limitations on the data that are shared even within the MTCR—these data are typically fragmented rather than comprehensive in scope, often not circulated on a timely basis, not standardized in format, not verifiable, not mandatory, and not provided to any formal institution or official database.

The lack of export licensing data on missiles is very troublesome, for in frustrating the conduct of independent research, it opens the door for published reports and official policies that are not based on empirical facts. Greater transparency would help enormously in determining whether missile proliferation is in fact growing, or whether the specter of its growth is being used as a rationalization for other purposes, such as missile defence and the alleged need for space weapons.

Similarly, the lack of multilateral verification measures is not conducive to the development of global norms for missiles. Among the available models of verification systems for missiles are several that are either bilateral in origin (e.g. the Intermediate Forces Treaty and START I) or regional or subregional in focus (e.g. the Brazilian/Argentine nuclear inspection regime). The verification method adopted in the recently-concluded Strategic Offensive Reductions Treaty (SORT)—a treaty that did not require the
Missile Norms in a Changing World

The Growth of Global Norms for Missiles and Space Weapons

There are three basic types of norms that can exist on a global scale in this field: regulatory, exclusionary, and prohibitive norms. Regulatory norms accept the existence of a given weapon system but seek to limit its numbers, use, or qualitative characteristics. Such regulatory norms can be developed as a result of national or multilateral initiatives—Russia’s “Global Control System,” the MTCR, and the recent International Code of Conduct—for missiles all illustrate the regulatory approach. Exclusionary norms ban the deployment of a given weapon in a certain geographical area or in space. While there are no regional missile-free zones, the Antarctic Treaty indirectly prohibits (through its “peaceful purposes” norm) the deployment of missiles on that entire continent. Until the US withdrawal, the ABM Treaty contained a number of exclusionary constraints (both qualitative and geographical) on the missile defence capabilities of the Soviet Union (later Russia) and the USA. National export controls that selectively deny sales to so-called “rogue states” while promoting them elsewhere are another variant of the exclusionary approach. Prohibitive norms ban the development or possession of a given weapon per se. If it had entered into force, START II would also have prohibited the US and Russia from deploying ICBMs with multiple warheads, while eliminating heavy ICBMs. The INF Treaty prohibited the development or deployment of intermediate-range nuclear missiles. As of early 2003, the world remains bereft of prohibitive norms that are both binding and global in scope with respect to missiles.

It is apparent that today most of the norms for missiles, to the extent they exist at all, are permissive, regulatory, and non-binding. The prescription for closing Missile Gap II involves substantial movement toward the construction of multilateral regimes that are more exclusionary and prohibitive in orientation, and binding in law. Closing this gap—while focusing regulatory schemes on less destabilizing conventional weapons—will require substantial integration of international efforts, particularly in the areas of improvements in transparency and verification, for states will not likely relinquish missile options unless they are fully assured against cheating by their fraternal partners in the regimes or against surreptitious developments by non-members. Such security does not come easy: it requires multilateral cooperation, the relinquishing of unilateral freedom of action, high confidence in the reliability of control systems, the existence of a dispute-resolution mechanism, and the preservation of the inherent right to self-defence should the controls fail to achieve their stated objectives.

The Tactics of Closing Missile Gap II

Just as a simple typology can be useful for understanding different types of global norms, so too can a typology help in charting courses of action to establish, maintain, and adapt such norms to changing conditions.

Elite-Driven Model

To some extent, it does indeed take a “rocket scientist” to control rockets—the challenge involves taming the use of some very complex technology. In the division of labor within society, average citizens have neither the time nor the inclination to focus much time on missile control efforts. At best, they try to keep informed about relevant issues that might affect them and their fellow citizens, and they may decide to vote for or to oppose political candidates based on their views on arms control and disarmament issues. The key decisions, however, about technological and policy options tend to be made by a very small number of people, which typically include a national political leader and a coterie of nameless and faceless assistants, many of whom were never elected to any public office, and who often reach key decisions in secret. In such circumstances, accountability is weakened and is effectively driven by the flow of events—the weapons accumulation process continues until countervailing forces like wars, arms races, funding fatigue, opportunity costs, and other constraints limit the freedom of elites to drive events.

Elites, of course, can just as well promote creditworthy disarmament and arms control ventures. The fate of the ABM Treaty is a good case in point: its original midwives were a small number of defence intellectuals who recognized the wisdom of avoiding the arms races that would likely follow from unconstrained deployment of highly-capable missile defences. Yet its death was also due to the labours of another small group of defense intellectuals who saw little security in arms control relative to the alleged merits of deploying weapons systems without international constraints. To this day, very few members of the American public—or even its elected representatives—fully understand why the US once chose “not to defend itself” against strategic ballistic missile attacks from Russia. In terms of substantive policy, therefore, the Elite Model is value-free—translated into the fate of the ABM Treaty: what some elites created, other elites destroyed.

Social Mobilization Model

Elites, however, are not the only actors responsible for creating arms control and disarmament norms. “Informed publics” and mass public opinion have often had a substantial effect upon the evolution of such norms. The Limited Nuclear Test Ban Treaty—which prohibited its parties from conducting nuclear tests in outer space, the atmosphere, and in the oceans—emerged after studies described the effects of past atmospheric nuclear testing upon the environment and human health. These studies inspired significant, broad-based political action in support of a ban on such tests. Another treaty that resulted from sustained efforts from civil society was the Mine Ban Convention; thanks to these efforts, the International Committee to Ban Landmines received the Nobel Peace Prize.

Non-governmental organizations (NGOs) have a particularly important role to play in the social mobilization model. They gather information, they help to educate the public, they can influ-
ence the news media, they can shape research agendas, they can enhance the quality of oversight and accountability in the public sector, they can promote coalition-building among diverse groups, and they can potentially force national political parties to pay attention and even change their agendas.

There are enormous barriers, however, to extending the social mobilization model to other spheres of arms control, including missiles. To many in the public, missile threats suggest the need for defensive measures, not disarmament. There is a popular perception both inside and outside of government that missiles are “normal” components of a national defence capability. Another common perception is that it is unrealistic to seek to eliminate missiles, since the “genie is out of the bottle,” “missiles cannot be dis-invented,” and other such assertions. Just as many citizens and their leaders view missiles as a source of national pride, so too to many such observers see missile-defence schemes in a similar light. The inherent dangers of missile-defence schemes—like generating arms races, aggravating proliferation threats, squandering public funds, and stimulating never-ending qualitative improvements in missile capabilities—are based on logical and intellectual arguments, while missile-defence advocates have succeeded in appealing more to popular fears, nationalism, and emotional responses (“don’t leave us defenseless”).

The other great handicap facing the NGOs is what might be called “Missile Gap III”—namely, the gulf between the huge sums being spent to develop, produce, and test missiles versus the paltry funds available for promoting a missile disarmament agenda. Such funds that are available from private foundations are in danger of further decline across a full gamut of arms control and disarmament issues.14

Yet to the extent that WMD disarmament efforts succeed in capturing the public imagination, it is not at all inconceivable that the public (both the informed publics and the public at large) may yet come to embrace missile disarmament as a desirable means to enhance security interests. The elimination of long-range missile capabilities would be a significant confidence-building measure in implementing any global WMD disarmament scheme. Eliminating missiles will not prevent all future WMD threats, but it would substantially reduce these threats, while saving the taxpayers a lot of money.

Hybrid Models

Elite-driven activism and social mobilization efforts can work in tandem. The mass public outrage over the human and environmental costs of atmospheric nuclear testing, for example, owed a lot to credible reports by scientific elites. Weapons threats can be confronted by ad hoc coalitions involving both elites and other interested groups in civil society. Rebecca Johnson has, in this respect, called for collective action on behalf of a ban on space weapons, through the creation of a coalition consisting of the commercial space and communications industry (whose business would be jeopardized by the testing or use of space weapons), non-governmental organizations, and concerned states.15 Proposals such as these seek to make public use of the private interest. The ability of such proposals to succeed must, however, ultimately depend upon some capacity to reach the mass public, especially if the goal is to affect national legislation. Hybrid models should, therefore, include some role for political parties, the largest organizations in society that are capable of integrating diverse interests and advancing new agendas on the national political scene.

While the United Nations has potential roles to play in all three forms of mobilization, its role is necessarily constrained by the wishes of its member states. Yet when its member states, or a substantial segment thereof, decides upon a particular course in disarmament or arms control, the UN does have some greater potential to play a positive role in fostering the growth and strengthening of global norms. It can collect, analyze, and publish data on common threats. It plays a role in promoting debate and deliberation of alternative options for coping with these threats; this is a raison d’être of the UN Disarmament Commission and the First Committee of the General Assembly. It has an important function in “collective legitimization”—either by withholding its “seal of approval” for various arms control initiatives that fail to represent truly global norms, or by confirming the authenticity of such initiatives in advancing such norms. Ultimately, when the new norms appear to have sufficient support, the Conference on Disarmament can consolidate them into binding international legal obligations.

Conclusion

Through a judicious combination of science, technology, and politics — the potential for improvements in international peace and security are potentially limitless. Yet science, technology, and politics are also capable of destroying arms control regimes, aggrandizing arms races, raising the risks of war, and at worst destroying the planet. Ultimately, the public — through its votes and money — will have the final say on how these tools are used, and to what ends. Continued efforts by groups like INESAP to engage both elites and the mass public are needed to ensure that old norms are preserved and strengthened, as new norms emerge to address common security challenges.

Randy Rydell

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2 SG/SM/6060, 15 April 1999.
3 UN General Assembly Resolution 54/54 F. 1 December 1999, by a vote of 94–0–65.
7 For a further discussion of these models, see Randy Rydell, Models for Missile Disarmament, INESAP Information Bulletin, Issue No. 19, March 2002, p. 66-71.
8 For further information about the Argentine/Brazilian nuclear inspection regime, see www.abacc.org.
Pros and Cons of the MTCR, and Efforts to Move Forward

Mark Smith

Fifteen years after it was set up, the Missile Technology Control Regime (MTCR) remains the only multilateral instrument for addressing the challenges posed by missile proliferation. It has continued to function despite growing international concern over the slow but apparently inexorable development of some missile programmes in highly volatile regions of the world, culminating in the great shock of the North Korean Taepodong launch in 1998.

The MTCR has been the subject of criticism from various quarters, ranging from those who argue that it is clearly failing to satisfactorily achieve its objectives, to those who argue that those objectives are actually spurious and that the MTCR has in fact achieved them rather too well, to malign effect in the developing world. Those who argue that those objectives are actually spurious and that the MTCR has in fact achieved them rather too well, to malign effect in the developing world. This paper aims to highlight the positive and negative attributes of the MTCR, in an effort to show the real nature of its problems and the difficulties of establishing international norms and controls beyond the cartel model of the Regime.

In Denial: What Are We to Make of the MTCR?

If we wish to properly grasp how, where, and why the MTCR has succeeded and failed, then we need to grasp what the MCTR actually does, and (equally importantly) what it does not do. Put simply, the MTCR places a “strong presumption to deny” upon the sale of missiles or missile parts by its members. Most or all of the most advanced missiles are in the hands of MTCR members, or states that adhere to its stipulations without actually joining, and so it can be presumed that sophisticated missile technology is no longer on the market.

The main restrictions are on the technology required to carry a 500 kg payload to a distance of 300 km, which combines the estimated minimum weight of a first-generation nuclear warhead with what was thought to be a reasonably strategic range. In other words, the MTCR was designed to beef up the nuclear non-proliferation regime by cutting off the availability of delivery system technology to first-generation proliferators: a state that somehow circumvented the Nuclear Non-Proliferation Treaty and constructed a basic nuclear weapon would also now confront the fact that it would be difficult to actually fire the weapon any significant distance. Later, the rules were extended to cover any missile technology that is “intended” to carry weapons of mass destruction (WMD). The aim was always to impede, rather than prevent, missile development. That is not to say that the MTCR founders had no wish to see development halted, but that they recognized that export controls could only make the technology difficult to come by.

Judging the success, or otherwise, of the MTCR can only be rationally done on that basis: how successfully have the restrictions been imposed, and how easily available is long-range missile technology on the international market? The good news here is that the MTCR appears to be working reasonably well. The most potent piece of evidence in support of that judgment is the fact that virtually all missiles outside the MTCR are SCUDs or SCUD derivatives. That is to say, Second World War V-2 technology remains the base element for missiles in the developing world.

That is not to dismiss missile proliferation as an international security problem, but to highlight the relatively crude and unsophisticated nature of the programmes of most concern, such as the Taepong. This also seems to indicate that, even when MTCR members or adherents fail to comply with their obligations, either by design or by lack of enforcement, the missile technology leaking through the export control system is still comparatively basic in nature.

It is true to say that states such as the Democratic People’s Republic of Korea (DPRK) and Iran have done more with SCUD technology than was thought possible when the MTCR was established. Up until fairly recently, it was widely believed that it was technologically infeasible to modify SCUD missiles to go any further than 1000 km at most. The

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appearance of the Taepodong, which can travel twice that distance, seemed to demolish this so-called “SCUD barrier”, and the Taepodong-2 may be able to travel up to 6000 km. This, together with Pyongyang’s prediction for missile exports, represents a serious challenge to missile non-proliferation. Nonetheless, it has to be stated that this missile still suffers serious technical limitations, and global missile proliferation outside the regime, especially in Iran, Iraq, Syria, DPRK, and Libya, strongly suggests that the MTCR’s original aim of slowing and impeding the development of nuclear-capable missiles has largely succeeded. When all is said and done, the Regime’s controls mean that any state looking to develop a long-range missile capability is forced to work with un sophisti cated technology.

Second, US intelligence estimates have repeatedly stated that, with the notable exception of the DPRK, the missile programmes of states of concern are import-dependent to one extent or another. The ongoing circulation of DPRK missiles represents a serious problem here, but the fact of import dependence is indicative of the heavy techno-industrial costs and difficulties of establishing an indigenous missile programme.

The positive side of the balance sheet, therefore, suggests that the MTCR’s original aim of inhibiting missile proliferation by restricting access to the necessary technology has worked with reasonable success. Those states still in the missile proliferation game are compelled to rely on highly outdated and comparatively crude technology, with similarly crude missiles the result.

On the negative side, missile development in Iran and the DPRK might be moving slowly but it is moving, and the MTCR will not be a thumb in the dyke forever. Even if the Taepodong-2 does not materialize as a useable missile, the existence of the Taepodong and the 1000 km-range Nodong are by themselves enough to generate serious strategic problems. With this technology, a state acquires a military reach for virtually its entire strategic periphery, and thereby the capacity to decisively affect regional stability. In such circumstances, the missile threat to the continental United States evaporates, but the threat to regional states, not to mention to US forces deployed locally, remains. In short, the MTCR is necessary but increasingly insufficient as a means to address the problem.

Second, the MTCR lacks legitimacy: what defensible basis do the US, Britain, France, Russia, etc. have for urging other states not to develop missile capabilities? They are armed to the teeth with such missiles themselves and are unlikely to give them up in the foreseeable future. The experience of the Missile Code of Conduct, described below, is ample evidence of the suspicion with which any non-proliferation initiatives are regarded when they are issued from the MTCR.

Third, the regime may be a wasting asset, as acquiring new members is unlikely to make genuine headway into the problem. To put it another way, the more members the MTCR has, the less incentive exists for non-member missile-producing states to join. This is because the Regime, by virtue of the way it functions, strips the global missile market of suppliers whilst leaving the demand untouched. The missiles exported by the DPRK may be crude and unsophisticated, but the presence of the MTCR means that it is virtually the only state prepared to sell such technology. It has a far larger chunk of the global missile market than it could possibly hope to obtain in other circumstances, and consequently the financial incentives to join the MTCR are in inverse proportion to the number of other missile suppliers that are already members.

The Link With Space

The inherent connection between space-launch vehicles (SLVs) and ballistic missiles is well established. They are not identical, but are so closely linked that possessing one almost inevitably means a latent capacity for having the other. This has been the source of most of the complaints about the MTCR from the developing world, since the Regime’s controls necessarily cut off access to peaceful applications of the technology in question. India spoke for several states in the developing world at a UN First Committee debate last year: “There has been in recent years an excessive reliance on export controls, in the name of non-proliferation, by select groups of countries. While such measures have not been effective, denial of so-called dual-use technology and equipment have done immense damage to the peaceful developmental efforts of developing countries in a number of spheres of economic activity… There is no place for discriminatory mechanisms that deprive developing countries of the benefits of path-breaking scientific and technological developments.”

It is true that SLVs may be an entirely peaceful application of technology, but the fact remains that controlling the transfer of missiles necessitates controlling the technology rather than its end-use. In the absence of highly intrusive verification measures and/or a global ban on ballistic missiles, it is difficult to see a way around the problem.

A second potential link between ballistic missiles and space is a possible connection, as yet unproven and highly controversial, between medium- or intermediate-range missiles and basic anti-satellite (ASAT) capabilities. The closest comparison is with the Soviet Union’s co-orbital ASAT capability, developed during the Cold War. The system used a “buckshot” method, in which a satellite was launched into a similar orbit to the target, closed in on it, and then exploded to destroy the target with debris. The test results were not encouraging—nine successes out of 20 attempts—and the system only worked against low earth orbit satellites. A state with an intermediate-range missile (such as the Taepodong) might therefore acquire a very crude ASAT capability, but current reports seem to indicate that this would nonetheless be a huge challenge for most ‘states of concern’, and it is as yet unclear whether such a capability is even technically feasible.

Moving Beyond the MTCR: The Code of Conduct and Other Damp Squibs

The most pressing difficulties were problems for the MTCR rather than problems of it. That is to say, the problem is not that the Regime is working inefficiently, but that supply-side controls only place prohibitions on export and not on possession. The international missile non-proliferation regime, therefore, is only half a regime, and to blame the MTCR for the current state of global missile proliferation is not only to miss the point, but is, in fact, to misunderstand the nature of the problem. Missiles proliferate because of chronic regional insecurity, a perceived need to acquire a form of status, and because there are no norms against possessing them. The
MTCR cannot generate such norms, and it was not established to do so: it can only generate norms against supply.

As long as the control of missiles relied solely on supply-side controls with no demand-side regime to legitimize and strengthen them, the MTCR was likely to be a wasting asset. Regime members recognized this from the mid-90s onwards, but particularly after the Taepodong launch of August 1998 had hammered the point home so firmly. The decisive point came at the MTCR’s 1999 Plenary at Noordwijk in the Netherlands, when members submitted national papers on what they termed “responsible missile behaviour”. The papers, which ranged from confidence-building measures (CBMs), such as launch notification, up to missile-free zones, were synthesized into the Ballistic Missile Code of Conduct signed by 92 states in The Hague in November 2002.

The Code is a strikingly cautious initiative: despite calling for restraint and reduction in ballistic missile proliferation, in practice it does not require signatories to do anything more than exchange policy declarations and inform each other of forthcoming test launches. Its philosophy is that the best first step is one that the most can make. This is itself driven by two factors. First, missiles are delivery systems rather than weapons in their own right, and stigmatizing them as has been done with WMD is inherently difficult. In fact, it may not be feasible or even desirable. If we accept that delegitimising military technology has to be done with WMD is inherently difficult.

The intractability of the problem, which dogged the drafting of the Code of Conduct, was even more strongly felt in the work of the UN Study Group set up to look into The Issue of Missiles in All its Aspects. So much is evident from the exasperated tone of a South African statement to the UN First Committee last year: “The report of the UN Panel of Governmental Experts on missiles in all aspects is a sad reflection on the current state of disarmament affairs. Panel members had vigorous discussions, but could not agree on a single recommendation for a course of action, and couldn’t even agree on what the nature of the problem was.”

This, and the careful tone of the Study Group’s final report, is as emphatic a testament to the daunting problems attendant upon global missile non-proliferation as we could wish for. In that light, however, it must therefore be conceded that to criticize the Code or Study Group in themselves for their lack of success is to confuse cause and effect. It is not that the initiatives have not got to grips with the problem: the far more ambitious Russian proposal for a Global Control System, which contained far-reaching proposals for missile bans and incentive schemes for participant states, has similarly failed to make any headway, and there is no reason to suppose a more ambitious Code of Conduct or Study Group report would have fared better.

So the problem is not the initiatives themselves. Their shortcomings are a symptom, not a cause, of the absence of missile non-proliferation norms. Any initiative will have to establish norms where none currently exist, and the philosophy behind the Code of Conduct is that a step-by-step approach is the best way to produce long-run results. It therefore looked for the lowest common denominator, which turned out to be very low indeed. Despite this (and the fact that several states in the world follow Code-style stipulations already), the signatory list at the launch in November 2002 was disappointing to put it mildly. China, the DPRK, Egypt, Israel, Iran, India, Pakistan, and Syria all stayed away, which is to say that none of the states that would give the Code some credibility beyond MTCR boundaries signed. Libya was the one exception. There is clearly a very long way to go.

Summary

(1) The MTCR is necessary, but not enough, to prevent contemporary missile proliferation.

(2) Given the nature of missile technology and the current distribution of missiles, a gradualist norm-construction approach is the best way forward, despite the fact that this may mean that the problem gets worse before it starts to get better. It is likely that an approach emphasizing missile arms control, rather than missile disarmament, will have the most credibility and practicability.

(3) We should not regard missile defence as generically incompatible with missile non-proliferation. In the right political context it may prove complementarity, but the current debate between supporters and opponents is too polarized for constructive thought on the circumstances under which missile defence is a Good or Bad Thing.

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Lessons from the Nuclear Non-Proliferation Regime

Wolfgang Liebert

In my short remarks, I would like to restrict myself to the Nuclear Non-Proliferation Treaty (NPT) and some aspects of the non-proliferation regime.

No doubt, the entry into force of the NPT in 1970 was a great achievement. At least the dangerous proliferation dynamics that had been expected in the 1960’s were reduced. From today’s perspective, however, the NPT was a child of the cold war era and of the nuclear euphoria of the 1960’s and had therefore several shortcomings:

- The discriminatory character of the Treaty led to different classes of technology access for different States Party and provoked double-standards in its implementation.
- The promise of nuclear disarmament enshrined in Article VI of the Treaty is not mirrored by substantial provisions concerning the total elimination of nuclear weapons. The treaty did not even restrict the nuclear arms race.
- The bargaining strategy of the Treaty is made under the fatal assumption that the further spread of nuclear weapons could be halted despite the corresponding spread and development of “civilian” nuclear technology.

A spiral of ambivalence has emerged in the past three decades in which attempts to close the loopholes by adding new measures have continuously led to new aspects of ambivalence—which then have to be tackled in each successive round of the spiral. These additional measures are diverse—from concepts of unilateral export control over supplementary safeguard protocols to concepts of counter-proliferation and preventive war.

We have discussed these problems in depth within INESAP ever since its founding. In any case, today we have severe problems with existing weapons-usable fissile material and the spread of sensitive nuclear technologies. Both factors contributed to the emergence of a number of nuclear-capable states—and several of them have had plans, have executed plans, or are currently trying to execute plans to become nuclear-weapons states.

Neither has the dangerous chain of horizontal proliferation of nuclear weapons been effectively stopped nor has the process of nuclear disarmament achieved the envisioned goal. These findings are two of the lessons to be drawn from the experience with the nuclear regime. Let me sketch a few more lessons which might be useful if one wants to discuss new concepts for international agreements or rules in related fields (such as ballistic missile defense or space weaponry):

1. One should try to avoid different levels of approval or denial for different States Parties when drafting an appropriate treaty. If the obligations and rights are not equal—or at least close to equal—, one will face inherent complications concerning treaty implementation and universality. In this case, treaty universality would likely be unattainable.
2. Some degree of trust in safeguards and monitoring procedures is necessary, otherwise a treaty will not function. However, one should avoid to overemphasize this aspect. In my judgement, safeguards and monitoring only play a role as confidence-building measures. If sensitive technology is already available in some country, there is a continuing danger of bypassing controls or an increased probability of a withdrawal from the treaty. Political circumstances may change comparably fast, whereas the existence of dual-capable technical possibilities, once installed, has a more permanent character, which leads to inherent dangers. In general, verification procedures can only verify what has already occurred in the past. Therefore, one has to develop measures that are better suitable for preventing treaty outbreak. Wherever possible, one should try to go beyond concepts of safeguarding by introducing intrinsic technological measures. One should strive for proliferation resistance in the design of technologies that are covered by; or involved in, treaty considerations. For the worst case, one should provide for a mechanism of challenge inspections—which are considerably more effective than routine safeguards.
3. Terms like the “inalienable right” to develop, to use, or to import without any wise restrictions all sorts of technologies in a specific technical field have to be avoided if there is a potential for civil-military ambivalence of such specific technologies. In my view, this is, ultimately, the most dangerous pitfall.
4. International efforts to control the usage of technology are far less promising when the respective technological artefacts are already available, even more so if they are used for military purposes in some States Party to a treaty (as was the case in the nuclear field.) If this is not yet the case, one could try to reserve access to the corresponding technology by an international body which in turn is supposed to provide its services to all States Party to the respective treaty framework. If it is too late for such an approach, one should carefully investigate whether the incentive for indigenous development of sensitive technology could be reduced by a similar concept. In fact, one should reflect upon the specific purpose of a given technology in order to understand why access might be desirable. My guess is that in most cases, one could find or develop and provide a less dangerous technological alternative which would serve the expected needs.

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Lessons from Control Regimes

U.S.–Russian Nuclear Arms Control
Lessons for a Future Multilateral Verification System

Eugene Miasnikov

What conclusions from the previous U.S.-Russian nuclear arms control experience can be applied to future efforts to control nuclear weapons and delivery systems? Can the experience with bilateral control of nuclear delivery systems in the Strategic Arms Reduction Treaty (START) and Intermediate-Range Nuclear Forces (INF) process be extended to a multilateral context? Which verification systems and monitoring technologies exist that can be applied in a multilateral environment?

Most Russian arms control experts are convinced that achieving a multilateral agreement on nuclear arms reductions is important and expedient. The official Russian attitude is similar. In particular, two years ago Russia proposed that the five nuclear weapons states that are permanent members of the UN Security Council (the P5, namely the Russian Federation, the U.S., the United Kingdom, China, and France), should institute and commence a permanently operating consultation process regarding the problems of strategic stability within the domestic affairs of states. Most importantly, verification mechanisms need to join the bilateral process of nuclear disarmament in order to keep this process progressive and ensure that it is directed toward elimination of nuclear weapons in the world. It is quite apparent that the main problem will be to reach a political consensus between key states in accomplishing this goal. Unfortunately, the current political environment in the world does not give ground for optimism. If, however, the political decision on multilateral verified nuclear weapons reductions were actually made, the next step would be to work out a system for verification of the reached agreement. Existing U.S.-Russian experience seems to be a good basis for creating such a system.

Bilateral nuclear arms control between the U.S. and Russia (Soviet Union) has been going on for more than forty years. The culmination of this historical process was in achieving the INF and START Treaties, signed in 1987 and 1991, respectively. Both eventually became multilateral agreements as a result of the collapse of the Soviet Union, because the Ukraine, Byelorussia and Kazakhstan, along with the Russian Federation, inherited the Soviet nuclear weapons potential. However, one should note that the verification procedures of the START and INF Treaties were adopted on a bilateral basis. Of course, tremendous experience was accumulated over this period, and it is impossible to cover all its practical lessons that could be utilized by the international community, in this brief presentation. Following are the author’s main observations.

The starting point for the creation of a multilateral verification system is to get a consensus on common goals and verification principles. Over the years, the bilateral U.S.-Russian relations developed the following principles:

- Verification measures should be conducive to the scope and nature of obligations accepted by the parties.
- Observance of the treaty obligations must be reliably verifiable.
- Verification measures need to be economically rational, and simple to implement.

It is important to note that previous bilateral treaties between the United States and the Soviet Union on the limitation and reduction of nuclear arms covered mainly delivery platforms. The measures adopted within the frameworks of the INF and START Treaties with respect to warheads were very limited. There were attempts to broaden transparency of U.S. and Russian nuclear arsenals in the mid-1990s, but, unfortunately, they failed. Further progress in disarmament seems almost impossible without a solution to this problem, and it is crucial to focus the efforts of politicians in this direction.

National technical means (NTM) played a crucial role in verification of the arms control agreements. They were in fact the only means for verification of strategic arms limitation agreements prior to the conclusion of the INF Treaty. NTM proved to be efficient in monitoring the number of deployed silo-based ICBMs and the number of missile submarines. From the perspective of the possible application of the U.S.-Russian experience to a multilateral agreement among other nuclear weapons states, one may conclude that NTM capabilities have grown in the meantime. In addition to military reconnaissance satellites, modern commercial satellites are capable of taking pictures of any place on the globe with a resolution sufficient for many verification tasks. Another example—the Open Skies Treaty—also represents a substantial and unique tool that was not available during the Cold War.

The previous U.S.-Soviet bilateral agreements included provisions that the parties were obligated not to interfere with the NTM operated by the other side. This principle seems to be promising for future agreements as well. However, there are still “gray zones” allowing for the evasion of such provision. An example of such a loophole was mentioned by Major-General Viktor Koltunov (ret.), Consultant to the Department of International Agreements of the Russian Ministry of Defense. One of the provisions of the SALT II Treaty forbids “to use deliberate concealment measures associated with testing, including those measures aimed at concealing the association between ICBMs [intercontinental ballistic missiles] and launchers during testing.” In the early 1980s, the Soviet
Union began testing its mobile Topol (SS–25) ICBM at the Plesetsk test range. Missile launches occurred from positions close to silo launchers, and the U.S. blamed the Soviet Union for violation of the provision quoted above. The claim was based on the fact that the U.S. NTM never detected the Soviet test launches. Therefore, the U.S. assumed that the Soviet Union deliberately concealed the association between ICBMs and their launchers. The Soviets responded that the USSR had no intention of carrying out test launchses either at a time when the test site is exposed to U.S. reconnaissance satellites or under time and weather conditions that ensure the best conditions for the U.S. to monitor the tests.

The parties to the INF and START Treaties adopted an unprecedented verification measure—on-site inspections. During the Cold War, it was impossible even to imagine adoption of this kind of measure during the Cold War. The INF Treaty contained five types of on-site inspections, the START Treaty fourteen. Of course, the types and quantity of inspections depend on the goals of the agreement. If parties aim at the elimination of certain types of arms, verification measures become simpler than when the goal is not elimination, but limitation. This is probably the reason for the complexity of the START verification system, compared to the verification system of the INF Treaty. At the same time, one should not forget that both regimes were developed when mutual confidence between the parties was much lower than it is now. Due to the previous experience of cooperation between the two sides, Russian experts came to the conclusion that the START verification system was excessive. In particular, it has been suggested that only two types of inspections are required—baseline data inspections and data update inspections during Treaty implementation.

Telemetry data exchange is known to have been one of the most serious problems during the START negotiations. From a verification perspective, telemetry data provides a basis to determine the quantity of warheads deployed on ballistic missiles. If a multilateral agreement is reached, telemetry information exchange between the parties would be very desirable. There is no doubt that such a measure would increase the transparency of the nuclear weapons reduction process. Moreover, it would resolve some existing problems with the START Treaty implementation. In particular, it is well known that the U.S. deploys Trident II sea-launched ballistic missiles (SLBMs). At the same time there is a joint U.S.-U.K. program for the development of Trident II SLBMs that will be deployed on British strategic submarines. Unfortunately, tests of Trident II missiles conducted within the framework of the joint U.S.-U.K. program are exempt from having to share the telemetry data with the Russians. Russia is still not satisfied with this state of affairs. In particular, there are concerns that Trident II SLBMs may be tested with more than the 8 warheads currently allowed under START.

There is also a problem of ambiguity with telemetry information. As the experience of the U.S.-Russian cooperation shows, the problem with unambiguously determining the number of warheads involved in some of the Trident II SLBM tests remains unresolved. Therefore, one should not overestimate the significance of telemetry data. Alternative methods should be developed for the reliable detection of the number of deployed warheads on missiles. In particular, a technique using radiation detection offers some promise. However, the U.S. attitude is not always consistent with regard to this approach.

Characterizing the whole verification system of the START Treaty one may conclude with confidence that it evolved into a reliable means by which to achieve the declared goals. Nevertheless, one should not forget the fact that this system is diffusing, and that there is a danger that it will totally collapse before START officially ends in 2009. It is true—the U.S. and Russia have signed the so-called Moscow Treaty, and there is a good chance that the new agreement will get approval in both countries. However, the Moscow Treaty does not require any verification procedure for its implementation. The main reason for the existing situation is that the U.S. intends to take their dual-capable strategic delivery systems out of the arms control regime. Today these platforms include submarines carrying long-range cruise missiles and strategic bombers. This list may also include land- and submarine-based ICBMs in the future. In the author’s opinion, the principle danger to the multilateral reduction of nuclear arms is the reorientation of nuclear delivery means to conventional platforms. It is increasingly apparent that in order to build an efficient verification system, conventional delivery platforms must be covered as well.

Finally, one should mention that entirely new challenges will emerge on the way to creating a multilateral verification system for nuclear disarmament. In particular, what could be the mechanism for information exchange between the parties? To what extent can the shared information be transparent to the world community? How can national technical means be efficiently implemented while taking into account that the parties have entirely different capabilities? What is the best strategy for implementing inspections? Should the parties inspect each other, or is there a need to create an international organization that will be responsible for inspections?

The importance of these questions can be illustrated by the on-going UN inspections in Iraq. On one hand, the U.S. claim that they can prove that Iraq violated UN resolutions and therefore threaten to use force against Iraq, on the other hand the U.S. are hesitant about providing the international community with the alleged proof.
Lessons from Control Regimes

The US Rejection of Bioweapons Verification, and Implications for Future Negotiations

Oliver Meier

This article briefly analyses reasons for the US rejection of a Verification Protocol for the Biological and Toxin Weapons Convention (BWC), and describes implications for future talks on a strengthened bioweapons ban.1 US opposition to a BWC Verification Protocol can be analysed from two perspectives. First, there are factors specific to biological weapons that contributed to a rejection of a verification mechanism by the Bush administration. Second, the shift in the United States’ general attitude towards multilateralism, arms control, and multilateral non-proliferation regimes after the collapse of the Ad Hoc Group? Should there be a Verification Protocol without US support for a monitoring and compliance mechanism?

After the collapse of the Ad Hoc Group hopes for saving the multilateral negotiations on a Verification Protocol focused on the Fifth Review Conference of the BWC. The regular meeting of States Parties was scheduled to take place 19 November–7 December 2001. The meeting had been expected to adopt the Protocol. Now, it had to pick up the pieces after the collapse of the Ad Hoc Group.

Just before the start of that Review Conference in November 2001, the US had presented alternative proposals to strengthen the bioweapons ban. The Bush administration proposed the exploration and implementation of measures in three areas: national legislation, investigation of bioweapons use, and assistance to victims, and regulation of the biosciences. This signalled a move away from multilateral, legally-binding measures, towards national measures on a voluntary basis. It also was a move away from international measures to improve monitoring and prevention, towards ad hoc reactions to cases of non-compliance.

The Review Conference had to answer two questions: What was the future of the Ad Hoc Group? Should there be a follow-up process to strengthen implementation of the Convention which would take place independently of talks on a Verification Protocol? The meeting ended in acrimony when the USA, on the last day of the conference, requested to abolish the Ad Hoc Group. The Chairman had to adjourn the conference for a year in order to avoid complete failure.

Between December 2001 and the opening of the resumed session of the Fifth Review Conference on 11 November 2002, the Chairman conducted inten-
Addressing US Concerns

While the agenda for meetings between now and the Sixth Review Conference in 2006 contains important issues, it is not sufficient to address the threat of biological weapons. In particular, the agenda excludes any discussions on multilateral, legally-binding measures to verify compliance with the Convention.

In order to get back to the negotiating table and eventually reach an agreement on a Verification Protocol, it remains important to address US concerns about the effectiveness of a BWC monitoring mechanism. When US Ambassador Donald Mahley announced Washington’s withdrawal from talks on 25 July 2001, he gave three reasons for US opposition towards a biological weapons verification mechanism. Mahley stated that

“[t]he draft Protocol will not improve our ability to verify BWC compliance. It will not enhance our confidence in compliance and will do little to deter those countries seeking to develop biological weapons. In our assessment, the draft Protocol would put national security and compliance at risk.”

Mahley also argued that a multilateral, legally-binding verification regime could damage export control regimes.

Since the terrorist attacks on New York and Washington on 11 September 2001, the Bush administration has increasingly argued that the proposed BWC verification regime would not improve compliance with the Convention and that terrorists in particular would ignore the obligations under such a mechanism. As US Undersecretary of State for Arms Control and International Security John Bolton argued at the opening of the Fifth BWC Review Conference:

“[C]ountries that joined the BWC and then ignore their commitments and certain non-state actors would never have been hampered by the Protocol. They would not have declared their covert offensive programs or the locations of their illegal work—nor would the draft Protocol have required them to do so.”

To address these US concerns, future negotiations would have to tackle three issues:

First, future talks would have to discuss measures to address non-compliance. Publicly pointing the finger at alleged treaty violators has become a convenient tactic of Bush administration officials intent on poisoning the atmosphere in multilateral negotiations. John Bolton, for example, opened the BWC Fifth Review Conference by publicly accusing four BWC States Parties (Iran, Iraq, Libya, and North Korea) and one BWC signatory (Syria) of violating the BWC.

Many have criticised the confrontation manner in which Bush administration officials “name names” and the hidden agenda behind such accusations, but the US is highlighting an unsolved problem of arms control and non-proliferation regimes. These regimes codify international norms of behaviour. Effective regimes are able to achieve a high degree of confidence in compliance through good verification. However, none of these regimes has effective mechanisms to respond to treaty violations.

Second, a monitoring and verification regime for the BWC would have to reflect the conceptual differences between weapons control and technology control. In the past, arms control was all about weapons. The growing threat of the misuse of biology or chemistry for hostile purposes has highlighted the need to rethink the line between arms control and technology control. According to one observer, the US delegation in the Geneva Ad Hoc Group noted “that in other arms control treaties the treaty-limited items were countable (e.g., missiles in the Intermediate-Range Nuclear Forces Treaty), visible (e.g., atmospheric explosions in the Limited Test Ban Treaty), measurable (e.g., yield of nuclear explosions in the Threshold Test-Ban Treaty or Comprehensive Test Ban Treaty), or unique and non-naturally occurring (e.g., toxic chemicals in the CWC). None of these characteristics pertain in biological weapons control.”

Arms control, especially if the norm is disarmament, is already looking at early stages of weapons development. The dual-use problem is particularly acute at these initial stages of development and research because the intent behind such programmes is difficult to identify. Control efforts will increasingly affect civilian activities, such as industry and academic research. This tendency is bound to have profound effects on the shape of an arms control regime, which are not well understood.

Third, future negotiations will have to address the question of how arms control and verification can help to diminish the threat from non-state actors armed with weapons of mass destruction. Non-state actors have already used biological weapons, and the growing availability of relevant technology will make this problem worse. Arms control regimes, therefore, have to look at how to deal with the issue of non-state actors in a still state-based treaty environment. For example, most regimes already require parties to pass national legislation, but it may be worthwhile to consider strengthening such provisions.

US Anti-Multilateralism and Biological Weapons Control

The Bush administration took office shortly before the endgame of the Protocol negotiations began. Since summer 2001, when the US rejected the BWC verification protocol, the Bush administration’s radical and new approach towards multilateral regimes has become clearer. In addition, new facts have surfaced about US biological weapons activities. Taken together, these developments call into question the argument that the inherent difficulties of verifying compliance with the BWC were the main reason for the US rejection of the BWC Verification Protocol.
Since the failure of the Ad Hoc Group, the Bush administration has adopted a range of policy documents that codify a new US non-proliferation approach. From these documents, as well as from a series of statements by senior officials, it has become clear that many in the US government now see proliferation of weapons of mass destruction as inevitable.8 There is a general belief that arms control can do little, if anything, to stop the spread of biological and chemical weapons. According to this view, prevention through multilateral regimes is not possible.

Thus, the main task is to manage the consequences of the spread of biological weapons by political and military means. The US increasingly seeks technological and military responses to a threat it perceives to be real, rather than to work on political answers to the problem of bioweapon proliferation. Or in the words of John Bolton:

“Instead of a situation where the cops and robbers sit down in a room to discuss how they are going to address civil society, those countries that have a real concern about biological weapons could take action among themselves.”9

The US believes that arms control agreements do nothing to affect the behaviour of rogue states because such countries do not play by the rules and, therefore, are not affected by arms control. At worst, arms control agreements can build a “Maginot line of treaties”10 that lures the international community into a false sense of security. A variant of the same argument is that arms control agreements do nothing to affect the behaviour of terrorists.

Reciprocity and the acceptance of equal obligations are preconditions for arms control. However, the Bush administration is ever more unwilling to accept limitations on its own military capabilities as a result of being party to arms control treaties. This has led to a changed attitude towards bi- and multilateral regimes which could restrict US military superiority. The withdrawal from the ABM (Anti-Ballistic Missile) Treaty, the willingness to drop the START II treaty on reductions of strategic nuclear arms, and the further distancing from the Comprehensive Nuclear Test Ban Treaty are all symptoms of this development.

Since July 2001, new facts have come to light which strengthen the argument that the Bush administration withdrew from the BWC Protocol because it does not want to limit its own military capabilities in the area of biological weapons. This has two different aspects.

First, the US wants to keep its biodefense programmes secret. On the surface this is about the fear of espionage and enemies exploring and exploiting US vulnerabilities. In fact, it is also about keeping those US biodefense activities secret that may well violate the BWC. Some of these activities have been revealed by the New York Times in the aftermath of the US rejection in September 2001.11 There are many experts who believe that there have been, and may still be, other secret biodefence programmes.12

Second, and most controversially, the US may have rejected the Protocol to keep certain offensive options open. This concerns so called non-lethal biochemical weapons, as well as biological weapons to be used against materials or plants.13

Making Progress on Arms Control Without the US?

The fact that the Bush Administration is rejecting two basic principles of arms control, reciprocity and transparency, has fundamental implications for multilateral arms control. This changed attitude not only calls into questions many hard-won achievements, but also makes progress much more difficult. The current US scepticism towards arms control, however, does not necessarily mean that progress is impossible. The empirical record shows that important multilateral regimes were created even when the US was in opposition. Thus, the Ottawa Convention on Landmines, the International Court of Justice, and the Kyoto Protocol on global warming were all agreed upon despite US opposition.

Arms control practitioners and analysts are still trying to come to terms with the change in the US, from a strong verification proponent to its fiercest opponent. Three points may be important to keep in mind for making progress on arms control under conditions of US anti-multilateralism.

First, the principle of consensus may be overvalued and outdated. The main purpose of the principle of consensus is to protect the interests of relatively small and weak actors by giving them a de facto veto over possible outcomes. Today, the consensus rule seems to protect mainly the interests of the strongest states. Regional systems, such as the Organization for Security and Co-Operation in Europe (OSCE), have overcome the strict consensus rule without taking damage. It is time for arms control negotiating fora to reconsider whether consensus is still necessary and functional in each and every case.

Loosening the consensus requirement could have a positive effect on negotiations. In the past, the search for consensus and compromise has sometimes made negotiation products unworkable or meaningless. The BWC Protocol negotiations are a point in case: in order to accommodate US concerns about intrusive ness, inspection procedures had been watered down to a degree that the outcome was criticised by many as weak.14 Sensible compromise does not always lie in the middle of conflicting positions.

Second, reforming the traditional group system in negotiations can facilitate progress even in the face of US opposition. Negotiating in temporary, issue-oriented alliances which cut across political groups can help to circumvent possible blockades by individual states. Throughout the AHG negotiations, and in particular during the Fifth Review Conference, the positions of many Western Group countries on bioweapons control were much closer to moderate, non-aligned countries, than to its Western Group ally, the US. Moderate countries in the non-aligned movement proved to be extremely helpful partners for the European Union during the Ad Hoc Group negotiations. In the end, however, states acted in their traditional political groupings. By exploiting the political reflex to show solidarity with traditional negotiating groupings, the administration effectively took the Western Group hostage, which provided convenient cover for Washington from criticism of non-aligned states.15

A third way to make progress may be to move things forward on a regional basis. Progress on biological weapons control does not necessarily have to be global, at least not from the beginning. Legally-binding and plurilateral measures can also be agreed regionally, among interested parties. Such measures can serve as stepping stones for multilateral regimes, and they can help to set global norms to which other states may accede when they are ready to do so.16
Conclusion

For the next three years, until the Sixth BWC Review Conference takes place in 2006 in Geneva, efforts to strengthen the bioweapons ban will centre on the annual meetings of experts and States Parties in Geneva. Governments should aim to expand the limited agenda, and to discuss issues of real concern. In addition, regional efforts should be increased to strengthen bioweapons control. Such efforts should be undertaken with a view to paving the way for a universal, legally-binding global regime at a later date. Apart from multilateral and regional efforts by governments, civil society has a new role to play in strengthening the bioweapons ban. Non-governmental organisations have an important contribution to make to increased transparency on biological weapons issues. The BioWeapons Prevention Project, an international effort of various groups to monitor compliance with the norms against biological weapons, was launched at the Fifth Review Conference and is a prime example of civil society activities in this regard. By pursuing these different tracks in parallel, the international community can improve biological control and keep on working towards a legally-binding and universal verification regime. In the end, successful prevention of the spread of biological weapons will depend on the establishment of such a regime.

1 The article draws heavily on the presentations made by Kathryn Nixdorff and Iris Hunger at the INESAP conference. The author would like to thank Iris Hunger for her extensive comments on the draft.


10 This term was used by John Bolton to describe the draft BWC verification protocol. Statement of The Honorable John R. Bolton, Under Secretary of State for Arms Control and International Security, United States Department of State to the Fifth Review Conference of the Biological Weapons Convention, Geneva, Switzerland, November 19, 2001.


13 For the best summary of this argument see Mark Wheelis and Malcolm Dando, Back to Bioweapons?, The Bulletin of the Atomic Scientists, January/February 2002, pp. 41–46. Information about various US bioweapons activities can be found on the website of the Sunshine Project at www.sunshine-project.org.


15 See Oliver Meier “Bare-Bones Multilateralism At the BWC Review Conference”, Arms Control Today, December 2002.

16 For a summary of European efforts in this regard see Daniel Feakes, The Emerging European Disarmament and Non-Proliferation Agenda on Chemical and Biological Weapons, Disarmament Diplomacy, Issue No. 65, July-August 2002.

17 See www.bwpp.org.

This paper was written for the conference “International Arms Control, Transparency and Verification in a European Russian Framework of Cooperative Secur-
Lessons To Be Learned from the Chemical and Biological Weapons Convention

■ Ralf Trapp

Can the Chemical Weapons Convention (CWC) be useful as a model for other arms control and disarmament regimes? Only to an extent. It is important that the characteristics of the regime be fully appreciated. Lessons can be learned and adapting experience made by the Organisation for the Prohibition of Chemical Weapons (OPCW) may be useful, but over-reliance on CWC experience may actually be counter-productive. Regimes and institutions need to be built on specific requirements of the weapons and facilities to be controlled (nuclear, missile, etc.).

An initial question to be raised in this context is this: does the CWC still respond to currently perceived security threats? How does it contribute to national, regional, and global security?

This is a good time for asking such questions, because the OPCW and its Member States are currently preparing for the 1st CWC Review Conference, which will assess the operation of the Convention; the impact of changes in science, technology, industry and the security environment; and make recommendations for the further improvement of CWC implementation.

One must remember that the CWC was negotiated during the Cold War and concluded just after. Many of its provisions reflect the deep mistrust between the two Alliances in the 1980s, as well as the specific way in which chemical weapons had been acquired and assimilated into their military arsenals and doctrines. These conditions have changed and while some of the implementation tasks associated with the chemical weapons (CW) stockpiles of Russia and the US, still reflect these past conditions, mistrust between East and West no longer dominates the thinking about verification. At the same time, proliferation perceptions and thus verification requirements have changed.

The CWC was designed in the light of the concept of “militarily significant quantities” of CW, reflecting the fact that CW had been procured in large quantities (70,000 tonnes have been declared to the OPCW). The use of CW in military conflict as an area-weapon in sustained and combined operations requires hundreds to thousands of tonnes. This explains, for example, some of the thresholds used in the Convention.

The situation changed somewhat during the Iran-Iraq war, when smaller quantities became proliferation-relevant (both for procurement and use) - proliferation-relevant threshold amounts were somewhere above 50 tonnes. The proliferation of CW at that time should be seen against the historic experience that CW are often acquired and used in what could be described as a ‘down-hill’ conflict - they are used by the side that is more technologically advanced. CW are not a ‘status weapon’, and their acquisition reflects competition at non-strategic levels. Once offensive programmes have been started, there is also an institutional interest in continuing and expanding such programmes.

Today, the security context has fundamentally changed. New threats include non-state actors such as terrorists, and there are perceptions that terrorist organizations have taken an interest in nuclear, biological, and chemical materials and weapons. Also in general, weapons of mass destruction (WMD) are commonly perceived as an increasing threat, and proliferation concerns are associated with regions of tension in which there is a risk of war.

There is consensus among the States Parties to the CWC that the treaty remains an important instrument that continues to serve their security needs in the still-evolving security environment of the 21st century. The weight attached to the CWC varies considerably, however, depending on regional and national conditions and objectives of the country in case.

Continued support for the Convention is manifest by the importance attached to universality (Member States recognise that some key countries/regions have stayed away, including the Middle East and North Korea). There is also a strong commitment of the Member States to rectify the problems recently encountered by the OPCW (i.e. the financial and leadership crises).

Universality is seen increasingly as not just an issue of numbers, but as a matter of the quality of implementation. Accession/ratification is linked not only to the political commitment to chemical disarmament, but also to the ability to fully implement all treaty provisions. As a consequence, implementation support has become a separate dimension in the development of international co-operation programmes under the CWC.

CWC implementation has been and large been a success story, despite problems encountered recently, including the recent budget and leadership crises. The OPCW has fielded more than 1000 inspections since the entry into force of the CWC, some 70% at CW facilities (the focus being on the verification of CW destruction). CW destruction is now under way in all declared CW possessor States Parties.

Lessons To Be Learned

Some of the key lessons to be learned by the OPCW are:

■ Issues that the parties could not resolve in negotiations can become extremely divisive later on, and not just jeopardise the implementation process but also undermine or politicise the institutions involved (e.g. in the military field: the verification of CW conversion or destruction, where the Technical Secretariat is sometimes seen as taking sides due to a lack of agreed guidance; in the chemical industry: the lack of agreed guidelines leading to unequal implementation with political and economic ramifications). Related to this is the question of “constructive ambiguity”. This negotiation approach helps to achieve agreements, but tends to undermine implementation later on. Furthermore, there are the normal teething problems of a new regime (see for example the industry verification regime), which can also undermine institutional credibility.
National implementation is key to the success or failure of a regime. It has been fundamentally underestimated in the CWC context and remains an area of major concern (e.g. the lack of legislation, lack of political attention, lack of awareness, experience, etc.).

Part of this problem is that moving from negotiating an agreement to implementing it increases the number and broadens the scope of the authorities that get involved at the national level. Many of them have no reference to why or how the agreements were achieved and what the original intentions were. As implementation proceeds, the government agencies involved my change, so do national agendas. All this requires attention to ensure that, in the implementation phase, the objectives of the regime don’t get lost.

Non-governmental actors (e.g. industry, pressure groups) can be important in the implementation process. This can work both ways—difficulties emanating from a ‘confidentiality cult’ lead to a lack of transparency and public awareness, and political support for the regime may dwindle. It can also lead to a diminishing of parliamentary oversight, and checks and balances may no longer work. A lack of public awareness can weaken institutions and increase their vulnerability to political pressure.

In the case of the CWC, partnership with the chemical industry has been particularly important. Industry was a partner in the negotiation process and must not be reduced to becoming the object of pressure. The institutions need to stay engaged with the industrial associations if the treaty regime is to function effectively.

Having an international organisation (an institutional as well as a legal framework) to administer the treaty is important to build confidence in the regime as well as in treaty compliance. (It enables regular exchange, the conduct of clarification in a multilateral context, assessment independence, and a degree of political protection in particular for smaller countries, combined with a capability to resolve problems). This, however, requires the confidence of the parties in the institutions (through leadership and openness, independence combined with co-operation, and transparency in decision making).

Decision making by consensus appears to be a necessary methodology in the stage of regime formation, and is used widely in the OPCW. It can create serious problems if the concept is abused to prevent decisions not favoured by some parties. The delays so caused are politically undesirable. At the same time, unresolved issues lead to the need to use national discretion in areas of disagreement. In the treaty implementation phase, this creates inequalities, unequal implementation of treaty provisions, and potentially friction.

There is a (natural) tension between the States Parties and the Technical Secretariat— which needs careful management. The OPCW has had considerable problems in the recent past, which have now been sorted. But the consolidation phase is far from over. Be that as it may, the build-up of a new institution is not a simple task, and getting the relationships between the different organs right in practice is important.

The organisation does not function in a vacuum. (In the case of CW usage that requires an emergency response, e.g., provision of assistance and/or protection would involve many national and international agencies, and a new agency such as the OPCW needs to find a place. Although the CWC is the only treaty with an explicit mandate for an agency to act in such cases, the OPCW would be a newcomer on the scene and not be integrated into existing international mechanisms.) There is thus a need for co-ordination to avoid duplication of effort and operational chaos, to resolve the multiple commitment of assets pledged by States to different agencies and institutions. Also, the expectations of some of the parties are not always realistic—which may give room for misunderstandings on both sides.

An absolute must for any new institution and regime is the maintenance of political support by the parties as well as affected industries.

Dedicated and competent staff are equally important for the success of an agency, and the policies that organisations put in place for their staff will critically influence the success of any future recruitment and the stability of the institution. There is clearly a danger that short-term political considerations lead to decisions on staff policy that may in the long run undermine the institution’s ability to function properly and with high competence.


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The Mission Statement of the OPCW says, “Our mission is to implement the provisions of the Chemical Weapons Convention in order to achieve the OPCW’s vision of a world both free of chemical weapons and in which cooperation in chemistry for peaceful purposes for all is fostered. In doing this, our ultimate aim is to contribute to international security and stability, to general and complete disarmament and to global and economic development.

To this end, we propose policies for the implementation of the Convention to the Member States of the OPCW and develop and deliver programmes with and for them. These programmes have four broad aims: to ensure a credible, transparent regime to verify the destruction of chemical weapons and prevent their re-emergence in any Member State, while also protecting legitimate national security and proprietary interests; to provide protection and assistance against chemical weapons; to encourage international cooperation in the peaceful uses of chemistry; and to bring about universal membership of the OPCW by facilitating international cooperation and national capacity building.

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Common Security in Outer Space and International Law

Detlev Wolter

The legal status of outer space as a territory beyond national jurisdiction and an internationalized commons according to the Outer Space Treaty (OST) of 1967 requires that its use and exploration have to be in the “interest of all states” and “for the benefit of all mankind” (Article I OST). Applied to the security field this status implies that security in space has to be by definition the “common” or “cooperative security” of all states. The mankind clause in Article I OST and the principle of cooperation and due account of the interests of all states in Articles IX and X OST are the structural elements of the status of outer space as a “common heritage of mankind” form the legal basis for setting up a regime of “cooperative/common security” in outer space.

In view of the imminent risk of transgressing the borderline between the current passive military uses of outer space accepted by the international community and the envisaged active military uses with destructive effect in outer space (“weaponization of space”) the substantive procedural and institutional concretization of the mankind clause, of the cooperation principle, and of the peaceful purpose clause in Articles I and IX OST becomes urgent.

These clauses were introduced in outer space law at the onset of the space age in 1957 by a joint draft UN General Assembly Resolution of the United States, France and Great Britain. These states had a prime security-oriented objective—to ensure that outer space be used not only in the security interest of one or a group of states but for the benefit of all states and for mankind as a whole. However, in its concrete interpretation, the peaceful purpose clause has been afflicted by the dichotomy of a “maximalist” school, according to which any military use of outer space is prohibited and a “minimalist” approach viewing the term “peaceful” as only a confirmation of the prohibition of the use of force in outer space.

This dichotomy can be overcome by interpreting the term “peaceful purpose” in light of both the mankind clause of the common heritage of mankind principle and the cooperation principle as applied to the security field as well as by developing legal standards of peaceful use of outer space in the interests of the international community as a whole. State practice, including the annual resolutions by the UN General Assembly on preventing an arms race in outer space since 1980, bears evidence that the international community has so far only accepted passive military uses of outer space by reconnaissance, navigation and communication satellites but rejects the unilaterial transgression towards active military uses with destructive effect in the common space.

Steps to deploy a multilayered missile defence with space-based interceptors would violate the peaceful purpose standard and the mankind clause if pursued unilaterally and without the consent of the international community. The objective of space-based Missile Defence which, according to the US National Missile Defense Act of 1997 is to protect against unauthorized nuclear attacks and against limited nuclear attacks of so-called ‘rogue states’, can only be achieved without causing an arms race in space and stimulating nuclear proliferation on Earth if it is implemented in the framework of a cooperative security regime for outer space.

In its advisory opinion of 1996 on the Legality of Nuclear Weapons the International Court of Justice concluded that the obligation of the nuclear weapons powers to achieve complete nuclear disarmament according to Article VI of the Nuclear Non-Proliferation Treaty (NPT) is an obligation to conclude, and not only to negotiate, a nuclear disarmament and non-proliferation agreement. The UN General Assembly has expressly stated that the obligations of the NPT apply to outer space as well. The unilateral pursuit of a space-based missile defence, with the risk of the weaponization of space, would run counter to the disarmament obligations of the nuclear powers. The bilateral Anti-Ballistic Missile (ABM) Treaty that prohibits the development and deployment of space-based ABM systems is a bilateral concretization of the multilateral peaceful purpose standard which has effect erga omnes and which, after its renunciation, has to be replaced by new cooperative security arrangements safeguarding the security interests of the international community in the use of outer space for the benefit of all mankind.

“Common security” is the corresponding principle for international security in the post-Cold War era. In the face of the changing character of security threats, it is the new strategic imperative. While “common security”—despite having several foundations in general international law—cannot yet be regarded as a mandatory legal principle, the enhanced “common interest” obligations of the Outer Space Treaty render the pursuit of cooperative/common security in outer space a legal obligation in the implementation of the peaceful purpose standard in the use of the common space in the interest of all states and mankind as a whole. The Joint US-Russian Declaration adopted at the American-Russian summit of 23rd/24th May 2002, according to which both sides agreed to a far-reaching cooperation to meet common security challenges, in particular with regard to questions related to the national missile defense issue, opens the prospect that both powers—having overcome the Cold War—are willing to embark on a cooperative strategic transition towards common security. Without such a cooperative approach and without an adequate multilateral framework safeguarding the security interests of the international community with regard to the use of outer space, the legal principle of the peaceful use of outer space risks losing its practical relevance as a limitation of military uses of extraterrestrial space in view of developments de facto.

The adequate concretization of the peaceful purpose standard and the mankind clause in the Outer Space Treaty as applied to the security field would thus be the negotiation of a multilateral “Treaty on Common Security in Outer Space” (CSO-Treaty). Such a treaty would lay the groundwork for a cooperative strategic transition towards rendering nuclear deterrence obsolete, thus replacing “Mutual Assured Destruction” by “Mutual Assured Security” and adopting “strategic reassurance measures” which would keep outer space free of weapons and allow for an active non-proliferation policy of the international community. The main elements of such a CSO Treaty can be categorized as follows:
1. Principles of cooperative security in outer space
   - Transparency and confidence-building
   - Defensive force configuration
   - Non-proliferation and disarmament
   - Protection against unauthorized and accidental missile attacks and attacks in violation of non-proliferation regimes
2. Prohibition of active military uses of destructive effect in outer space
3. Destruction of existing ASAT systems
4. Confidence-building measures
5. Protective regime for civil space objects and passive military uses of a non-destructive nature in outer space
6. Implementation: monitoring and verification by an International Satellite Monitoring Agency
7. Codification of further legal standards of peaceful use of outer space.

Having overcome the East-West confrontation, the international community should not fall behind the peaceful purpose standards in the use of outer space that were respected by both major space powers even at the height of the Cold War era. The Outer Space Treaty, with its mankind clause and the peaceful purpose standard, has in a far-sighted manner laid the foundation for the establishment of a regime of common security in outer space in order to prevent the transgression towards active military uses of destructive effect in outer space and to secure a Pax cosmica in the common space.

This text summaries the presentation given at “International Arms Control, Transparency and Verification in a European Russian Framework of Cooperative Security” organized by INESAP and the Nuclear Age Peace Foundation on January 24-26, 2003, in Berlin, Germany.

After the conference organized by INESAP and the Nuclear Age Peace Foundation in Berlin on January 24-26, the conference organizers issued a press release under the title “War Is Not the Solution to the Proliferation of Weapons of Mass Destruction – Disarmament and cooperative security instead of missile defense.” The following is an extract of the release.

After considering the material at the conference, the sponsoring organizations reached the following conclusions:
* War is not the answer to the dangers of weapons of mass destruction proliferation. Universal, comprehensive solutions should be sought through diplomacy. The nuclear weapons states should lead by example, fulfilling their Nuclear Non-Proliferation Treaty (NPT) obligations to achieve nuclear disarmament, including the 13 practical steps set forth at the 2000 NPT Review Conference.
* Ballistic missile defenses must be considered globally, rather than from the perspective of any individual state. These systems are destabilizing, extraordinarily expensive and unlikely to be effective. They are not intended as a substitute for nuclear deterrence, but rather to work together with nuclear arsenals to assure domination by the most powerful states in all forms of warfare. To prevent an emerging missile threat, the international control and disarmament of ballistic missiles is more practical and more efficient.
* Ballistic missile defenses also open the door to a new problem unique in human history: the weaponization of space. Such an unprecedented step would undermine the security of all nations and spark an arms race of unimaginable complexity.
* Despite today’s dismal prospects, we must continue to explore obstacles and opportunities for universal, nondiscriminatory disarmament measures. Russia and Europe can play a key role, both immediately and in the long term. By insisting on peaceful solutions to proliferation dangers within the framework of international law today, they can preserve the hope for genuine progress towards elimination of all weapons of mass destruction in the future.
US Missile Defence and the Common European Security and Defence Policy

Preben Bonnén

On 13 June 2002, the United States formally abandoned the Anti-Ballistic Missile (ABM) Treaty. For the first time in 28 years, US military and national security planners were free to pursue the ABM programmes they deemed the most capable and desirable. There was considerable criticism of the US decision to withdraw from the ABM Treaty and many expressed fears of a new arms race.

It is not that US President George W. Bush had not recognized the importance of the ABM Treaty to the Europeans. During his first visit to Europe, in June 2001, Missile Defence (MD) was a prominent topic of discussion in Madrid, Brussels, Gothenburg, Warsaw and Ljubljana. At that time, Poland was the one place where Bush won some support.

European leaders welcomed US considerations on countering threats from terrorist regimes, but French President Jacques Chirac and the German Chancellor Gerhard Schröder pointed out to Bush that international safety and stability should first be secured, before the possible establishment of a missile defence system. Nonetheless, on 17 December 2002, President Bush said that he would begin deploying a limited system to defend the United States against ballistic missiles by 2004.

Although the first parts of the system will be made operational while more advanced technology is still being developed, US Defence Secretary Donald Rumsfeld said the initial system would probably stop “a relatively small number of incoming ballistic missiles, which is better than nothing.” The plan calls for ten ground-based interceptors at Fort Greely, Alaska, by 2004 and an additional ten interceptors by 2005 or 2006. According to Bush, the “initial capabilities” would also include sea-based interceptors and sensors based on land, at sea, and in space.

The Europeans fear that deploying MD would escalate into a dangerous arms race and lead to a weakening of military ties between the United States and its NATO allies. A new arms race as a consequence of Washington’s plans for a missile defence system would mean that the European’s (limited) arsenal will lose its importance.

Conversely, the US-Russian agreement on reducing the two countries’ nuclear arsenals may cause France to appear to be too aggressive if it did not follow in the reduction of arms. Thus, it is no coincidence that President Chirac took the initiative to change France’s nuclear strategy, immediately before President Bush came to Europe.

Europe and US Missile Defence

The reason why the United States responded to criticism with equanimity is because it considers the current, limited project to be neither “strategic” nor “global” but “national”. Despite the US offer to cover European allies and friends, the intent is for MD simply to defend US territory against only a dozen or so missiles that a rouge state might muster.

As far as the relationship between Western Europe and the United States is concerned, the situation from 1983 seems to be repeating itself. This was the year that former US President Ronald Reagan launched his Strategic Defence Initiative (SDI). At that time, Europe also placed a major emphasis on attempting to prevent a destabilising arms race by insuring that the ABM was upheld.

An attempt was made by the French and German governments to co-ordinate a common view, although Great Britain thought it best not to come out too strong in opposition, and London had some difficulty in imagining what type of co-ordination could be established. The problem to Europeans then was (as it is now) the prospect of the US following its own policy irrespective of the concerns of its allies.

Today Europeans see a greater cause for concern in connection with the missile defence project. In the 1980s, Europeans were not developing a Common European Security and Defence Policy (CESDP), but an important consideration now is: how will the common policy on security and defence and future foreign policy developments affect the European position on US plans for MD? It is still uncertain that Europe can hold a common position this time. Indeed, some European countries’ actions on MD may indicate how far Europe can cooperate on security and defence policy, and how their decisions will affect transatlantic ties.

Possible means of overcoming these divergences have been proposed and include an extension of the US MD umbrella to include Europe and a greater US willingness to provide Europe with advanced military technology to support the development of more effective European defence forces. Some suggest that MD be deployed in Europe by NATO and paid for by the EU; which might also facilitate cooperation between these two institutions. Whether or not this is a viable option, a reconciliation of different US and European perspectives on MD could contribute significantly towards maintaining each side’s obligation.

Denmark, Greenland, and US Missile Defence

On 13 December 2002, Washington made a formal enquiry to Denmark concerning the use of the Thule base for MD. There will not be any big surprises when Denmark (together with Greenland) table their final decision concerning the US request for use of the radar station. Denmark has, in advance, indicated that it is extremely favourable to the proposition and there is definitely a parliamentarian majority favouring this course of action.
The reason why the request from the US came in December is probably because it was in line with Denmark’s own desires, which had been expressed before and during the NATO summit in Prague a month earlier. Denmark will not be able to contribute significantly to the establishment of a NATO Response Force, which the US sees as essential in the war against terrorism. So, as compensation, Denmark has chosen to play its ‘Thule card’ in order to smooth a way out of this problem. Denmark has previously followed this kind of ‘barter- ing’ policy with some success during the Cold War, and appears to be attempting to re-introduce it now.9

Greenland is also almost certain to meet Washington’s request for upgrading the Thule base. The reasons for this are numerous, but when the rhetoric sometimes deviates from this expected line it is mainly due to domestic politics and the issue of ‘Rigsfællesskabet’ (the royal union with Denmark) rather than crises with the US. In contrast to Denmark, who seeks to compensate for not contributing to NATO plans, Greenland is trying to get rid of its status as a colony, as established by the 1951 defence agreement between Denmark and the US covering the use of the Thule base.10

However, Greenland has an obvious interest in the continuation of US activities at the Thule base due to economic reasons as well as to secure further educational assistance from the US for the Greenlandic youth. Thus, a downsizing or closure of the base would have fatal consequences for any ambitions for more self-determination as well as for the Greenlandic community in general.

Greenland and Its Demand for More Autonomy

Should the United States decide to establish an alternative to the Thule base and, as a consequence, downsize (rather than close altogether) the activities of the base to an absolute minimum, bringing economic losses to the Greenlandic community, the policy of the self-ruled authorities in Greenland will be hit by a boomerang effect.

Any reduction in the base’s activities would have an impact on the Greenlandic economy that can only be compensated by additional economic subsidies from Denmark. Moreover, Greenland will lose its best bargaining chip, when it comes to ongoing negotiations with Denmark, in matters concerning greater autonomy and/or independence.

The Thule base brings in approximately Danish kroner (DKR) 86 million out of the Greenlandic self-rulled authorities’ total revenue of approximately DKR 5 billion or the total revenue from taxes of DKR 1.3 billion (these figures are taken from the state budget of 2001.) This is the amount that the Thule base brings in to Greenland in terms of direct and indirect taxes from the total of 550 Danish and Greenlandic civilian employees receiving a total payment of DKR 187 million from the United States.11

Any decision to decrease the activities of the base — and to decrease the level of non-US employment — could result in up to 440 Danes returning to Denmark and approximately 110 Greenlanders losing their jobs. The Greenlandic employment force accounts for approximately 25,000 people. In terms of the Danish labour market, 110 jobs in Greenland would correspond to some 12,500 persons in Denmark. It could cause a cut in tax revenue of up to DKR 86 million.

To this could be added the Greenlandic self-ruled authorities’ share of a possible profit from Greenland contractors, induced effects on the Greenlandic employment, etc. Even though the 86 million dkr accounts only for one percent of Greenland’s total gross domestic product, it corresponds to 36 percent of the revenues from tobacco taxes, ten percent of the administrative costs of running the public sector, or five percent of the costs for health services.

US Missile Defence and the Perspectives for the Danish Royal Union

The US military base in Greenland will only remain of interest to the United States if permission is given to upgrade it with new software and, in the long-term, to establish a so-called “X-band” radar system there as part of missile defence. Regardless of how the Danish government chooses to incorporate and handle the Greenlandic self-rules authorities’ concern about missile defence, deeper and long-term cracks in their relationship are unavoidable.

If Denmark supports the Greenlandic self-ruled authorities’ critical line (motivated by domestic concerns), Greenland will — contrary to its own desires — become more dependent on Denmark due to the need for increased block grants. In the future, this will give rise to further friction between the Greenlandic self-rule authorities and Denmark and by implication the royal union of Denmark and Greenland in general.

Taking the current situation into consideration, Denmark seems more inclined to support the expansion of Thule despite Greenland’s protests and the royal union of Denmark and Greenland because of its foreign policy interests. Danish policy will be very hard to understand if the government answers with anything other than a “yes” to the United States. It may not be seen as financial sense to say “no” to the US and NATO because of the increase in military spending if, by taking this position, they would have to increase the grant to the Greenlandic self-ruled authorities.12

Great Britain and the Danish Support for US Missile Defence

After Great Britain granted permission for the US to use the radar complex at Fylingdales for their planned missile defence system, the pressure on Denmark has increased. For this reason, Washington’s missile defence plans have immediately become an ‘urgent matter’ for Denmark. This leaves a justified doubt concerning how much room for discussion there will be in any subsequent Danish debate. It is equally doubtful whether the British and Danish “yeses” will be cost-free for both countries.

In order to ensure that a US missile defence system will function properly for European states, it will be necessary to position ABM launch units in or near Europe. Without the positioning of these launch sites in, say, Greenland, Great Britain or Eastern Europe it will not be possible to achieve the kind of protection expected by, for example, certain sections of the Danish parliament. The geographical distances and time scales involved are such as to ren-
der the US ABM missiles, now being installed in Fort Greely in Alaska, ineffective for the protection of Europe.

If Europe – and in the first place Great Britain and Denmark – do not recognise this requirement and do not agree to a subsequent need for these launch sites, then the consent of any country to participate would not only be useless but also damaging for any attempt to develop a Common European Security and Defence Policy. Useless because the missile shield for Europe promised by the US would not be possible, and damaging because a British and Danish blue print will complicate the development of CESDP.

By not taking the broader consequences into consideration, Great Britain and Denmark will expose Europe to huge problems when it comes to developing a common policy within the area of security and defence. In addition, the relationship between Europe and the United States could be damaged because Europeans do not expect to significantly contribute economically to a missile defence in Europe.

As outlined above, Denmark will have taken on a big responsibility by saying “yes” to upgrading the Thule base because it will at the same time be considered as a “yes” to accepting ABM launch sites perhaps on Danish/Greenlandic soil and may aggravate the currently strained relationship between Europe and the United States in the long run.

Finally it is also worth noting that this comes at a time when Denmark is already placing obstacles in the way of developing a common European policy on security and defence.

1 In the ABM Treaty, the United States and the Soviet Union agreed that each country would have only two ABM deployment areas (subsequently reduced to one area), so restricted and so located that they cannot provide a nation-wide ABM defence or be used to form the basis for one. Cf. Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, signed at Moscow 26 May 1972, and Agreed Statements, Common Understandings, and Unilateral Statements Regarding the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, 26 May 1972.

2 Europe especially criticised the US for disregarding its European partners in the planning and implementation of a MD programme. Moreover, there is still the issue of European scepticism and its role in shaping the current political environment and public opinion. Various offers from Bush that the missile defence could also cover Europe have not changed the situation significantly.


5 The French strategy is to deter terrorist regimes from threatening or attacking France and/or its allies by nuclear, biological, chemical, or other weapons of mass destruction by means of advanced missile technology. Therefore France reserves the right, in the appropriate circumstance, to use nuclear weapons. With this new doctrine France has succeeded in developing an alternative that – unlike missile defence – would not be in danger of upsetting the nuclear balance and which is fundamental for international safety, while at the same time securing France’s status. Even though the new French nuclear strategy has been presented as a decisive intensification, in reality it is nothing significantly more than a continuation of the previous policy from the Cold War. France’s nuclear weapons have never been directed solely against the Warsaw Pact, but in the direction of all threats (out azimut). Today the French appear to be simply specifying that their nuclear weapons will also deter threats from rogue states in the Middle East and northern Africa. France therefore is trying to maintain the current nuclear weapon strategic order, whereas, in the United States, a widespread opinion has developed that it is far more logical and makes more sense to defend oneself and one’s allies than to maintain a world-wide terror system as represented by the mutual deterrent, called Mutually Assured Destruction (MAD). As opposed to MAD the missile defence system is certainly defence oriented. See Preben Bonnén, USA’s planer om et missilforsvar og de politiske omkostninger i lyset af sikkerhedsdilemmaet, Politica, 33. årg, nr 4, Arhus, 2001, pp. 373-386.


8 The United States has asked both Great Britain and Denmark to use and upgrade radar stations at US Air Force bases at Fylingdales and Thule as part of the system.

9 Interview with Preben Bonnén on Denmark’s role in the US plan to the development of a missile defence and the involvement of the Thule base in Greenland, National Television News (TVA), 12 December 2002.

10 Cf. Bekendtgørelse om den i København den 27. april 1951 undertegnede overenskomst i henhold til Den nordatlantiske Traktat mellem Regeringerne i Kongeriget Danmark og Amerikas Forenede Stater om forsvar af Grønland, BK!’ nr. 23 af 20/06/1951.

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UK Position on Missile Defence

Dave Webb

On 17th December 2002, the Ministry of Defence in the UK received a request from US Defense Secretary Donald Rumsfeld, for the upgrade of the early warning radar at the Royal Air Force Station (RAF) Fylingdales for use for missile defence. This request by the US had been expected for some years and the fact that it hadn’t yet been made has often been used as a reason for not debating the issue in the House of Commons. As Robin Cook said when he was Foreign Secretary: “Until we know both the nature of the question and also the circumstances in which we are being asked that question, it would be premature for us to debate what might be, particularly since there is no commitment by the United States to ask the question.”

Now that the request has been made, there are many indications that the Ministry of Defence will allow the upgrade to take place. Indeed, it is unlikely that the request would have been made at all without unofficial assurances of a favourable reply.

So, now that we know the “nature of the question and the circumstances”, what of the debate? A form of “consultation process” was in fact started in November, when, in a written reply to a question as to whether a formal mechanism would be made available for the public to register their views on missile defence with his Department, Geoff Hoon, the Secretary of State for Defence, replied that “Members of the public are welcome to write to the Ministry of Defence with their views on missile defence. I intend to publish shortly some discussion material as an aid to public debate…”,1 and on 9th December he told Parliament that he had placed “…further analytical and discussion material in the Library of the House…” and that “…the paper will also be distributed widely and will be available on the Ministry of Defence website…”.2

A press notice issued by the Defence Select Committee on 18th December 2002, stated: “The Committee has taken evidence twice this year from the Ministry of Defence [MoD] on this subject: from MoD officials on 27th February 2002 and from the Secretary of State, Geoffrey Hoon, on 20th March 2002. It also has discussed missile defence during visits to Washington D.C. and Moscow earlier this year.”

The statement also said that the Committee aims to continue its inquiries into missile defence, and welcomes written submissions to be made by 8th January 2003. Members of the Committee visited Fylingdales on 13th January 2003, and took evidence from Geoff Hoon on 15th January who said in a statement issued by the Ministry of Defence on that day: “Based on the analysis and discussion which we have undertaken so far, I have therefore come to the preliminary conclusion that the answer to the US request must be yes, and that we should agree to the upgrade as proposed.”3

It is interesting that the only facility that the US has so far requested the use of is the Fylingdales early warning and tracking radar, even though it has been known for some time (since 1997) that the US base at Menwith Hill will be used as the European Ground Based Relay Station for the Space-Based Infrared System (SBIRS), which forms part of the proposed missile defence scheme.4

Why Does the UK Government Take This Position?

In January 2002, Prime Minister Tony Blair said in the House of Commons: “We share US concerns about the threats stemming from the proliferation of missiles and weapons of mass destruction and understand the role that missile defences can play as part of a comprehensive strategy to tackle these threats. I welcome the commitment of both Russia and the US to continue discussions on a new strategic framework including issues related to missile defence.”5

The Foreign Secretary, Mr Jack Straw, has given strong support for missile defence in a briefing paper sent to all Labour MPs in August 2001.6 The paper indicates that the government had already accepted the idea of British participation in the US missile defence project. “Missile defence…”, it says, “…is not an alternative to our wider non-proliferation effort, but part of it.” Mr Straw also stated categorically that ‘rogue states’ pose a real threat. Mr Bush had argued that the world had changed over the past 30 years, and Mr Straw says that “we agree with that analysis [and] are looking for a prescription to deal with that change.”7

He has also suggested that a limited missile defence system might encourage non-proliferation: “What missile defence should do is give pause to those tempted down the path of proliferation even before they begin. Those who seek to acquire weapons of mass destruction are not usually irrational. They must make a cost/benefit calculation before seeking to acquire such weapons or the means of delivering them. Anything that affects this calculation by raising the cost or reducing the benefit has to be worth considering.”8

In the statement of 15th January, Geoff Hoon said that “…the marked increase in the potential threat to our security from weapons of mass destruction and their means of delivery…” was a justification for the UK involvement in missile defence. He said that although the threat of ballistic missile attack by rogue states was not immediate, it could materialise in the relatively near future, and so it would be irresponsible for the government to leave the UK without the potential to defend itself.

Mr Hoon argued that agreeing to the US request would not prejudice the UK’s interests, but would represent “…an invaluable extra insurance against the development of a still uncertain but potentially catastrophic threat to the citizens of this country…”. His opinion is that the upgrade at Fylingdales does not commit Britain to any deeper involvement in missile defence, although it does gives the government the option of more participation at a later date.
What is not mentioned is that the UK relies very heavily on the US for much of its intelligence and information gathering, and that the UK’s nuclear Trident submarines are also reliant on US technology for upgrades and support. In other words, the UK is not in a favourable position to say ‘no’.

The British American Security Information Council (BASIC) considers that there are two major political reasons why the UK is responding to US pressure to support missile defence:

“First, the Labour Party’s damaging debates on unilateral nuclear disarmament in the 1970s and 1980s left the impression that Labour was weak on defence issues, and were widely attributed to having contributed to its electoral defeats in the 1980s and early 1990s. Blair is keen to avoid a recurrence of these debates and deny the Conservatives a potent political weapon. Central to this agenda is the need to convince the public that Labour is committed to the ‘special relationship.’

Secondly, the close ties between the US and the UK affords Britain political, military and strategic advantages that Blair is keen to preserve. The UK enjoys often unique technology-sharing agreements with the US. Examples include the Trident system, the Tomahawk Cruise Missile and the Joint Strike Fighter. Britain also enjoys favourable access to US intelligence operations, particularly through specialist imagery and signals intelligence such as the Echelon system, partly based at Menwith Hill. These benefits guarantee the UK government a level of international prestige and influence that it might not otherwise enjoy. All of this would be at risk should the UK fail to allow the US the use of radar bases for NMD [National Missile Defence].”

**Development of a UK Missile Defence Program**

UK and US governments have worked closely together on defence issues for many years, and it seems that the UK has thought more about joining a US missile defence system than developing one of its own, or even joining in similar European projects. In October 1998, in answer to a question by Alan Simpson MP (Member of Parliament) on the involvement of Britain in the US Star Wars programme, the then-Defence Secretary (now head of NATO) George Robertson replied:

“Britain’s involvement in the US SDI-star wars programme (now known as Ballistic Missile Defence (BMD)) consists of research into BMD technologies where there is a common interest.”

A little later on the 12th November, Mr Robertson stated in Parliament that:

“The areas of common interest the UK has with the USA in connection with ballistic missile research are many, the most significant being performance of radars and other sensors, the guidance of interceptors, understanding the characteristics of ballistic missiles, the effective interception of ballistic missile warheads, and operating in coalition with Allies in air defence. The Defence Evaluation and Research Agency leads the programmes, working in close partnership with UK industry.”

The Ministry of Defence has made its own assessment of missile defence. In a written reply to a question in the House of Commons in March 2002, Defence Secretary Geoff Hoon said:

“The Technology Readiness and Risk Assessment Programme (TRRAP) was carried out between 1998 and 2001 at a total cost of £12.5 million. A further programme of work beyond TRRAP to look further at the main technical risk areas it identified, and at the feasibility of defending against more complex and longer range threats, is underway. Studies are also assessing the significance of any capability gap in defence against theatre ballistic missiles, including the role that active theatre missile defence systems might play. The total cost of the current work in this financial year is £3.6 million. This work is due to continue until March 2003 with a similar level of financial provision.”

TRRAP was carried out by the Defence Evaluation and Research Agency (DERA) and four UK defence contractors. It had a core team of 25-30 staff and 55 % of the £12.5 million cost came from the DERA. In April 2002, the Sunday Times reported Wing Commander Phil Angus, former commanding officer of RAF Fylingdales, as saying that TRRAP was aimed at giving “…a definition and framework to UK ballistic missile defence. It looks at the threat and the technology options required to counter it…”.

Angus is also reported to have said that 300 people were working full-time on the programme and up to a dozen computer-simulated “war games” were held as part of it.

TRRAP findings were:

1. “…that surface-based interceptors employing hit-to-kill are a feasible mechanism to counter theatre ballistic missiles and payloads.” Hit-to-kill is preferred to warhead interceptors because warheads “…may be less well-suited to destroying targets containing multiple sub-munitions, if these were to emerge.”
2. the identification of a number of remaining key technical and system risks, such as dealing with sub-munition warheads and countermeasures, and the distribution of intelligence information.
3. the identification of four main technical risk areas: threat projection; discrimination; engagement; lethality.
4. difficulties in minimising ground effects, usually casualty levels, in the case of sub-munitions—even a few surviving sub-munitions containing biological agents might be capable of causing appreciable casualties on the ground. Deflecting the payload may, in any case, only transfer the problem to a different location, which may or may not be a desirable outcome.

There is no doubt that the UK Government has decided to once again ‘buy in’ to a US system. In a statement to Parliament in October 2002, Geoff Hoon stated that he had asked for “…detailed analytical work to be completed on the implications of missile defence and its relationship with other elements of a comprehensive strategy against the ballistic missile threat.”

He also mentioned that US officials had visited London to “…set out possible approaches to missile defence and to repeat US willingness to offer protection to friends and allies.” He went on to say that:

“The close access to the US research programme that we already enjoy will be essential background to inform any decisions that we may wish to take on missile defence for Europe or the United Kingdom.”

On 15th November 2002, the head of the US Missile Defence Agency, General Kadish, took time out from a conference he was attending in London to visit the base at RAF Fylingdales in North Yorkshire some 250 miles away.

In December 2002, in response to a question from Patrick Mercer MP, Mr. Hoon stated:
The United Kingdom already has close access to US research and development work on missile defence, taking part in collaborative research and information exchange on ballistic missile defence technologies. UK industry is also playing an active role. UK expertise in such areas will enable us to consider and make informed assessments about technical advances in missile defence.16

**Popular Opinion and the Media**

There is considerable opposition to the US plans for missile defence even in parliament. Between June and October of 2001, over 280 MPs (including 216 of a total of 412 Labour MPs—the total number of MPs being 659) signed an Early Day Motion (which is a motion not generally expected to be debated but which is used as a device to draw attention to an issue, and to elicit support for it by the means of inviting other Members to add their signatures):

“That this House expresses concern at President Bush’s intention to move beyond the constraints of the Anti-Ballistic Missile Treaty in developing missile defence; and endorses the unanimous conclusions of the Foreign Affairs Select Committee, which recommended that the Government voice the grave doubts about NMD in the UK, questioned whether US plans to deploy NMD represent an appropriate response to the proliferation problems faced by the international community and recommended that the Government encourage the USA to explore all ways of reducing the threat it perceives.”

This number of signatures on an early day motion is most unusual—if not unprecedented.

It is also worth noting that 14 major Trade Unions have carried resolutions in opposition to current missile defence proposals.

It would appear that the general public in the UK also do not share the government’s enthusiasm for missile defence. In a poll commissioned by non-governmental organisations (NGOs) and conducted by MORI (Market and Opinion Research International) in July 2001, 70 % thought that the development of a US missile defence system would encourage other countries to build more advanced nuclear weapons. Over 60 % of those surveyed also believed that international agreement on nuclear disarmament would be harder to achieve in the wake of US plans to deploy such a system. Perhaps more worrying for the Government is that 72 % of those polled felt that the use of radar facilities in Britain for US missile defence would make the United Kingdom a target for an attack directed at the United States’ system. In addition, while over half of those surveyed felt that denying use of UK-based radar facilities to be used in the system may harm transatlantic relations, less than a third thought that it is in Britain’s best interest to cooperate.17

Public dissent has also been visible in the large number of demonstrations at Menwith Hill and Fylingdales (the two US bases in the UK to be used for missile defence), and a number of conferences on missile defence and the militarisation of space have been organised by NGOs with international speakers to discuss and debate the issues.18

Most media (and protest movement) attention at the moment is centred on the possible war on Iraq. However, there have been bursts of media activity on missile defence following the US request to use Fylingdales. The coverage has been mixed. Government and right wing media moguls control most of what is broadcast and printed. BBC radio still gives a reasonable coverage with arguments for and against, and some news programmes do appear to be more ‘against’ than ‘for’. The printed press is very mixed. The right wing supporters of the British Conservative Party (the Daily Telegraph, Mail, Express) are well behind the US plans for war on Iraq and missile defence. Other national papers are not so much, with the Guardian and Independent offering considered views that are not favourable to missile defence. Noticeably, the Daily Mirror broadsheet has come out strongly against war on Iraq but seems non-committal on missile defence.

It should also be recognised that according to a recent (21st January 2003) MORI poll, the British public is becoming less enthusiastic about a war on Iraq. 77 % oppose a war if it did not have UN approval: an increase of 7 % from a similar poll in September. 68 %of those asked said they disapproved of the way Bush is handling the current situation with Iraq.19

The most common angle in the popular media is that the use of the bases will make the UK more of a target for anyone wanting to attack or harm the US. How the UK government can change people’s perceptions of the situation in Iraq will contribute enormously to the public attitude toward the US use of UK bases for missile defence.

**Why Missile Defence Doesn’t Make Sense**

Whilst current plans for phase one of missile defence are modest compared to those of the original Star Wars system proposed by former US President Reagan, one must not be fooled into thinking that this is as far as current US plans go. The system will develop into a space-based system with weapons in space. Missile defence is the first stage in the larger US plan to achieve “full spectrum dominance”—dominance of land, sea, air, space, and information. By providing space weapons, new air-borne weapons, missile interceptors, and advanced missile tracking technology, missile defence becomes the first big step in this direction.

If the UK gives the go-ahead to missile defence, it will become more difficult to reject further developments. The UK will become increasingly tied to US foreign and military policy and will be a key player in the progress of US “full spectrum dominance”.

The perception of missile defence by some is that it will allow the United States to fight wars more efficiently and effectively. By giving them the ability to defend against limited missile attack, they will have the ability to launch a first strike with less concern about a successful retaliatory attack. This will allow them to go to war more often, or at least more confidently, whenever it suits their foreign policy objectives. It is also the perception of this threat that could easily lead to a gradual build up of nuclear arsenals.

As has been seen countless times throughout history, as bigger shields are produced, so are bigger swords. No state can allow itself to fall into a position of impotence. If its current arsenal of weapons is rendered redundant by a new system, it will develop newer or more numerous weapons that can overcome the new system. By creating a stronger shield
one only provokes the development of more powerful weapons to pierce that shield.

In addition, the UK organisation, Scientists for Global Responsibility, included the following in their statement to the Defence Select Committee:

“The cost of MD for the US is likely to be as much as $200bn (costs for the UK are as yet unclear)—this is not the best use of material or financial resources at a time when more pressing world problems are mounting.

MD is very poor value for money—defence is much more costly than offense. Any attacker who is capable of sending long range missiles can easily afford to spend a little more on cheap countermeasures against MD. As it is, at least 2 MD anti-missiles are planned for each attacking warhead or decay. Thus even a full scale MD system could only defend against 50 or so missiles.

MD cannot defend against much more credible—and very much cheaper—non-missile or terrorist threats. For example a nuclear, biological or chemical weapon inside a plane, a weapon in a boat offshore or in a busy port, a weapon constructed inside a city by parts smuggled in or stolen from within the target country.

The results of a success would mean a rain of nuclear material, either over the intercept area as the warhead burns up on re-entry into the atmosphere, or over the launch area. Evacuation of such areas would thus still leave widespread contamination of large areas.”

The US has been trying to develop a missile defence system of some sort since the Second World War—each programme has failed. Tests of the current technology have been very patchy.

In addition to all of the above, the radar at Fylingdales emits electromagnetic radiation which may be harmful to humans and wildlife. The Ministry of Defence has never issued data on the level or form of this radiation. Measurements taken on behalf of the UK Nuclear Free Local Authorities indicate that the levels of emission are close to the maximum suggested under international guidelines.

Further, the accuracy of these guidelines is in doubt and more research is needed into the effects of the pulsed electromagnetic emissions from the radar before any upgrade is allowed.

**Why Missile Defence Makes Sense for the Bush Administration**

Missile defence provides a market for expensive new military technology and new science, thereby providing jobs, and rewarding key corporate supporters of President Bush’s Presidential candidacy. Missile defence thus has a very powerful political lobby and vested interest behind it.

It creates a continuing threat and helps politically justify US military supremacy over a world with only one remaining superpower.

**In Conclusion**

The CND submission to the Defence Select Committee states:

“It is important to remember that current public plans for missile defence do not tell the whole story. Whilst a software upgrade at Fylingdales may be all that is necessary at present, the full plans for missile defence and the further militarisation of space are far greater and the implications far more destabilising. It is a path that is hard to turn back on once the journey has been started.

**Missile Defence**

- threatens to provoke a new arms race
- will lead to the weaponisation and militarisation of space
- is provoking concern and anger amongst other states including China, Russia, and Canada
- may pose a threat to UK bases
- may lead to the sitting of interceptors in the UK
- will be a step towards the US military’s aim of achieving “full spectrum dominance” through which they will perceive themselves more able to fight wars without threat of retaliation
- may increase electromagnetic radiation levels in the North York Moors national park and surrounding villages
- will tie the UK ever more tightly to US foreign and military policy

The UK government must take the brave step of rejecting use of Fylingdales, Menwith Hill and any other part of the UK for any component of the missile defence system. Instead they should take genuine unilateral and multi-lateral steps towards nuclear and conventional disarmament and peace and confront the root causes of inequality and unrest, and urge the US to do the same.”

We must think of new ways of defining security. It cannot be achieved by the superiority of weaponry and technology—these are material, fallible, and can usually be overcome. The world should learn that creating new levels of warfighting technology has never been a step towards peace and security—and never will be. We must create a world of equality and justice where people and nations help each other through difficult times—not threaten and exploit each other. Unless we change our ways of thinking and behaving as nations, we will obliterate ourselves with greed and mistrust. It may take a long time to make the changes in our political and cultural structures, but if we are careful and thoughtful, then, as a whole, the human race has a long time. We are intelligent and adaptable—we just need the will and courage to do it.

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   “Hansard” is the Official Report of the proceedings of the British Parliament. It is published daily when Parliament is sitting and records everything that is said and done in both the House of Commons and House of Lords; www.parliament.uk/libraryoffice.co.uk/pa/cm/cmhansrd.htm.

The Dutch Position on Missile Defence

Wilbert van der Zeyden

The day this short overview of Dutch views on missile defence (MD) is written, January 23th 2003, general elections are being held for the second time in eight months in the Netherlands. After an unbelievably turbulent political year, this is the second time that voters are being asked to vote for the national parliament and a new cabinet. The issues that have been debated throughout both campaigns are immigration, “illegals”, asylum seekers, minorities, foreigners, and integration. The other issues being debated are crime and the economic recession (in the language of the ruling parties these are in direct connection to immigration). What is completely left out of the political debate is any international political issue. Even the pending war on Iraq and the so-called “war against terrorism” are ignored both by leading politicians and the media, despite the fact that the Dutch army is taking active part in both military operations.

Missile defence is a definite non-issue in all of this. In both election campaigns and also during the 87 days the last cabinet managed to stay in office, the whole issue was not debated once.

A short study of party programmes shows that most parties don’t even have any formal party opinion on the matter. Especially the traditionally center-right parties (the Christian Democrats and the Neo-Liberals) have nothing to say whatsoever on the subject. Only the left wing parties (Labour, Socialists, Greens, Communists) and the fundamentalist Christian parties make statements showing their concern about, or even opposition to, MD plans. The only party in favour of active Dutch MD development is the LPP, a party that won 25% of the seats in parliament eight months ago and is expected to lose almost all of it again in today’s elections.

Evasive Manoeuvres

Unless the left wing parties win today’s elections, which is very unlikely, the new cabinet is expected to do what has become standard strategy in Dutch politics—avoid the subject of MD as much as possible. They may show concern about the possibly destabilising effects of MD, but will, meanwhile, happily go along with any plan coming out of the hat of Washington or Brussels.

The problem is that, in the Netherlands, a political culture has grown over the years in which the tactic of being evasive works best, especially when it comes to more complex issues related to foreign affairs and defence.

The Prime Minister Balkenende (Christian Democrats), when asked about his position on the war against Iraq and planned Dutch involvement, stated, “It is far too early to claim that we are going to be part of this war. We suggested to our biggest ally (the US) that we would help in preparing for this war, but joining them in an active military strike against Baghdad is too early to discuss since there is no such war yet...”. He is expected to get about 33% of all votes today. Politicians in the Netherlands get away with this kind of evasive answering again and again. On the so-called “war against terrorism”; on the expansion of NATO (“there is no expansion yet so we cannot talk about it”); on the procurement of the Joint Strike Fighter (JSF, the biggest Dutch governmental expenditure ever), and on missile defence plans.

Dutch Vision

When digging through the Foreign Affairs Committee minutes of the last two years, it becomes apparent that the official government position is that US plans for National Missile Defence (NMD) raise “grave concerns” because the system breaks the Anti-Ballistic Missile (ABM) Treaty, and because of the possibly destabilising consequences to international security (on which there is no further elaboration). At the same time, it is proudly admitted that the Dutch are within NATO “one of the most active allies with regard to Theatre Missile Defence”, especially when it comes to the development
of Patriots, PAC-3 (Patriot Advanced Capability 3; together with the Germans) and of course, the 'Dutch Pride': the Goal-Keeper.

In a letter from the Ministry of Defence in early 2001, the government elaborated on the subject in a small chapter called The Dutch Vision. Peculiarly, it starts with a sub-heading called The development of strategical thinking in the US, and ends with that paragraph as well.

All mocking and complaining aside, it is quite clear that the Dutch are actively involved in the development of an expanded European/Russian missile defence. They currently intend only on upgrade existing Theatre Missile Defense (TMD) possibilities, but have a definite interest in future expansion of capabilities, and even the integration of systems into the US National Missile Defense (NMD) systems. At the same time, the Dutch government is reluctant to openly show support for the multi-layered NMD system, while it supports the participation of the Dutch military industrial complex in the development this same NMD.

As a Case Study

Is what the Dutch think, say, or do important? No, not really. Apart from the Dutch taxpayers' wallet, involvement or opposition will go largely unnoticed by outsiders. Yet, as a case study, the Dutch case shows two things.

First of all, it shows how non-transparent European defence politics work. It is simply no longer within the political power of the Dutch government to decide on complex international issues. Decisions are primarily made in Brussels' NATO and EU headquarters, and are largely dependent on the opinion of Washington/London and the French/German axis.

Secondly, it shows how expected economic benefits overrule strategic political thinking in the smaller countries. Politically, the Netherlands are a dwarf, but economically, they are not. The only reason to procure the Joint Strike Fighter was for the revenues expected by Dutch high-tech companies, and the same goes for MD development. Already the larger companies, Thales (Signal), Stork, and Philips have managed to get their hands on contracts for development of NMD-related high-tech, worth several tens of millions of US dollars. Also, the second largest European contractor for MD related technology, European Aeronautic Defence and Space Company (EADS), is legally based in the Netherlands. MD is good for tax revenues.

And again, the US tactic of distribution of economically beneficial orders across allies will work. Once they get the companies involved, the governments will follow. The Dutch companies are getting more and more involved, so, for sure, the Dutch government will follow.

Concluding, the Dutch case shows how the tangled web of political and economic preferences create a de facto situation in which governments in the relative-ly small countries are unresponsive to requests for open debate. Politically, governments hide behind the big guns and claim that their inability to decide autonomously on international issues is outweighed by the fact that economically, participation in MD development is a profitable adventure. The other way around, a sound debate on economic factors is silenced because of the danger that the outcome of such a debate will go against the will of the powerful allies.

Where does this leave the voter who today decides on who will govern the country for the coming period (something between 87 days and 4 years): largely uninformed. The last survey among the public shows that roughly 60% of all individuals are against the development of MD. Not, however, because of the expected costs or the low relevance to actual threat or the uncertainty whether a multi-layered system will work properly within the next, say two, decades. But rather because of a growing feeling of discontent about US power politics. Another survey by the same institute showed that international politics got the lowest priority primarily because the public feels that it doesn't matter what the Dutch government wants, anyway.

Just a thought

Enough about the Dutch example. Thinking about European/Russian MD, a thought occurred to me. I haven't done the proper maths yet, but I'm going to share it with you anyway. In an attempt to simplify the matter, I tried some game theory on the question of why any government in Europe would wish to join the club of MD spenders. It has probably been done before and probably more thoroughly. It seems to me that the simple maths leads to a classical paradox of collective action.

For any government 'X', the preferred outcome is that there will be an MD system, payed for by all but X. That way, if the system actually worked in the end, national safety would be improved without having to bear the costs of development and maintenance. In the case of Dutch free-rider behaviour, the Germans would shoot down an incoming missile, even if it seems to be directed at defector/free-rider Amsterdam, because you can never know. The worst outcome of course is that country X pays for all the costs alone because the others don't see any benefit.

In the end, this line of reasoning completely excludes politics and is only dependent on economic factors. Looking at it this way, there's no reason for the Dutch government to co-operate, except for expected tax revenues and possibly the creation of jobs and know-how. If it can be shown that the governmental expenditure would outweigh benefits, this might be the key to changing the mindset of Europeans thinking about MD.

It's just a thought....
Affidavit on Plutonium Disposition

Allison M. Macfarlane

I, Allison Macfarlane, do hereby swear that the following is true to the best of my knowledge.

Brief Summary

Based on my experience in analyzing the technical methods for managing and disposing of excess weapons usable plutonium, I conclude the following about the Department of Energy’s current plans:

The Department of Energy’s abandonment of the immobilization technology and therefore the dual-track or hybrid method of plutonium disposition, which was to burn some plutonium as mixed oxide (MOX) fuel in reactors and immobilize the rest in solid form, has put the entire disposition program at risk of failure. The whole idea behind the hybrid strategy was to ensure that if one method failed because of technical difficulties or public acceptance, for example, the other would be able to continue the important national security mission of disposing of this dangerous material.

Because the Department of Energy cancelled immobilization of plutonium, large quantities of the material must now be purified prior to fabrication into MOX fuel. This impure plutonium would not have required treatment were it to be immobilized. The purification process will require redesign of the MOX fuel fabrication facility to include additional processing facilities. Processing the impure plutonium will result in the production of new waste streams including transuranic wastes, low level nuclear wastes, and mixed wastes that will require treatment and storage. The processing will also result in worker radiation and chemical doses, and the potential for accidents. All of these factors should be analyzed in a new environmental impact statement.

In a February 2002 Report to Congress, the Department of Energy has claimed that due to the cancellation of the immobilization disposition strategy, it has been able to reduce the cost of disposing of 34 metric tons of plutonium by $2 billion. In fact, canceling immobilization only accounts for a cost decrease of about $1 billion. The other $1 billion in cost reductions comes from reductions in capital and operating costs for the Pit Disassembly and Conversion facility to be constructed at the Savannah River site. The Department of Energy has not explained how they are able to achieve such a cost reduction while processing the same amount of material through this facility as before and doing it at a faster rate. Costs to cover the now-necessary purification of impure plutonium are also not explicitly included in the Department’s Report to Congress. It is not clear how they are able to acquire such a large savings.

In an unprecedented move, the Department of Energy has decoupled plutonium disposition from storage and made plans for its long-term storage independent of its ultimate disposition. In the past, the Department of Energy has always regarded long-term storage as one disposition method that was not seriously considered as viable in terms of meeting national security goals and international agreements. But on April 19, 2002, the Department of Energy selected the Savannah River site to be the location for long-term storage of plutonium.

Due to a number of factors, including problems with Russian plutonium disposition, a funding shortfall, and potential lack of private partners to burn MOX fuel, the plutonium disposition program may be substantially delayed. Delay will create long-term storage of plutonium at the Savannah River Site in South Carolina. Long-term storage of plutonium at the Savannah River site will result in environmental impacts that should be assessed. These impacts include worker and public doses and the potential for significant accidents. The Department of Energy does not yet have available necessary plutonium stabilization facilities at the Savannah River site, though they intend to move plutonium there as early as May 15, 2002.

Background and Qualifications

1. My current position is Senior Research Associate in the Security Studies Program at the Massachusetts Institute of Technology in Cambridge, Massachusetts. From November 1998 to December 2000, I served on a National Academy of Sciences panel on the Spent Fuel Standard and Plutonium Disposition. The final report of that panel was issued in November 2000.

2. I am trained as a geologist (PhD, MIT, 1992) specializing in structural geology, metamorphic petrology, and geochronology. I did geochronology analysis at MIT’s research nuclear reactor as a post-doctoral fellow. I taught geology as a faculty member at George Mason University in Fairfax, Virginia for 5 years (from 1993-1998). For part of that time (1996-1997), I held a Bunting Fellowship at Radcliffe College and a Kennedy School Fellowship at Harvard University, where I studied science policy issues, in particular, those associated with plutonium disposition.

3. The following year (1997-1998) I held a science fellowship at Stanford University’s Center for International Security and Cooperation, during which I did more research on plutonium disposition. At that time I published a number of papers on plutonium disposition. From 1998-2000 I held a Social Science Research Council – MacArthur Foundation fellowship in Peace and International Security at Harvard University’s Kennedy School of Government.

Background on Plutonium Disposition

4. A decade ago, at the end of the cold war, it became clear that some of the plutonium that powered nuclear bombs would no longer be needed, due to bilateral treaties and unilateral pledges that promised reductions of nuclear warhead stockpiles. Both the United States and Russia worked towards a joint plan to deal with material considered a “clear and present danger” to international security by
the National Academy of Sciences (National Academy of Sciences, Management and Disposition of Excess Weapons Plutonium, National Academy Press, Washington, D.C., 1994, p. 1). On September 1, 2000, the United States and Russia signed an historic agreement on the management and disposition of plutonium declared excess to military needs. The agreement sets forth a formal plan and schedule to deal with a combined total of 68 metric tons (MT) of weapon-grade plutonium.

5. In the United States, the U.S. Department of Energy (DoE) oversees the management of the surplus plutonium. In January, 1997, DoE issued a Record of Decision that officially accepted a dual-track plan for plutonium disposition: some plutonium would be burned as mixed oxide fuel (MOX) in existing, domestic nuclear power reactors and the rest would be immobilized in a solid waste form. According to the National Academy of Sciences, who first recommended it, “Since it is crucial that at least one of these options succeed, since time is of the essence, and since the costs of pursuing both in parallel are modest in relation to the security stakes, we recommend that project-oriented activities be initiated on both options, in parallel, at once.” (p.417, National Academy of Sciences, Management and Disposition of Excess Weapons Plutonium Pu: Reactor-Related Options, National Academy Press, Washington, DC, 1995, p. 417). DoE echoed these reasons behind the hybrid approach in their 1997 Record of Decision on the Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement, “The additional expense of pursuing the hybrid approach would be warranted by the increased flexibility it would provide…to ensure that plutonium disposition could be initiated promptly should one of the approaches ultimately fail or be delayed.” (Federal Register v. 62, no. 13, 62 FR 3014, January 21, 1997, p. 3027)

6. Furthermore, the United States wanted an alternative process to deal with plutonium in the military complex that was not suitable for use in nuclear reactors. In its 1997 Record of Decision, DoE affirmed that “approximately 30 percent of the total quantity of plutonium (that has or may be declared surplus to defense needs) would require extensive purification to use in MOX fuel, and therefore will likely be immobilized.” (p.3014)

7. The total 52.5 MT of U.S. plutonium available for disposal under the original plan originates from a variety of sources and will be disposed of through a number of different routes. DoE has indicated that 38.2 MT of the 52.5 MT is weapons-grade plutonium, the remainder being non-weapons grade.1 Only 34 MT of weapons grade plutonium is covered in the Bilateral Agreement with Russia, and of that 25.6 MT of clean metal was to be burned as MOX fuel. The remaining 8.4 MT of impure metal and oxide was to be immobilized. The weapons-grade plutonium not covered by the Bilateral Agreement was to have alternative disposition routes; 0.6 MT of plutonium fuel was to be sent directly to a geological waste repository (when available) and 3.1 MT of residues with low concentrations of plutonium was to be sent to the U.S. Waste Isolation Pilot Project underground repository, located near Carlsbad, New Mexico. Finally, of the 14.3 MT of non-weapons-grade plutonium 6.9 MT of spent fuel were to be sent directly to a repository and 7.4 MT of impure metal, oxide and other forms were to be immobilized.

8. In 1996, DoE provided an inventory of plutonium declared surplus to military needs. The majority of the excess weapons-grade plutonium was located at two facilities, the Pantex facility in Amarillo, Texas (21.3 MT), and the Rocky Flats facility near Denver, Colorado (11.9 MT). The rest of the weapons grade plutonium was located at the Hanford site in Washington state (1.7 MT), the Los Alamos National Laboratory in New Mexico (1.5 MT), the Savannah River Site in South Carolina (1.3 MT), the Idaho National Engineering Laboratory (0.4 MT), and other sites (0.1 ton). Of a total of 12.8 MT of declared excess plutonium at Rocky Flats, the majority of it was weapons-grade (11.9 MT), and most of it was in metal form (6.6 MT), with the remainder as oxide (3.2 MT), in liquids (0.1 MT), and in residues (2.9 MT). Only the metal, oxide, and potentially the liquid forms would be available for inclusion in the Bilateral Agreement with Russia; the plutonium residues are scheduled to go to the Waste Isolation Pilot Project, though this is opposed by Senator Pete Domenici. The feedstocks for plutonium disposition are clean plutonium metals, oxides, impure metal and oxides, fresh plutonium-based reactor fuels and other forms (see Appendix I).

9. Under the plan presented in DoE’s January 11, 2000 Record of Decision for the Surplus Plutonium Disposition Final Environmental Impact Statement (Federal Register v. 65, no. 7, 65 FR 1608, January 11, 2000) all new facilities associated with the disposition of plutonium in the United States were to be located at the Savannah River Site in Aiken, South Carolina. DoE planned to construct a Pit Disassembly and Conversion Facility (PDCF), a MOX Fuel Fabrication Facility (MOX FFF), and an Immobilization Facility there. Duke Energy, Cogema, and Stone and Webster were selected as the contractors to run the MOX fuel fabrication facility, Duke Power, Virginia Power, Nuclear Fuel Services, Belgonucleaire, and Framatome Cogema Fuels were named as subcontractors. The light water reactors under consideration to burn the MOX fuel after it was processed at SRS were Virginia Power’s North Anna 1 & 2 and Duke Power’s McGuire 1 & 2 and Catawba 1 & 2. In 2000 Virginia Power pulled out of the deal, leaving only the four Duke Energy reactors.

Recent Changes in the Disposition Mission

10. With the arrival of the George W. Bush administration in 2001, the entire plutonium disposition program underwent a review by the National Security Council. At the same time, the Bush administration drastically cut the funding for both the U.S. and the Russian portion of the program, which was to be financed by the United States and the G8 countries. In response to the funding cuts, the Office of Fissile Materials Disposition at DoE altered its U.S. plutonium disposition plan by deferring the immobilization track. It decided to spend the reduced funds on MOX, and then revive immobilization at a future date (See Fissile Material Disposition, www.llnl.gov/nai/ppac/fmdl.html).

11. After weathering news reports in summer 2001 that the National Security Council intended to scrap the program altogether, they decided to continue the program in light of the events of September 11, 2001, (Phillipp Bleck, 2001, Ad-

12. In the fall of 2001 some members of Congress became concerned that the Bush Administration would drop the plutonium disposition program and required DoE to report to Congress on their plans for U.S. plutonium in the National Defense Authorization Act for FY2002 (Public Law 107-107). In February 2002, DoE issued its report to Congress, which outlined the revised program for U.S. plutonium disposition. The new program resulted in the elimination of the immobilization track of the hybrid strategy, forcing all 34 MT of weapons-grade plutonium covered by the Bilateral Disposition Agreement with Russia into the MOX track. Previously MOX was to handle only the pure plutonium (see Appendix I), in which gallium was the main impurity that required removal. Now impure plutonium would be directed into the MOX track, but this material must first be purified, removing all the contaminants before it can be safely used in a nuclear reactor. DoE plans to purify the plutonium through a process it calls “enhanced aqueous polishing,” which is simply a form of reprocessing practiced in the past by DoE to obtain pure plutonium for weapons materials.

13. In its February 2002 Report to Congress (Report to Congress: Disposition of Surplus Defense Plutonium at Savannah River Site, February 15, 2002, National Nuclear Security Administration, Department of Energy), DoE asserts its 2002 plutonium disposition budget projections are $2 billion less than its 2001 estimates (See Appendix II). The reduction is due, they claim, to the elimination of the immobilization program, the streamlined design of the PDCEF, and the shorter operating lifetimes of both the MOX FFF and the PDCEF. The total cost of the disposition program in 2001 was estimated to be $6.2 billion versus $3.8 billion in the 2002 estimate (see Appendix II). Removing the immobilization facility from the 2001 numbers reduces the difference between the 2001 and 2002 budgets by $1 billion. The remaining $1 billion difference between the 2001 and 2002 cost estimates is from the PDCEF, whose capital costs have been inexplicably halved (see Appendix II). Though additional modifications will be required of the MOX FFF, the costs presented in the congressional report do not reflect that. They also do not reflect the capital cost of dealing with the additional waste streams created by plutonium purification. Furthermore, the 2002 cost estimates do not reflect the additional operating time needed to (1) handle more material through the MOX FFF (34 MT versus 25.6 MT), (2) purify the surplus plutonium streams that would previously have remained untreated in the immobilization program, and (3) to handle the additional wastes generated from purifying the contaminated plutonium.

14. In the new plutonium disposition schedule outlined in DoE’s 2002 Report to Congress, the PDCF start-up is delayed 3 years from that in both the Bilateral Disposition Agreement and DoE’s 2001 Report to Congress, though it finishes its mission 2 years earlier. Somehow DoE is able to gain 2 years on the operating life while at the same time reducing the construction costs by half and the operating costs by 30%, all the while still processing the same or larger amount of plutonium metal into oxide. The MOX FFF is delayed by one year and has a shorter operating life for essentially the same cost as before. The 2001 MOX FFF operating schedule (14 years for completion) assumes a plutonium consumption rate of 2 MT/yr whereas the 2002 schedule (10 operating years) assumes a rate of 3.5 MT/yr. The higher consumption rate is not reflected in the operating costs.

15. Furthermore, the 2002 Report is not clear on exactly what new aqueous polishing facilities are required and how they fit into the cost estimates, other than to call the process “enhanced aqueous polishing.” It is also not clear whether the 2001 estimates were just considering gallium removal by aqueous polishing or whether the facility would remove a larger variety of impurities.

Implications of Changes for SRS and South Carolina

16. There will be a number of potential environmental impacts from DoE’s change in strategy. These include new waste streams from purifying plutonium for MOX use, additional radiation exposure to workers from purifying the plutonium, the potential for accidents from the plutonium purification process, increased staff required to do the work, increased electricity and water usage for plutonium processing, and the impacts from the construction of the purification facility. If plutonium disposition via MOX is not carried out, then there would be other impacts associated with the long-term storage of plutonium at SRS. These include the potential for accidents (including criticality events), and the potential for exposure to workers and the public.

17. New waste streams will be generated by the “enhanced aqueous polishing” that DoE will perform on at least 6.4 MT of impure plutonium. Previously DoE considered using some plutonium “polishing” processes to remove gallium and americium from “pure” plutonium metal and oxides destined for use as MOX fuel. (MOX fuel must fit stringent purity guidelines to be safely used in nuclear power reactors.) The addition of a large amount of “impure” plutonium will require more complex procedures to remove the impurities. These procedures involve first dissolving the impure plutonium in hot nitric and hydrofluoric acids and then using either or both solvent extraction and ion exchange to remove the impurities. This processing will result in a large amount of transuranic and low-level nuclear waste. Much of this waste will be liquid acidic solutions that will need to be solidified prior to disposal. There will also be solid wastes in the form of contaminated gloves, booties, glovebox tools, wipes, and HEPA filters. Appendix III lists DoE’s expected wastes for the relatively simple processing of 33 MT of “pure” plutonium for MOX by removing gallium and a few other impurities; wastes generated from complex processing of the additional 6.4 MT of plutonium would be expected to greatly increase these numbers.

18. Though DoE has expertise in cleaning up impure plutonium for its weapons mission, it plans to build a new facility to deal with the impure plutonium, which will contain a variety of contaminants. These include: americium, uranium, neptunium, aluminum, barium, carbon, calcium, chlorine, iron, fluorine, gallium, potassium, magnesium, molybdenum, sodium, lead, silicon, tantalum, tungsten, and zinc (see Appendix IV for amounts).

19. DoE does not specify what is intended to do with the wastes produced over the long-term. For instance, in Appendix N of its 1998 Draft Surplus Plutonium
Disposition Environmental Impact Statement it states “This waste stream is treated by evaporation to recover nitric acid, and the concentrated impurities are solidified for disposal.” DoE does not go on to explain where at SRS the wastes will be stored and how and if they will eventually be moved off site. For the solid wastes, DoE states, “These wastes would then be packaged, assayed, and disposed of as appropriate.” DoE does not specify what as “appropriate” means.

20. The workers who purify the plutonium and handle the waste streams will receive additional radiation and chemical exposures that will need to be quantified. In addition, DoE should perform analyses of accidents that could result from the enhanced aqueous polishing process. The presence of new waste streams, the potential for worker doses, and the potential for new accidents should be quantified in a supplementary environmental impact statement.

21. DoE’s plutonium disposition program will result in the storage of large quantities of plutonium at the Savannah River Site while it awaits use. Indeed, in its most recent Amended Record of Decision on its Surplus Plutonium Disposition Program of April 19, 2002, DoE has decoupled plutonium storage and disposition, which is a major deviation from previous practice. In the past, DoE’s Records of Decision always considered long-term storage of plutonium as one of the alternative plutonium disposition strategies and named it the “no action alternative,” which it always rejected. DoE stated in its 1997 Record of Decision “Taking into account the likely impact on Russian disposition activities, the no-action alternative [i.e., long-term storage] appears to be by far the least desirable of the plutonium disposition options from a nonproliferation and arms control perspective.” (p. 3023) DoE asserts in its amended ROD that it must move the non-pit plutonium from the Rocky Flats facility “soon” to meet site cleanup objectives. It is not clear how this decoupling of storage and disposition will affect plutonium now located at other sites such as Hanford, Pantex, Los Alamos, and others.

22. DoE’s original plan for non-pit plutonium at Rocky Flats (set forth in an amended Record of Decision, Federal Register, v. 63, no. 156, August 13, 1998) was to move it to Savannah River only if (1) the plutonium had already been stabilized, (2) DoE had completed the new Actinide Packaging and Storage Facility (APSF) to be built at SRS, and (3) SRS was selected for immobilization of non-pit plutonium. At that time, DoE had intended to move the 3.2 MT of oxide, 0.1 MT of plutonium in liquid, 2.9 MT of plutonium in residue, and 0.9 MT of non-weapons grade plutonium to SRS. Of that, only 3.3 MT are covered by the Bilateral Disposition Agreement and would be dispositioned at SRS via MOX. By 1999, DoE had put construction of the APSF on hold. The Defense Nuclear Facilities Safety Board (DNFSB), a Congressionally-mandated watchdog group, complained in a May 14, 1999 letter to Bill Richardson, the then-Secretary of Energy that the “Actinide Packaging and Storage Facility (APSF) at the Savannah River Site (SRS) plays a pivotal role in DoE’s plans … to achieve the stabilization and safe storage of plutonium metal and oxide, as well as neptunium.”

23. DoE continued with a rapid series of changes to the plutonium storage planning for SRS. In 2001, they cancelled the APSF due to cost concerns and decided to replace it with an already-existing building, Building 235-F. In their amended Record of Decision on the Interim Management of Nuclear Materials (Federal Register, v. 66, no. 18, January 26, 2001, p. 7889) they note that there are materials types “…that require, or could require, a new [i.e., does not yet exist at SRS] capability to stabilize and package the material to DoE’s storage standard….” Clearly, SRS will need some kind of new stabilization facility. The DNFSB complained again in a March 23, 2001 letter to Spencer Abraham, the Secretary of Energy, over DoE’s decision stating that DoE had selected a costly and inefficient option to upgrade Building 235-F. Later in 2001 DoE yet again amended their Record of Decision (Federal Register, v. 66, no. 212, November 1, 2001, p. 55166) and cancelled the Building 235-F facility, replacing it with the DNFSB’s suggestion: modifying the FB-Line at SRS. In this latest amended Record of Decision, DoE notes that the Rocky Flats facility already has stabilization and packaging facilities unlike SRS (p. 55167). If that is the case, why is there a rush to move material from a site with adequate packaging and storage facilities to one without them?

25. Storage of plutonium at SRS will now be located at the K Area (Building 105-K). This storage facility was to hold up to 15 MT of non-pit plutonium, most of which was to come from the Rocky Flats facility in Colorado, for up to 10 years (Department of Energy, Supplemental Analysis for Storage of Surplus Plutonium Materials in the K-Area Storage Material Facility at the Savannah River Site, DoE/EIS–0229–SA–2, February, 2002). Under the amended Record of Decision of April 19, 2002, DoE is now considering opening the K-Area to storage of plutonium from other DoE sites and using the facility for a period of 20 years or more.

26. DoE has issued a Supplement Analysis for storing plutonium at K Area at SRS (DoE/EIS–0229–SA–2, February 2002), which it believes satisfies National Environmental Protection Act (NEPA) regulations and eliminates the need for further NEPA analysis. There are, however, numerous questions that the SA does not answer, and these issues bear directly on environmental impacts for the state of South Carolina. For instance, will there be adequate physical protection at the K Area? How many containers will be shipped and how well characterized are their contents? Is there going to be an adequate inspection program in place to detect dangerous helium build-up and heating in the containers? What potential accidents could happen? What will DoE do if they find a leaking container—where will they put it?

27. Most importantly, DoE states in the amended ROD of April 19, 2002, that it is building stabilization and packaging facilities in FB-Line at SRS, but it does not state when these facilities will be ready, yet DoE insists on beginning moving plutonium from the Rocky Flats facility as soon as May 15, 2002 (letter of April 15, 2002, from Energy Secretary Spencer Abraham to South Carolina Governor Jim Hodges). It is not clear that DoE can safely operate a storage facility without adequate stabilization and packaging facilities. If a container were to leak, for instance, how would it be stabilized?

28. DoE has claimed in multiple newspaper reports that part of the reason for moving the plutonium immediately from Rocky Flats to SRS is for national security reasons (see for example, David Firestone, Doubts Are Cast Over Plan for Convert-
ing Warheads, New York Times, April 19, 2002). But since by its own admission it will not even begin construction of the MOX FFF until 2004 (DoE's 2002 Report to Congress), there is no reason to move the material to meet the terms of the Bilateral Agreement until at least 2005.

29. Furthermore, if DoE is truly concerned about national security issues, it seems that they need to ensure the security of their own plutonium by providing a secure facility for plutonium storage. Not only must the facility itself be equipped with portal monitors, video cameras, etc., but due consideration must be made of all the additional construction workers who will be present building the MOX FFF; the PDCF; and the plutonium storage and stabilization facilities at SRS all the while plutonium is stored there.

Problems with New Disposition Program

30. There are a number of problems with the recently revised disposition program that may lead to delays in disposing of plutonium. Long delays in the program would result in DoE consolidating surplus plutonium at SRS and the facility becoming a long-term storage facility. DoE has already said as much in their amended Record of Decision of April 19, 2002. Delays may originate from numerous sources, but perhaps the biggest wild card is Russia.

31. The problem is that the United States and Russia agreed to conduct work in parallel in the Bilateral Agreement. Congress also requires parity in plutonium disposal, and will not likely continue to fund the program if the Russian program is seen to lag behind that of the United States. At the moment, Russia cannot afford to cover the costs of its plutonium disposition program, so the G8 countries have agreed to try to fund the program if the Russian program is in parallel in the Bilateral Agreement. DoE now has to find more reactors to accommodate the increased MOX throughput from the cancellation of the immobilization program. At the moment, Duke Energy is the only utility providing MOX fuel in 2000 (North Anna in Virginia). Virginia Power, the utility that owns the reactors, claimed the decision to pull out was due to corporate restructuring. DoE now has to find more reactors to accommodate the increased MOX fuel, due to delays in the start-up of the plutonium disposition program, if may no longer be in a position to provide this service to DoE.

32. To make matters worse, the Russians are less inclined to move quickly on plutonium disposition due to disagreements between the United States and Russia over U.S. abrogation of the Anti-ballistic Missile Treaty and U.S. development of a national missile defense. Perhaps the biggest problem facing the timelines of the Russian program at the moment is the lack of availability of a ready MOX fuel fabrication facility. The Russians were counting on the transfer of a never-used German MOX FFF to Mayak in Russia, but no funding was forthcoming from the G8 for this endeavor, so Siemens, the German company that owns the Hanau plant, began to decommission it this winter.

33. Another indication of delay in the MOX program is that both the Nuclear Regulatory Commission, which must license the MOX FFF and Duke Energy, whose reactors will burn the MOX fuel, have expressed doubts about the current plutonium disposition program. DoE lost two reactors it was depending on to burn MOX fuel in 2000 (North Anna in Virginia). Virginia Power, the utility that owns the reactors, claimed the decision to pull out was due to corporate restructuring. DoE now has to find more reactors to accommodate the increased MOX throughput from the cancellation of the immobilization program. At the moment, Duke Energy is the only utility providing reactors (two at McGuire and two at Catawba). If Duke Energy experiences long delays in using MOX fuel, due to delays in the start-up of the plutonium disposition program, if may no longer be in a position to provide this service to DoE.

34. Funding is another possible source of delay. Getting plutonium through SRS and into reactors depends on sustained Congressional funding over an almost twenty-year period, with large expenditures expected over the next ten years (see Appendix II). Finally, MOX faces legal challenges from a variety of non-governmental organizations that may lead to lengthy court battles, resulting in more delay. The bottom line is that the plutonium may reside in South Carolina far beyond the date of 2019 that DoE put forth in its recent Report to Congress with no guarantee it will ever leave once it is shipped there.

35. In its most recent amended Record of Decision of April 19, 2002, DoE states that “No final decisions regarding the MOX portion of the surplus plutonium disposition program will be made until DoE/NNSA has completed [an] analysis.”

At the moment, according to DoE, they have no firm disposition plans for any of their plutonium. Instead, DoE has reduced its chances for successfully completing the plutonium disposal mission by reducing the number of disposition strategies.

36. DoE’s decision on plutonium disposition is similar to that made by Congress on high-level nuclear waste disposal. Congress had originally envisioned simultaneously characterizing and comparing three sites for a nuclear waste repository. Politics intervened and Congress decided to consider only one site, Yucca Mountain, Nevada. Where before the government could have presented the public with the best site of three, they now must make the case for a difficult site. DoE is similarly preparing to hamstring itself by selecting only one method for plutonium disposal.

The affidavit was written in support of a lawsuit of the State of South Carolina against the US Department of Energy on trying to prevent the shipment of plutonium to the Savannah River storage site. The Federal District Court hearing was in June 2002.

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MIT’s Security Studies Program is devoted to the study of war and peace. The Program’s courses emphasize grand strategy, technology, arms control, and political and bureaucratic issues. Its faculty includes natural scientists and engineers as well as social scientists. The Program integrates technical and political analyses in studies of international security problems.
National Ignition Facility Update

Marylia Kelley

The National Ignition Facility (NIF) is a controversial U.S. Department of Energy (DoE) nuclear weapons project currently under construction at the Lawrence Livermore National Laboratory, about 45 miles east of San Francisco, California. NIF is a stadium-sized mega-laser, intended to blast a radioactive fuel pellet with 192 laser beams in order to create a thermonuclear explosion inside a reactor vessel.

NIF is the biggest and most expensive component of DoE’s euphemistically titled “Stockpile Stewardship” program to use laboratory-based technologies to develop and certify new and modified nuclear weapons. The DoE and Livermore Lab tout NIF as a means to attract and train a new generation of bomb designers in the absence of full-scale underground nuclear testing.

Independent scientists, policy analysts, and disarmament advocates oppose NIF for a growing list of good reasons including its weapons applications, proliferation impacts, spiraling costs, and environmental harms. Moreover, NIF is acquiring a reputation for science fraud, something that DoE has been unable to squelch despite spending large sums of money on hand-picked review panels to “bless” the project.

Plutonium, HEU, and Lithium Hydride

In the face of a growing opposition, Livermore Lab is rolling out plans to expand the types of experiments to be conducted on NIF. The goal? To give NIF new missions and to attract additional monies. The latest proposals call for plutonium, highly-enriched uranium, and large amounts of lithium hydride to be used in NIF experiments, along with the deuterium-tritium mix capsules that comprise the targets for NIF’s thermonuclear, or fusion, experiments.

Livermore Lab will reveal the scope of its new plans in an upcoming site-wide Environmental Impact Statement (EIS). The draft EIS is due in September 2003. The use of these additional materials in NIF is called the “preferred alternative” in the mandatory legal notice published last year. The first glimmer that DoE and Livermore Lab wanted to use these materials in NIF came from documents that were declassified (redacted) and released pursuant to a lawsuit undertaken by Tri–Valley CAREs, Natural Resources Defense Council, and dozens of colleague groups in 1997. The groups had sued DoE for conducting a grossly inadequate environmental review of its Stockpile Stewardship program.

The plans called for plutonium-239 to be used in NIF in at least two kinds of experiments, equation of state (in which plutonium is compressed) and fission induction (in which neutrons from the fusion ‘fuel’ pellet are used to begin the fissioning process in the plutonium). These tests can also be conducted with highly-enriched uranium.

The lithium hydride would be used in large Neutron Multiplying Assemblies (NEUMAs), weighing up to ten tons. One of the declassified reports contains plans for as much as 100 pounds of lithium hydride at a time to be stored at NIF. The lithium hydride would be used to amplify the effects of the NIF’s fusion ‘fuel’ (the deuterium-tritium pellet) in order to create a more intense nuclear warfighting environment inside NIF’s reactor vessel. That chamber is large enough to encompass an entire weapon or other large objects.

These experiments, called nuclear weapons effects tests, will be used to determine how well satellites, warheads, and other military equipment will survive nearby nuclear explosions. Thus, NIF is being groomed for a role in U.S. plans for missile defense as well as for nuclear weapons development. The declassified documents further allude to NIF experiments to develop nuclear–tipped interceptors and other ‘Star Wars’ paraphernalia.

Last month, high-ranking DoE officials suggested that they were still considering which of the proposed new experiments to include in the site-wide environmental report. Plutonium experiments are very likely to go forward, while NEUMAs are still under some consideration, according to DoE. “We will make that decision soon,” I was told.

Technical Problems and Money Troubles

In 1993, NIF’s cost was estimated at $677 million. In 1997, it rose to $1.2 billion. Poised to begin construction at that time, DoE promised Congress that NIF’s cost would not continue to rise. On June 1, 2001, the U.S. General Accounting Office (an investigative arm of Congress) estimated NIF would cost $4.2 billion to build. That same year, Tri–Valley CAREs commissioned Dr. Robert Civiak, a physicist and former White House budget official, to undertake an independent analysis of NIF. Dr. Civiak found that pre-completion costs were likely to reach $5 billion and that the full cost to build and operate NIF for 30 years, as DoE plans, would top $32.4 billion. (The full report is available at www.trivalleycares.org)

Serious technical difficulties at the NIF were one source of its soaring price tag. By mid–1999, employees began telling Tri–Valley CAREs about problems and cover-ups at the NIF. For while the government was busily building NIF’s massive outer structure, it was hiding major problems with the laser. Years of development had failed to create an ignition-capable target for NIF. The Lab and DoE were still unsure of which material to use — each one they investigated from plastics to beryllium exhibited unique troubles that would prevent it from achieving the self-sustaining fusion reaction that was NIF’s scientific goal. There were unresolved beam focusing problems. And, it turns out, the Lab knew that NIF’s final optics assemblies — through which the beam lines must pass after their conversion into ultraviolet — would shatter at full energy after only a very few shots. (Interestingly, these basic problems remain unsolved. DoE, for example, now refers to NIF’s final optics problem as a “maintenance issue.” That’s a redefinition, not a solution.)

Congress responded to these reports of NIF’s cost, schedule, and technical difficulties by insisting that DoE reassess the
NIF. This process was called the NIF "re-baseline."

Conflicts of Interest and Legal Woes

DoE undertook the NIF rebaseline with a combination of fanfare and secrecy, convening a panel that it proclaimed as independent but keeping the names and meetings closed and confidential. In 2000, the DoE announced that the rebaseline committee had given NIF a clean bill of health. The agency transmitted the committee’s report to Congress (to obtain money). It was at this point that the committee members names became public. Lo and behold, the touted ‘independent’ panelists all held financial and career interests in NIF. Many worked on NIF; Two were the signatories on large NIF development contracts. One was the optics manager for NIF’s near-twin, the French Laser Megajoule, which has a shared contract for laser glass with NIF.

Armed with this and other information, the Natural Resources Defense Council and Tri–Valley CAREs sued DoE for violating the Federal Advisory Committee Act. This past October, the court issued its final ruling. Federal court judge Emmet Sullivan ruled that DoE had repeatedly violated U.S. law by convening biased, closed committees to assess NIF; including the rebaseline committee. Additionally, the court acted to force DoE to disband a similar, ‘new’ committee made up of many of those same members. The ruling casts a deserved shadow over NIF and points to the fact that the mega-laser has never undergone a truly independent scientific review. It is our belief that NIF could not withstand the scrutiny of an objective analysis.

2004 Budget

On February 3, 2003, the President’s fiscal year 2004 budget request went to Congress. The DoE’s inertial confinement fusion campaign, which funds NIF, came in with a request for $467 million. The way the budget is constructed, it is not possible to tell exactly how much of that goes to NIF. One can calculate the funds that are specifically identified as NIF, however. They total $365.7 million, roughly comparable to this year’s budget. The first four out of the 192 planned beams at the NIF began operating at low power early this year, though they have yet to be focused on any target. “Laser test more show than science,” is how the headline in one local newspaper put it.

Conclusion

Livermore Lab is already on the U.S. Environmental Protection Agency’s “Superfund” list of most contaminated sites in the country. NIF will generate toxic and radioactive wastes; even its ‘routine’ operation will create pollution for the surrounding communities. The situation could be exacerbated by newly-planned experiments and the addition of materials with long-lived isotopes like plutonium.

Few scientists believe NIF will achieve its scientific objective of ignition, though it will reach energies, temperatures, and densities of interest to weapons designers. In essence, it’s a machine to keep weapons designers busy at their deadly pursuits. NIF runs counter to the U.S.’ disarmament obligation under Article VI of the Non–Proliferation Treaty. Many believe is violates Article 1 of the Comprehensive Test Ban Treaty as well. From conducting laser fireball experiments, to providing detailed analyses of mix, to studying new fusion weapon concepts to creating a test bed for weapons effects, NIF will push the envelope of nuclear weapons physics - and demonstrate once again that the United States will not practice the disarmament it so sanctimoniously (and forcibly) prescribes for others.

On the other hand, NIF’s completion date has already been pushed back six years — to 2008. The NIF is not a "done deal." We can still stop it.

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The 2nd Nagasaki Global Citizens’ Assembly for the Elimination of Nuclear Weapons

- Purpose: To discuss how to realize the elimination of nuclear weapons leading up to the 2005 NPT Review Conference, cooperating with worldwide non-governmental organizations and global citizens who wish for world peace without nuclear weapons
- Sponsorship: The event is being hosted by the Organizing Committee of the Nagasaki Global Citizens’ Assembly for the Elimination of Nuclear Weapons.

Nov. 23 (Sun)
Workshop 3: Northeast Asia Nuclear Weapon Free Zones and Nuclear Umbrella (Dingli Shen)
Workshop 4: The US Nuclear Posture Review (Robert Green)
Workshop 5: Peace Education and Culture of Peace (Kate Dewes)
Workshop 6: Forum for Parliamentarians for Nuclear Disarmament (Mr. Alyn Ware)
Workshop 7: Toward the 2005 NPT Review Conference (Regina Hagen)
Workshop 8: Hibakusha Forum
Movie Presentation by “Ten Feet Movement”

Nov. 24 (Mon)
Showing of Local Anti-Nuclear TV Programs
Field Excursion to A-Bombed Sites
Closing Ceremony
– Workshop Reports
– Adoption of Nagasaki Appeal
– Portrait Walk

For more details, contact Nagasaki Foundation for the Promotion of Peace, 7-8 Hirano-machi Nagasaki 852 – 8117 Japan; tel: +81 – 95 – 844-3975, fax: +81 – 95 – 846 – 5170; gca.naga@viola.ocn.ne.jp; w3.ocn.ne.jp/~gca.naga/
Prisoners of the Nuclear Dream

Edited by M.V.Ramana and C. Rammanohar Reddy

Full credit to the editors, M.V. Ramana and C. Rammanohar Reddy, for bringing together in one volume all one could want in terms of arguments against the nuclearisation of South Asia. The book is divided into four parts dealing respectively with: a) security matters viz India, Pakistan and China; b) international illegality, ethics and science; c) the relationship between nuclearisation and communalism, the negative impact of militarisation on democracy and socio-economic development, especially in India; d) the impact on health and environment not just of testing but of running the full nuclear cycle necessary to continuously produce required fissile materials.

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Among the contributors are such illustrious names as Amartya Sen on ethics and the bomb, Amulya Reddy on science and ethics, Jean Dreze on militarism, democracy and development, Admiral Ramdas and Kanti Bajpai on security matters, two Pakistani scholars, Zia Mian and Ejaz Haider, on problems of command and control, and managing India-Pakistan nuclear tensions, and a piece by Ye Zhengjia, former Chinese diplomat who served in India and is currently Senior Fellow of the China Institute of International Studies, Beijing who gives the Chinese perspective on Sino-Indian relations. Clearly, in the short space provided by this review one cannot avoid singling some chapters out for greater commentary, depending on whatever the reviewer's own predilections happen to be. But this most certainly does not preclude a warm endorsement, to all potential readers and buyers, of the uniformly high quality of all the contributions in this volume.

The editors also contribute chapters of their own. In a powerful survey, M.V. Ramana not only highlights the role of the scientists' lobby in India which repeatedly pressed for the bomb but also contrasts their behaviour with an alternative scientific tradition represented by Meghnad Saha and C.V. Raman with their much more humane and moral sensitivity to issues concerning science, ethics and development. C. Rammanohar Reddy provides the most comprehensive coverage to be found anywhere regarding the various feasible cost estimates of what producing and maintaining a modest but credible nuclear deterrent would entail and what its opportunity costs are in terms of educational and health supply needs foregone. Even at 0.5 per cent of annual GDP [gross domestic product] a nuclear regime is costly enough. But since there is no such thing as a stable minimum deterrent position one cannot escape being trapped on a damaging escalatory cycle.

Kanti Bajpai, rather than challenging the realist paradigm and its claims for security through nuclear weapons head on, tries bravely and with considerable plausibility to show how even within that paradigm of reasoning India has only damaged its security environment vis-à-vis Pakistan and China. It has become the only country today to willfully create a two-front nuclear threat to itself when it could have pursued mutual demobilisation vis-à-vis Pakistan and ignored an essentially abstract and 'theoretical' threat from China which between 1964 and 1998 posed no serious political problems for it. Zia Mian in the longest chapter in the book gives an excellent and authoritative account of what steps India and Pakistan have so far taken regarding the setting up of command and control systems and the immense, indeed insuperable, problems they face in making these functions reliably. There has to be the search for both positive and negative control. The first describes a situation where weapons are only used when authorized, i.e. in wartime contexts and the second, when weapons must not be used except when authorized, i.e., in peace time. The problem is that there is an inescapable trade-off between the needs of safety and of readiness especially in South Asia where there is so little warning and retaliation time between a possible enemy launch and one's own response. Moreover, nobody knows how even the best laid systems and procedures will work in the inevitable disruption and 'fog' of actual wartime situations. Besides, the safety records and capacities of India and Pakistan even in the field of conventional military preparations are pretty abysmal so the last thing one needs is false confidence about either country's nuclear command and control capacities.

Ejaz Haider suggests ways to reduce nuclear tensions between India and Pakistan that go beyond even the institutionalisation of mutual risk reduction measures, which incidentally, neither government has yet proceeded to seriously formulate and discuss. There is the interesting suggestion that the No First Use (NFU) proposal of India and the No War Pact (NWP) proposal of Pakistan be tied together in a joint commitment. This, he feels, is a way of getting around India's opposition to the NWP on the grounds that this does not address, indeed legitimises, Pakistan's low-intensity militancy in Kashmir. Pakistan, for its part, opposes the NFU so as to retain a hedge against India's conventional military superiority. The proposed link requires both countries to accept a broad definition of what constitutes war, e.g. support for cross-border militancy, blockades, sabotages, disruption of river waters, etc., and a recognition that violation of either commitment (e.g. a conventional attack by India on Pakistan) absolves the other side from having to continue with its NFU or NWP commitment. While Haider's proposal provides an interesting talking point one cannot seriously expect either country to give up its political options in such a manner when there is so deep a mutual distrust. Indeed, too broad a definition of war creates its own problems. Also, since India sees China as an opponent it will undertake preparations against it that automatically raise tensions with Pakistan.
In this context, another proposal not discussed in this volume but worth considering is mutual recognition by India and Pakistan of the whole of Kashmir as a nuclear weapons free zone (NWFZ). India would not want any such partial NWFZ to be legitimised, i.e., to allow this ‘thin end of the wedge’ to come into South Asia even if it does not alter actual nuclear preparations on either side, which is why the proposal should be pressed. It too, (like Haidar’s NFU-NWP proposal) is a useful way of generating discussion and pressure in civil society on the two governments to come up with ways to lessen nuclear tensions over Kashmir.

Srirupa Roy in her very stimulating chapter correctly insists on framing India’s decision to go nuclear within the wider and determining context of domestic developments, most notably the advance of Hindutva and its impact on official nationalism. Realist thinking with its analytical separation of the domestic and the external and its explanation of Pokharan II as external threat determined is forcefully lambasted. Her own option is to avoid a simplistic criticism of Hindu nationalism forces as the key explanatory variable and instead to look at the “socio-historical processes that enabled the emergence of Hindu nationalism in the first place”. Thus she sees the nuclear-testing decision as a “site of translation” whereby Hindu nationalist ideology merges with and becomes the mainstay of an official nationalism already burdened with so many of the elements conducive to moving in the direction of Pokharan II. This approach is fine as it goes but also somewhat loose. What is needed is an elucidation of the ‘structured causation’ that links Hindutva and the “wider social and political field within which it operates” to 1998 and after. Here the key structuring principle is not Hindutva itself but ‘elite nationalism’, its complex history, its multiple contexts and sources.

Finally, mention must be made of one of my favourite chapters, Jean Dreze’s fine piece about wars and their multiple deleterious effects on civil life through physical destruction, displacement, economic deprivation, environmental degradation, psychological trauma, institutional breakdown and crippled administration. Ever the scrupulous social scientist he seeks to provide some valid indicators for quantifiable measurement for his arguments. He goes on to discuss the complicated relationship between strengthening democracy and promoting peaceful behaviour and evaluates the problematic concept of nuclear deterrence. In the latter context he tantalizes this reader certainly, with his dual claim that game theory is very useful for the peace movement and that game theoretic analysis — a favourite with pro-nuclear strategists — is “an extremely fragile and risky basis for collective security”. One wishes that Dreze had elaborated much more on this than he does. Perhaps on another occasion he will. One caveat though. Dreze in a footnote suggests that nuclear blackmail against non-nuclear states has been credible and effective. This is itself a highly problematic and eminently contestable claim that is not strengthened by the fact that in situations when nuclear states most need to coerce or blackmail non-nuclear states, i.e., when they are losing wars to them, nuclear weapons have proved politically useless.

Achin Vanaik
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BWPP Website

The BioWeapons Prevention Project (BWPP) is a new global civil society activity that aims to strengthen the norm against using disease as a weapon. It was initiated by a group of non-governmental organizations concerned at the failure of governments to act. BWPP tracks governmental and other behaviour that is pertinent to compliance with international treaties and other agreements, especially those that outlaw hostile use of biotechnology. The project works to reduce the threat of biowarfare by monitoring and reporting throughout the world. BWPP supports and is supported by a global network of partners.

BWPP maintains a website at www.bwpp.org where you can find BWPP’s publications as well as relevant treaty texts, country profiles, and other background information.

Verification Yearbook 2002
Edited by Trevor Findlay and Oliver Meier

The Verification Yearbook 2002 provides independent, authoritative and concise analysis of Verification developments over the past year, as well as assessing future trends in monitoring, verification and compliance.

It covers developments in arms control and disarmament verification, environmental monitoring and election observation, as well as verification modalities and technologies.

The chapters were written by researchers from VERTIC (Verification Research, Training and Information Centre) and other leading practitioners, analysts and academics.

The Yearbook chapters are available as PDF files at www.vertic.org/yearbook/yb2002/index.htm.

VERTIC’s mission is to promote effective and efficient verification as a means of ensuring confidence in the implementation of international agreements and intra-national agreements with international involvement. Along with verification, VERTIC also concerns itself with the negotiation, monitoring and implementation of such agreements and the establishment of confidence-building measures to bolster them.
The German Plutonium Balance for the Years 1968-1999

By Martin B. Kalinowski, Wolfgang Liebert, and Silke Aumann

The technical report The German Plutonium Balance for the Years 1968-1999. Reprocessing, Import and Export, MOX Fuel Element Production and Usage, Stored Inventories provides a comprehensive analysis of open source information on plutonium inventories owned by German nuclear operators for the years 1968-1999. The survey covers plutonium separated by reprocessing of spent fuel in the reprocessing facility Karlsruhe, Germany (Wiederaufarbeitungsanlage Karlsruhe or "WAK"), as well as at the La Hague reprocessing plant, in France, and the Sellafield reprocessing plant, in the United Kingdom. The report also discusses the import and export of unirradiated plutonium and gives an overview of the past production of uranium-plutonium mixed oxide (MOX) fuel, as well as the usage of MOX fuel in Germany. The study presents these data on an annual basis since the end of the 1960s, although a number of uncertainties remain. As of the beginning of 1999, the study concludes, 23 to 30 tonnes of unirradiated plutonium (separated or in fresh MOX fuel) were under German control and responsibility, either in Germany or abroad. An additional 47 to 60 tonnes were still contained in spent fuel. However, because separated plutonium poses significant proliferation risks, and because the German MOX program will have difficulty absorbing the country’s existing stocks of this material, the future of Germany’s reprocessing program has been placed in doubt. New initiatives are urgently needed in order to develop a comprehensive, long-term strategy for addressing Germany’s plutonium surpluses.


An Ethical Career in Science and Technology

Scientists for Global Responsibility (SGR) has produced an introductory booklet and a series of in-depth briefings intended to give scientists and engineers a deeper understanding of the wider ethical dimensions of various careers in science and technology.

The 32-page introductory booklet (published in summer 2001) is an initial look at issues such as genetics, climate change, arms, militarisation of space, animal experiments, cleaner technology, information technology, and science funding. In addition, it describes the experiences of working scientists and how they have dealt with many of these issues. Contributors include Nobel Peace Prize winner Professor Sir Joseph Rotblat, inventor of the World-Wide-Web Dr Tim Berners-Lee, and the well-known commentator on biotechnology issues Dr Mae Wan Ho.

Each of the series of briefings provides a more in-depth analysis of a particular issue and the implications for career choice in science and technology. PDF copies can be downloaded below:

* Career choice and climate change (March 2003)
* Cleaner technologies: a positive choice (March 2003)
* Career choice, ethics and animal experimentation

Further briefings will be published during 2003, covering topics including: the military and space technology; assessing the sustainability of your career; ethics and genetics; nuclear issues; military involvement in science and technology; and how science is funded.

To find more information or download the PDF versions of the papers, visit www.sgr.org.uk.

News from the INESAP Coordinating Committee

A few changes were made to INESAP committees at the conference of the Moving Beyond Missile Defense project in Berlin, January 24-26 2003. The INESAP Coordinating Committee (CoCo) had its first opportunity to meet since September 1997 (in Shanghai). The business meeting was very creative and productive, although it was held late at night after the official conference programme had ended.

On that occasion, most members of the committee renewed their commitment. Martin Kalinowski left the committee since it would not be compatible for him as an international civil servant to officially take responsibility for a managing role of an NGO. Keeping his name in the Committee was a legacy that could not hand back earlier. He had played a central role in INESAP over many years, and his continued advice will be highly appreciated. Johan Swahn left the committee because his main research focus shifted to sustainable development. He will continue facilitating the email discussion list of INESAP. It keeps him involved in INESAP activities and helps us to share the workload on more shoulders. At the same meeting, INESAP won a powerful person to join the CoCo. Prof. Kathryn Nixdorff accepted a place in the CoCo. She is professor for microbiology at the Darmstadt University of Technology. She is member of IANUS and has been participating in INESAP activities since its foundation. She has been working on non-proliferation and preventive arms control for biological weapons as well as on verification for toxicological weapons. One place in the INESAP Coordinating Committee is vacant for the time being. A potential candidate was agreed upon at the meeting in Berlin. He has been contacted but is not yet ready to decide on taking on this responsibility. A decision is expected for this summer.

The Editorial Board of the INESAP Information Bulletin saw changes as well. The only person remaining in this group is Jürgen Scheffran who continues to be the main editor. Alexander Glaser, Regina Hagen, Andrew Lichterman, Götzi Neuneck, and Dave Webb have been nominated as new members. They accepted the appointment and we wish them much joy and success in their work.

With these changes, INESAP has been refreshed with good spirit to support the future development of this international network.