

Pugwash Meeting no. 279

"No First Use of Nuclear Weapons"

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PAPERS

**What Future for Arms Control?
(The Silent Spring)**

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PREAMBLE

British Pugwash were hosts to an international workshop on 'No First Use' of nuclear weapons from 15th to 17th November and for this would be gathered in London some of the world authorities on nuclear warfare. It seemed a good opportunity to invite three of these distinguished delegates to address a public meeting in London, on a date adjacent to those of the workshop. Accordingly, General Sir Hugh Beach (Formerly Master General of the Ordnance), Dr Alexander Nikitin (Director at the Centre for Political and International Studies, Moscow) and Dr Steven Miller (Director, Centre for Science and International Affairs, Harvard University) were asked to speak to the subject: 'What Future for Arms Control' at the Royal Society.

The three speakers were requested to approach the subject as they saw fit; there was to be no collusion, no attempt to complement each other or to reach a common view. So it came about that we had three very good brains addressing the same subject, Arms Control, and not unexpectedly we had three very distinctive interpretations.

During his address Alexander Nikitin mentioned that he had that very morning left Moscow, which was covered in snow, and here he was in London in a typically late autumn afternoon. These observations triggered some thoughts in Jo Rotblat's mind because at the end of the three talks he congratulated each of the speakers and suggested that the main thrust of each address could be best described by ascribing to

each a season. Hugh Beach with his irrepressible optimism and long-term hopeful view of human affairs, was obviously Summer; Alexander Nikitin, fresh from the Steppes of Central Asia, was not so optimistic but he could at least detect some warmth in the current situation so he was ascribed to Autumn; Steven Miller, with his more intimate knowledge of the machinations of the Bush administration and his pessimistic view on the developing scene, simply had to be awarded Winter.

Had Steven, during his perambulations around London looking for malt whisky, had by some magic bumped into Percy Shelley, and been asked 'When Winter comes can Spring be far behind?', would have replied 'Well as a matter of fact,.....Yes!'. Hence our sub-title 'Silent Spring' for this account. The order present below has been dictated by the sequence of the seasons rather than the order of presentation of the lectures.

Hugh Beach

"The way to ensure summer in England
is to have it framed and glazed in a
comfortable room"

Letter to Sir Horace Mann

The speaker began by giving some examples of arms control measures which have been successful in the past, starting with:

The Intermediate-range Nuclear Forces (INF) treaty

The Treaty was signed in December 1987 and came into force in 1988. It was a turning point for arms control; the first accord to eliminate a complete class of nuclear delivery means, banning all ground-launched ballistic and cruise missiles with ranges from 500 to 5,500 km. It also prohibited launchers, equipment, support facilities and operating bases, test flights and future production of missiles. (It did not, however, cover warheads and guidance systems.) For the first time the Soviet Union accepted on-site verification. To ensure smooth working of the Treaty a Special Verification Commission (SVC) was set up to address issues of compliance and implementation.

The Americans removed their missiles from Belgium, the Netherlands, Germany and Italy and, of course Greenham Common, by May 1991, as required. The Soviets removed theirs from East Germany and Czechoslovakia. After the collapse of the Soviet Union, negotiations in the SVC ensured that Belarus, Ukraine and Kazakhstan all implemented their share of the Treaty satisfactorily. Some 1692 missiles were destroyed within the three year time allowed, and on-site inspection went on for a

further ten years. Midnight on May 31st signalled the end of the on-site inspection regime. Everyone agreed that the treaty had been successfully verified and verification will continue indefinitely by National Technical Means (NTMs), ie mainly by satellite.

So here is a story that has unfolded over the past 20 years and has been a great unsung success. It was told because the treaty provides a paradigm, it broke new ground and, unlike the SALT treaties of the 1970s, brought about for the first time an actual reduction in weaponry. A summary is now given of the subsequent reductions in arsenals that arms control measures have brought about.

START-I

This treaty was signed in July 1991 and entered into force between the US and Soviet Union, plus Belarus, Ukraine and Kazakhstan in December 1994. By December 2001 each side had to reduce to 1,600 ballistic missiles and heavy bombers carrying not more than 6,000 warheads. This was about one third of the then strategic nuclear arsenals on either side. Completion was duly reported on December 5th 2001, but the treaty runs till 2009 with the option to extend it indefinitely. When negotiating the Moscow treaty last May (SOR Treaty) both sides agreed that START I 'remains in force and will provide the foundation for providing confidence, transparency, and predictability in further strategic offensive reductions'.

Co-operative Threat Reduction (CTR) programme

In 1991 the US Congress directed the Department of Defence to help secure former Soviet Weapons of Mass Destruction (WMD) by way of the CTR programme. In 1995-6 this programme helped Kazakhstan, Belarus and Ukraine to become non-nuclear weapon states. Much of the initial help to Russia was in implementing START I reductions, dismantling submarines, deactivating warheads and reducing strategic bombers to scrap. This activity presently costs the US about \$1bn a year. The following items are listed as having been eliminated: 5,800 nuclear warheads; 450 ICBMs and their silos; 21 ballistic missile submarines together with 290 of their missiles and 370 launchers; 95 strategic bombers; 48 long-range Air Launched Cruise Missiles (ALCMs), and 195 test holes or tunnels. This work has spawned a series of co-operative programmes: the Materials Protection Control and Accounting (MPC&A) programme; the Highly Enriched Uranium (HEU) deal; the Initiative for Proliferation Prevention: the Nuclear Cities Initiative (NCI); and the Plutonium Disposition deal. All this is organised and paid for by the US - what are the rest of us doing to help? Not very much.

The CFE treaty

This treaty was signed in November 1990, came into force in 1992 and was amended in November 1999. Its aim was to reduce conventional forces between the Atlantic and the Ural Mountains, redressing the great imbalance between NATO and the Warsaw Pact. It concentrated on forces needed to launch a surprise attack and seize and hold territory ie tanks, artillery, armoured combat vehicles, combat aircraft and attack helicopters. The treaty has worked apparently satisfactorily but sceptics argue the reductions in armament are no more than would have been achieved by the peace dividend anyway, and actual holdings were in any case well below the treaty limits. The operating of the treaty however has led to diplomatic benefits.

The Chemical Weapons Convention (CWC)

This convention opened for signature in January 1993 and came into force in April 1997. There are now 146 states parties covering 90% of the world's population and 98% of its chemical industry. The Organisation for the Prohibition of Chemical Weapons (OPCW) has a full-time staff of 500 and an annual budget of 60m euros.

Only four countries have declared CW stockpiles: the US, Russia, India and South Korea. They hold a total of some 70,000 tonnes of agent in 8.6m munitions or containers. The convention commits states to dispose of all their CW holdings by 2007, but so far OPCW has supervised the disposal of only 10% of the known stockpiles, together with 27 production facilities. Destruction is a costly business - getting rid of America's stockpile will cost \$15.3bn and for Russia's 40,000 tonnes, \$5-6bn. It has recently been agreed to extend Russia's deadlines.

Antipersonnel landmines

The Ottawa Convention, which bans the use, stockpiling, production and transfer, of anti-personnel mines, and requires their production was adopted and opened for signature in 1997 and entered into force in March 1999. There are now 125 states parties and another 18 who have signed but not yet ratified. It is estimated that 34 million stockpiled landmines have been destroyed by 61 countries and the export of these mines has now almost ceased. Of the 90 countries affected by landmines and similar ordnance, clearance is under way in 74. On the other hand, India and Pakistan are in the process of laying huge numbers of mines along the Line of Control. The International Campaign to Ban Landmines (ICBL) have also criticised Myanmar, Russia (in Chechnya), Nepal, Somalia and Georgia. The number of casualties from landmines and related weapons is running at 15-20,000 per year, so the need to universalise Ottawa is urgent. This is an appropriate point to discuss the behaviour of the landmines ban most important non-conformist, the USA.

The Recent Actions of the USA

Unlike all its predecessors of either party, the administration of George W Bush seems sceptical of negotiated verifiable agreements, preferring unilateral unverified declarations and vague confidence gestures.

Before discussing the unhelpful actions of the Bush administration it should be made clear that there is a place for unilateral unverified actions. In September 1991 the earlier President Bush unilaterally ordered the elimination of the entire American ground-launched short-range nuclear weapons and the withdrawing of all tactical warheads from ships, submarines and land based naval aircraft. A week later President Gorbachev announced exactly parallel actions together with the elimination of nuclear mines and the removal of nuclear warheads from army anti-aircraft missiles. Subsequently the French cancelled their tactical nuclear missile 'Hades' and the British did away with their nuclear warheads on ships and aircraft. All this was hugely important and exposed the fact that nuclear weapons were not much use for war fighting.

Turning now to the more recent negative initiatives of the current Bush administration, the action taken by the American delegates in July 2001, when they walked out of negotiations associated with the Biological Weapons Convention (BWC), is greatly to be regretted and left the organisation of the Convention in complete disarray. As far as the Chemical Weapons Convention (CWC) is concerned, the US delegates have been accused of ousting the Director General of the OPCW, Jose Bustani, in a somewhat bullying manner. On the other hand, his replacement is generally regarded as a big improvement and hopefully something can be rescued from the confusion.

In the case of the Comprehensive Nuclear Test Ban Treaty (CTBT), it is very unfortunate that it has not yet been ratified by the US, but it is not fair to blame the Bush administration entirely for this as President Clinton failed to get the Senates approval when he asked for it. A more worrying sign is the Bush administration's decision to allocate \$15m to increase the ability of the Nevada test site to be ready to resume testing at short notice. The possibility of renewed nuclear testing initiated by the USA, and the general lack of restraint on tactical nuclear weapons are two of the most important issues left unresolved and both menace the future.

Another major worry is that the US's Ballistic Missile Defence (BMD) programme will stimulate China to expand greatly its nuclear weaponry and in addition, the BMD initiative will lead to weaponisation of space. Preserving the 'global commons' of space from the mayhem resulting from a battle between satellites is so strong as to amount to a moral imperative.

A new approach is required. Rather than looking at these problems from a traditional arms control perspective they could be viewed as an exercise in arms co-operation, with the following aims and criteria:

- (1) any system should be as inclusive as possible
- (2) no participant should feel threatened by any other
- (3) there should be no impediment to further nuclear build-down
- (4) technical collaboration should be maximised
- (5) costs should be properly controlled and fairly shared
- (6) arrangements for cancellation of projects should be carefully thought out and agreed in advance.

Alexander Nikitin

"Autumn wins you best by this its mute
Appeal to sympathy for its decay."

Robert Browning

The speaker began his lecture by listing the important developments in arms control and related matters since the beginning of the 2000s.

The CTBT has not been ratified by the US and hence has now no legal force. The ABM Treaty of 1972 came to an end in 2002 on the initiative of the USA who also launched a programme of National Strategic Missile Defence, planned to extend to at least 2014. The US has introduced important changes to its nuclear planning policy, putting emphasis on unilateralism and modernization and the combination of offensive and defensive strategies.

Russia has adopted a unilateral plan for the development of strategic missile forces till the year 2010; this incorporates cuts in the triad, and slow modernization of land-based ICBMs. China has accelerated its nuclear forces modernization plan, possibly as a response to the US anti-ballistic missile programme.

START II has not entered into force and attempts to agree a START III have been abandoned. Instead the US/Russia signed in Moscow in May 2002 the simplified Treaty on Strategic Offence Reductions (SOR) which defines a ceiling of 1700-2200 strategic warheads for each side, to be achieved by 2012. India and Pakistan have upgraded their mutual regional nuclear deterrence capabilities.

International anti-terrorist campaigns have stimulated efforts throughout the world to strengthen the security of fissile materials and to improve the physical protection of nuclear facilities. No significant progress has been made under NPT provisions or with Nuclear Weapon Convention. At the same time, since the 90s, no serious violations of MTCR or export control regimes have been occurred and no 'States of Concern' (Iraq, Iran, Libya, North Korea) have made observable attempts to violate the NTP.

Strategic Offensive Reduction Treaty (SOR)

This Treaty lacks mechanisms of implementation and control, though as these are gradually introduced they will probably be based on START-I procedures. Even so, SOR has been created as a body separate from the START series. SOR is in fact much more unilateralist than the mirrored and mutually controlled START mechanisms. Within the negotiated arms ceiling (1700-2200 strategic warheads) each side has full freedom to define their reduction programme without even informing the other. In fact the planned reductions in arms conform more or less to what Russia and the USA would have carried out anyway as the 'peace dividend, in the absence of any agreement.

The 'Death' of ABMT

The formal withdrawal of the US from the Treaty in June 2002 had been 'sweetened' by the signing of the SOR Treaty in May, and this helped to calm the storm which had threatened to follow the US's precipitate and unilateral action.

Russia has not the economic capability to react to the creation of NMD by a significant increase in its strategic offensive potential, and indeed no such plans have been announced nor even discussed. At the same time, after the simultaneous collapse of ABM and START-II treaties, Russian military planners feel free from obligations not to deploy MIRVed missiles.

In fact, the MIRVing of 'Topol-M', the most modern of Russian strategic missiles (technically capable of carrying up to 10 warheads each) is considered to be the most logical response to future deployment of American national missile defence systems. Associated with this will be the developments of decoys, 'false flying targets' but none of this will be brought into service until after 2010, by which time it is anticipated that the US will begin to deploy their NMD system. In any event the first one hundred US interceptors located in Alaska, and even the second echelon of 100-200 interceptors in North Dakota, will not diminish significantly the Russia's deterring potential.

China

However, the first interceptor installations in Alaska are very likely to undermine completely the deterrent capability of China, who possess currently no more than two dozen, obsolete, liquid-fuelled ICBMs. It is clear why the US's NMD programme has stimulated China to accelerate its modernization programme in which a new generation of DF-31 ACBMs (range 8000 km) and DF-41 (range 12000km) will be deployed. Mobile bases will also be constructed, MIRVing developed and part of the arsenal will be located in nuclear submarines.

The deployment of ICBMs to deter the US is in fact of less pressing interest to China than its desire to bring about its reunification with Taiwan. To further this aim China is constantly increasing its non-nuclear tactical and short-range missile arsenal along the shores of the Taiwan straits. This arsenal currently consists of about 350 missiles and this total is growing by about 50 missiles per year. Against these weapons, Taiwan, with America's help, is developing an apparently successful tactical missile defence system. Numbers of PAC-2 tactical missile defence systems have already been supplied and PAC-3's are on their way. A large American radar station for early warning has been approved for sale, and 'Aegis' frigates may provide the missing components for this emerging tactical missile defence complex.

For the immediate future Sino-American relationships are heading for stormier waters than Russian-American affairs. China is hit by two major problems, the threatened emasculation of its ICBM system by America's NMD programme, and the military strengthening, by America, of Taiwan. As far as Chinese-Taiwanese tensions are concerned, Russia tends to support China's position publicly, while continuing to trade with Taiwan. It suits Moscow if Beijing's military concentration is directed to the south, rather than to the north.

Terrorism and the leakage of fissile material

In Russian-American strategic relations only one area seems to remain of extreme importance. It is the protection and processing of weapons-grade fissile materials to ensure that such substances do not fall into terrorist hands. In this area the task of expediting the sale to the Americans of 500 tons of de-enriched HEU remains vital. It is curious that in spite of the intensity of the current anti-terrorist campaign steps were not taken to shorten the leisurely 20 year timescale of the HEU programme, nor to expand the amounts of material involved in the overall contract. This lack of new investment in an absolutely critical programme contrasts with the billions to be spent by the Americans on NMD in spite of the fact that the delivery of a nuclear device by inter-continental-missile is the least likely of all possibilities.

Concluding remarks

It is very unlikely that in the current decade all P5 states, including China will sit down at one negotiating table to promote comprehensive nuclear disarmament and article 6 of the NPT. It is even less likely that all the eight existing nuclear states, including India, Pakistan and Israel, will see nuclear weapons as their common responsibility and co-operate on their elimination. With the deconstruction of Soviet/Russian-American arms control processes, and after losing the ABMT, CTBT and START-II, nuclear issues become less negotiable, less hierarchical, less sharp but more pluralistic, than they were during the Cold War and its immediate aftermath.

Steven Miller

"From winter, plague and pestilence,
Good Lord, deliver us!"

Arms control is out of fashion. Clinton's Administration was the first one since Eisenhower's to fail to have negotiated a major Arms Control agreement. Today, Bush believes that arms control measures are a relic of the Cold War and are not now necessary, nor even desirable. In fact, the new administration is more concerned with dismantling Cold War arms control structures than building a post Cold War framework; to give but a few examples: the ABMT is finished, CTBT is dead, BWC abandoned and the Land Mine Convention rejected.

Continuing this *tour de horizon*; for a broad swathe of the US political elite in the current climate, multilateral arms control is unacceptable - indeed many consider that the US is more often the victim of many multilateral agreements, rather than the benefactor. For example, the US feels that in some circumstances it is legitimate to lay land mines to protect its combatants. More generally, many in the new administration object to having US behaviour and actions scrutinised by numerous less powerful countries. It is also often pointed out that international conventions are in many cases unverifiable, for example the BWC and CWC.

The new administration has been forced to the view that arms control, especially multilateral arms control, simply does not work when viewed from an American, or even a more general, perspective. An example often quoted is Iraq violating its obligations under the NPT, and similarly North Korea. When Saddam Hussein made the job of the UN inspectors impossible in 1998 and they withdrew, there was little international reaction, apart from those who complained about the US imposing sanctions.

There are, the US claims, numerous cases in the past of the USSR cheating on arms control agreements, for example their continuing development of biological weapons. Following the chemical weapon convention, America abandoned their work in this area, but there were plenty of other countries who carried on with active research and development in this field because they were confident that these activities could not be detected by outside observers.

After 9/11 the feeling grew in the US that under such deadly threats there was no time or energy to spare to bother with low grade international agreements that simply didn't work in practice. To make arms control more relevant to the current international scene, they concluded, it is necessary to move in directions that are unprecedented and difficult, for example issues involving human rights in China.

The US's withdrawal from the ABMT shortly after 9/11 did not generate the furious response which had been anticipated, and this lack of a reaction persuaded the Bush administration to continue its programme of radical reform, and abandonment of international treaties.

These alternative approaches to multilateral agreements adopted by the Bush administration can be classified as follows.

- (1) Defences: the strengthening of missile, border and homeland defence.
- (2) Deterrence: a shift from preventing acquisition to preventing use.
- (3) Aggressive diplomacy: for example withdrawing oil supplies from North Korea.
- (4) Intelligence and isolation: as in the case of Iraq.
- (5) Preventive use of force: as described in Bush's 'state union message, including the development, and possible testing of mini-nukes.
- (6) Newspeak and propaganda: to promulgate the view that such is America's military superiority that it is a waste of time any nation standing up against her.

What about the cost of all this? Bush thinks the price has been exaggerated and there is still plenty of money in the national coffers. His administration, for example, plans to spend \$6-7b/yr on antiballistic weapons in spite of the fact that \$100b has been already been spent on such a programme without tangible benefit.

Conclusion

The US has broken free from its old moorings and now cannot recover its old strategic role. We are at the beginning of a long, slow-motion melodrama which will determine what sort of strategic universe we will live in 20-25 years from now.

General Discussion

Bas Pease started the ball rolling by saying how much he supported the continuation of the NTP but questioned if Russia had any serious intention of working towards a truly nuclear weapon free world. The response was, probably not, but neither had the US. Kit Hill mentioned recent Pugwash proposals that no attempt should be made to replace Trident when its missiles became redundant, ie a phased but inexorable run-down was advocated. In response, Steve Miller welcomed the roll-back of actual or potential nuclear weapon powers, having in mind South Africa, Brazil and Argentina, together with the Ukraine, Belarus and Kazakhstan. For Britain and France to give up their nuclear weapons would of course be generally welcomed by the world community but would not necessarily persuade other nuclear nations to emulate them.

A question was asked about the G8 10 + 10 + 10 in which the remaining countries of the G8 would match the US's contribution of \$10bn to be spent over a ten year period on assisting the former Soviet Union countries with making safe the nuclear stockpiles and facilities and other recovery processes. In response, Alexander Nikitin welcomed the G8 initiative but warned of the dangers of backsliding and manoeuvring, as illustrated by the past actions of the US Congress, who made every attempt to ensure that as much of the available money as possible is spent in the home country or state. Also, it was suggested that a ten year timescale is far too leisurely - an expenditure of \$20bn over a two or three year timescale would more closely match the scale of the problem.

Steve Miller drew attention to a recently-published Pugwash briefing on the dangerous consequence should even a sub-national terrorist group get hold of enough HEU to manufacture a nuclear weapon. He is surprised that the ground-breaking HEU deal, whereby 500 tons of Russian HEU is blended down to civil fuel enrichment levels and then sold to the USA, has not been accelerated. He would like to see this programme greatly speeded up and expanded. He thought it ironic that the US is prepared to contemplate a war with Iraq, partly because it fears terrorism, yet will not make more strenuous efforts to restrict the terrorists' access to fissile material (the other G8 countries are of course more culpable in this regard for they have forged no similar arrangements with Russia).

In response to a more general question, Steve Miller believes that there is a high probability that the US will restart nuclear testing, the 'excuse' being that it is necessary to develop new 'bunker blasting' tactical nuclear weapons in the fight against terrorism. He anticipates that soon the US defence budget may exceed \$400bn per annum and then overtake the combined total defence budget of the rest of the world. Should the Bush administration get its Iraqi war, and be successful, these aggressive tendencies will be enhanced.

Hugh Beach has a much less apocalyptic view of the current world situation. There have been examples of successful arms limitation treaties in the past, some of which are still in existence, and there will be more in the future. Administrations come and go, play their part on the world stage, and then slide into obscurity. We must not become despondent or lose our nerve.