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Nuclear Forces in Northeast Asia

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By nearly common consent, the uncertainty over the status of nuclear forces in Northeast Asia is said to be the most dangerous feature of Asia/Pacific security. While most attention has been paid to the status of North Korea's nuclear program, too little attention has been paid to the way in which the status of existing nuclear forces in the region affects the North Korea problem. It is true that the two largest acknowledged nuclear powers, Russia and the United States, have been reducing their forces in recent years, but they still remain by far the largest nuclear powers in the region. (1) The main focus of this paper is to assess the status of nuclear forces in Northeast Asia in order to identify ways in which the great powers and the states of the region can help limit the risks derived from North Korea's apparent attempt to acquire a nuclear weapons capability.

At the outset, it should be acknowledged that this is not a paper about the complete de-nuclearization of Northeast Asia. While that may be an eventual objective, it will only come about as

part of a broader denuclearization by the acknowledged nuclear powers. The United States, Russia and China deploy nuclear weapons in the region because they see it as a vital arena of international affairs. All three powers have territory and vital interests in the region. The future of the nuclear weapons of these powers concerns the problem of de-nuclearization, whereas the concerns over North Korea and Japan are threats of nuclear proliferation. These issues are distinct, but linked, and it is the linkage which motivates and animates this paper.

The Status of Nuclear Forces

This section is intended to set out the facts as we know them, but there are in fact few "facts" that can be reliably described. (2) One clear fact is there are only three nuclear weapons powers in Northeast Asia (Russia, USA, China). But even this statement contains ambiguities, for it is impossible to offer a tight definition of Northeast Asia. For the purposes of this study, "the region" is defined as a circle whose centre is the middle of the Korean demilitarized zone and stretches out 1,500km in all directions. (the reason why this zone is selected is discussed later in this section).

A second uncertainty is that it is impossible to know what cuts have been made as part of the continuing START process. This paper offers some guesses, but they are no more than that. Some Russian officials suggest they do not even know how many nuclear weapons they deploy in the region at any one time, so a civilian analyst working with public sources will know even less.

It is chilling to recall the "discovery" of a wagon-load of nuclear missiles near Kurgan (western Siberia) which were "mislaid due to the negligence of railway staff." (3) Finally, for the purposes of this study we assume that, as the USA and Russia assert, there are no sea-based tactical systems on operational duty in the region. We assume there are tactical systems in store. Weapons can be on "inactive reserve" or "retired", which means that while not operational, they have not been destroyed. (4)

The USA apparently has no operational deployment of tactical systems in Northeast Asia. Nor are there any operational land-based or air-launched strategic systems in the region. Tactical systems are unlikely to be stored in the region although the phrase "stored centrally" probably does include Hawaii. There are 8 Ohio-class SSBNs, each with 24 missiles. The SLBMs are Trident 1 C-4s, first deployed in 1980. They have a range of 7,400km, a throwweight of 15,000kg, carry 8 x 100kt warheads with a CEP of 450m. Under START II these missiles are to be downloaded to about half their current number of warheads.

The Russians, unlike the USA, have territory in Northeast Asia and therefore they have a different configuration of forces. Tactical systems are present in both land-based and air-launched form, but reliable data on these forces is impossible to come by. Some analysts suggest that one can assume that there is roughly a third of all Russian tactical nuclear weapons in the region, but this assumption is usually based on the rather dubious comparison with strategic nuclear systems where a third of the capability can be found in the region. We assume there are at most 1,000 tactical warheads in the Russian portion of Northeast Asia.

Russian strategic weapons are both land and sea based. It is difficult to be certain about the number of SSBNs deployed in the region. Russia apparently deploys 20 SSBNs at two bases (Pavlovskoye and Ribachiy). There appear to be 2 Yankee class SSBNs, each carrying 16 SS-N-6 Serb missiles. They were deployed in 1974 with a range of 3,000km and a throwweight of 6,500kg. There are 2 MRV warheads each of 500kt with a CEP of 1300. The 9 Delta 1 SSBNs each have 12 SS-N-8 Sawfly missiles first deployed in 1973 with a range of 9,100km and a throwweight of 11,000kg. They each carry 2MRV 800kt warheads with a CEP of 900. The 9 Delta III SSBNs each have 16 SS-N-18 Stingray missiles, first deployed in 1978 with a range of 6,500km and a throwweight of 16,500kg. They each have 3x100kt warheads with a CEP of 900. The Deltas are likely to be eliminated under START II. The ICBMs are deployed in the Transbaykal and Far East MDs but it is hard to be sure about which systems are still operational and which will be eliminated or changed in the START II regime. The 27 SS-25s in Irkutsk are likely to remain. They were first deployed in 1985, have a 10,500km range and a throwweight of 10,000kg. They carry 1x750kt warhead with a CEP of 200. More problematic is the rest of the force. In 1993 it included some of the 100 SS-11s, first deployed in 1975 but expected to be eliminated under STARTII. One report suggested that by 2000 the Russians will have disposed of 30 SSBNs and 1,800-2,000 ballistic missiles. (5) In any case, it is pointless to provide too much detail as ICBMs can be targeted from sites outside the region.

China, like Russia, is a local power and therefore there are special problems in counting its capability in the region. Land-based missiles include up to 60 IRBM (DF-3), CSS-2, first deployed in 1970. They have single warheads with a 3mt yield and a range of 2,800km. ICBMs include up to 20 CSS-3s (DF-4) first deployed in 1978 with a range of 7,000km. They carry a single warhead of 3mt. The 4 CSS-4s (DF-5) were first deployed in 1981 with a range of 15,000km. Their single warheads have a 5mt yield. It has been suggested that China has a re-load capability for these missiles as spares are kept. The 36 solid-fueled, mobile CSS-6s (DF-21) were first deployed in 1985 with a 1,800km range and a single warhead of up to 300kt yield. There may be up to 2 SSBNs with 12 SLBMs (CSS-N-3), first deployed in 1986 with a

range of up to 3,000km and a single warhead of up to 300kt. The CEPs of Chinese systems are not known. Half the DF-5s (2) are deployed in Luoning and some DF-4s are deployed at Sundian, both within our Northeast Asian zone. Other systems are deployed in southern and western China. The SSBNs are believed to be deployed with the North Sea Fleet. Not much is known about China's tactical systems, said to number 150 warheads. China is said to have MIRV capability but there are no deployed systems.

In sum, this data, as with that for conventional weapons, should be treated as at best suggesting general features, rather than providing hard and complete evidence. The first feature is that the great power deploy large numbers of nuclear warheads with massive destructive potential. This power far outweighs anything likely to be deployed by any other state for a long time to come. Second, the number of warheads have been reduced in recent years, the first time this has happened in the nuclear age. Third, China is the smallest nuclear power but considering the potential level of destruction, deterrence among the three powers remains robust. Fourth, while Russia and China are local powers with borders with North Korea, the United States deploys most of its nuclear forces at sea and has no land frontier. But the United States does have two key allies in the region, South Korea and Japan, whereas neither Russia nor China apparently have security treaty relationships with North Korea (or any other state).

As the discussion drifts into matters of deterrence and alliances, it becomes obvious that we need to explain the definition of the region. "Northeast Asia" is not a scientific term (nor is there even an agreed spelling). (6) The best that one can do is to set out the current assumptions of this paper. The starting point is a sense that weapons, in-and-of-themselves, are not the problem, but the issue is how they are perceived and used by political leaders. Thus judgements are just that, judgements, about political issues. Our working definition focused on the middle of the Korean DMZ because the most pressing tension is that between the two Koreas and the concern over North Korea's nuclear weapons capability. If there were no tension surrounding North Korea's nuclear weapons programme, then it is a safe bet that there would be little international concern with the status of nuclear weapons in Northeast Asia. Once that assumption is made, the facts of geography dictate that the territory of China and Russia is included in the Northeast Asian zone, but not that of the United States.

It can be argued that a more politically correct definition of the region should include Guam and Alaska. That is certainly one way to tie in American forces and it is certainly true that American forces based in these places do operate in the Northeast Asian region. But Anchorage is as far from Seoul as Moscow is, and if the definition of Northeast Asia is widened this far, it

takes in nearly all of European Russia, as well as Central and South Asia.

In essence, the argument about a wider regional definition is part of a broader point often made by both the Chinese and critics of nuclear free zones. It is argued that nuclear weapons, and especially strategic weapons, are global in reach, and therefore should be counted globally, not regionally. It is argued that nuclear free zones are not the same as nuclear safe zones because weapons can be targeted from well outside any region, no matter how defined. Thus the fact that American forces in Alaska or Guam operate in Northeast Asia is little different than saying that American ICBMs in the mid-west or bombers based around the world, are targeted on Northeast Asia. Russian missiles in Northeast Asia do target Alaska, but they also target the continental USA. Chinese DF-5 missiles in Northeast Asia apparently target the United States and European Russia.

This complex and global interconnection, is largely because the deployment of weapons essentially serves national strategies and these strategies have operated primarily with a view about global threats. If we consider the threat assessments of the great powers, it is clear that Northeast Asia has long been seen as part of a global strategic problem. Of course, we all remember those debates in Europe about whether one could fight a limited nuclear war and we should recall the absence of any firm conclusion. For those who always thought it less than likely that nuclear war could be so contained, it is clear that any discussion of Northeast Asian nuclear matters cannot be separated from global issues.

Thus we focus on Northeast Asia because of the Korean problem and we draw our regional boundaries from the centre of the DMZ. We broaden the range to include neighbouring countries who are players in the dispute. But we recognize that any proper consideration of the security problems in the region requires consideration of more global factors. In the end, we are more concerned with the "software" of politics than the hardware of nuclear weapons technology.

For the United States, deployment of nuclear weapons in the Pacific region served a number of roles. The primary enemy was the Soviet Union, but as part of a global struggle. (7) There was regular talk about escalation scenarios for war in Europe that assumed the United States would compensate for Russian advantages in Europe with strikes against Pacific parts of the Soviet Union. The United States was also concerned with China after 1964 and Chinese targets began appearing on the SIOP in their own right, and not as part of a Sino-Soviet alliance. (8) The United States also had concerns about how to defend its allies, South Korea and Japan. These two were seen as threatened by the Soviet Union

and/or China, and thus the United States had to consider problems of extended deterrence, much as they did in Europe. (9) The United States was also concerned with North Korea, although not as a nuclear power. Scenarios concerning North Korea assumed a version of the Korean war which involved great powers with nuclear capabilities. (10)

With the end of the Cold War, there have been important changes in the American strategic calculation. (11) Most importantly, the risks of nuclear war with the main enemy, Russia, are seen as sharply reduced. Hence the major reduction in forces in recent years. While it is true that unlike in Europe, the presence of the Russian empire in East Asia has not changed, the political and economic reality is a Russian basket-case that poses little immediate threat. The rise of Russian nationalism is certainly a worry for the future, but the decline in Russian power is real and long-lasting. Nevertheless, the nuclear arsenal is less affected by this process of decline, and the United States must guard against the scenario of an anti-American Russian nationalism armed with nuclear weapons. There is even the remote scenario of a disintegrating Russia where the successor regime in the Far East inherits a nuclear capability. Thus Russia will continue to feature in the American SIOP, but at a much reduced state of readiness.

China has always figured at a much lower level in American planning, and little has changed in recent years. China's nuclear capability modernizes at a very slow level and it makes no major effort to deploy large numbers of any nuclear weapon. (12) The United States continues to find it prudent to deter China, but sees no reason for anxiety. The United States once considered China as a reason to deploy an ABM system, but current discussions about defensive systems do not include a China threat. If China is seen in a nuclear context then it is primarily in terms of its continuing nuclear testing programme and the effect that has on the prospects for renewal of the NPT. China is also seen as a main player in persuading North Korea to abandon its nuclear programme and as a contributor to possible proliferation in a range of other countries such as Pakistan, Syria, Iran or Algeria.

From Russia's point of view, the nature of the threat has also changed with the end of the Cold War. (13) Not only is the United States seen as less threatening, but so is China. Much as in the American calculation, there are residual and new concerns but at nothing like the level of intensity seen during the Cold War. Given all that has been happening in Russian society and the armed forces, the status of nuclear forces ranks very low on the agenda, and even lower if the specific issue is forces in Northeast Asia. (14) There are worries about Kazakhstan, but not much about Korea. In the longer term there are worries about how

Japan will cope with the North Korean issue and a possible removal of the American nuclear umbrella. But for the time being Russia feels it has more than enough nuclear weapons to deal with Northeast Asian contingencies.

China has long demonstrated such a laid back attitude to nuclear weapons. It has never deployed large numbers of any type of nuclear weapon and there are no signs of such a policy changing. (15) It is true that the reduction in Russian and American arsenals has added pressure on China to do the same, but the gap remains large and China can properly claim to have a minimum deterrent. China's persistent testing of nuclear weapons while the other powers edge towards a CTBT has been a bigger problem in public relations terms, but it is not specifically a Northeast Asian issue. China continues to gradually modernize its nuclear weapons, but detente with Russia has made the process far from urgent. Periodic failures by the civilian version of its missiles suggests that it is still struggling with technical problems. In the context of Northeast Asia, China, like the other powers, is concerned with North Korea's intentions. It is unlikely that China wants to see a nuclear-armed North Korea, but nor does it wish to see Pyongyang humiliated by Western pressure. The result is a China in a difficult political position, which if badly handled, might lead to war on its Korean frontier and/or a nuclear-armed South Korea and Japan in due course. The political stakes are high, and higher than at any time since the end of the Korean war.

In sum, it is clear that any discussion of nuclear forces in Northeast Asia has to take place in a global context. Any drawing of lines defining the region is arbitrary. But it is somewhat less arbitrary to argue that there is a concern with nuclear issues in Northeast Asia and it is focused on the risks of proliferation in Korea. There are risks in Japan as well, but they have existed for a long time and the most likely trigger for them to be activated is events in Korea. Nevertheless, because the great powers have nuclear weapons in the region and they are acutely involved in the resolution of the Korean issue, the disposition of their own forces in the area is important. Few people seriously believe there is much risk of conflict between the acknowledged nuclear powers in Northeast Asia, but there is much that these powers can do to help resolve the Korean issue. If proliferation is prevented in Northeast Asia, then few will worry about the status of nuclear forces in Northeast Asia. Hence we turn to a discussion of the links to the proliferation problem in Korea and Japan.

Links to Proliferation in Korea and Japan

This is not the place to discuss why North Korea seems to be acquiring nuclear weapons, but it is necessary to discuss the

linkages between the Korean problem and the great powers. One of the few things that does seem clear about the Korean problem is that North Korea is motivated primarily by worries about the survival of its regime. It finds itself increasingly falling behind the South in all forms of competition, and most importantly in economic competition. Whether North Korea is actually acquiring nuclear weapons or not, it seems to feel that the threat to do so seems to get American and Japanese attention. The risk is that by engaging in such a high risk strategy of survival, it may bring about a major political and military crisis that will engulf the region. (16)

Of course, part of the reason for North Korea's brinkmanship is recent changes in great power policies towards Korea. Chinese, and then Russian detente with South Korea made it plain that the North had fewer and less warm friends. The fate of Communist regimes elsewhere in the world, and even the reforms in China and Vietnam, suggested that the North was under heavy pressure to change. Had China and Russia remained stalwart friends competing for North Korean favours, it is unlikely that we would be facing a crisis in Northeast Asia. But there is no turning back that particular clock, and we live in an environment where it is a fact of life that China and Russia will want to grow closer to South Korea. No great power wants to see a nuclear-armed North Korea, although China is less intensely opposed than Russia which is less intensely opposed than the Japanese or the Americans. (17)

There are a range of reasons deployed by China and to some extent Russia for not being too worried about North Korea. There is the argument that North Korea does not want to acquire nuclear weapons and it only wants to be loved. There is the view that even if North Korea did go nuclear, it would be no more serious a problem than living with Russian or Chinese nuclear power so it is not worth a crisis. There is also the view that the non-proliferation regime has already been perforated by the likes of Israel, India and Pakistan.

If China and Russia could know that a nuclear-armed North Korea would not provoke either a conflict or proliferation in South Korea or Japan, then they might be more relaxed about the Korean crisis. But China and Russia are less willing to sit back and watch because no one can have such assurances and the Americans and to some extent the Japanese are not prepared to take the chance. The European powers, and most notably France, have, if anything, taken a tougher line in the IAEA about the need to deal with this risk of proliferation. France sees obvious knock-on effects in North Africa or even in Eastern Europe.

Now that the Western powers and the IAEA have committed so much prestige to halting a North Korean programme, there are firm

linkages established between the Korean problem and wider regional and global security. There is unlikely to be any going back to a less worried mode of thinking without undermining regional and global anti-proliferation regimes. The linkages between the levels of policy have already operated, sometimes with great effect. The Russians and Americans feared proliferation so they made serious efforts to reduce their nuclear arsenals and to withdraw sea-launched tactical systems. There has been more nuclear disarmament on the part of the Russians and Americans in recent years than at any other time in the nuclear age. What is more, North Korea demanded the withdrawal of American nuclear weapons in South Korea before serious talks could take place, and the Americans eventually agreed to do so. It can be argued that this concession to common sense looked a bit too much like a concession to North Korea, which only encouraged Pyongyang to ask for more. But it certainly established a process whereby the Korean and wider issues of nuclear weapons were linked.

The link now focuses on the need to counter proliferation by stopping the North Korean programme. Most of North Korea's demands before it accepts full inspections concern non-military linkage (trade, recognition). Pyongyang demands the end to Team Spirit but rarely sees these exercises as a specifically nuclear threat. From North Korea's point of view, the current standoff concerns much wider issues.

But from the point of view of the wider world, the issue is precisely one of proliferation. The Europeans certainly see this matter as critical to holding the non-proliferation regime in place at a time of great strain. The Americans have similar concerns, but unlike the Europeans also have close alliance ties in Northeast Asia. Many American policymakers fear the consequences of proliferation for Japan, not to mention the damage it might do to regional security in an area of vital economic interest. Americans would like to withdraw forces from Japan and South Korea, but cannot do so in the current environment. They see this crisis as a test of American commitment to East Asia after the Cold War.

The current status of American policy is to transfer pressure to China in order to see if Beijing can produce compliance with the IAEA. In so doing, the Korean problem becomes wrapped up with broader Sino-American relations, including debates over trade and human rights. China is both offered a reason to play hardball in order to get greater concessions on trade and human rights issues, and to cooperate in order to prove that it is worthy of MFN status and a more positive American attitude. China is offered the opportunity to demonstrate that it wishes to be a responsible great power in the UN Security Council, and not just a reactive power that adjusts to agendas set by others.

The fact that China drafted a Security Council Presidential Statement critical of North Korea, demonstrated both of these Chinese impulses, with all the inherent contradictions.

Not far behind in China's motivation for dealing with the North Korean issue is its uncertainty about relations with Japan. (18) There are some, the Chinese included, who argue that it is unfair to be so worked up about North Korea's nuclear programme when we ignore Japan's efforts. Of course, Japan has long had the option of going nuclear fairly rapidly, and its recent accumulation of plutonium and new processing capacity, merely makes the process a bit shorter and the potential arsenal much larger. But the essential risks have been present for some time, and were never activated because the political conditions did not make it necessary. In the post-Cold War world, China, like other powers, recognizes that it is precisely the political conditions that seem to be changing. (19)

China can see that Japan has greater doubts about the American guarantee now that the common Russian threat has eased. They can see that Tokyo is increasingly alarmed at China's own growth and its doubled defence budget in the past four years. China can also see that Japan sees North Korea as a different, and far less sane sort of power than China or Russia, and thus proliferation by North Korea is far more dangerous than living with a nuclear-armed Russia or China. Japan reads the same signals about North Korea promising not to threaten South Korea but issuing no such promises to Japan. Tokyo worries about the growing reach of North Korean ballistic missiles and sees China as in part responsible for this problem. Finally, Japanese domestic politics is in upheaval and what were once considered fixed points on its political agenda are rapidly changing.

In short, despite growing Sino-Japanese economic relations, the strategic picture is worsening and North Korea is seen as a large part of the problem. It is very much in China's interest to remove the North Korean problem and perhaps ease Japan's concerns. China does not want Japan to embark on a major military programme and certainly not to acquire a nuclear weapons capability. One of China's current advantages over Japan is its superiority in military and especially nuclear capability. If the next century is really going to include a confrontation between Japan and China, then China has every reason to lull Japan into a sense of calm about the future so the Chinese economy can grow strong. Even if the future is less nasty, China still has no interest in a worried Japan that builds up its military forces and unleashes its pent-up nationalism.

In short, the uncertainties about Korea and Japan are the prime motive for worry about nuclear forces in Northeast Asia. All the great powers have an active interest in preventing drastic change

in the military status quo in Northeast Asia. All three nuclear powers can agree that if they could reduce concern about North Korea, they could lessen the incentive for Japan to change its policies. If all this could take place, then the great powers could go back to minimizing the attention paid to Northeast Asian security. But if they fail to deal with Korea, then they will all be forced to pay close attention to Northeast Asia, and even the status of nuclear forces might come into play. So what can be done to deal with the risks?

An Arms Control Agenda

Sensible arms control begins with an assessment of the main problem and an understanding of what is achievable. It may be that a nuclear-free Northeast Asia is the objective, but it is not achievable without at least a nearly-nuclear-free world. A more achievable, but still difficult goal, is to prevent further proliferation of nuclear weapons in Northeast Asia so that the process of reducing nuclear forces and tension can continue. Approaching this goal requires action that sometimes might be unilateral, and more often would be better for being negotiated, verifiable and multilateral. The absence of any effective multilateral mechanism for arms control in Northeast Asia is a problem much lamented of late, but with little indication that progress is being made to meet the challenge. (20)

Of course, any strategy that might be adopted depends on an assessment of the nature of the problem with North Korea. If the problem is essentially one of how to reassure North Korea about its continuing existence, then the problem is barely concerned with changes in nuclear policy and much more with trade deals and diplomatic niceties. If the problem is about ascertaining whether North Korea has a nuclear weapons program and if so, how much has it achieved, then the arms control agenda is far more concerned with nuclear issues. This paper assumes that the problem is about both, in that regime survival is what has motivated North Korea to acquire nuclear weapons. But it also assumes that North Korea, like others before it, can step back from the brink of nuclear weapon status and to that end, there are steps which the international community can take to make this outcome more likely.

At the global level, it is vital that:

p Russia and the United States continue to demonstrate their seriousness in reducing their nuclear arsenal. If the Russians and Americans were really in a state of nuclear tension, the reductions in the past few years would not have taken place. The cuts demonstrate that the international trend is towards the reduction in nuclear arsenal and that those who seek to go the other way should be stopped. For too long the superpowers were

not serious about nuclear arms control which undermined their ability to limit nuclear proliferation. The fact that some previous efforts to limit proliferation failed is no reason to sanction new failures, especially when important successes have been chalked up (South Africa, Latin America). From the point of view of Northeast Asia, it is important that further reductions in Russian and American arsenals includes, if not features, reductions in weapons deployed in Northeast Asia.

p As the nuclear superpowers (and in this respect there are still two superpowers) reduce their arsenals, the need for medium nuclear powers to join the process of reduction becomes all the more important. In Northeast Asia, the main attention focuses on China. The Chinese, like the Russians before them, should be encouraged to re-structure their arsenal to rely less on land-based systems and more on SLBMs. China still has technological problems in this respect and arms control might involve measures of "positive conditionality" that include technology transfer in exchange for serious arms control. If even China is seen to be reducing its nuclear arsenal, the NPT regime will be strengthened.

p Strengthening the NPT regime requires a series of more specific measures, including serious progress on a CTBT. The current moratorium on testing is abided by all states except the one that tests in the region--China. Chinese officials murmur about their intention to cease testing in 1996 and their desire to sign on to a CTBT then. If there really is momentum on this issue, then it should be shoved along. Once again, positive conditionality could be used in order to provide China (or even France) with technology necessary to simulate testing.

At the regional level there seems to be far less that can be done that concerns current stockpiles of weapons, but more that can be done in the wider diplomatic realm. The problem is that as far as Russia and the United States are concerned, the Northeast Asian region cannot be divorced from global strategies and therefore it makes little sense to specifically limit Northeast Asian nuclear forces. China may find it easier to re-configure forces in the long run, but then if it faces similar demands from other neighbours, its national security would be severely affected. Thus any Chinese, American and Russian systems above tactical range are unlikely candidates for further reductions. Nevertheless, there is much that can be done in arms control at the regional level. Measures might include some of the following:

p A register of nuclear arms in the region would be most welcome. Anyone who has tried to compile a list of nuclear weapons deployed in the region as we tried earlier in this article will know how much suspicion would be cleared up by this simple act of transparency. The Russians and the Americans are

perhaps closest to achieving such openness and the American NCND policy seems more flexible than ever before. China's surprisingly cooperative behaviour regarding the UN Conventional Arms Register suggests that the optimists might be right and China is prepared to cooperate on arms control once it learns the advantages of the system.

p Transparency might also be extended to more basic aspects such as military doctrine, threat perceptions and/or priorities of defence industry. A great deal of this already takes place in the post-Cold War dialogues between Americans and Russians. Specific efforts can be made at the regional level and they might seek the participation of China and perhaps other states. China is especially reticent on these matters, hence the wildly varying estimates of such basics as Chinese defence spending. Specific dialogues might be held to include civil nuclear programs so as to ease concern about Japanese intentions. There are clearly many steps that could be taken under the guise of improving the safety of civil nuclear plants that would also have a military confidence building spin-off. Once again, positive conditionality could be useful to encourage cooperation. By offering access to new technologies, cooperation could be made more likely.

It is true that none of these measures would deal directly with the problem of North Korea. In essence, the time has passed for such direct linkages, if only because the credibility of the entire non-proliferation system is on the line when North Korea defies the IAEA. But these other arms control measures might be useful in a more general way if the North Korea problem is primarily about reassuring the North. If Pyongyang fears that once they let the IAEA carry out full inspections then the West will no longer pay attention to North Korea if they find nothing to worry about, then the arms control process may be a way to reassure North Korea about continuing cooperation.

It is in this respect that positive conditionality offers much hope, for it promises North Korea real cooperation if it undertakes certain actions. North Korea's failure to fully cooperate with the IAEA does not bode well, but if they should fully cooperate, then it becomes all the more important to demonstrate that good behaviour brings rewards. Of course, if North Korea is really seeking nuclear weapons as a way to ensure the survival of the regime, then there is little that these, or any other measures will do to prevent the nuclear problems in Northeast Asia from getting much worse.

1. In 1986 the US warhead stockpile was 23,400, compared to 45,000 for the Soviet Union and 425 for China (6.1% of the world total). In 1993 the US held 16,750, Russia held 32,000 and China held 435 warheads (8.7%).

2. The numbers used in this paper are derived from a number of sources, few of which agree on specifics but most have broadly the same trends. apart from the annual volumes of The Military Balance published by Brassey's for the IISS and the SIPRI Yearbook published by Oxford University Press for SIPRI, there is also the Nuclear Weapons Databook Vol. V, by Robert Norris et. al. (Boulder: Westview, 1993). 3. The Guardian, 3 February 1994.
4. In 1993 the US had 400 warheads on inactive reserve and 5,850 retired warheads. russia had 17,000 inactive and retired warheads. See "Nuclear Notebook," Bulletin of the Atomic Scientists, July and December 1993, both on p. 57.
5. Jane's Defence Weekly, 5 June 1993.
6. On the debates see Gerald Segal, Rethinking the Pacific (Oxford: Oxford University Press, 1990).
7. Robert Art, "The US: Nuclear Weapons and Grand Strategy" in Regina Cowen Karp, ed., Security With Nuclear Weapons? (Oxford: Oxford University Press, for SIPRI, 1991).
8. Michael Mazarr Missile Defences and Asian-Pacific Security (London: Macmillan, 1988).
9. Michael Mazarr, "The INF Treaty and Asia-Pacific Security," The Pacific Review, vol. 1, no. 3, 1988.
10. Sang Hoon Park, "The US, South Korea, and the North Korea Problem," Survival, Summer 1994.
11. CSIS Nuclear Strategy Group, Towards a Nuclear Peace (Washington: CSIS, June 1993).
12. Gerald Segal, "China" in Cowen-Karp ed., Security with Nuclear Weapons?
13. Dunbar Lockwood and Jon Wolfsthal, "Nuclear Weapons and Proliferation," SIPRI Yearbook, 1993 (Oxford: Oxford University Press for SIPRI, 1993).
14. Renee de Nevers, Rethinking Russian Security (London: Brassey's for the IISS, Adelphi Paper forthcoming 1994).
15. John Lewis and Hua Di, "China's Ballistic Missile Program," International Security, vol. 17, no. 2, Fall 1992 and John Hopkins and Weiming Hu, "Strategic Views from the Second Tier" and Litai Xue, "Evolution of China's Nuclear Strategy" (based on John Lewis and Xue Litai's China's Strategic Seapower, Stanford University Press, 1994), both in John Hopkins and Weiming Hu, eds., Strategic Views from the Second Tier (San Diego: IGCC,

January 1994).

16. See the author's contribution to Jane's Intelligence Review, North Korea; A potential time bomb (Special Report No. 2, April 1994).

17. James Hoare, Korea and the Great Powers (London: Brassey's for the IISS, Adelphi Paper forthcoming 1994).

18. Gerald Segal, "The Coming Confrontation Between China and Japan?" World Policy Journal, vol. 10, no. 2, Summer 1993.

19. See generally Ron Matthews and Keisuke Matsuyama eds., Japan's Military Renaissance (London: Macmillan, 1993).

20. Paul Evans, "The CSCAP Process," The Pacific Review, vol. 7, no. 2, 1994.

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