Evolution in Nuclear Strategy in US and Russia and its Implications in Arms Control

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Evolution of Nuclear Strategy in US and Russia and its Implications for Arms Control.

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Though it has long been a concern for security experts, proliferation has truly become an important political issue over the last decade, marked simultaneously by the nuclearization of South Asia, the strengthening of international regimes (TNP, CW, MTCR) and the discovery of fraud and trafficking, the number and gravity of which have surprised observers and analysts alike (Iraq in 1991, North Korea, Libyan and Iranian programs or the A. Q. Khan networks today).

To further the debate on complex issues that involve technical, regional, and strategic aspects, Ifri’s Security Studies Department organizes each year, in collaboration with the Atomic Energy Commission (Commissariat à l’énergie atomique, CEA), a series of closed seminars dealing with WMD proliferation, disarmament, and non-proliferation. Generally held in English these seminars take the form of a presentation by an international expert. The Proliferation Papers is a collection, in the original version, of selected texts from these presentations.

The following text is based on a presentation given by Nikolai Sokov at Ifri on May, 21st, 2003

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Both the United States and Russia deny that they have increased reliance on nuclear weapons in their defense policy. This is a matter of definition, however. Indeed, compared to the Cold War, when the two countries permanently maintained high level of alert, ever ready to respond to the anticipated first strike of the other side, and when only the prospect of Armageddon prevented them from the actual use of nuclear weapons, the degree of reliance on nuclear weapons has dramatically declined. Today the threat of nuclear war between the United States and Russia simply does not exist.

If, however, one measures reliance on nuclear weapons by the probability of their use, we could say that both countries are at least moving in that direction and that over time this probability is likely to increase to an uncomfortable level. The change is particularly visible compared to the first years after the Cold War, when we witnessed a genuine drop in the role of nuclear weapons; some thought the world was moving toward gradual denuclearization with CTBT almost guaranteeing that over time nuclear weapons would sooner or later "die out" (later in the United States with its science-based nuclear stewardship program, sooner in other countries).

The post-Cold War period is over. After a period of transition and uncertainty, the world has entered a new period, that of American hegemony, which has seen a reversal of earlier expectations with regard to nuclear weapons. Today, in both the United States and Russia one can see a growing tendency to include limited use of nuclear weapons into warfighting scenarios that are both realistic and likely to occur. For some, deep reduction of nuclear arsenals embodies reduced reliance on them. I argue, in contrast, that if the probability of intentional use of nuclear weapons has increased from almost zero to a few percent, we can and, indeed, must talk about greater reliance on these weapons.

New developments in nuclear policy could be attributed to the following features of the international situation:

In the place of one major superpower conflict coupled with multiple low-level conflicts we see proliferation of medium-level threats. Unlike during the Cold War, these threats directly affect security of great powers, including the United States;
At present, only the United States is capable of facing any of these threats with military power (deter or defeat), but the United States will be unable or unwilling to take on all challenges;

Some of these threats are sufficiently serious, or are at least seen as such, to warrant the use of nuclear weapons;

Proliferation of weapons of mass destruction has accelerated; some of states that seek or have already acquired nuclear weapons are “bona fide” countries, whose nuclear status is de facto accepted (India);

Accepted international norms and international law are gradually deteriorating, as witnessed by the absence of UNSC authorization for the use of military force in the recent war in Iraq and earlier in the war in Kosovo. Deterioration of norms includes such keystone regimes as WMD nonproliferation, as well as the norms against the use of nuclear weapons.

In this new world, nuclear weapons seem more essential for security while their use less strictly prohibited by international norms and is no longer associated with the end of civilization.

The above-mentioned features of the international situation only make greater reliance on nuclear weapons possible. This possibility becomes reality, that is, states change their nuclear policy or seek to acquire nuclear weapons under a specific set of conditions. Two of them are necessary, but not sufficient: the presence of at least one of two other variables is needed.

The two necessary variables are:

Perception of acute external threat. For the United States, this is the threat of WMD proliferation, especially the possibility that WMD might end in the hands of terrorist groups. Russia perceives several high-level threats: from NATO (at least periodically) and from the instability and/or hostile regimes in “the South,” primarily in the Middle East and areas between that region and Russia’s territory;

Perceived absence or low efficiency of other means of ensuring security. U.S. military consider destruction of certain targets without nuclear weapons as problematic. Russian conventional armed forces are in an abysmal state and even a weak enemy would present a major challenge;

One of the following two variables has to be present as well:

Perception of high utility of nuclear weapons for certain missions that cannot be achieved by alternative means. For the United States, these are targets associated with WMD programs, especially deeply buried hardened ones; for Russia, utility of nuclear weapons lies in their ability to reliably prevent or repeal an attack;

Cost-saving benefits of reliance on nuclear weapons. This variable does not really apply to the United States, but is certainly valid for Russia.

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These results suggest the following two conclusions.

First, reliance on nuclear weapons for certain warfighting scenarios is not a spurious development. It is grounded in perceived security needs and cannot be wished away, nor disappear with the new president in either the United States or Russia.

The second point is slightly more optimistic. Since the need in nuclear weapons is rooted in perceptions, a change of attitude, especially among the military, defense industry, and politicians, could reverse the trend. Development of non-nuclear assets capable of supporting “nuclear missions” could go a long way toward a new round of low reliance on nuclear weapons: if even one variable disappears from the picture the phenomenon as a whole could pass away.
Although transformation of U.S. nuclear policy attracts greater attention and might be considerably more tangible, it was Russia that was the first to change its nuclear doctrine in ways that reflected increased reliance on nuclear weapons.

Russia’s nuclear policy took shape in 1999-2000. When Russia dropped the no-first-use policy in 1993, this did not amount to greater reliance on nuclear weapons since missions attributed to them did not change. In 1996-97 attention to nuclear weapons sharply increased in the context of the planned enlargement of NATO. Deterrence of perceived threat from NATO required a credible response and credible assets to support it. The Russian Navy was in the forefront of those who demanded deployment of tactical nuclear weapons, even though such a step would have contradicted the unilateral political obligations announced by Mikhail Gorbachev in the fall of 1991 and confirmed by Boris Yeltsin in January 1992. In 1996, former Minister of Atomic Energy, Viktor Mikhailov, proposed to develop a new generation of nuclear warheads, whose low yield and reduced radiation emission supposedly would make them more “usable” than existing types. Nuclear weapons also came to be seen as a means of deterring threats “from the south,” which became particularly acute after Taliban took control of most of Afghanistan in 1996. These debates did not lead to a change in official policy, however; instead, in 1997 and 1998 a series of documents reinstated “central deterrence” (deterrence of a large-scale aggression) as the only mission for nuclear weapons.

Change came on the heels of the war in Kosovo. This war revived and vastly strengthened the impression that NATO had very few qualms about

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using force and that Russia was not necessarily immune to it. In the end of April 1999, a meeting of the Security Council (the first led by Vladimir Putin as its Secretary) apparently directed a revision of the nuclear doctrine to develop ways to deter a Kosovo-style attack against Russia.\textsuperscript{4} The new role of nuclear weapons was formalized in the National Security Concept (January 2000) and the Military Doctrine (April 2000).\textsuperscript{5} The heart of the new approach is the provision that Russia’s nuclear arsenal should be able to inflict “predetermined” (zadannyi) damage to the aggressor instead of a more common notion of “unacceptable” damage. This provision allows for limited use of nuclear weapons in order to increase the cost to the attacker beyond the expected benefits.

These documents distinguished between four types of warfare:

- armed conflict (primarily ethnic or religious in origin, waged inside the country; other states might be involved indirectly);
- local war (one or several other states as opponents; the scope and goals of the conflict are limited);
- regional war (attack by a state or a coalition of states in pursuit of significant political goals); and
- global war (attack by a coalition of states; survival and sovereignty of Russia are at stake).

Use of nuclear weapons was associated with the last two types of conflict. According to Russian military theorists, the most likely escalation path was from the first directly to the third type of conflict.\textsuperscript{6} This view signaled, for example, that major foreign interference with the “antiterrorism operation” in Chechnya (these documents were developed against the background of the second war) could have precipitated the use of nuclear weapons. In the end of 1999 the chief of the Russian Strategic Rocket Forces, Vladimir Yakovlev, coined the term “expanded deterrence” to denote the mission of nuclear weapons: “de-escalation” of limited conflicts.

This concept was tested during the “West-99” maneuvers, which simulated a Kosovo-style attack on Kaliningrad oblast. Russian conventional troops were resisted only for two or three days, and after that Russian heavy bombers simulated the use of four nuclear air-launched cruise missiles (ALCMs): two against military targets in Europe (probably bases of enemy aircraft) and two against undisclosed targets in the United States. The latter were probably intended to demonstrate that the United States would not remain unaffected in a conflict of this kind. Similar maneuvers were conducted

in subsequent years in various regions, including the Far East. Important
maneuvers took place in the spring of 2003 in the wake of the war in Iraq.
Their scope was expanded beyond the territory of Russia and its immediate
vicinity to include the Indian Ocean. Among other activities, Tu-160, Tu-95MS,
and Tu-22M3 bombers simulated strikes against naval and land targets,
presumably American aircraft carrier groups and Diego Garcia, an important
American airbase in the region. One could draw direct parallels with “West-99”
maneuvers, which took place immediately after the war in Kosovo and served
as a warning to neutralize possible political effect of the Iraq war on Russian
security and interests.

The 2000 documents envisioned reliance on nuclear weapons as a
temporary “fix,” however, until Russia manages to build up its conventional
capability, in particular in precision-guided weapons. The evolution of U.S.
nuclear policy described below might make the new role of nuclear weapons
permanent.

Due to funding problems the new missions are supported with the
weapons that Russia inherited from the Cold War, first and foremost by heavy
and medium bombers. This option is more cost-effective than the earlier, 1997
proposals to boost the substrategic capability through the development of new
weapons. CTBT is the key impediment to the development of low-yield
weapons, but it might be removed if the United States resumes nuclear testing,
as many expect.

Russia expects to maintain a significant nuclear arsenal primarily
through extension of service life of existing platforms and refurbishment of
nuclear warheads. Earlier plans to sharply reduce the ICBM force, which were
made in the late 2000, have apparently been revised following U.S. withdrawal
Changes in U.S. nuclear policy began only recently. A series of documents adopted since January 2002 contain political and conceptual guidance, but their implementation is at a very early stage.

Transformation of nuclear policy is part of a broader phenomenon of the “new triad,” – a new, at least for the United States, concept of comprehensive integration of Armed Forces to enable various services act together. Defense transformation is driven by a deeply held conviction among many political and military leaders that the new international system will be characterized by unipolarity and that at least until the middle of this century no great power or alliance will be able and willing to challenge U.S. dominance. At the same time, there will be multiple challenges to the stability of the international order, among which the most dangerous is proliferation of WMD. Since the NPT cannot cope with some cases of proliferation, U.S. Armed Forces will have to interfere from time to time.

According to the concept of transformation, combatant commanders are supposed to have maximum flexibility to choose the most appropriate assets depending on mission or target. This includes nuclear weapons, which are considered the most effective (some say, the only) weapon against hardened deeply buried targets (HDBT). Another option is the use of nuclear weapons in response to the use of other WMD against the United States, US troops, or allies and friends. The concept of the “new triad” effectively makes nuclear weapons yet another strike asset along with conventional weapons.

Nuclear weapons are also expected to retain their traditional mission of “strategic deterrence,” especially vis-à-vis Russia and China, but that mission no longer dominates the agenda. Rather, strategic weapons are kept “just in case,” against the off-chance that either or both countries unexpectedly become a serious challenge to the United States.

Underlying the new mission is the same belief as in Russia, namely, that limited use of nuclear weapons will not have catastrophic consequences.

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9 Russia was the first to formalize that mission, but the first to offer it, still unofficially, were U.S. military leaders in the mid-1990s.
The differences between the Russian and the emerging American approach are the following:

- The United States foresees the use of nuclear weapons, at least at present, against point targets (HDBT), whereas in Russia these weapons are intended against enemy troops and elements of military infrastructure involved in an attack against Russia;

- The United States plans to acquire a “custom” nuclear weapon for the new mission; Russia relies on existing weapons and, although there are proposals to develop a low-yield nuclear weapon for limited use, this does not seem likely in the foreseeable future;

- Integration of nuclear weapons into command chains in the United States is likely to be greater than in Russia: combatant commanders will be probably preauthorized to use nuclear weapons as they see fit;

- For U.S. military limitation of collateral damage is considered a high-priority goal (in particular since the defeated countries have to be subsequently integrated back into the international system as bona fide members); in Russia collateral damage has been rarely mentioned since the nature of the missions assigned to nuclear weapons implies maximum damage to enemy troops and command and control structures.

- Finally, the Russian military doctrine reserves nuclear weapons for the case of an attack against itself, its allies or core interests; the United States foresees limited use of nuclear weapons in the context of fighting rogue states that threaten international stability, including by pursuing a WMD capability, but not necessarily directly attack or immediately threaten the United States.

The credibility of the new proposed mission hinges on the appropriate assets; thus, the debate over development of new weapons and resumption of nuclear testing occupies the center stage. The following characteristics are sought:

- precision guidance: technological advances in conventional weapons should be applied to nuclear ones;

- low yield (single kilotons or even less than 1 kt will); ability to certify yield with high precision and confidence;

- earth penetration;

- tailored effects, including ability to choose the appropriate mix and scale of destruction effects (shock wave vs. radiation, etc.);

- ability to destroy chemical and biological agents;

- improved reliability and simplified maintenance;
flexible employment, including ability to target and retarget weapons during the mission (as it is now done with conventional weapons).

The "new triad" also includes "responsive infrastructure," which should enable the United States to quickly design or repackage and produce new types of nuclear weapons tailored for a specific mission. Each type – or, more appropriately, modification – will be produced in small quantities.

According to U.S. STRATCOM, without new assets that precisely match the expected missions, the United States will end up being self-deterred from using nuclear weapons. As a result, important missions will remain unsupported and proliferant states will remain unchecked.

Some initial steps in this direction have already been undertaken. The Administration has sought $21 million for Advanced Concepts work, including $15 million for RNEP (Robust Nuclear Earth Penetrator) – basically, a study to find out whether existing B61 and B83 warheads could be modified to perform the task. Congress is also likely to release the remaining $6 million to study whether a new physics package will be needed; if funds for the new design are allocated next year, this will overturn a 10-year-old ban on development of new weapons. It should be emphasized, however, that development of a new weapon is not yet planned: the mandate is only for research to determine whether a new weapon is needed.

A number of stopgap measures that could be taken to cover the immediate needs, if any arise. For example, in addition to the repackaging of B61 and B83 warheads, it is possible to utilize the 1-kt Pershing warhead, modify the existing two-stage weapons to use only one stage, etc. Yet, the demands of the military are a very tall order, and it is unlikely that even refurbished or modified warheads could be certified to perform required tasks without testing.

There are reasons to believe that the plans with regard to low-yield bunker-busting nuclear weapons are not the end of the road. It is easy to imagine circumstances, under which nuclear weapons might be used in a more conventional role, i.e., against enemy troops and other militarily significant targets as a replacement for conventional weapons. Such circumstances might emerge if U.S. troops are overextended, as it almost happened during the recent war in Iraq, when few reinforcements were available in the case Iraqi resistance would have been fiercer or, even worse, another crisis erupted elsewhere. To cope with multiple parallel limited wars and to avoid prolonging a conflict U.S. troops might be tempted to use nuclear weapons effectively under the same scenario that Russia foresees for its own troops.
Two intertwined and mutually reinforcing trends will influence the prospects of nuclear arms control. First, since the threat of a large-scale nuclear war has dramatically declined, neither the United States, nor Russia has a serious stimulus to engage in arms control negotiations. Second, the new trends in nuclear policy demand that some elements of the existing arms control regimes are reconsidered; the CTBT is the first treaty on the line.

The United States and Russia clearly operate under the assumption that nuclear weapons will remain around for a very long time, maybe indefinitely; the concern is rather to prevent their proliferation and ensure that only "reliable," bona fide members of the international community have them. There is some asymmetry in the motivations of nuclear policies – unlike the United States, Russia still perceives some threat from the developed, established countries (NATO first and foremost), – but the essence of policy is nevertheless the same. Reductions should not be mistaken for arms control and disarmament; they are but tools to get rid of excessive or outdated weapons. At the same time, both countries seek flexibility as they shape their nuclear arsenals in accordance with future needs and make them more "useful," which includes first and foremost making the threat of nuclear use credible.

The Moscow Treaty (SORT) provides maximum flexibility to both sides at the same time as it shuns verification and transparency regime. Generally speaking, both the United States and, especially, Russia would appreciate greater transparency, but neither is prepared to grant the other side access to its facilities or accept restrictions on the composition of its arsenal or its warhead production/maintenance/dismantlement activities. Recently, U.S. government made an explicit decision that it should not seek a formal verification regime; in Russia the Duma has requested transparency in the SORT ratification resolution, but not verification measures.

The two countries have established a framework for regular dialogue on strategic offensive and defensive weapons, which will provide some predictability with regard to intentions, strategies, and reductions. SORT ratification resolutions in both countries contain reporting requirements on the implementation of the treaty, and it is possible to create a formal reporting mechanism based on these legislative initiatives (whether this opportunity will be utilized remains questionable). It is even possible, although only remotely, that data exchange might include nonstrategic nuclear weapons.
Both countries have strong, albeit carefully hidden, interest in the resumption of nuclear testing. For political reasons, only the United States can assume the political "fallout" from that decision, but it could be safely predicted that once (and if) the United States begins to test, other countries will follow. There are reasons to believe that the second will be China, and Russia will only be the third. This will put an end to the ten-year-old moratorium and doom the CTBT.

The only existing nuclear arms control treaty, START I, might also fall victim to the search for flexibility. The United States currently plans to propose its extension shortly before the treaty expires in 2009. It is possible, however, that Russia might want to revise certain provisions, which continue to impose restrictions. The first among them is the ban on increasing the number of warheads on existing types of ballistic missiles, which stands in the way of MIRVing Topol-M. Plans for MIRVing, which seemed shelved only two years ago, again attract attention since they will help Russia to maximize the number of deployed warheads and to increase the defense-penetration capability of its strategic weapons. Of course, if even one provision of START I is revised, this could open a broader revision of the treaty.

Arms control efforts will resume only if there is once again a threat of strategic instability in the future, which would be sufficiently serious for the United States and Russia to entertain adoption of restrictions on modernization and deployment and intrusive verification. The most likely reason for this is Chinese nuclear modernization, which is already worrying Russia and in a few years will be seen as a cause of concern in the United States. China's strategic arsenal alone might reach 500 deployed warheads by the middle of the next decade; its nonstrategic arsenal is already large, but will become more technologically advanced.

China seems interested in pursuing arms control options, which are seen as a way of providing predictability of the strategic balance and of conferring recognition as a major international player. Its preferences are currently centered on START I-type approaches. It seems possible that by the end of this decade we might see a trilateral effort in that area.

Long-term worldwide impact of the recent and ongoing changes in American and Russian nuclear policy is more difficult to assess. That said, there is considerable risk that they will undercut two well-established norms: the one that nuclear weapons are unusable and the other embodied in Article VI of the NPT – nuclear disarmament.

It is difficult to mislead the world public opinion and sell optimization for disarmament. Instead, there is a growing conviction that the United States and Russia are seeking to make nuclear weapons more usable and maybe even intend to use them. Furthermore, new U.S. nuclear policy explicitly foresees the use of nuclear weapons against states that seek to acquire WMD capability, i.e., are legally non-nuclear. Worse still, the standards of evidence of illegal WMD programs are questionable. In sum, this policy creates a strong challenge to negative security assurances. Russia officially continues to abide by these assurances, but there have been many unofficial calls to the contrary,
and in the end Russia might see U.S. policy as justification for a similar change in its own attitudes.

In the short term, the overwhelming American power and the professed willingness to use that power, maybe even including nuclear weapons, will probably give proliferant states a pause. Much in the effects of U.S. military transformation will depend on how the ongoing crisis around North Korea will be resolved: if this country is unconditionally denuclearized, then the perceived value of nuclear weapons will decline, but if it manages to strike a quid pro quo deal, then the impulse toward nuclear proliferation might become very strong. Still, regardless of the outcome of the North Korean crisis, sooner or later one can expect an even stronger drive toward nuclear capability, especially if nuclear weapons are legitimized.

Furthermore, if the nonproliferation regime is shattered, some bona fide states might seek nuclear capability as well, trying to ensure security in an increasingly unpredictable world. An American military action against them could be ruled out for all practical purposes.

The above-listed four variables that cause reliance of states on nuclear weapons do not apply solely to the United States or Russia. It is possible that other states might perceive a significant external threat (for example, from the United States, especially if the tendency to use military power as a tool of democratization becomes entrenched); that both conventional means of defense and international law are powerless; that nuclear weapons are not only usable, but can achieve useful ends; and, finally, that acquisition of nuclear weapons, no matter how expensive, is still cheaper than attempts to create cutting-edge modern conventional armed forces. If these four convictions or, rather, even just three of them, become widespread, the international order as we know – no matter how inadequate – is doomed.

On the positive side, none of the changes listed above are set in stone yet. There is still time to delay, modify, or weaken them. It is possible that policy will be changed once again, this time for the better.