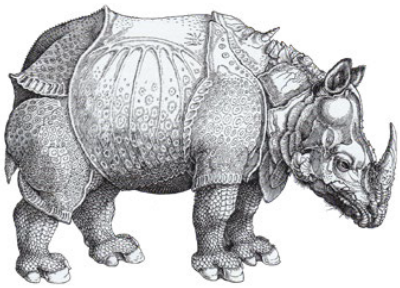

SECURITY INDEX

№ 2 | 2019

Pursuing Enhanced Strategic Stability in US-Russian Relations: an Agenda for 2018-2020

Russia-U.S. Working Group

The report "Pursuing Enhanced Strategic Stability in US-Russian Relations: an Agenda for 2018-2020" summarizes recommendations by members of the Russia-U.S. working group, as well as by other experts who participated in discussions held by PIR Center (Moscow, Russia) in partnership with the James Martin Center for Nonproliferation Studies (Monterey, the United States) in 2017 – 2019. The **working group** of leading experts from Russia and the United States was established to promote a constructive dialogue between the two countries on arms control, a reduction of risks stemming from nuclear modernization, crisis management, and a future framework of strategic stability.

The report was prepared by PIR Center's Russia and Nuclear Nonproliferation Program Director **Adlan Margoev**.

Members of the Working Group believe the publication of this report is especially important in the context of the unravelling of the INF Treaty. Urgent steps to salvage the treaty-based arms control regime are deemed overdue.

Policy memos written by Working Group members, as well as other materials produced as part of the project, are available at www.russia-us.pircenter.org.

Read the report on PIR Center website

Key findings

- **Strategic stability is being hit with a double blow.** Rapid technological progress indulges those who believe that nuclear war can be won, with deteriorating political relations increasing the probability of a conflict betweenRussia and the United States. The Russians and the Americans no longer fear nuclear war the way their predecessors did, so there is little acknowledgement in Washington and Moscow of the need to join efforts to avoid a nuclear war.

- **Russia and the United States are reverting to strategic competition.** While Washington's attention has been primarily focused on nuclear-arming regional challengers, Moscow has been suspecting it of trying to gain strategic superiority. In order to address this perceived challenge, it launched a large

modernization program and developed new strategic weapons. Moscow's response is troubling to the United States in its ambition, and the United States now accepts the more adversarial nature of its relations with Russia.

- **Russian and the U.S. approaches to strategic stability need to be harmonized with each other.** Full agreement in this field is beyond the two capitals. They are expected to emphasize the respective national approaches to preserve strategic stability rather than develop shared ones. An updated conceptual framework for strategic stability should rest on four principles: deterrence stability, crisis stability, a shared assessment of nuclear dangers, and a renewal of habits of cooperation in the field of nonproliferation.

- **Perceived threats may set off a new arms race.** Threat perception plays a greater role in the U.S. and Russian strategic policies than their actual offensive and defensive capabilities. The two countries should try to convey and explain the purpose of their modernization plans to each other, as well as focus their attention on adopting restrictions on the development of weapon systems threatening the survivability of each other's strategic forces and command, control, communications and intelligence assets.

- **Russia and the United States need to preserve arms control.** The New START extension talks should begin without delay. The United States and the Russian Federation have the most to lose in this scenario of an unbridled quantitative and qualitative nuclear arms race. Fresh approaches to expanding the geographic reach of nuclear arms control should also be explored.

- **Nuclear risk reduction remains the saving grace for the world.** The existing mechanisms are barely adequate for the current state of bilateral relationship and technological advancements. The U.S. and Russian leaders have to reassure each other that a limited war is not part of their military doctrines or plans.

- **Protection of critical infrastructure from cyber threats may prevent a military conflict.** The risk of a cyber attack leading to a military escalation that could further trigger a nuclear attack has become real. The escalation ladder from cyber to nuclear attacks remains ambiguous as each side defines the thresholds for proportionate reciprocal measures based on its own criteria. Russia andthe United States must find a way to work together on protecting their critical infrastructure and developing norms of responsible behavior in cyberspace.

- **Enhancing strategic stability requires urgent steps.** These include the resumption of strategic stability talks and establishing a panel consisting of civilian and military officials and the next generation of specialists representing political and technical fields of expertise to conduct a joint assessment of nuclear dangers. The panel would also serve as an informal platform for the exchange of opinions between Russian and U.S. parliamentarians. It would help to raise public awareness on nuclear dangers by engaging the media, and facilitate joint analytical work involving U.S.and Russian specialists working in the field of strategic stability.

Read the report on PIR Center website

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"Security Index" newsletter presents reports, analytical articles, comments and interviews that reflect the positions of Russian and foreign experts on the current challenges of global security and Russian policy in this sphere. The newsletter aims at providing clear analysis of global security problems and suggesting practical solutions.

"Security Index" occasional papers continues the "Security Index" journal published by PIR Center in 1994 – 2016. Authors and editors will be glad to receive comments, questions and suggestions on our e-mail address inform@pircenter.org.

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PURSUING ENHANCED STRATEGIC STABILITY THROUGH RUSSIA-U.S. DIALOGUE

May 2019

RECOMMENDATIONS BY
RUSSIA-U.S. WORKING GROUP

REPORTED BY ADLAN MARGOEV

PIR CENTER

PIR Center is an independent non-governmental organization in Russia which carries out research, as well as educational, public awareness and publishing activities, and provides consulting services.

In 2019, PIR Center is celebrating its 25th anniversary. From the time of its founding in April 1994 to this day, the priority areas of the Center's research studies remain international security, arms control and nonproliferation of weapons of mass destruction.

PIR Center is in consultative status with the UN Economic and Social Council (ECOSOC) since 2010.

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May 2019

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FOREWORD

IN 2017, PIR CENTER (MOSCOW, RUSSIA), in partnership with the James Martin Center for Nonproliferation Studies (Monterey, the United States), established a working group of leading experts from Russia and the United States to promote a constructive dialogue between the two countries on arms control, a reduction of risks stemming from nuclear modernization, crisis management, and a future framework of strategic stability.

This report summarizes recommendations by members of the working group, as well as by other experts who participated in discussions held by PIR Center in 2017-2018. The report was prepared by PIR Center's Russia and Nuclear Nonproliferation Program Director Adlan Margoev, who bears sole responsibility for its content.

Chaired by Dr. Vladimir Orlov, Founder of the PIR Center, and Prof. William Potter, Director of the CNS, the Working Group held two sessions in 2017 and 2018 with the support of the Carnegie Corporation of New York. Its members were not asked to make or agree to the recommendations, nor have they been asked to endorse the report.

Members of the Working Group believe the publication of this report is especially important in the context of the unravelling of the INF Treaty. Urgent steps to salvage the treaty-based arms control regime are deemed overdue.

Policy memos written by Working Group members, as well as other materials produced as part of the project, are available at **www.russia-us.pircenter.org.**

EXECUTIVE SUMMARY

STRATEGIC STABILITY IS BEING HIT WITH A DOUBLE BLOW. Rapid technological progress indulges those who believe that nuclear war can be won, with deteriorating political relations increasing the probability of a conflict between Russia and the United States. The Russians and the Americans no longer fear nuclear war the way their predecessors did, so there is little acknowledgement in Washington and Moscow of the need to join efforts to avoid a nuclear war.

RUSSIA AND THE UNITED STATES ARE REVERTING TO STRATEGIC COMPETITION. While Washington's attention has been primarily focused on nuclear-arming regional challengers, Moscow has been suspecting it of trying to gain strategic superiority. In order to address this perceived challenge, it launched a large modernization program and developed new strategic weapons. Moscow's response is troubling to the United States in its ambition, and the United States now accepts the more adversarial nature of its relations with Russia.

RUSSIAN AND THE U.S. APPROACHES TO STRATEGIC STABILITY NEED TO BE HARMONIZED WITH EACH OTHER. Full agreement in this field is beyond the two capitals. They are expected to emphasize the respective national approaches to preserve strategic stability rather than develop shared ones. An updated conceptual framework for strategic stability should rest on four principles: deterrence stability, crisis stability, a shared assessment of nuclear dangers, and a renewal of habits of cooperation in the field of nonproliferation.

PERCEIVED THREATS MAY SET OFF A NEW ARMS RACE. Threat perception plays a greater role in the U.S. and Russian strategic policies than their actual offensive and defensive capabilities. The two countries should try to convey and explain the purpose of their modernization plans to each other, as well as focus their attention on adopting restrictions on the development of weapon systems threatening the survivability of each other's strategic forces and command, control, communications and intelligence assets.

RUSSIA AND THE UNITED STATES NEED TO PRESERVE ARMS CONTROL. The New START extension talks should begin without delay. The United States and the Russian Federation have the most to lose in this scenario of an unbridled quantitative and qualitative nuclear arms race. Fresh approaches to expanding the geographic reach of nuclear arms control should also be explored.

NUCLEAR RISK REDUCTION REMAINS THE SAVING GRACE FOR THE WORLD. The existing mechanisms are barely adequate for the current state of bilateral relationship and technological advancements. The U.S. and Russian leaders have to reassure each other that a limited war is not part of their military doctrines or plans.

PROTECTION OF CRITICAL INFRASTRUCTURE FROM CYBER THREATS MAY PREVENT A MILITARY CONFLICT. The risk of a cyberattack leading to a military escalation that could further trigger a nuclear attack has become real. The escalation ladder from cyber to nuclear attacks remains ambiguous as each side defines the thresholds for proportionate reciprocal measures based on its own criteria. Russia and the United States must find a way to work together on protecting their critical infrastructure and developing norms of responsible behavior in cyberspace.

ENHANCING STRATEGIC STABILITY REQUIRES URGENT STEPS. These include the resumption of strategic stability talks and establishing a panel consisting of civilian and military officials and the next generation of specialists representing political and technical fields of expertise to conduct a joint assessment of nuclear dangers. The panel would also serve as an informal platform for the exchange of opinions between Russian and U.S. parliamentarians. It would help to raise public awareness on nuclear dangers by engaging the media, and facilitate joint analytical work involving U.S. and Russian specialists working in the field of strategic stability.

I. STRATEGIC STABILITY IS BEING HIT WITH A DOUBLE BLOW

IN THE 1960s, when the United States and the Soviet Union realized that it was impossible to win a nuclear war, the idea of mutually assured destruction, among other factors, laid the ground for arms control negotiations. In the two decades that followed, technological advancements incentivized the U.S. leadership to seek capabilities to win a nuclear war, but the Soviet Union would always manage to restore the balance on higher quantitative and qualitative levels.

By the end of the Cold War, the confrontation between the two nations had come to an end, and they developed a new pattern of strategic relationship in which both technical and political incentives for a nuclear conflict were eliminated. The concept of "strategic stability" was designed to replace an amorphous and subjective notion of "equality and equal security." In the joint U.S.-Soviet statement of June 1990, it was defined as a state of strategic relations that was "removing incentives for a nuclear first strike."[1] This was to be achieved through a mutually acceptable relationship between strategic offensive and defensive arms, by reducing the numbers of warheads on strategic delivery vehicles, and by prioritizing highly survivable systems.
The current combination of technical and political factors influencing the U.S.-Russian strategic relationship is very worrying. In a sense, the situation appears even worse than during the Cold War.

First, rapid technological progress indulges those who believe that a nuclear war can be won, with the deteriorating political relations increasing the probability of a conflict between Russia and the United States.

Second, the Russians and the Americans no longer fear nuclear war the way their predecessors did, so there is little acknowledgement in Washington and Moscow of need to join efforts to avoid a nuclear war. This situation allows the warmongering hawks in the two capitals to make a case for more assertive policies and against any restrictions, including arms control.

II. RUSSIA AND THE UNITED STATES ARE REVERTING TO STRATEGIC COMPETITION

THE FOCUS OF U.S. STRATEGIC POLICY is shifting back from deterring regional challengers to pursuing strategic competition with other global powers. With the end of the Cold War, "rogue states" replaced the Soviet Union on the U.S. radar as key sources of threat to the security of the United States and its allies. In order to have more leeway to address these threats, it made a decision to withdraw from the Anti-Ballistic Missile (ABM) Treaty and pursued to develop national and regional ballistic missile defense systems.

Moscow, who believed the ABM Treaty served as a "cornerstone of strategic stability," interpreted the U.S. actions as an attempt to achieve strategic superiority. As a response, it started implementing a modernization program and launched production of new strategic weapons. Washington perceived it as a challenge to its national security and a starting point for a resumption of a great-power competition.

An unending cycle of complaining and explaining is even more heated, now involving public disputes in the media. The past strategic relationship included sustained, high-level efforts by Washington and Moscow to assure each other of their continued commitment to strategic stability and to demonstrate that their capabilities were in line with their stated intentions. These assurances were – and still are – being met with deep skepticism and pushback. The cycle of complaining and explaining is unbroken to this day and yields little result, while mutual suspicion continues to grow.

The United States and Russia are developing concepts for integrating the multiple tools of deterrence (hard and soft power, kinetic and non-kinetic, nuclear and non-nuclear) to support their national objectives. Over the past decade, thinking has shifted from the traditional division between conventional and nuclear means of deterrence to a new landscape, where the challenges of integrating multiple tools are being explored.

The leadership of the two countries is now engaged in a discussion of how to redress the emerging strategic imbalance. This discussion touches increasingly on questions related to long-term competition, with each side seeking to shift this competition onto terms favorable to itself. The underlying question is whether mutual vulnerability remains the right organizing concept for U.S.-Russian competition, or whether the two nations will pursue dominance in all the spheres, including cyberspace and the outer space.

III. RUSSIAN AND U.S. APPROACHES TO STRATEGIC STABILITY NEED TO BE HARMONIZED WITH EACH OTHER

WHILE THE STRATEGIC LANDSCAPE HAS BEEN CHANGING over the past three decades, the United States and Russia have diverged in their vision of strategic stability. Against the backdrop of disintegration of arms control treaties such as the ABM Treaty and now the INF Treaty, there has been a lack of in-depth dialogue on the impact of new weapon systems and technologies on strategic stability. Even new treaties in this field have been negotiated on the basis of the existing templates, without taking these new developments into account.

Ideally, Russia and the United States could discuss such issues as:

- military doctrines, including the uncertainties surrounding the Trump Administration's NPR and the Russian military doctrine,
- the nuclear modernization plans of both sides,
- the strategic implications of regional and homeland missile defenses and the value of a missile defense transparency arrangement,
- the implications of possible future conventional prompt global strike systems, including hypersonic glide vehicles,
- the role of non-strategic nuclear weapons,
- possible confidence-building measures in the cyber and space domains,
- the challenges posed by ballistic and cruise missiles deployed by third states,
- prospects for involving third parties in arms control or stabilizing measures.[4]

But the grand project – reaching full agreement as to what constitutes threats to stability and adopting a jointly agreed plan on how to manage them – is beyond the leaders of the two countries.[5]

Given the adversarial character of the bilateral relationship, they are expected to emphasize respective national approaches to preserving strategic stability rather than developing shared ones.

An updated conceptual framework for strategic stability should rest on four principles – those are rooted in Cold War legacies but need to be adapted, revisited, and broadened in light of the changing strategic capabilities and threats:

1. Mutual assurance that neither country can dramatically degrade the other country's strategic capabilities – now to include not just nuclear capabilities as in the Cold War but also space and cyber assets – we can call this "**deterrence stability"**;

2. A mutual commitment to prevent a future U.S.-Russian military crisis, and in the event of such a crisis, a commitment to avoid political-military actions that would heighten the risk of an escalation to open military (and, possibly, nuclear) conflict – we call this **"crisis stability"**;

3.A shared assessment of nuclear dangers, including (most importantly) a reaffirmation of the 1985 U.S.-Soviet statement that a nuclear war – any nuclear war – cannot be won and must never be fought;[6]

4.A mutual readiness to take advantage of opportunities **to renew habits of cooperation** between Washington and Moscow, not least in cooperating to protect the Nuclear Non-Proliferation Treaty.[7]

HOW DO THE UNITED STATES AND RUSSIA DEFINE STRATEGIC STABILITY?

THERE IS NO OFFICIAL U.S. DEFINITION OF STRATEGIC STABILITY. In the 2018 U.S. Nuclear Posture Review (NPR), strategic stability is mentioned six times without an elaborate definition. Neither is such a definition provided in the 2010 NPR, although the document discusses this issue more thoroughly.

In 2016, the U.S. Department of State requested its International Security Advisory Board (ISAB) to prepare a report on a multilateral framework for strategic stability, which was released to a broad audience in an abridged version. The views expressed in the report did not represent official positions or policies of the U.S. Government; however, they reflect the understanding of strategic stability among the US experts whose advice was solicited by the U.S. Government:

"During the Cold War, strategic stability was a well-understood term used to describe the strategic nuclear relationship between the United States and the Soviet Union. The concept had two principle components:

- The absence of incentives for either side to believe it would benefit from initiating war in a crisis (crisis stability). This included ensuring that neither side believed it would gain an advantage by being the first to use nuclear weapons, or that the other side was capable of a strike that would eliminate its nuclear retaliatory capacity (first-strike stability).
- The absence of any reason to believe that building additional or different strategic forces by either side would alter this situation (arms race stability).

Since the end of the Cold War, the term "strategic stability" has been used in many different ways by many different authors. Some use it in the Cold War sense, while others broaden it to be almost a synonym for "national security policy" or even a general improvement in the international environment in which the use of force is virtually ruled out. We propose that, for present purposes, bilateral strategic stability should be defined essentially by using the Cold War definition, with the understanding that in the modern world all nuclear weapons should be regarded as strategic. As shorthand for this concept, we often use the term "reducing the risk of nuclear war."[2]

AS FOR THE RUSSIAN FEDERATION, its updated understanding of strategic stability was introduced in a Joint Statement on Strengthening Global Strategic Stability signed by Russia's President Vladimir Putin and China's Chairman Xi Jinping in 2016. According to that statement, Russia now defines strategic stability not only as predictability and parity in offensive nuclear capabilities, but also as "a state of international relations characterized by the following factors:

- In the political sphere:
  - strict observance by all States and associations of States of the principles and norms of international law and provisions of the UN Charter governing the use of force and the adoption of coercive measures;
  - respect for the legitimate interests of all States and peoples in addressing current international and regional issues, and
  - inadmissibility of interference in the political life of other States;
- In the military sphere:
  - retention by all States of their military capabilities at the minimum level necessary for national security needs;
  - deliberate restraint from taking steps in the field of military construction, forming and enlarging military-political alliances that could be perceived by other members of the international community as a threat to their national security and would force them to take retaliatory measures aimed at restoring the balance;
  - resolution of differences through a positive and constructive dialogue and strengthening of mutual trust and cooperation."[3]

The political part of this definition has little to do with arms control, and if we were to use such a broad definition of stability, then stability itself would become almost unachievable. To enable further progress in arms control, specialists will have to develop a narrow yet up-to-date definition of strategic stability based on technical parameters.

IV. PERCEIVED THREATS MAY SET OFF A NEW ARMS RACE

AS IS THE CASE WITH OUR UNDERSTANDING OF STRATEGIC STABILITY, U.S. and Russian experts are broadly in accord on the definitions and implications of nuclear weapons modernization for strategic stability. Where they disagree is which actions – and whose actions – are undermining stability and may trigger a new arms race.

If the ability to inflict unacceptable damage in response to first strike by the opponent is guaranteed, then the ongoing U.S. and Russian nuclear modernization programs will have limited impact on strategic stability.[8] Nonetheless, certain elements of these programs could improve first strike capability to an extent that it might become an acceptable option for any leader. The reported capability of the Russian Sarmat ICBM to reach targets via the "southern route" and the precision capability of B61-12 nuclear gravity bomb in the United States cause mutual concern.[9]

Missile defense systems look equally disturbing, while in fact they cannot currently degrade the U.S. or Russian deterrent capabilities. The interceptors are few, and they cannot reliably intercept incoming missiles, especially the advanced ones designed to penetrate missile defenses. The problem with missile defense is the lack of predictability with regard to its future: the Russian Federation, while deploying its own S-500 missile defense system, is concerned that the United States could eventually deploy more capable interceptors in large numbers, which would create a strong imbalance.

Threat perception evidently plays a greater role in the two countries' strategic policies than their actual offensive and defensive capabilities. The United States and Russia should try to convey and explain the purpose of their modernization plans to each other. If the leaders of the two nations could convince each other, as well as other NPT Member States, that they are solely improving safety, security, and survivability of their nuclear weapons, then the negative impact of such modernization would be minimal. In the same vein, augmenting defensive systems to reduce each party's vulnerability to third states and non-state actors could be based on their agreement on a mutually acceptable relationship between strategic offensive and defensive arms.

Russia and the United States should focus their attention on adopting restrictions on the development of weapon systems threatening the survivability of each other's strategic forces and command, control, communications and intelligence (C3I) assets.[10]

It is also important not to allow the resumption of nuclear testing. As long as the CTBT exists and nuclear testing moratorium is observed, modernization of nuclear warheads will remain limited. Although the nuclear weapons states are relying on digital technologies to improve the safety of their arsenals, their military are increasingly interested in physical testing.

V. RUSSIA AND THE UNITED STATES NEED TO PRESERVE ARMS CONTROL

CURRENT CONDITIONS FOR BILATERAL ARMS CONTROL ARE HARDLY ADVANTAGEOUS – arms control is on life support, and the atmosphere around it is fueled by political disagreements and mutual accusations regarding compliance. Lack of trust, political fights between the U.S. Congress and the U.S. President, bipartisan consensus in Congress on the Russia policy, as well as little appetite in Washington (and, to some experts, in Moscow) for arms control will remain a formidable obstacle to comprehensive arms control dialogue between Russia and the United States for years to come.

In the near term, given how difficult it is to overcome some of today's serious challenges to the U.S.-Russian relationship, the objectives should be modest: to preserve the existing arms control agreements and other stabilizing arrangements.[11] The two countries should start the New START extension talks without any further delay. Even if prospects currently look bad for further formal agreements, an extension would provide a measure of stability and predictability, at least in the near term, and give both sides an opportunity to consider the next steps.

In the absence of arms control, the reasonably stable status quo will collapse, and a complex, multiplayer arms race will consume massive resources and greatly increase the risk of nuclear war. There will be neither quantitative limitations on the nuclear arsenals, nor the transparency and predictability needed to assess the development of the other nation's nuclear arsenals and to understand its motivations. The United States and the Russian Federation have the most to lose in this scenario of an unbridled quantitative and qualitative nuclear arms race.

In future arms control negotiations, although the likelihood of further nuclear reductions looks remote, the United States and Russia could shift their focus from numbers and ranges to categories of nuclear and conventional weapons in order to restrict or eliminate the more destabilizing ones, as well as the ones that treaten strategic C3I systems.

While it is still possible to negotiate a bilateral follow-on to the New START Treaty after its expiration in 2021 or 2026, fresh approaches to expanding the geographic reach of nuclear arms control should be explored. Engaging other nuclear weapon states in the process of nuclear arms limitation and reduction should be based on the appropriate estimation of their forces, as well as a clear definition of the principles, objects and verification methods of such arms control agreements.

No other country has such rich experience in verifying nuclear arms control agreements as Russia and the United States. Undoubtedly, U.S. and Russian experts could apply that wealth of experience to developing a strong verification system.

VI. NUCLEAR RISK REDUCTION REMAINS THE SAVING GRACE FOR THE WORLD

RUSSIA AND THE UNITED STATES SHOULD CONSIDER HOW BEST TO STABILIZE THE CURRENT TENSE SITUATION and reduce the risks of miscalculation and inadvertent outbreak of conflict. Regrettably, the status of the conflict prevention, management, and de-escalation protocols established by the two countries in the previous decades can only be described as barely adequate for the current state of bilateral relationship and technological advancements. The system that was built during the Cold War and further improved in the 1990s is partially dismantled or technologically outdated. Its evolution slowed down to a stop during the first decade of this century, and then during the current decade it began to break down.[12]

On the technical side, communications continue to lag behind the progress in the developments of military and non-military means of war. The parties might have insufficient time to understand the nature of a dangerous event and establish contact with each other. The emergence of hypersonic weapons will aggravate that challenge even further.

The relevant de-confliction mechanisms and institutions are almost non-existent today. Regular thematic, issue-area consultations have stopped. The military-to-military programs have mostly been halted, both between the United States and Russia and between Russia and the NATO states. If a crisis, unintended confrontation, or a misinterpreted action takes place, the two countries will need to spend considerable time to arrange a meeting or create an ad hoc mechanism to resolve the situation. While the U.S. and NATO intentions in curtailing regular consultations, including military-to-military, are understandable, that decision cannot be described as helpful: today, the chances of an unintended conflict and rapid escalation appear greater than ever since the early 1960s.

The primary purpose of verification and confidence-building regimes is an exchange of data on activities that the other side might see as a prelude to an attack or the attack itself. Unfortunately, these are not fully adequate, either. The instruments available under the Vienna Document fail to fully support that task – the Open Skies Treaty application needs to be expanded rather than curtailed. Russia, for its part, expresses concerns about an increase in the numbers of U.S. troops deployed in Eastern Europe, and especially about the deployment of heavy equipment close to its borders.

In theory, restoring communications systems and consultation mechanisms between the states would not be hard. The Syrian deconfliction mechanism between the U.S. and the Russian military is a single but so far very successful example of how the military can maintain a robust communication channel that is functioning in the interests of both nations' security.

However, maintaining military channels is not enough in the nuclear domain – nuclear de-escalation requires having equally functional political channels. Unfortunately, the domestic conditions, particularly in the United States, do not favor any such contacts. While Syria has been a hotspot for a few years, the Baltic Sea and the Black Sea remain two regions of potential confrontation between Russia and the United States.

A resumption of regular meetings between the military and the diplomats of the two countries, including heads of the State Department, the Department of Defense, the Ministry of Foreign Affairs and the Ministry of Defense, would be a politically challenging yet valuable step towards improving the U.S.-Russia security dialogue. This could later develop into broader consultations and mechanisms of dialogue among the interested actors on both sides.

The idea that any use of nuclear weapons, however limited, will lead to a full nuclear exchange has served as the basis for deterrence for decades, effectively preventing the United States and Russia from making use of their nuclear arsenals. However, the 2018 U.S. NPR holds that Russia is prepared to use nuclear weapons to paralyze the United States and NATO at an early stage of a conventional war and thereby end such conflict on favorable terms. This made the authors of the Nuclear Posture Review argue the need to manufacture lower-yield nuclear weapons that would allegedly discourage Russia from pursuing the so-called "escalate-to-de-escalate" strategy.

Although Russian officials, including the president's office, have repeatedly denied that this strategy is part of the Russian military doctrine, the U.S. leadership remains unconvinced. The situation gives raise to major concerns as these "tailored nuclear options" and related regional planning are blurring the once clear line between nuclear and conventional weapons, thereby lowering the threshold for nuclear weapons use.

VII. PROTECTION OF CRITICAL INFRASTRUCTURE FROM CYBER THREATS MAY PREVENT A MILITARY CONFLICT

WHEN ADDRESSING CYBER THREATS TO NATIONAL SECURITY, one has to distinguish between, a) intrusions into information systems that lead to malfunctioning of critical infrastructure, and b) information campaigns. These threats are different in their nature but they both have a negative impact on strategic stability.

The risk of a cyberattack leading to a military escalation that could further trigger a nuclear attack became explicit with the adoption of the 2018 U.S. NPR, which reads: "The United States would only consider the employment of nuclear weapons in extreme circumstances to defend the vital interests of the United States, its allies, and partners. Extreme circumstances could include significant non-nuclear strategic attacks. Significant non-nuclear strategic attacks include, but are not limited to, attacks on the U.S., allied, or partner civilian population or infrastructure, and attacks on U.S. or allied nuclear forces, their command and control, or warning and attack assessment capabilities."[13]

The escalation ladder from cyber to nuclear attacks remains ambiguous as each side defines the thresholds for proportionate reciprocal measures based on its own criteria.

On the one hand, clear thresholds would increase predictability and prevent escalation; on the other hand, knowledge of the opponent's thresholds would help one act just below those thresholds with impunity. Preserving this ambiguity maintains a greater deterrence capability because the opponent is thereby forced to take into account the risk of triggering a greater conflict.

This issue becomes even more complicated given that third parties may also have the capability to provoke a cyber conflict between Russia and the United States. A government or a non-state actor

WHAT CYBER OPERATIONS MAY CONSTITUTE A USE OF FORCE?

THERE IS SOME CLARITY REGARDING THE THRESHOLDS ON THE U.S. side since the publication of the 2015 Law of War Manual, which says: "If cyber operations cause effects that, if caused by traditional physical means, would be regarded as a use of force under jus ad bellum, then such cyber operations would likely also be regarded as a use of force. Such operations may include cyber operations that:

(1) trigger a nuclear plant meltdown;

(2) open a dam above a populated area, causing destruction; or

(3) disable air traffic control services, resulting in airplane crashes.

Similarly, cyber operations that cripple a military's logistics systems, and thus its ability to conduct and sustain military operations, might also be considered a use of force under *jus ad bellum*."[15]

could put the two countries on the brink of an armed conflict by attacking critical infrastructure of either of them and framing the other side for the attack. A thorough attribution process would take time, while in the event of a major attack the leadership of the victim country would be under a lot of pressure to react as quickly as possible.[14]

There are ways to both prevent and mitigate such an escalation. Prevention includes updating Internet protocols, network isolation, and the use of encryption. Private companies also provide software for protection of critical infrastructure. Transparency and confidence-building measures may help to prevent a conflict from escalating. These measures are being developed in the UN framework and further promoted by the OSCE.

The development of norms of responsible conduct in cyberspace is also under way. The United States and Russia once pioneered in this field by concluding the first bilateral agreement but halted its implementation after the Ukrainian crisis of 2014. In July 2017, after President Trump and President Putin met for the first time, the two governments announced the establishment of a bilateral working group on cyber security. Some experts argued for giving this idea a chance, while others perceived the alleged Russian cyber interference as an obstacle to reviving the bilateral working group; they believed that no new agreements were possible between Moscow and Washington in this field.

Many experts believe the two countries must find a way to work together on nuclear issues, no matter how severe their disagreements in other areas are. The cyber domain is hardly different in that respect. Without constructive dialogue on cyber issues between the United States and Russia, the world will most likely fail to agree on any norms of responsible state conduct in cyber space.

VIII. ENHANCING STRATEGIC STABILITY REQUIRES URGENT STEPS

FOR THE ABOVE-MENTIONED RECOMMENDATIONS to be implemented, an urgent resumption of strategic stability talks is necessary at the official level. It is of great importance that no preconditions be set regarding the inclusion of any topics on the agenda of these talks. The Department of Defense and the Ministry of Defense must be actively involved, along with the State Department and the Ministry of Foreign Affairs.

In parallel to these talks, a panel consisting of both retired top-level civilian and military officials and the next generation of specialists representing various political and technical fields of expertise could be created to conduct a joint assessment of nuclear dangers, develop a shared understanding of strategic stability, and report back to the leadership of the two countries.

Since many in the U.S. Congress are reluctant to engage in arms control efforts with Russia, it is important to increase awareness among Congressional staffers on issues pertaining to arms control and nuclear risk reduction. Similar work must be conducted in Russia – with the Deputies of the State Duma and Senators of the Federation Council. Although Russian parliamentarians already favor dialogue with their U.S. counterparts, the Russian expert community should support this endeavor and provide an informal platform for exchange of opinions between the two countries' parliamentarians.

To help the leadership of the two countries work out the relevant measures, the U.S. and Russian expert communities should foster domestic support for nuclear risk reduction through raising public awareness on nuclear dangers via media and education activities.

It is hard to expect the U.S. and Russian governments to cooperate at this time, but think tanks must do so. Joint analytical work on the following topics could be valuable:

- making the case for an extension of New START to arms control skeptics in both countries;
- a joint response to the Treaty on the Prohibition of Nuclear Weapons ahead of the 2020 NPT Review Conference;
- understanding the risk of missile proliferation across the globe;
- understanding the strategic stability implications of the pursuit of dominance in cyberspace and the outer space, and
- shaping Asia's nuclear future.

NOTES

[1] "Soviet-United States Joint Statement on Future Negotiations on Nuclear and Space Arms and Further Enhancing Strategic Stability," June 1, 1990, http://www.presidency.ucsb.edu/ws/?pid=18541

[2] The Nature of Multilateral Strategic Stability. International Security Advisory Board (ISAB), U.S. Department of State. April 27, 2016. https://www.state.gov/documents/organization/257667.pdf

[3] This definition, available officially in the Russian language, was introduced in a Joint Statement on Strengthening Global Strategic Stability signed by Russia's President Vladimir Putin and China's Chairman Xi Jinping on June 25, 2016. Cit. by: http://www.pircenter.org/en/news/7004-1563423

[4] Yuri Nazarkin. Arms Control Agenda Remains Valid Until Next U.S.-Russia Summit. PIR Center, 2018. http://www.pircenter.org/en/articles/2175-6405079

[5] Some participants of the Working Group see the following topics as potentially more productive for bilateral discussion:

- worrying developments in the others' military posture;
- the impact on crisis and arms race stability of competition in cyberspace and the outer space;
- arms race strategies (avoid, manage, or win?), and
- arms control strategies (fix, abandon, or replace?).

[6] Joint Soviet-United States Statement on the Summit Meeting in Geneva. November 21, 1985. The U.S. National Archives and Records Administration: Ronald Reagan Presidential Library & Museum. https://www.reaganlibrary.gov/research/speeches/112185a

[7] Lewis Dunn. Hard, But Necessary: Upholding Four Principles of Strategic Stability. PIR Center, 2018. http://www.pircenter.org/en/articles/2160-3306282

[8] Thomas Countryman. Trump and Putin Have to Talk About De-Escalation and Cyber-Interference. PIR Center, 2018. http://www.pircenter.org/en/articles/2172-1773184

[9] Nikolai Sokov. Modernization of Nuclear Weapons: How it Influences Strategic Stability. PIR Center, 2018. http://www.pircenter.org/en/articles/2184-7054883

[10] Alexei Arbatov. Updating the Concept of Strategic Stability. PIR Center, 2018. http://www.pircenter.org/en/articles/2161-3926809

[11] Robert Einhorn. Even Faced with Challenges, Arms Control Can Once Again Improve U.S.-Russian Relationship. PIR Center, 2018. http://www.pircenter.org/en/articles/2174-5894667

[12] Nikolai Sokov. De-Escalation and Crisis Management in U.S.-Russian Relations. PIR Center, 2018. http://www.pircenter.org/en/articles/2186-2573373

[13] Nuclear Posture Review. U.S. Department of Defense, 2018. P. 21. https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF

[14] Elena Chernenko. Cyber Space: a New Battlefield Between the US and Russia or a New Area of Cooperation? PIR Center, 2018. http://www.pircenter.org/en/articles/2170-2149667

[15] Law of War Manual. U.S. Department of Defense. June 2015. P. 999 // https://archive.defense.gov/pubs/law-of-war-manual-june-2015.pdf


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