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BORN IN THE ASHES: NUCLEAR UNCERTAINTIES 'INCREASING' STRATEGIC STABILITY

Only the phoenix rises and does not descend.
And everything changes. And nothing is truly lost.

Neil Gaiman

Born in the flames of the Cold war, strategic stability was predicted to collapse in the XXI century security environment. The new nuclear order tends to look completely different from the one we used to witness during the Cold war. The Cold war period was very diverse and can be divided into minor periods, but altogether was characterised by several key features among which two main poles of influence, agreed rules of play and strategic stability. Its difference from the post-Cold war era with multilateralism, multipolarity, formation of new denuclearisation agenda and hopes for nuclear zero was obvious to everyone. These positive intentions and tendencies rapidly changed in mid-2010s and the epistemic community started discussions about a Cold-war come-back. The reasons for such a U-turn are out of scope of the research questions posed in this paper. With deeper analysis of the current developments it becomes clear the post-post Cold war world order is different from both its predecessors and can be called the "Era of uncertainties."

Unlike the current research trend (Colby 2013, Brustlein 2018) we claim that regardless of new circumstances, strategic stability will remain the cornerstone of the nuclear world order.

The main objective of the article is to analyse key international security trends (explanans) and see how they affect the state of strategic stability as explicandum. The research question can be formulated as the following: "In what manner current international security transformations create nuclear uncertainties affecting strategic stability and whether strategic stability still exists as such?". Our hypothesis suggests that while strategic stability faces a range of challenges today, those challenges influence crisis environment in such a way that paradoxically war becomes unacceptable for all key international players. Therefore, the sum of these factors potentially increases strategic stability as a tool of avoiding war under crisis.

Research shows the importance of cross-domain analysis through conceptual, political and technological domains. It is conducted based on inductive causal reasoning and uses such methodological tools as thematic analysis, content analysis, comparative-historical analysis and negotiation principles (PIN, BATNA, WATNA, ZOPA) etc.

Considering the goals and methodological toolkit the paper is structured based on the crucial international security changes and trends. In particular, we would like to outline what we mean under the notion of strategic stability and then stop on the challenges this phenomenon faces in the XXI century. In conclusion we suppose to discover changes the strategic stability is going to pass through to adapt to the new nuclear order.

DETERRENCE SYSTEM AND ITS MAIN FEATURES

Deterrence theory belongs to one of the most researched fields in international security. Most of the concepts and categories of it were developed during the Cold war.

In particular deterrence is an act of persuasion that the costs of the potential attack will overwhelm any benefits from it (Freedman, 2018). It means that one (the deterer): a) has enough military potential; b) which he is willing to use if challenged; and c) the understanding these two facts deter potential aggressor (the deterree) from attacking the deterrer.

Deterrence exists in conventional and nuclear forms. The advantage of conventional deterrence comes from its credibility: it's not hard to believe that one would use its conventional military potential if attacked. However often the power of conventional deterrence is not so overwhelming to stop someone from bidding to win, therefore it doesn't stop the act of aggression itself.

The advantage of nuclear deterrence is that it is powerful enough to persuade anyone that he'll be completely demolished in case of attack. Meanwhile the credibility of nuclear deterrence is much lower than of the conventional one as it's often not so easy to persuade the potential attacker that you are able to resort to the act of massive genocide (which will probably result the suicide, if the deteree also possesses nuclear arsenal) to defend part of your territory or your ally.

Most troubles are caused not by the basic deterrence, which is supposed to take care of the deterer's own territory, but the extended deterrence when the territory of the ally is threatened. During the Cold War the heaviest debate was held on the credibility of the extended deterrence, in particular if the US was willing to sacrifice New-York defending Paris or Berlin, for example.

Moreover, nuclear deterrence created a number of other concerns. In particular, if there are two rival states each having nuclear arsenal, what stops any of them to strike first to destroy the opponent's deadly capabilities before he would reach the same idea? Or why not build a nuclear arsenal much bigger than your opponent has just to be sure it will be able to destroy all his forces?

These concerns laid the foundation for the notion of **strategic stability**, the situation when even under crisis neither of the adversaries has the incentive to strike first. Usually it is gained by the state acquiring a survivable nuclear arsenal, the one which

the opponent won't be able to destroy during the first strike. So, the state will have enough forces to demolish the adversary in the retaliatory strike (i.e. with forces remained after it was attacked) (Colby, 2013).

Today strategic stability is the category which creates the most debates. The main problem is that deterrence theory was formed during the Cold War with the number of variables: two nuclear superpowers (dyadic deterrence system), certain qualitative and quantitative correlation between nuclear arsenals, usually interpreted as nuclear parity; restrictions on the other (defense, space) technologies and relative balance of destructive capabilities, ensuring strategic stability.

With the collapse of the Cold war system and the introduction of the new variables the international nuclear order changed substantially. So, there are a number of the **new features**, shaping the face of nuclear deterrence in XXI century:

1. **Multiplication of nuclear actors** and certain changes of the qualitative and quantitative characteristics of the deterrence systems.
2. **The development of new technologies** and other novelties which mark the tendency towards the equalization of the actors' nuclear arsenals.
3. **The crisis of arms control** which seems to be obvious, considering the collapse of the INF Treaty and the indefinite fate of the New START.
4. **Lowering states' nuclear thresholds.** In particular we are speaking about the US and Russia who are still the main taste makers of the nuclear world order, at least considering their force postures, affecting strategic stability trends.

MULTIPLICATION OF NUCLEAR ACTORS

Unlike the Cold war times where mutual assured destruction between Washington and Moscow was dominating deterrence system, the XXI century environment introduced the number of new nuclear states.

The main concern here is that strategic stability based on bipolar nuclear deterrence will have to be transformed from the global bilateral structure to the multi-polar one. In practice it creates a more complex system of multiple strategic stability games that are interconnected and omni-dependent. In particular, the rise of China, the dynamic development of the Indian and Pakistani nuclear arsenals as well as the emergence of North Korea as a nuclear state shows that bipolarity will probably be abandoned for the sake of more multi-actor systems. Therefore, there is reason to believe that the dominant deterrence systems of the XXI century will be triads, not dyads (Tertrais, 2019).

This raises the problem of complicating the interactions between actors, moreover, resurrects the old concern on "actors' rationality." Will the new members of the nuclear club behave according to the rules and expectations, established during the Cold War?

The rational deterrence theory (RDT) comes from the premise that all the main notions of deterrence, including strategic stability and arms control, are based on rationality of actors, "supposed to making objective political decisions, based on the clear and impartial evaluation of state's ends and means of their achievement and also on the precise study of all possible ways of resolving the problem" (Verba, 1961: 95).

In particular, deterrence is mostly about the art of the deterrer to show the potential aggressor enough force to destroy him in case of crossing the 'red lines' without provoking the first strike. Moreover, the potential aggressor should be rational enough to be able to compare the outcomes of his annihilation and other consequences (such as losing face, position, reputation etc.) always picking up physical self preservation to other potential outcomes.

The RDT was popular in 1970th when it was challenged by the specifics and sometimes the mixed signals of the USSR approach to nuclear deterrence. The research of the Soviet attitude towards nuclear deterrence as well as the emergence of the new nuclear actors in 1990th, removed the RDT from being the core theory, giving the place to the 'strategic culture' approach. It looked much more flexible as it stopped equalizing rationality of actor with the coercers' expectations about rationality of behavior (Alexander, 2003). Strategic culture becomes central to deterrence, best described by Jack Snyder "as the framework of the general worldviews, attitudes and behavior patterns, peculiar for the state coming from its cultural and historical background" (Snyder, 1977: 5).

Today the main concern is that the multi-actor nuclear environment multiplied on their different strategic cultures will undermine the basic foundations deterrence was built on. Deterrence being a cultural phenomenon as itself and also created within the Western political culture might not be resilient enough to respond to this challenge. Doubts that "deterrence based upon the threat of retaliation is less likely to work against leaders of rogue states more willing to take risks, gambling with the lives of their people" (*US National Security Strategy*, 2002) appeared already in the beginning of this century. Besides terrorism which presents different problem, the main concern came with the idea that the different cultural environment might produce different action-reaction type where the security of the state's homeland won't be the primary concern of the state's leader. What if his high political ambitions or religious worldview makes him sacrifice his state's physical security for the sake of some imaginary victory?

However we can find similar concerns as for deterrence effectiveness much earlier in history relating mostly to the Cold War nuclear order. Winston Churchill in his speech of May 1, 1955 said: "The deterrent does not cover the case of lunatics and dictators in the mood of Hitler when he found himself in his final dug-out" (Churchill, 1974: 8629–8630). This very concern, already in the strategic culture package is very peculiar to the new nuclear order. Moreover, such a term as "tailored deterrence" is especially invented to cope with it.[1]

Meanwhile what we have seen up to now was the ability of this multi-cultural nuclear environment to adopt the basic principles of deterrence, sometimes even overestimating its validity. In particular, the excessive reliance of India and Pakistan on the power of nuclear deterrence replicated "stability-instability paradox" in their relationship. Their higher belief that nuclear war is impossible increased the probability of conventional warfare between them. And the increased probability of the conventional war, in its turn, has the potential to escalate the conflict over nuclear level (Krepon, 2010).

Sort of a similar situation happens in the relations of the oldest nuclear rivals Russia and the United States. Their conflicts in the meantime occur in the 'grey areas' of

[1] Deterrence policy based on considering peculiarities of the adversary strategic culture.

influence where one of the actors is currently losing its domination and the other one hasn't claimed it as a sphere of vital interests yet. Typical situation is the annexation of the Crimea by Russia as well as Russian invasion over Donbas area in Ukraine. Moscow regarded both of these cases as being out of the US vital interests, but at the end, Russian involvement in so-called 'Ukraine crisis' highly raised tensions between Russians and Americans revealing other security concerns in the region.

Wars in Ukraine and Georgia are examples of when an actor losing strategic space tends to put all efforts in strengthening positions vertically: intensify its modernization programs, strengthen aggressive rhetoric, search for non-linear warfare mechanisms and can even fight-back by military means – in order to strengthen its position vis-à-vis the opponent to not be seen as declining power in such situation. In times of uncertainties and lack of interstate communication, such behavior is seen causeless by a counterpart and as a result perceived as aggressive, revisionist attempt to change the status-quo, when in fact it reflects a search for strategic stability in the changing geopolitical circumstances.

This predisposition of the international system towards the "stability-instability paradox" might be of a crucial importance when regarded together with the other elements of the new nuclear order, but alone it doesn't look like qualitatively definitive from the Cold war times. On the opposite, it shows that the old nuclear actors are surviving similar difficulties with nuclear deterrence as the new ones. The difference is the level of conflict and its potential for escalation, still drifting within the margins when global war is unacceptable.

One question remaining is the "strategic chain of interlinking nuclear dyads and triads" (Kroenig, 2019: 89) expected to be the most common deterrence systems for XXI century which will probably complicate strategic stability significantly. In the meantime, a triangle is not a completely new thing for the deterrence of the XX century. In particular, since 1967 the US and Russia were practicing nuclear deterrence not only for each other but also for China. When describing India-Pakistan nuclear dyad we also often forget nuclear China in the region which probably is also a part of Indian deterrence system and systematically influenced nuclear developments' as a domino effect. However, world practice shows that despite the number of actors in the deterrence system, bilateral deterrence has always been the core of it. Probably this happened as the reliability of the deterrence system has always been defined by the immediate deterrence (the one activated in the moment of crisis) while none of the actors turned to be in the conflict with two rivals at one moment. Here it is necessary to say that the new century will probably mark the equalization of nuclear arsenals of the states not only because of their quantities, but also qualitatively (Tertrais, 2019). And it is primarily connected with the development of new technologies.

THE DEVELOPMENT OF THE NEW TECHNOLOGIES

Here we can whiteness the old argument on dialectics of strategy and technology, seeing the clear primacy of the latter. It's still the revolution in the military affairs going on and the strategy turns to be the blind hostage of this technological revolution.

We remember well the times when civil advancements, like GPS or the Internet, were coming from military research. Times change rapidly and the private sector is so diverse and fast-evolving, that military forces of the countries feel the necessity to catch up and implement dual use novelties. This can be very useful for improvement but can also happen as a matter of fashion and prestige. Long-term strategy-making in general as such is not paid as much attention as previously. Instead of the classic political-military planning, where decision on development of certain capabilities is taken based on military requirements necessary to satisfy the level of ambition of the country in existing circumstances and financial restrains, decision can be grounded on the situational judgment. Such a situation might also not be provisioned by budget authority and face serious financial restraints.

On the other hand, delay can cause not only reputational damage, but also limit future possibilities to develop such capabilities, as in case of nuclear weapons 'haves' and 'have-nots' separated by the year 1967. By the way, the creation of nuclear, later on thermonuclear weapons, as well as periods of arms-race in US-Russia Cold War confrontation were also about new technologies, developed not always for use and not always in reasonable for application quantities. Without civilians and their research, especially in physics and engineering, the military field would have not known such development and variety. This is why countries tend to partner with private companies and civilian universities or invite them as subcontractors. This is why we try to establish control over dual-use technologies, etc. Current technological progress is not much different in this regard. So which developments have or might soon have a high impact on strategic stability?

In particular, we are talking about the new missile technologies emerged and developed to the extent enabling Prompt Global Strike.[2] In particular the growth of missiles' speed as well as their precision and maneuverability gradually make conventional attack almost as effective as nuclear. This situation turns out to be critical for the strategic stability on the number of reasons.

• First, the development of **missile technologies** is tightly accompanied by the **emergence of the dual capable missiles** carrying conventional as well as nuclear warheads. This situation potentially creates two contradictory kinds of risks. On one hand, in case of launch-on-warning postures there is a risk of misinterpreting conventional and nuclear attack (if carriers are the same), so even the growing chance of nuclear retaliation in response to a conventional attack might trigger a nuclear war. But on the other, the growing probability to destroy key nuclear infrastructure of an enemy only by conventional precision guided munitions makes first nuclear strike (as a response to the conventional attack) an inherent element of the states' nuclear postures. One can discuss the enhancing deterrent value of the first strike posture which seems not to

[2] Conventional prompt global strike (CPGS) weapons would allow the United States to strike targets anywhere on Earth in as little as an hour. This capability may bolster U.S. efforts to deter and defeat adversaries by allowing the United States to attack high-value targets or "fleeting targets" at the start of or during a conflict (https://news.usni.org/2019/01/10/report-congress-conventional-prompt-global-strike-long-range-ballistic-missiles). At some point CPGS stimulated development of precision guided munitions in most developed states-arms producers, having turned this initiative into a general incentive for arms race.

change much from Boufre to Tertrais and theoretically makes deterrence more credible[3]. Meanwhile it doesn't remove the growing danger of the deliberate use of nuclear weapons, aggravated by technological modernization.

• Second, the development of **missile defense technologies**, which carries a number of concerns. On one hand it's the eternal effect of sword/shield competition where the development of the defense technologies always provokes the offensive ones to be developed and improved. It's actually even more relevant in the classic deterrence world where mutual vulnerability of actors measures the level of strategic stability. It's worthwhile mentioning that after the death of ABM Treaty the development of missile technologies was tremendously fostered by the growing missile defense projects. On the other, the emergence of the new multi-functional missiles, combining defensive and offensive capabilities in one (such as SM-6) raises the problem of blurring the key line between offence and defense.

• Third, in this connection the role of the **new missile technologies** is also sometimes used in a speculative manner. On one hand, Russian declarations as for their invulnerability for missile defenses started a sort of panic in the US as for Russia's capabilities. To some extent Russian progress in the newest technologies has shaken the perspective of the New START extension, as the US wanted to make the new treaty, covering these new types of weapons all of which except the hypersonic glide vehicles (such as HGVs Avangard) are not covered by the New START. Here not all the newest technologies look destabilizing. The hypersonic glide vehicles (HGVs), for example, may be considered even stabilizing for the arms control system. Russians already declared they would consider Avangard systems under the New START provisions, moreover as for the latest Russian MOD comments, Avangard is considered much more precise than the ballistic missiles, so Russia would need much less of them to keep the strategic balance (Stefanovich, 2019; Borisov, 2018). This situation could be regarded helpful from the arms control point of view. Moreover, as far as one of the main missions assigned for the HGVs is targeting missile defenses, the introduction of HGVs seems to bring us back to classic old deterrence rules where missile defenses are considered damaging for the principle of mutual vulnerability essential for the deterrence.

However, the devil is in details. In particular, the introduction of the new weapons systems would probably stimulate a missile arms race among other nuclear actors, undermining one of the pillars of strategic stability, the stability of arms race.

• Fourth, the gradual introduction of artificial **intelligence** into states' military arsenals would probably complicate deterrence to a significant extent. On one hand we cannot ignore the positive implications of AI, such as gathering a comprehensive amount of information and processing it in a very short time frame with no cognitive or behavioral deviations, peculiar to the human decision making. On the other, a very specific development and military application of the AI is presented by development of so-called LAWS (Lethal Autonomous Weapon Systems), "that can select and attack targets without human intervention" (Verbruggen, 2019: 338). The main questions in

[3] General Andre de Boufre claims that if none believes the state is going to strike first, deterrence doesn't work, while Bruno Tertrais proves that the declared fist use option saves deterrence system from redirecting the conflict to the sub-nuclear level.

this regard for the international community is which effect possible integration of such automatic systems might have on strategic stability.

For example, the current level of cyber interference opens the way not only for distorting the information the adversary consumes, but even to change the picture just to push it to certain decisions. While such non-verbal things as common sense, intuition and skepticism are still the privilege of human perception.

Also, in the nuclear world the superiority in AI technology on one side might create the effect similar to the nuclear superiority (Stoutland, 2019: 64–67). When one actor feels vulnerable in some technological aspects, it starts to rely on the available instruments of ensuring the credibility of its deterrence. Such as launch-on-warning strike posture or asymmetric hybrid strategies, all in all lowering its nuclear threshold.

One more challenge the AI presents is for extended deterrence. Of course, if the AI provided to allies by the US, for example, would be regarded as reliable, the credibility of extended deterrence won't be damaged. Still, the substitute of the manned technologies as well as the connected human personal by the AI may be regarded by the allies as the US attempt to avoid sacrifice their militaries in case of crisis (Huh, 2020). Traditionally the deployment of the US human personnel at the allies' territories carries one of the most inherent functions for extended deterrence. It's called "trip-wire" and is based on the fact that attacking states where the US militaries are deployed the potential enemy inevitably faces the need to attack the American army, therefore involving the US in the conflict. The result of substituting humans with AI may be the loss of this assurance function which will surely contribute to the erosion of deterrence credibility.

Speaking about the wider controversies of LAWS we would also raise the problem of responsibility. We already see that arms control systems find it difficult to regulate dual-use technologies. In the case of LAWS technologies developed in the private sector are more difficult to control and increase the possibility of horizontal spread to different countries and non-state actors. This danger of potential ownership by unpredictable state actors and terrorists brings up the discussion on possible banning and impossibility to do so in practice (Verbruggen, 2019). Once technological development rich a new break-through there is no way to erase the knowledge, but who will take responsibility in case of mistake made by imperfect mechanism, in case of unintentional deaths and the escalation of danger of an unintentional nuclear war? What is the minimum requirement for human control over? To address these and many other questions this is a high time to work on a common definition and generally recognized set of international rules to regulate the field.

• Fifth, upcoming novelty as **'Quantum computing'** can change the traditional C3 system as current cryptography will simply lose sense and protection of highly sensitive information will be questioned. This is a so-called offensive application of the technology that is multi-faced and presented by its cryptanalysis part. As recent IISS research is mentioning, "Quantum key distribution (QKD), quantum cryptanalysis and quantum sensing all promise to significantly affect strategic security in differing ways" (*Quantum Computing and Defense*, 2019). QKD is presenting the other defensive part of the equation and EU has "planned investment of €1 billion over 10 years … to keep Europe as a leader in quantum technologies" through Quantum Technology Flagship initiative (Rouhana, 2019).

• Sixth, already existing 3-D printing technology proved itself useful in many fields such as medicine, art and manufacturing, including for military purposes. 3-D printing simplifies development and production of high-tech products that as an unintentional side-effect in current unstable international situation might facilitate horizontal nuclear proliferation especially among latent nuclear threshold states.

• Seventh, new military tendencies are seen not only on earth but in space as well. Space dangers and uncertainties are closely related to previously discussed cyber and quantum threats but have a different nature. Militarization of space raises questions on the possibility of specific space deterrence and its role in a general deterrence and stability paradigm. And if early developments in space offensive technologies presupposed only nuclear attack option and envisaged damaging effects on attacker`s own infrastructure, current conventional precision technologies have enough power to be sent for such missions and avoid collateral damage, as well as fulfill purely signaling task in case of no SEWS attack, hoping to avoid escalation (Bahney, 2019: esp. 124–137).

The peculiarity of the situation is based on the unequally developed space capabilities from one country to another and as a result on different levels of reliance on these assets. The US is the only state which currently leads in both these senses and it creates an intention to confront and destroy US space facilities, including SEWS assets, as an escalation tool or at an early stage of the full-scaled war as soon as direct confrontation with US becomes reasonable for an adversary (Morgan, 2010). Such an attack will not only escalate the situation but also challenge work of the US C3 system, challenge the economy and weaken terrestrial capabilities to conduct war in general by relatively low cost due to the poor military protection of the space objects themselves. This is where nuclear stand-off becomes involved even in case of a kinetic attack in space. This also explains the incentive to strike first and high necessity to sign a new agreement to mitigate mentioned above risks.

THE CRISIS OF ARMS CONTROL

Why would arms control be so important for strategic stability? As far as the main aim of arms control is "to increase parties' understanding of the realities of the situation they face" (Ford, 2013: 244) it ensures the predictability of both sides. In particular, data exchanges, mutual inspections and concerns raised to each other increases actors' understanding of the other's "capabilities, doctrines and strategic thinking" without referring to speculations and false perceptions they could have out of transparency an arms control suggests.

The crisis of arms control turns to be a showcase, following the collapse of the INF Treaty in 2019 and the indefinite fate of the New START extension. It seems that the current US administration is not interested in arms control as far as it is not covering all the emerging technologies. It happens in the moment when the dialogue of Moscow and Washington is overburdened with the mutual distrust. It is based not only on the general political situation around Russia but also on the lowering of the nuclear thresholds in the both states' doctrines as well as the active nuclear arms moderniza-

tion processes. The death of the INF Treaty also slows down the possibility of a mutual agreement at the same time bolstering the arms race.

Meanwhile in case if the New START won't be extended it will open the arms control treaties vacuum, bringing us back to the era of 1960s when nuclear superiority did matter. Those times the accidental nuclear war could happen just because of mutual misperception resulting from the lack of transparency and the clear information of the rivals about each other. The repetition of such a situation is more than possible at the moment, so the extension of the New START becomes an urgent need for the arms control regime. At least it can buy time for building more constructive dialogue between parties when they would negotiate further mutual reductions of the weapons they currently concern.

Keeping in mind the general importance of the New START prolongation for the strategic stability we tried to access the possibility of the positive outcome by looking at the positions of the sides using negotiation strategy tools.

To begin, we'll look through the possible alternative scenarios for both negotiators, where scenarios considered by an actor better than prolongation of the New START are called 'Best Alternative to the Negotiated Agreement' (BATNA) and those ones that actors won't feel comfortable with – 'Worst Alternative to the Negotiated Agreement' (WATNA).

For the United States BATNA include various options, among which a) renegotiation of START agreement which will include new weaponry systems and possible participation of 3rd actors (such as China) in the in the new treaty; b) signing Bush-typed framework agreement as the equivalence of the New START extension (but with no similar obligations) (*Moscow Treaty*, 2002) to keep a free hand and put more pressure on the upcoming substantive negotiations; c) no agreement through the time of the negotiations on the new full-fledged agreement with freedom of action and possible levelling of the military build-up with Russia (can be further used to equalize the negotiation positions). While mentioned in the first BATNA scenario points are key for the US authorities and will probably create the core of the US positioning during the upcoming negotiations, 2021 seems to be a highly unrealistic time frame to conduct such serious negotiations.

The second option is more feasible but would require following the whole formal procedure of ratification and risks to meet the same fate as the START II, giving the high expectations on both sides of the Atlantic. The third one might further erode strategic stability and the role of the US as a guarantor of international security spatially if negotiations take longer than expected or parties fail to agree (further on these pitfalls in the WATNA part).

Russia declared its strong support to the prolongation of the Treaty and consistently supports this line, so its BATNA can be mostly constructed around the New START extension. On one hand it will partially contain the arms race which has currently started in the US, but on the other won't limit Russian capabilities in developing most of the newest weapons types, except 'Avangard', which numbers will be limited by the New START. We are speaking about "Poseidon" torpedo-shaped robotic mini-submarine, 'Kinzhal', nuclear capable air-launched ballistic missile and 'Burevestk', nuclear powered nuclear armed cruise missile. All three (still haven't fully developed/ tested

even by Russia) don't have analogies among the existing weaponry therefore have never been defined/included by any arms control treaty. This situation gives Russia the possibility to protract the negotiations over the limitations on the newest weapons types since the New START will be extended. However as far as the perspective of the New START extension is law enough it also may agree on the US variant b) but as far as it is not realistic, the no-treaty option may the less attractive still not completely unsatisfactory option. No treaty option will create ground for internal consolidation of Russian society and international shaming of the US position presented by Russia as non-constructive and contrary to arms control (taking into account INF and JCPOA experience). Among potential Russian positioning clauses there is the ABMD question and nuclear sharing in Europe, but they would be kept till the substantial new negotiations round.

Talking about WATNA, many of relevant no-agreement outcomes for the international community and negotiators, have been already mentioned. Let's just underline a few very specific points. As such a situation will most certainly mean a new wave of arms race, the US might face new surprises and rise of the uncontrolled weapons on the Russian side, when for Russia bringing US with its much bigger financial capabilities into military build-up game will cost serious economic exhaustion and probable loss of the comparative advantage.

Considering all the WATNA threats and reluctance to spend more money on armament than expected both in Russia, where this cycle of modernization spending seems to be set and restrained by economic situation and in US, where civil control over financial spending is string and home affairs traditionally play the first violin in elections; participants are prone to neglect potential gains from no-agreement and search for the Zone of Possible Agreement (ZOPA) at the level of interests rather than positions. As was previously mentioned, Russian president V. Putin has already publicly declared its support to the prolongation of the existing treaty at the beginning of December and Russian side is ready to do it off now (not waiting for 2021) and start serious negotiations after that. A number of Western experts and politicians have already expressed their support for such scenario, among them Rose Gottemoeller, French MFA, US Chairman Engel and ranking member McCaul (the House Committee on Foreign Affairs) and S. Pifer etc (Woolf, 2019; Countryman, 2019; Schneide, 2020). On the other side, discussion inside the Western block is ongoing and it's not long after J. Bolton`s interview in June 2019, when he as a National Security Advisor assessed New START extension as "unlikely."

LOWERING STATES' NUCLEAR THRESHOLDS

As far as Russia and the United States are the main trendsetters in the world of nuclear deterrence their obvious lowering of nuclear threshold looks to be something worth mentioning. In particular, this trend started in the beginning of this century and was closely connected with Russian conventional vulnerability towards NATO and the grave experience of Serbia defeat in 1999 in the Kosovo war. At that moment Moscow had similar problems with human rights and separatism in Chechnya, so,

Serbian example was a good showcase for Moscow how conventional inferiority (together with non-nuclear status) can ruin the state. In 2000 Russia who at that time also felt conventionally inferior to the West, proclaimed the nuclear use in response to the conventional attack "under critical circumstances when conventional means have proven their inefficiency" (*Russia Military Doctrine*, 2000). This formula used in the Military Doctrine 2000 together with the concept of limited, strategic, nuclear strikes developed by the Russian Ministry of Defense back in 2003 formed something which was later called by the Western experts "the escalation – for de-escalation" doctrine. In particular, it proclaimed a "de-escalation of aggression with the threat of performing strikes of a different scale using conventional and/or nuclear means of destruction" (*Contemporary tasks in the development of the arms forces of the RF*, 2003: 42). Actually, Russians never officially admitted the existence of the "escalation for de-escalation" posture moreover the later military doctrines (in 2010 and 2014) looked as not supporting this principle. In particular the Military Doctrine 2014 has introduced the notion of conventional deterrence while the nuclear weapons use was assigned to the cases "when the existence of the state is in jeopardy" (*Russia Military Doctrine*, 2014: 6). Meanwhile Russia was not really interested in dispelling the myth (if it was a myth of course), taking a range of coercive actions at its Western flank. Some of these actions (increase and concentration of Russian troops at the Western border, Russian bombers flights over the NATO territory, oral rhetoric of Russian authorities) created the situation when Baltic states were regarded by the west as the new potential source of confrontation with Russia (where Moscow would inevitably use its "escalation for de-escalation" strategy. In 2018 the US Nuclear Posture Review pointed out at "escalation for de-escalation" in Russian nuclear policy, arguing that "they will ensure Russia understands it has no advantages … or nuclear escalation options that enable it to anticipate a possible benefit from non-nuclear aggression or limited nuclear escalation." NPR tried to respond to that kind of challenge by "expanding flexible U.S. nuclear options … to include low yield options, is … for the preservation of credible deterrence against regional aggression" (*Nuclear Posture Review Report*, 2018). NPR claimed that introducing low yield nuclear weapons the US has not lowered the nuclear threshold but tried to preserve deterrence. Which was to some extent true, referring to Baufre's formula that deterrence is based on the fear that the other side strikes first. Therefore, if none is afraid of the other's nuclear strike there is no nuclear deterrence (Beaufre, 1965: 115). This logic also fits into the perception of some American experts, considering that having introduced limited nuclear options the US would not break but ensure strategic stability. In particular, Elbrige Colby pointed out that strategic stability excludes using nuclear weapons for vindication of its vital interests "except to make clear to the opponent that he had crossed the most vital red line with the probability that he would suffer further…loss if he continued his aggression" (Colby, 2013: 55). Therefore, for Colby de-escalation is embedded in a strategic stability frame as a reliable tool of showing the seriousness of the state's resolve to the opponent.

However, using nuclear weapons even for the purpose of de-escalation would mean carrying certain threat for strategic stability. In particular, what if using nuclear weapons locally would not stop, but increase the escalation? What we have seen up to now is that Russian "escalation for de-escalation" has pushed the US to declaring the same

strategy to preserve the credibility of its deterrence. What if in case of escalation both nuclear superpowers follow the concerns of the discussion started back at the Cold war times?

Herman Kahn showed 44 rings of escalation ladder in his "On Escalation." Warning on escalation dangers Kahn used to say that the value of victory is so high that it stimulates both sides to raise the stakes in the conflict in a hope the other won't do this (Powell, 1989).

In other words, the role of nuclear weapons in Russian strategy (no matter if it fits with the current US perception or a bit outdated) actually turned on similar processes in the US, setting a tendency towards lowering nuclear threshold.

One can notice nothing disturbing in following the already existing examples of de-escalatory behavior. For example France keeps regarding de-escalatory nuclear strike as a part of its strategy, for many years, the fact confirmed by the last French President: "Should there be any misunderstanding about France's determination to protect its vital interests, a unique and one-time-only nuclear warning could be issued to the aggressor State to clearly demonstrate that the nature of the conflict has changed and to re-establish deterrence" (Macron, 2020). It is supposed to be a low yield one strike, the fist and the last warning, coming ahead of the massive nuclear retaliation. The explanation is very easy: understanding that there may be much stronger enemies, France never relied solely on its conventional forces, similar to what Russia currently does. In particular, according to the Russian military experts "Russia does not have enough conventional forces, able to inflict unacceptable damage to the enemy who is capable for the war at the distance" (Ponomarev, 2019: 97–100).

The US approach is mostly based on the attempt to tailor its deterrence strategy to the different actors. In particular, tailoring Russian direction created the necessity of more flexible nuclear options, including low yield limited ones.

It would not probably look so disturbing out of the general situation when dual use technologies are also blurring the line between nuclear and non-nuclear weapons. So, at the end these trends altogether may lead to an easy escalation of conventional war into a low-yield nuclear weapons use and then opening the gates to an all-out nuclear war.

However, we should keep in mind that the times when nuclear weapons were regarded as war fighting tools are in the past. The current lowering of the nuclear thresholds by both nuclear superpowers is driven not by the early nuclear era motivation to win in the potential conflict, but to avoid any nuclear coercion from the side of adversary. Moreover, by lowering their nuclear thresholds both states were mostly filling the perceived gap of their deterrence credibility. For Russia this gap was perceived as the significant military inferiority over the West and was connected with the conventional weapons decline in the state in 1990th. Changing its nuclear posture in 2018 the United States tried to respond to the Russian "escalation for de-escalation strategy" to avoid the potential resolve problem. In this situation strategic stability (considered to be strong only when deterrence is credible) served as the potential aim of both states attempts to ensure their deterrence postures. Similar examples could be found in the history of the Cold War when the attempts to ensure deterrence by the nuclear rivals were often built up on radical war fighting postures. The latter encourages us to be-

lieve that current strive for deterrence credibility by the greatest nuclear states presents the replication of the classic deterrence feature where its credibility is in the heart of strategic stability.

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Being uncertain becomes a new normal in the new nuclear world order. Love it, hate it or use it if you can, but the system becomes more complex and interdependent. It faces a range of transformation challenges at the moment. These challenges look significant enough as a threat to undermine strategic stability. The latter, formed during the Cold War, mostly means the non-resort of the states to nuclear weapons no matter what benefits the potential resort could promise. Potential challenges to strategic stability can be structurally divided into three categories: conceptual, technological and political.

Conceptual challenges derive from the essence of the classical deterrence theory, formed under the number of variables: bipolar deterrence system, rational actors, mostly shared perception of strategic stability and the necessity to preserve it. The landscape of the new nuclear order seems to be very different: not only bipolar but tripolar systems, the eroded meaning of actors' rationality, mostly substituted by the tailored deterrence approach. However, testing the conceptual deterrence framework, we can see that strategic stability is reacting to the new challenges in a pretty traditional way. To a certain extent it shows the replication of the Cold War conceptual phenomenon: stability/instability paradox, the lack of instrumental rationality even between two old nuclear superpowers, the strive to ensure deterrence credibility by lowering the states' nuclear threshold. The situation also shows that even in the trilateral deterrence systems the major crisis usually happens on the bilateral level where the third actor of the system is not participating. All mentioned above gives us the reason to claim that strategic stability proves itself as balance, peculiar to most of the survivable systems and it possesses the internal capability to adapt to the changing environment. It does not mean this process of adaptation will be safe, similarly to any nuclear learning process during the Cold War. But this peculiarity of strategic stability to adapt to the system gives us some cautious reason to believe that it will be able to survive in the new nuclear order.

Coming back to the political challenges: the aggravation of the Russia-US confrontation looks as nothing new in comparison to the Cold War years. Territorial changes and non-aligned status of the countries in the Eastern European 'grey zone' played a role of a trigger for the new wave of the military build-up, as well as mutual signaling through strengthened nuclear postures. Currently lowering their nuclear thresholds both biggest nuclear states are striving to ensure the credibility of their deterrence postures. In this regard, the main concern is not even the conventionalization of nuclear weapons. Conventionalization of nuclear weapons is not a new problem, as some similar processes happened in the early years of the nuclear era. Current attempts of the states to lower the nuclear threshold are mostly based not on the idea of winning the war, but on their care of ensuring reliability of their deterrence postures. The latter together with arms control measures usually stays in the essence of strategic stability.

Prolongation of a New START could be a control benchmark in this regard, as being in the interest of both contracting parties as well as international community in general.

The biggest danger here is that current technologies suggest the perfect means of filling the gap between nuclear and conventional weapons that blurs the line between the use of the first and the second. Low yield nuclear weapons, new missile technologies, dual-use weapons, activisation of the space component, and artificial intelligence create the number of potential risks which won't permit to de-escalate the conflict if it breaks out. Currently part of these technologies is still in the process of development, but the moment they prove their efficiency may become one of the key checkpoints for strategic stability. On one hand, we'll observe the immediate growth of potential 'game changers' which may be regarded by some states as the chance to obtain strategic superiority. Rapid multiplication of the weaponry types together with uncertain postures complicate military calculations and unintentionally increases the of the deterrence failure.

But on the other, the availability and the diversity of these technologies potentially exclude the idea of the strategic monopoly by one state. Moreover, the awareness of these accumulated risks multiplied on their availability potentially makes any military conflict between great powers less likely and as the result enhancing strategic stability. In this situation, the value of arms control seems to grow contrary to the tendency we can observe at the moment.

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ABSTRACT

The article explores the challenges that strategic stability is facing under the new nuclear world order. These are conceptual deviations from Cold War-framed deterrence theory, technological breakthroughs and critical transformations of states' nuclear postures. Contrary to the existing publications on this issue, we claim that strategic stability will continue under the new nuclear order and might even be strengthened by the complex combination of security challenges, given the growing impossibility to de-escalate war once it breaks out.

Keywords: strategic stability; deterrence; arms control; missile technologies; artificial intelligence; space; nuclear strategy; US nuclear posture; Russian nuclear posture

ZRODZENI W POPIOŁACH:
NIEPEWNOŚĆ JĄDROWA „ZWIĘKSZA" STABILNOŚĆ STRATEGICZNĄ

STRESZCZENIE

Artykuł analizuje wyzwania, jakie przed stabilnością strategiczną stawia nowy nuklearny porządek świata, obejmujące koncepcyjne warianty teorii odstraszania w ramach zimnej wojny, przełom technologiczny i krytyczną transformację postaw nuklearnych państw. Wbrew dotychczasowym publikacjom na ten temat twierdzimy, że w nowym porządku nuklearnym stabilność strategiczna zostanie utrzymana, a nawet może wzmocniona przez złożoną kombinację wyzwań, jakie stoją przed bezpieczeństwem, biorąc pod uwagę rosnącą niemożność deeskalacji wojny po jej wybuchu.

Słowa kluczowe: stabilność strategiczna, odstraszanie, kontrola zbrojeń, technologie rakietowe, sztuczna inteligencja, przestrzeń, strategia nuklearna, postawa nuklearna USA, postawa nuklearna Rosji

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