

Preparations for Nuclear War-Fighting and the Demise of Arms Control

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Abstract

Arms control was based on an assumption that no longer exists: stabilization of big power relations in order to avoid a war that nobody wants. Today, revisionist powers in Europe and East Asia defy stability, and in the US and Russia war-fighting preparations include nuclear as well as conventional and other means, especially at theatre level. China may be moving in the same direction, but there is not enough evidence to say so with certainty. US–China relations are facing the Thucydides trap, and the triangular politics of the three leading nuclear powers is inherently unstable. Except for the Cuban Missile Crisis and the critical state of US–Soviet relations around 1980, the present world is more dangerous than it has ever been in the nuclear age.

Nuclear War-Fighting

Throughout the nuclear age, there was always the risk that, in a crisis, the other side might opt for pre-emptive or preventive war, so it would be unwise to stake everything on deterrence. There were worries about a premeditated attack, too, by an aspiring hegemonic power, such as in the run-up to the Second World War. Believers in such scenarios emphasized that nuclear war was quite possible, and some argued that if the correct preparatory measures were taken, such a war might be won. They therefore recommended preparations for nuclear war-fighting, and some held that, in the long run, this would make nuclear war less likely by convincing the opponent that there would be nothing to gain by attacking.¹

Today, these are familiar lines of thinking in nuclear weapon states. The concerns that motivated arms control have not disappeared—in the South China Sea, for instance, there is a worrisome potential for incidents that may go out of control—but those concerns have receded into the background. Arms control's emphasis on stability has been relegated to the shadows and the bulk of arms control agreements have been erased.

War-fighting doctrines are variations of flexible response and first use policies. Under current conditions, the main scenario leading to nuclear use is escalation from conventional to nuclear warfare, and the main challenge is how to cross that threshold—if need be—in a way that enhances the prospect of victory without triggering all-out nuclear war. Or, as it is phrased in national doctrinal statements, in a way that can 'bring the war to an end on acceptable conditions'.

Two old nuclear peers (the United States and Russia) and a rapidly emerging one (China) are caught in a triangular relationship that is new to the nuclear age, presenting new planning parameters. Two conflicts, in particular, are driving the changes: the war in Ukraine and a possibly brewing conflict over Taiwan.

Which are the specific indicators of nuclear war-fighting preparations? What should we look for?

Two indicators are easy to identify: counterforce targeting and high numbers of warheads. Since targets are variously protected, some hardened and others not, broad ranges of yields are desirable, including variable yields for single warheads. Speed and accuracy are of the essence in destroying high value, time-urgent targets such as aircraft before take-off, submarines while still in port, and missiles before they are fired. Dual-use delivery vehicles add flexibility to the choice of munitions, and so do command, control and communications systems that handle both nuclear and non-nuclear weapons. In the process, escalation ladders are compressed, and decision times shortened. The companion of enhanced offensive capabilities is enhanced survivability of one's own forces, which can be achieved by active and/or passive means.

¹ See e.g. Colin S. Grey and Keith Payne. 'Victory is possible'. *Foreign Policy* 39 (summer 1980), pp. 13–27.

In national doctrinal documents, such preparations are usually phrased in deterrence terms, on the assumption that perceived military strength and strong political will may convince the adversary not to attack. The flip side of deterrence is that if it does not work, the same capabilities may have to be used in escalatory operations of one's own, hoping that a limited nuclear strike would force the adversary to back down.

Crossing the nuclear threshold is an exercise in risk-taking, the risk being that the war may slip out of control and escalate to unrestrained nuclear war. It is the contention of this article that, in their strategic planning, the US and Russia are preparing themselves for higher risk-taking than before, and that China may be about to do the same.

US Military Planning

The United States seeks to create the perception in the mind of each adversary decision maker, at all times, that (1) the United States has both the will and the capability to employ nuclear weapons even in the extreme circumstances created by that adversary and thus that (2) the costs and risks of aggression will outweigh any potential benefits at the military-operational or political-strategic level.² In other words, the strategy is to convince the enemy that there is nothing to gain by attacking. The effectiveness of it rests on the US being commonly perceived as militarily superior.

Counterforce targeting—targeting of an enemy's military infrastructure as different from his cities and economic base—has been part of US strategic planning for most of the nuclear age. Counterforce capabilities are essential not only for deterrence, but also for damage limitation and de-escalation should nuclear war happen. Damage can be reduced by destroying enemy weapons before they are used, and destruction of one or a few weapons or other valuable assets—sparing the bulk of the arsenal—can be a signal inviting de-escalation.

The US has had low-yield nuclear options for decades. The Trump administration took it further in response to assumed Russian plans to 'escalate to de-escalate,' meaning a tactical use of nuclear weapons in regional warfare in order to end the war on favorable terms. To ensure credible deterrence against regional aggression, forward-based, dual-capable aircraft were upgraded, and low-yield weapons were deployed on a small number of SLBMs as a stop-gap measure. In the longer term, a new long-range sea-launched cruise missile will also be deployed to enhance regional deterrence.³

The Biden administration followed this by stating (without any mention of 'escalate to de-escalate'): 'We will bolster the Triad with capabilities that further strengthen regional

² Summary based on Nuclear Posture Reviews of recent administrations and the reports to Congress on Nuclear Employment Strategy issued in June 2013 and April 2019. See Center for Global Security Research, Lawrence Livermore National Laboratory. *China's Emergence as a Second Nuclear Peer. A Study Group Report* (California, Spring 2023 hereafter CGSR report) pp. 25–26.

³ *Nuclear Posture Review*. 2018. <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>

deterrence, such as F-35A...equipped with the B61-12 bomb; the W76-2 warhead; and the LRSO weapon'.⁴ The B61-12 bomb has four possible yields - 0.3; 1.5; 10; or 50 kt; the yield of the W76-2 Trident submarine warhead is 5 kt, and the LRSO weapon is in the range of 5-150 kt. Low and variable yields are important to reduce collateral damage and, arguably, make nuclear attacks acceptable in terms of international law.

The 2018 Trump Nuclear Posture Review (NPR) emphasized that the new measures were not intended for nuclear war-fighting but would help ensure that potential adversaries saw no possible advantage in limited escalation, making nuclear weapons employment less likely. On these measures, the 2022 Biden NPR says: 'These flexible, tailorable capabilities are key to ensuring that Russia's leadership does not miscalculate regarding the consequences of nuclear use on any scale'.⁵ This accords with the essence of US strategy as cited above: deterrence is most effective when there is a clearly communicated will and capability to employ the weapons. In regional settings, in particular, this means stronger nuclear war-fighting postures.

The Congressional Commission on the US Strategic Posture

The Report of the Congressional Commission on the Strategic Posture of the United States, of October 2023, addresses military needs for the period 2027–2035.⁶ The commission report is, *nota bene*, not a governmental NPR. But it is bipartisan, and so is the anti-China stance. In view of the polarization and unpredictability of US politics and the rapid changes in international affairs, the report may be a better guide for what to expect than the latest governmental US NPR of 2022.

The Commission emphasizes that, today, a strategy to prevail in conflict if deterrence fails must be effective against two nuclear peer adversaries. Russia and China may take joint action, opportunistically or cooperatively, so it is not enough to be able to address them in sequence.⁷ Per consequence, the US should maintain an upper hand in relation to any one of them. The Commission takes previous calls for integration of nuclear and conventional forces one big step further: 'The US must develop and effectively implement a truly integrated, whole-of-government strategy' to address the 2027–2030 threat environment.⁸ Russia and China believe that in this respect, the US is well advanced already, in the spirit of superiority.

The Commission asserts that the risk of adversary nuclear use in both global and regional contexts has increased and argues that theatre nuclear forces should be urgently modified

⁴ *Nuclear Posture Review*. 2022, p. 11. <https://fas.org/wp-content/uploads/2023/07/2022-Nuclear-Posture-Review.pdf>. LRSO (Long Range Stand Off Weapon) is a nuclear-armed air-launched cruise missile.

⁵ *Nuclear Posture Review*. 2022

⁶ 'America's Strategic Posture'. *The Final Report of the Congressional Commission on the Strategic Posture of the United States*. 23 Oct. 2023. <https://www.ida.org/research-and-publications/publications/all/a/am/americas-strategic-posture>

⁷ 'America's Strategic Posture', p. 29.

⁸ 'America's Strategic Posture', p. 96.

‘to provide the President a range of militarily effective nuclear response options to deter and counter Russian and Chinese limited nuclear use in theater.’⁹

In customary doctrinal language, it is the enemy that initiates military action and escalation, triggering responses of one’s own. In military exercises this is always the case. Under current circumstances this is not unrealistic, for Russia and China are revisionist powers. However, the report reminds us that the US reserves the right to employ nuclear weapons first if needed. That option is framed in a policy of calculated ambiguity about the conditions under which the weapons may be employed. In this connection, the report notes that the strategy would need to be altered to increase the reliance on nuclear weapons if theatre conventional forces do not suffice.

The Commission report emphasizes that additional theatre nuclear capabilities will be necessary in both Europe and the Indo-Pacific regions to deter adversary nuclear use and offset local conventional superiority. The termination of the INF Treaty opened the gates for that. This is corroborated by a group of distinguished experts in a recent report by the Lawrence Livermore National Laboratory:

The primary deficiency (of the US nuclear posture) is a lack of sufficient limited nuclear response options to deter and respond to adversary limited nuclear escalation in regional wars. Growth in the regional nuclear forces of China and/or Russia will only magnify this gap.¹⁰

As recently as ten years ago, it was commonplace to say that the role of nuclear weapons in international affairs should be reduced. High-precision conventional weapons were assumed to reduce the reliance on nuclear weapons. When forward based, these weapons can destroy high value targets in minutes, substituting for nuclear weapons in such roles. Today, the litany is different. There is no denying that conventional technologies offer more options, and the Commission report is strong in its advocacy for conventional rearmament, but it is also careful not to discount the saliency of nuclear weapons. In the unanimous view of the Commission, there should be more of both.¹¹

On missile defense, the Commission is as brief as it is clear: ‘pursue deployment of any capabilities that prove feasible’.¹²

Planning for primacy in the three-peer triangle is a high ambition, even on the assumption that the Europeans will increase their military budgets to contain Russia and join hands with the US against China in the Asia–Pacific. This is especially so if there is no simultaneous reduction of other commitments. Three presidents have tried to lower the American footprint in the Middle East, only to find such an ambition hard to implement. For instance, when the Islamic state was defeated, the US could have withdrawn from Iraq and Syria. The

⁹ ‘America’s Strategic Posture’, p. 35.

¹⁰ CGSR report, p. 67.

¹¹ In the preface, the Commission chairs note that ‘a number of commissioners believe it is inevitable that the size of the U.S. nuclear stockpile and the number of delivery systems should increase’, without this being fully reflected in the report.

¹² ‘America’s Strategic Posture’, p. x.

Iraqi government wanted the US to leave, and in Syria it is hard to find a US national interest in staying. This would have been low-hanging fruit for retrenchment, but US troops have stayed on, albeit in smaller numbers – only to find themselves ready targets for pro-Iranian militias. Stricter prioritization of commitments will be a pressing issue in the time ahead, but it may be no easier to accomplish, for the competition with China is intensifying both in the Middle East and other regions, and military power (and economic sanctions) is what the US mostly relies upon as a weapon of first resort.

The Commission vouches to uphold US military preponderance worldwide. Political interests and ideological axioms underpin it, internal structures and organizational inertia uphold it, and sharp tensions in a transitioning world invite it. The report is written in this spirit—the spirit of primacy, not priority—recommending more of virtually all capabilities that are up for consideration. Those who look for limitations and thumbs down are looking in vain.

The Commission does not address the economic implications of their recommendations. Congress generously allocates funds for security purposes—standard questions are whether big or even bigger increases should be applied, strong or even stronger concentration on China—but some sort of financial prudence has to be applied. That is least likely to come at the expense of forces for the Asia–Pacific. However, except for South Korea, which may be willing to host weapons targeted at North Korea, US partners in the region are reluctant to accept new deployments on their soil.

China's Military Doctrine

China is a revisionist power in East Asia, and there is little to suggest that its goals can be achieved by peaceful means. Reunification with Taiwan is written in stone and drives and shapes an impressive rearmament programme. In line with its long-standing tradition of not projecting military power to other parts of the world, its military capabilities are geared to the regional agenda.¹³ It is careful not to get militarily involved in conflicts elsewhere.

It is not far-fetched to assume that it is only a matter of time before China gains the upper ground in conventional forces, *inter alia* because the contested territories are nearby while the US must project power from far away. This raises the question of US first use of nuclear weapons to avoid defeat, and in turn, what China will do to deter and defend itself once the nuclear threshold is crossed. A strategy without nuclear countermeasures and contingency plans to keep the nuclear warfare limited may seem dangerously incomplete.

On the global scene, the US and China have been competitors for years, and the rivalry is intensifying. So far, however, China is not seeking to replace the US in the global leadership role. It is no revisionist power in that sense. China sees itself as a growing power in a

¹³ Exceptions are the aircraft carrier programme and the PLA's naval base in Djibouti. So far, the Djibouti base has been used for anti-piracy operations, intelligence collection, non-combat evacuation operations, peace-keeping operations and counterterrorism. It has a limited capacity for support of power protection in the Horn of Africa and the Indian ocean. Tuvia Gering and Heath Sloane. *Beijing's overseas military base in Djibouti*, 16 July 2021. <https://www.memri.org/reports/beijings-overseas-military-base-djibouti>.

multicentric world and the US as a declining one, but how its ambitions will grow as power is shifting is an open question. Most probably, the road will be made while walking.

For decades, China appeared confident that, in a conflict with the US, escalation from conventional warfare to nuclear use could be avoided. The underlying assumption was that once the nuclear threshold was crossed, warfare could no longer be controlled, leading to unacceptable destruction for both. Therefore, its operational doctrine did not contain any plans to wage a limited nuclear war.

The US, on the other hand, believed that a nuclear war might be contained before it came to large-scale strategic warfare. It has made contingency plans for limited nuclear war-fighting for decades. Differing views about escalation firebreaks meant that the warring parties would try to end an armed conflict at different stages of the spiral, eventually missing the opportunity to negotiate an end to the war altogether.¹⁴

In recent years, China's strategic capabilities have grown significantly. By the turn of 2023–2024, an independent source estimated that it possessed approximately 500 warheads.¹⁵ The Pentagon's estimate is a bit higher and says that China is on track to have over 1000 operational warheads by 2030.¹⁶ In peacetime, the weapons are in central and regional storage, de-mated from launchers and missiles. Readiness is assumed to increase with increasing tension. China practices high alert and combat readiness drills and is expected to put a portion of its forces on that status when war threatens. Should a conventional war lead to nuclear use, the US assumes that China will use its weapons with a view to de-escalation and a return to conventional conflict. Whether or to what extent China is actually prepared for that is a matter of dispute.

The growth of China's arsenal is a response to improved US offensive and defensive capabilities threatening to undermine its retaliatory forces. The US never recognized mutual vulnerability in relation to China. However, China's posture still carries a distinct Chinese signature. Its doctrine of minimum deterrence was always a relative concept—relative to the capabilities of the state to be deterred—so expansion from low to high hundreds of weapons need not imply any qualitative change in Chinese thinking about the role of these weapons. In its declaratory policy, China remains committed to no first use 'at any time and under any circumstance'.¹⁷ In two respects, however, this policy is questioned: if China's nuclear forces are attacked with conventional weapons, and if conventional defeat gravely threatens its survival, it may be the first to use nuclear weapons to restore deterrence.¹⁸

¹⁴ Fiona S. Cunningham and M. Taylor Fravel. 'Dangerous confidence'. *International Security* 44: 2, 2019.

¹⁵ Some of them have not been fielded but have likely been produced. Hans M. Kristensen et al. 'Chinese nuclear weapons, 2024'. *Bulletin of the Atomic Scientist*. 15 Jan. 2024.

¹⁶ Office of the Secretary of Defense. *Annual Report to Congress: Military and Security Developments Involving the Federal Republic of China 2023*. (Washington DC, 19 Oct. 2023)

¹⁷ Ministry of National Defense of the People's Republic of China. As quoted in Hans M. Kristensen et al.

¹⁸ Tong Zhao, "China and the International Debate on No First Use of Nuclear Weapons" *Asian Security*, December 21, 2021.

China's bifurcated nuclear and conventional planning are constructs of the past. The question is to what extent it remains that way. Alternatively, nuclear and conventional weapons are being aligned in an integrated across-the-board approach, not so different from the US. Reference has been made to 'organic integration of nuclear counterattack capability and conventional strike capability', meaning that preparations for limited nuclear use is integrated with its offense-dominated approach to conventional warfare.¹⁹ However, this also requires heavy investments in the survivability of the weapons and, so far, there is no evidence of that happening.²⁰ Developments, however, are too opaque to draw conclusions.

In terms of military hardware, China has prepared for such a shift for some time already. Dual-capable intermediate-range missiles—the road-mobile DF-21 and especially the DF-26—have been deployed along with nuclear-capable air-launched missiles on board KN-8 aircraft. A new low-yield warhead has been hypothesized for the DF-26 and also for the boost-glide DF-17 hypersonic vehicle, but with no confirmation to date. Today, the DF-26 carries one warhead with a yield of 200-300 kt. However, the DF-26 gives China a capability to attack military targets with high precision, so some US analysts believe it will be available for use in regional war-fighting modes even without a tailor-made low yield warhead.²¹

Presumably, China's no first use doctrine has a higher threshold than the first use policy of its nuclear peers, but the day it feels strong enough to pull in Taiwan by conventional means, it must also be strong enough to deter enemy use of sub-strategic nuclear weapons and respond in kind if deterrence fails. Doing so while inviting de-escalation requires careful selection of weapons as well as targets, and theatre nuclear weapons may be better for that purpose than strategic ones.

Prominent analysts believe that China is planning for limited nuclear war while doing its best to avoid a protracted series of nuclear exchanges.²² Some argue that it has done so for years already.²³ The opacity and ambiguity that surround China's nuclear policies invite worst-case assumptions and drive arms buildup. The congressional report is testimony to that. Rising threat perceptions may expedite preparations to counter US sub-strategic nuclear weapons with similar weapons of their own. However, American strategists should be careful not to mirror image their own strategic thinking onto Chinese strategists. China may find its own way of preventing US coercion and of constraining the scope of any nuclear war that may erupt.

¹⁹ 'Nuclear Notebook 2023', citing China Aerospace Studies Institute. *In their own words: Science of military strategy 2020* (Alabama: Jan. 2022).

²⁰ 'Nuclear Notebook 2023'.

²¹ Evan Braden Montgomery and Toshi Yoshihara. 'The real challenge of China's nuclear modernization'. *The Washington Quarterly* 45: 4, 2022.

²² 'The People's Liberation Army (PLA) probably selects its nuclear strike targets to achieve conflict de-escalation and a return to a conventional conflict to avoid a protracted series of nuclear exchanges'. 'America's Strategic Posture', p. 24.

²³ In an article from 2019 grounded in Chinese-based empirical sources as well as a multitude of American ones, James Samuel Johnson argued that China's increasingly co-mingled and diversified missile forces had already been incorporated into a limited war-fighting doctrine. James Samuel Johnson. 'Chinese Evolving Approaches to Nuclear "Warfighting": An Emerging Intense US-Chinese Security Dilemma and Threats to Crisis Stability in the Asia Pacific. *Asian Security* 15: 3, 2019.

Different strategic cultures and force postures notwithstanding, converging interests may develop on a firebreak at which nuclear warfare can be limited and catastrophic strategic warfare avoided. If so, the downside is that the threshold from conventional to nuclear may be lowered in the belief that there is another firebreak further down the road before it comes to strategic exchanges. This could make the parties more daring in their 'limited' nuclear war-fighting strategies.

The Core Triangle and What to Expect of Russia

A nuclear triangle is inherently unstable. If the US insists on parity with the combined forces of China and Russia, this implies a clear superiority *vis-à-vis* either of them. On the other hand, equal limits for all three countries would allow China to expand its arsenal and create a Chinese–Russian combined quantitative superiority over the US.

Russia is a revisionist power in Europe. Before the invasion of Ukraine in 2022, it tabled a list of demands for reversal of western advances eastwards and vouched for a new European security architecture. Like China, its worldview is multicentric but, unlike China, except for its attack on Ukraine, it is on the defensive and trying to uphold its interests in the near abroad as best it can. Both are investing heavily in strategic nuclear weapons to maintain a credible second-strike capability. In the absence of comprehensive arms control agreements, their strategic relations with the US are unstable. However, while war-fighting strains of thought have permeated the nuclear field, at the strategic level there is a fundamental common interest in avoiding catastrophic nuclear war. This is different at the regional level where one major war is on-going and another one is looming. Regionally, war-fighting scenarios have become real and pressing. In comparison, the global strategic competition is distant and abstract, unfolding, in a sense, in the background.

The successful use of conventional high precision weapons during the first Gulf War opened the prospect of winning a large-scale war at theatre and perhaps strategic level, below the nuclear threshold. For those who did not possess the same technologies, the perceived value of nuclear weapons increased.

Russia tried to close the gap with similar gadgets of its own. The Trump administration also assumed that Russia entertained scenarios for limited nuclear use to de-escalate large-scale conventional wars, especially wars in its geographical neighborhood where it would claim stronger national interests than its big power adversaries. 'Escalate in order to de-escalate' is not in Russian doctrine, but the idea has an internal logic that makes it an interesting subject of discussion.²⁴

New arms programs did not materialize until Russia got on its feet again economically, early in the 21st century. The military doctrine of 2000 therefore expanded the circumstances in which Russia might use nuclear weapons, *inter alia* to include large-scale aggression with

²⁴ The Trump administration's Nuclear Posture Review of 2018 assumed that Russia had an 'escalate to de-escalate' strategy and called for countermeasures. <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-R-POSTURE-REVIEW-FINAL-REPORT.PDF>

the use of conventional weapons that could be critical for the national security of the Russian Federation. The 2010 document tightened it: situations where ‘the very existence of Russia is under threat’ substituted for ‘situations critical to national security’. Later iterations of 2014 and 2020 are not much different.²⁵

However, the question of whether Russia would escalate to nuclear use if it were about to lose a conventional war was left unclear. The 2020 document says that in the event of a military conflict, the doctrine ‘provides for the prevention of an escalation of military actions and their termination on conditions acceptable for the Russian Federation and/or its allies.’²⁶ That could be taken to mean that Russia would threaten to escalate to nuclear use as a way to deter the adversary from taking actions that might threaten the existence of the state – not so different from what it has tried to do during the war in Ukraine, where Russian leaders have talked about nuclear weapons in the hope of instilling caution in western capitals, sometimes deviating from the doctrinal formulations.

Russia is building a broad range of new and upgraded nuclear systems, primarily strategic ones,²⁷ but also a variety of sub-strategic weapons to offset superior US and NATO conventional forces. In the strategic realm, the aim may also be to establish overall parity with the combined nuclear forces of the US, the UK and France—the way the Soviets argued during the European missile crisis in the beginning of the 1980s—in lieu of which they could hedge against China’s increasingly capable conventional missile capabilities. Sub-strategic weapons are deployed in all environments—naval, air, land, and missile/air defense—for a total of 1000–2000 weapons.²⁸ The yields of the ground-based systems are in the range of 10–100kt. Many of them are equipped for dual use.

Even if Russia is not defeated in Ukraine, it will be in strategic retreat after the war and hard pressed to replenish and rebuild its arsenal, not the least of which are long-range conventional and dual-use weapons. This time it will be more difficult than twenty years ago, for American sanctions tend to be long-lasting and the security environment will be more demanding. Rearmament very much depends on cooperation with China, which has expanded quickly since the war in Ukraine began and relations with Europe were severed.

In the meantime, Russia is likely to rely more on nuclear weapons again, much the way it did at the turn of the century. Its sub-strategic weapons mirror US and NATO investments in air-dropped nuclear bombs and its dual-use missile systems are more numerous than those of its adversaries, so it has a certain advantage to build on. How that advantage can

²⁵ Nikolai Sokov. *Russia Clarifies Its Nuclear Deterrence Policy*. Vienna Center for Disarmament and Non-Proliferation, 3 June 2020. <https://vcdnp.org/wp-content/uploads/2020/06/Ukaz-on-nuclear-deterrence-fiscal.pdf>

²⁶ As quoted in Nikolai Sokov. “Russia Clarifies Its Nuclear Doctrine”.

²⁷ Exotic weapons like Burevestnik and Poseidon have been tested but not deployed. Burevestnik is an inter-continental-range nuclear-powered cruise missile capable of penetrating interceptor-based missile defence systems. Poseidon is a nuclear-powered torpedo meant for deployment on the Belgorod submarine. For a discussion of these and other novel systems see Habba Notte, Sara Bidgood, Nikolai Sokov, Michael Duisman and William Potter. ‘Russia’s novel weapon systems. Military innovations in the post-Soviet period’. *Non-Proliferation Review* Aug. 2021. <https://doi.org/10.1080/10736700.2021.1946271>

²⁸ The Nuclear Notebook 2023 estimate is 1816. Since many delivery vehicles are dual use, the actual number is lower.

be exploited and turned to their own benefit in crisis management, escalation threats and nuclear war termination is far from obvious, but with NATO along its European borders almost all the way from north to south, it may feel compelled to try.²⁹

The lessons from Ukraine will inform the shape of doctrinal modifications. They include Russian perceptions of the western will to use nuclear weapons and to accept casualties. The aim will be to find ways to escalate a conflict in controlled fashion, either to prevent the US and NATO from engaging, or to coerce them into war termination on Russian terms. So far, however, numerous hints, references and threats of nuclear use have not done much to restrain Western support for the Ukrainians.

China will look for lessons that it may apply in a potential war against Taiwan and in the South China Sea, and the US will do the same with a view to potential confrontations with China and Russia. The three nuclear peers will look at each other; two of them will review their war-fighting strategies; and the third may find it necessary to adopt such a strategy – if it has not done so already.

Higher Risks Than During the Cold War

In one crucial respect, the current situation resembles that of the late 1970s. The Soviet Union said it aimed at nuclear parity and nothing more, but the US saw a trajectory threatening to cross its own, setting the stage for a formidable wave of arms racing. Nuclear war-fighting scenarios drove warhead numbers to absurdly high levels. Forty years later, it is China's trajectory that threatens US hegemony.

During the Cold War, the US and the USSR fought numerous proxy wars in other parts of the world, but they had no territorial conflict in relation to each other. Cold War archives show, moreover, that in Europe—the centre of the military confrontation—none of the parties tried to change the territorial status quo by military means. If, in a critical situation, decision-makers began to think that war was no longer avoidable, there was a preparedness for striking first, but not as a matter of aggressive intent. The Soviets would do their utmost to wage another war as far to the West as possible—historical experiences and military considerations told them so—but not because they wanted to conquer western Europe.

Today's confrontation between the US and China is fundamentally different. It is not only about rivalry between number one and number two in the international power hierarchy; China is also bent on changing the territorial status quo in its region, by military means if need be. At stake are Taiwan and control of large parts of the South and East China Seas. At the APEC meeting in San Francisco in late 2023, President Xi reiterated that reunification by peaceful means was his priority but went on to talk about conditions for the use of force:

²⁹ William Albergue. 'Russian Military Thought and Doctrine Related to Non-Strategic Nuclear Weapons'. Research Paper. *International Institute for Strategic Studies* 22 Jan. 2024.

'look, peace is... all well and good but at some point (in time) we need to move towards resolution more generally'.³⁰

The combination of a Thucydides trap as emphasized by Graham Allison and regional expansionism as promulgated by China presents a rationale for war-fighting plans and entertainment of higher risks than during the end of the 1970s and early 1980s.³¹ During the Cold War, there was a fixation on nuclear accountancy and parity; now, there is a stronger emphasis on technology and integration of capabilities across the board, making force assessments more complex and leaving more to worst case assumptions.

The action–reaction momentum is enhanced by domestic interests in arms buildup. Eisenhower's warning in his farewell speech is no less relevant today: weapon lobbies continue to permeate US security considerations. China's political system is opaque—little is known about the relationship between the Communist Party and the PLA—but big organizations are known to fight for their continued existence and expansion. Above all, the PLA has a major military contest to win.

For the US, technological leadership and superior military clout is needed to contain China and Russia and stem Chinese economic advances in East Asia, the Middle East and other parts of the Global South. China benefits from strong economic growth—lower at this juncture but still impressive—which allows for sustained rapid military buildup, and from concentrating its military capabilities on contested areas in its neighbourhood. The Chinese appear convinced that the US is on a downward trajectory: should that objectively be the case, US military pre-eminence may be the last stronghold to give way. In East Asia, China may challenge its conventional dominance before long.

For a long period ahead, global security will revolve around an unstable, arms-racing triangle. Two of the three peers have revisionist agendas; the third is bent on containing them in the name of its time-honoured global primacy. For two of them, planning for nuclear war-fighting is part of the game; for the third this is a matter of contention, very much for lack of transparency, which invites worst case assumptions. The higher the stakes and the stronger the belief that a nuclear war can be limited, the weaker the norm of non-use of nuclear weapons.

³⁰ Trevor Hunnicutt, Jeff Mason and Steve Holland. 'Biden, Xi's 'blunt' talks yield deals on military, fentanyl.' *Reuters*, 16 Nov. 2023. <https://www.swissinfo.ch/eng/biden-xi-s-blunt-talks-yield-deals-on-military-fentanyl/48979860>

³¹ Graham Allison. *Destined for War. Can America and China avoid Thucydide's Trap?* (Boston: Houghton, Mifflin, Harcourt, 2017).

Implications for Arms Control

In the absence of any prospects for arms limitation, can tensions be ameliorated by risk reduction and confidence-building measures?

For China, the scope for risk reduction is limited. In trying to push the US away from its shores, risk-taking is part of the game. Some incidents therefore happen for a reason. Others happen accidentally, however, so military-to-military lines of communication make sense to avoid them and prevent them from escalating. Still, China has turned communications off and on and used it for political signalling, showing a half-hearted interest in them. General long-term accords like the incidents at sea agreements between the Soviet Union/Russia and Western states are probably beyond reach. Those agreements were written in the name of stability.

The rationale for confidence and security-building measures of the kind that were introduced at the Conference on Security and Cooperation in Europe in 1975 and made militarily significant by the Stockholm Conference in 1986 was simple: transparency leads to predictability, which is conducive to confidence.³² It was soon realized, however, that these measures were predicated on the assumption that none of the parties harboured any intention to change the status quo by military means. That condition no longer applies, not in Europe and even less in East Asia. Clearly, in US–China relations, transparency is in short supply and so is predictability. Confidence must therefore be sought in ways other than casting military activities in predictable patterns supported by information exchange and on-site observation.

The best opportunities for confidence-building may relate to the uppermost rungs of the escalation ladder. In their statement of 3 January 2022, the P5 reiterated Reagan's and Gorbachev's famous pronouncement from December 1985, that a nuclear war cannot be won and must never be fought.³³ At that time, the US and the USSR recognized a state of mutual vulnerability, known as mutually assured destruction. They still acknowledge that reality. Formally, the US never recognized the same condition in its relationship with China.

It would be helpful, therefore, if the US and China could codify the condition of mutually assured destruction in their bilateral relations. For quite a while, the reality has been that China can respond to a US attack and wreak so much damage that it exceeds the value of whatever the US may try to achieve, so why not acknowledge it? The answer may be that the US hopes to get some concession in return; or that it is deemed beneficial to leave the opponent in a state of uncertainty; or that it is unwilling to relinquish the idea that superior technology will make it possible to prevail in a war between them; or that it boils down to politico-bureaucratic inertia. Whatever the reason, equal status facilitates cooperation.

³² Sverre Lodgaard, 'The building of confidence and security in Stockholm and Vienna', in *SIPRI Yearbook 1986* (Oxford: Oxford University Press, 1986).

³³ *Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races*, The White House, 3 Jan. 2022. <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/>

In its broadest sense, arms control was about all forms of interaction and cooperation between potential enemies, aimed at reducing the likelihood of a war that neither side wants.³⁴ The scenarios to be averted were mostly variations of the First World War's inadvertent slide into catastrophic warfare. The means centered on stability and, next to that, damage limitation.

Such scenarios dominated the bilateral US–Soviet/Russia agenda from the 1960s through to this century, except for the interlude between the end of the 1970s and the mid-1980s. They were set aside during the US unipolar moment and largely disappeared as war-fighting preparations took hold. Consequently, the arms control architecture from the 20th century was erased, except for New START—essentially a time-limited agreement to rescue the transparency provision of START I³⁵— the NPT and some risk reduction measures. The Ban Treaty was born in protest.

The US Congressional Commission is short on arms control. It recommends exploration of verification technologies, should the geopolitical environment change – a sure sign that nothing is deemed possible or desirable. It goes on to say that first, the force level requirements of a two-peer-environment must be determined: 'The Commission recommends that a strategy to address the two-nuclear-peer threat environment be a prerequisite for developing U.S. nuclear arms control limits for the 2027–2035 timeframe'.³⁶ The overall impression is that operatively, this means some kind of superiority in relation to each adversary, which is hard to reconcile with the equality or parity requirements of arms control.

Some American arms controllers argue that the US nuclear arsenal can deter both China and Russia and that there is no need for more missiles.³⁷ They may be right. The notion that more is needed to deter China and Russia from undertaking a joint assault on the US is particularly far-fetched. However, the spirit of contemporary big power rivalry is different, driving another wave of veritable arms build-up.

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³⁴ Thomas C. Schelling and Morton H. Halperin. *Strategy and Arms Control*. (New York: Twentieth Century Fund, 1961).

³⁵ Russia has suspended its participation in New Start. Bill Chappel. *Nuclear Policy Review* 22 February 2023. <https://www.npr.org/2023/02/22/1158529106/nuclear-treaty-new-start-putin>

³⁶ 'US Strategic Posture', p. 85

³⁷ Charles S. Glaser, James M. Action and Steve Fetter. 'The US Arsenal Can Deter Both China and Russia', *Foreign Affairs*, 5 Oct. 2023

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