



## Nuclear arms control needs a fresh start

Jan Ludvík

Joe Biden inherited a nuclear arms control in an apparent state of crisis. The Trump administration had torn up the INF Treaty, abandoned the Open Skies Treaty, killed the Iran Nuclear Deal, and even developed new nuclear weapons. Trump not only undermined the vision of a nuclear-weapon-free world, but his decisions severely, and quite possibly irrevocably, damaged pragmatic nuclear-arms-control regimes whose roots go back to the Cold War.

Those arms control regimes helped maintain strategic stability and reduced the likelihood of a catastrophic nuclear war for years. Their demise comes at an unfortunate moment when the great power rivalry reaches levels the world has not seen since the Cold War and when strategic stability is much needed.

It is easy to blame Donald Trump for this dire state of nuclear arms control, but Trump's departure from the White House will not magically fix the matter. The current crisis surrounding nuclear arms control has grown from structural roots, which go far beyond Trump. If nuclear arms control is to reduce the likelihood of nuclear war in the future, a new and more comprehensive regime will be needed. This new regime will have to reflect the geopolitical and technological realities of the twenty-first century.

### Dangerous technologies

During the Cold War, nuclear arms control emerged as a pragmatic alternative to nuclear disarmament. Arms control did not seek to eliminate nuclear weapons but to reinforce nuclear deterrence and limit the arms race's economic costs. Hence, the U.S.-Soviet nuclear arms control treaties aimed to weaken the ability of one superpower to destroy another superpower's nuclear arsenal with a first strike. These treaties helped maintain mutual vulnerability and reminded leaders in Moscow and Washington that nuclear war would be devastating and should be avoided.

Like in the Cold War, strategic stability should be an objective of arms control today. This task is now more demanding than ever. Technological developments have

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undermined the strategies states use to protect their nuclear weapons. Thanks to technological advances, nuclear arsenals are much more vulnerable than they used to be.

For decades, ballistic missile submarines and land-based mobile ballistic missile launchers could effectively conceal their position and move to another place if spotted, so they could not be targeted and destroyed. Hiding, however, is more difficult in the world of modern sensors. Traditional sensor platforms like satellites and manned aircraft are improved and supplemented by new systems such as UAVs, underwater drones, autonomous sensors, and cyber spying. New sensors now collect information across the entire electromagnetic spectrum and transmit it virtually in real-time.



*AIR-2A Genie nuclear air-to-air rocket on a MF-9 Transport Trailer; Source: Flickr.com/kitmasterbloke*

Similarly, underground missile silos protected intercontinental ballistic missiles with layers of reinforced concrete. These silos can withstand even a close explosion of a nuclear weapon. But not a very close one, and, thanks to technological advancement, even intercontinental ballistic missiles can hit targets with a high degree of precision.

Nuclear weapons are no longer invulnerable. In fact, they are increasingly vulnerable even to conventional weapons.

The development of new systems such as hypersonic weapons increases these concerns. So does the progress of missile defense systems and the prospect of cyber attacks against nuclear command and control systems.

Such technological changes create a dangerous situation in which one side might believe that nuclear war will only be devastating to the other side. The current nuclear arms control regimes cannot resolve this issue. Future arms control regimes will have to reflect the increased vulnerability of nuclear weapons and the counterforce capabilities of non-nuclear weapons.

### **Geopolitical challenges**

If the technological challenges were not enough to push existing nuclear arms control regimes into crisis, the geopolitical challenges would. Geopolitical developments have made today's world far more complex than it was during the Cold War. The danger of a nuclear war beginning in the Taiwan Straits is no less significant than the danger of a nuclear war starting as a NATO-Russia clash in the Baltics. China's involvement in future arms control regimes is inevitable. Any agreement between the United States, Russia, and China, however, will not be easy. After all, the United States, on the one hand, and Russia and China, on the other, now quite openly consider themselves enemies.

Enmity itself may not be an insurmountable problem. After all, arms control treaties are needed with enemies, not friends. Some of the most important breakthroughs in nuclear arms control came when few could call US-Soviet relations friendly.

However, the involvement of a third actor raises some critical problems. For example, the existing distinction among strategic, intermedium-range, and tactical weapons uses distances between the US and the Soviet Union. A strategic nuclear weapon can hit Moscow from US

territory or hit Washington from the territory of the Soviet Union. But it's only a thousand miles from Russia to Beijing and ten thousand from China to Washington. What kind of weapon will be strategic then?

Similarly, negotiating numerical limits on the nuclear forces of multiple parties will not be easy. Parity was an elegant solution in bipolarity, and it has been preserved to this day. Both the United States and Russia have roughly four thousand nuclear weapons in their arsenals. China has ten times fewer, but is currently expanding its arsenal. Should the US and Russia further reduce their nuclear forces to China's level? Should a future treaty allow China to reach American and Russian levels? Will China accept anything but parity? And if parity is the answer, how to account for the possibility of coalitions of nuclear states? What if Russia and China unite against the US and gain a two-to-one advantage? How to deal with the arsenals of smaller nuclear states when France and Britain combined have more nuclear weapons than China, and India increasingly redirects its nuclear strategy from deterring Pakistan to deterring China? It will not be easy to find an agreement.

## **Does nuclear arms control have a future?**

It is little surprise that nuclear arms control is in crisis. Nuclear arms control based on the parity of two superpowers is a thing of the past. A new start for nuclear arms control is much needed. The new regime must – at least – include the US, Russia, and China, and it must accommodate modern non-nuclear technologies that affect strategic stability. While the new regime is unlikely to avoid painful compromises, it will be better than an uncontrollable arms race.

A key objective of this new regime should be to strengthen trust and maintain the verification mechanisms of the current regime. Verifications provide vital assurance that the adversary is not cheating. It is an important confidence-building measure, and it is often more critical than the agreed-upon number of nuclear warheads.

Both lessons from history and insights from psychology show that humans tend to ascribe far worse intentions to their opponents than they usually have. If a new nuclear-arms-control regime helps adversaries better recognize true intentions, it will have done the trick, even if it means that the total number of nuclear weapons in the world rises.

*Earlier version of this text has been published as Třetí strana jaderného trojúhelníku in Lidové noviny – Orientace, January 30, 2021 (in Czech).*