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Strategic Stability in the Changing World

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In 1990, the United States and the Soviet Union defined strategic stability as the absence of incentives for any country to launch a first nuclear strike. Since then, the geopolitical, technological, and psychological landscape that helped prevent war between the world's nuclear powers has significantly changed. The concept of and conditions for strategic stability have fundamentally changed as well, including the instruments for preventing a nuclear conflict. To maintain, or even strengthen, strategic stability under these increasingly complex and rapidly changing conditions, many long-standing notions and policies need to be overhauled and adjusted accordingly for the twenty-first century. An updated definition of strategic stability needs to account for ways to bar military confrontation between any nuclear weapon states; successfully manage global competition among the United States, China, and Russia, and regional rivalries involving India, Pakistan, Israel, and North Korea; exercise unilateral and parallel restraint in deployments and doctrines; and include the use of communications, confidence-building measures, and other conflict-prevention mechanisms to bolster stability in the likely future absence of an arms control regime.

THE GEOPOLITICAL CONTEXT

The Revival of Great Power Competition

Great power competition returned to global politics in the twenty-first century, after a twenty-five-year hiatus. Since the brief period of U.S. world dominance came to a close, no stable unipolar system has emerged. First, U.S. leadership was undermined by the 2008 financial crisis. Then, beginning in 2014, Russia challenged the Western-led global order with operations in Ukraine and Syria. Finally, Washington adopted containment toward an ascendant China. As a result, Russia and the United States have found themselves in confrontation with each other, and U.S.-China relations have become increasingly competitive.

The current confrontation between the world's powers is markedly different from the Cold War. That bipolar military and political standoff has given way to modern rivalries, predominantly in the economic, information, and technology sectors. China is now the main economic and technological—but also a political and ideological—rival of the United States. Beijing's ascendancy to the global center stage has been the principal geopolitical development of the early twenty-first century.

During the second half of the last century, China distanced itself from the central strategic relationship between Moscow and Washington. Beijing's nuclear policy was characterized by moderation and restraint. But by the early twenty-first century, China had become a global superpower, the most serious economic and political competition for the United States, and an impressive military force. The United States officially considers China, along with Russia, as a "near-peer competitor."

The further modernization and development of the Chinese People's Liberation Army, including its missile and nuclear components, impacts the strategic balance not only in the Asia Pacific region but around the world. Global security in the twenty-first century increasingly hinges on the actions and interactions of China and the United States—their relationship is the most important bilateral link in global politics. Yet a new age of bipolarity has not arrived. And, because of the diffuse and highly fragmented global environment and the domestic priorities of Beijing's foreign policy, it probably never will. Consequently, U.S.-China relations—as important as they are—do not constitute the main axis of the emerging global order, unlike the way U.S.-Soviet relations defined the Cold War.

Russia, having lost much of the economic, technological, and political strength of the Soviet period, nevertheless remains a nuclear superpower. Moreover, Moscow has preserved its great power aspirations and seeks to pursue a genuinely independent foreign policy, despite its relatively minor economic weight and technological disadvantage. Russia faces an enormously asymmetrical balance of power in its confrontation with the United States, but the Kremlin insists that it is free to act according to its national interests and its own perceptions of international legal norms. In this context, Russia's nuclear arsenal—which is on a par with the U.S. arsenal—is a key component of Moscow's leverage with Washington. Despite the massive imbalance in conventional capabilities, Russia's nuclear deterrent makes the Kremlin virtually immune to U.S. military pressure. Yet, as U.S.-Russian confrontation deepens, the likelihood of incidents between the two countries' armed forces—and of escalated proxy conflicts—continues to rise.

So while the increasingly competitive U.S.-China relationship is the most important dynamic of the twenty-first century so far, the U.S.-Russian rivalry might be more dangerous. Many factors that deterred the Soviet Union and the United States from military conflict have weakened or disappeared. That absence of moderating elements, the threat of a head-on collision between Russian and U.S. military forces, and the significant power imbalance has escalated the current confrontation between Moscow and Washington to a level best described as hybrid war.

In contrast, Russia-China relations have improved markedly since the Cold War. Sino-Soviet hostility has given way to a close partnership, though it still falls short of an actual military or political alliance—their relationship is more like an entente. Both Moscow and Beijing oppose Washington's global dominance and the Western-led liberal democratic order. There are marked differences to their respective approaches, however. China has aimed to peacefully integrate into the U.S.-centric system and gradually displace the United States from within. Russia has combined pushing back against U.S. influence close to its borders, such as the 2008 war in Georgia or the 2014 crisis in Ukraine, with an active global policy at odds with Washington's agenda.

Differences in national might and global influence notwithstanding, these three countries—the United States, China, and Russia—are the major political and military players in the world. But today's Washington-Beijing-Moscow triangle is different from the foreign policy formula once practiced by U.S. president Richard Nixon and secretary of state Henry Kissinger. Their interrelationships are characterized by imbalance.

This imbalance has led to the erosion of bilateral strategic relations between Russia and the United States and the increasingly likely destruction of that former foundation of global strategic stability.

The Decline of Arms Control

Russia and the United States still command 90 percent of the world's nuclear arsenals. After the fall of the Soviet Union, Washington decided that mutual arms restrictions with Russia, which had ceased to be an equal rival, no longer served its best interests. In 2002, then president George W. Bush withdrew from the Anti-Ballistic Missile (ABM) Treaty, which the Kremlin had considered the "cornerstone of strategic stability" for thirty years. Moscow responded by developing strategic offensive weapons intended to overcome missile defense systems.

In February 2019, Washington suspended its participation in the Intermediate-Range Nuclear Forces (INF) Treaty. Moscow immediately followed suit. Under the circumstances, it is likely that the New Strategic Arms Reduction Treaty (New START) will not be extended when it expires in 2021. As a result, the arms control system that Washington and Moscow established beginning in the late 1960s is close to collapse. If New START is allowed to expire, the strategic arsenals of the world's leading nuclear powers will no longer be governed by bilateral agreements.

Against this evolving backdrop, relations between the United States and China continue to exclude any serious dialogue on nuclear arms issues. Beijing's nuclear arsenal, nuclear policy, and development of nuclear forces remain closed to the outside world. Despite its strategic partnership and close military cooperation with Russia, issues related to nuclear weapons are never raised. There is no reason to believe that China will reveal the structure of its nuclear forces in the foreseeable future, let alone engage in negotiations on nuclear arms control. This means that the United States, Russia, and China will develop their nuclear weapons and doctrines based solely on their own strategic calculus in an atmosphere of increasing mutual alienation, the absence of dialogue, and ever greater mistrust.

Nuclear Proliferation

The idea of nuclear multipolarity emerged in the twentieth century, after the United Kingdom, France, and China joined the nuclear club. A number of other countries tried to create nuclear weapons—some, like Israel and South Africa, were successful. But multipolarity was a mostly imagined concept. The only two other Western nuclear weapons states, the United Kingdom and France, closely coordinated their defense policies with the United States; China, an independent nuclear player, kept a relatively low profile; Israel's presumed nuclear force was solely designed to deter its Arab neighbors; and South Africa terminated its nuclear program even before it became operational. The de facto decision to use nuclear weapons lay exclusively in the hands of Washington and Moscow.

That changed when India and Pakistan acquired nuclear arsenals. The Beijing-New Delhi-Islamabad nuclear triangle enabled each country to act as an independent player, free of U.S. influence. The 2003 U.S.-led war in Iraq and 2011 NATO intervention in Libya prompted some countries, written off by Washington as pariah states, to seek nuclear weapons as an external security guarantee. When North Korea acquired nuclear weapons and intercontinental delivery vehicles, it fundamentally changed Pyongyang's relations with the United States for the first time, Washington found itself vulnerable to a so-called international pariah.

North Korea's successful tactics vis-à-vis the world's sole superpower demonstrate that any modern state is capable of creating the means to contain their adversaries—if it's willing to pay the high price. In theory, any other pair of

unevenly matched countries could find themselves in a similar scenario. Nuclear weapons and intercontinental delivery vehicles essentially create an even strategic playing field.

U.S. President Donald Trump's decisions to withdraw from the Joint Comprehensive Plan of Action (JCPOA, or the Iran nuclear deal) and to put greater pressure on Iran for additional political and military concessions have increased the likelihood that Tehran could also abandon the deal and pursue Iranian nuclear weapons. This would encourage Iran's rivals and neighbors—like Saudi Arabia, Turkey, or Egypt—to follow suit. Meanwhile, Washington's rifts with its nominal allies are forcing countries that used to rely on U.S. protection to seek more reliable guarantees, including nuclear weapons. In addition to the Middle East, nuclear proliferation could spread to Japan, South Korea, or even Taiwan.

Regional nuclear standoffs have already become a reality, and a regional nuclear war has become a real danger in the twenty-first century. The bipolar, and briefly unipolar, strategic world orders, therefore, have been replaced with a more complex configuration of powers. The United States, China, and Russia—three large states with unequal economic strength, varying degrees of political influence, and considerable military power—are the main global players. Independent of the global players, various pairs of nuclear-armed states engage in mutual nuclear deterrence at the regional level. And there is now a model, in North Korea, for states with relatively low standing in the world geopolitical and geoeconomic orders to practice nuclear deterrence against global superpowers.

THE TECHNOLOGICAL AND PSYCHOLOGICAL CONTEXTS

New Technologies, Less Control

The last three decades have seen new types of weapons and capabilities emerge. Amid resumed great power competition, this has led to an intensified arms race and less restraint in nuclear doctrines.

Washington's withdrawal from the ABM Treaty in 2002 resulted in efforts to build a U.S. missile defense system. Even though elements of this system are only effective against single or small-number multiple missile launches, Russia responded by stepping up work to make sure its strategic offensive weapons could overcome any conceivable U.S. missile defense. So far, Russia has managed to fully protect its deterrence capacity. Yet the mere possibility of a missile defense system capable of blunting a retaliatory strike, as well as the practical implementation of missile defense programs, continues to generate distrust and encourage a parallel effort to enhance offensive weapons' penetration capabilities.

New highly accurate strategic conventional weapons systems also create the theoretical threat of a disarming strike against strategic nuclear forces. Despite the fact that it's practically impossible to destroy an opponent's nuclear arsenal with high-precision conventional weapons, their development significantly complicates the strategic calculus and makes decisionmaking in crisis conditions more difficult.

Since nuclear and non-nuclear weapons can be deployed from the same platforms, warhead ambiguity further complicates the situation. Ballistic and cruise missiles armed with conventional weapons could be confused for nuclear weapons, prompting nuclear retaliation.

The renewed emphasis on low-yield nuclear weapons should strengthen nuclear deterrence by prohibitively raising the cost of aggression using conventional weapons. However, their availability and their potential for combat deployment lower the threshold for using nuclear weapons and substantially increase the likelihood of a regional conflict escalating into an all-out nuclear war. The development of antisatellite weapons systems makes it possible to manipulate an opponent's satellites, including their missile-attack warning systems, as well as to disrupt their work and even destroy them with the help of ground-based antisatellite systems.

The rollback of arms control and its likely abandonment—as the ABM Treaty, INF Treaty, and New START are terminated or expire—marks a new era for strategic relations between the United States and Russia. The development of nuclear weapons will no longer be governed by bilateral agreements. The absence of agreed-upon restrictions and the lack of transparency will reinforce distrust and lead to exaggerated estimates of rival capabilities. As a consequence, the arms race will likely ramp up and the Non-Proliferation Treaty will be further undermined.

The termination of the INF Treaty poses a particular risk of dangerously escalating confrontation between the major global players. U.S. deployment of intermediate-range missiles in the Asia Pacific region, aimed at restricting China's development of similar weapons, could create a situation like when the U.S. deployed intermediate-range forces in Europe in the 1980s. China might then adopt a first-strike nuclear posture in response to the proximity of U.S. missiles to Beijing and key Chinese missile sites. If, despite assurances to the contrary, Washington decides to bring its intermediate-range forces back to Europe (for instance, to Poland) in a dangerous repeat of the 1980s, Russia, as President Vladimir Putin has warned, intends to take steps that will put U.S. command and control centers at a comparable risk.

The emergence of cyber weapons is one of the most serious technological challenges of the twentyfirst century. Cyber attacks make it possible to shut off electric power grids in large cities, disrupt communication lines and transportation networks, and cripple the entire infrastructure of whole states or even regions—a devastating attack comparable to the threat of any type of weapon. While the control and communication systems of the leading powers' nuclear weapons are currently believed to be well protected (some doubts notwithstanding), civilian infrastructure is extremely vulnerable to cyber attacks carried out by states, groups, or individuals. And because it's impossible to determine the source of a cyber attack with absolute certainty, states are vulnerable to falseflag cyber operations aimed at provoking war.

Changing Public Perceptions of Nuclear Weapons

In the meantime, public consciousness has undergone profound changes. The peace that many Western societies have enjoyed for decades is largely taken for granted and broadly believed to be guaranteed. Beginning with the first Gulf War in 1991, war is now viewed as an expeditionary campaign that doesn't directly affect the security of Western states themselves. Despite the return of competition, and even confrontation, between great powers, U.S. and European societies and political elites have practically lost their healthy fear of nuclear war. U.S. experts publicly discuss victory strategies against any adversary—including Russia and China—that involve non-nuclear or purely non-strategic nuclear forces. The working assumption seems to be that a major nuclear power would rather accept a humiliating defeat at the hands of the U.S. armed forces than use its nuclear arsenal and trigger a global catastrophe.

The specter of nuclear war, which haunted the world for the entire second half of the twentieth century, has been relegated to the back of the public mind. Americans and other Western societies have a zerotolerance attitude toward the idea of using nuclear weapons, for fear that it might affect them at home. This means that a single nuclear weapon, capable of destroying a major city, constitutes reliable deterrence. So far, however, the United States and its allies have fought mostly against militarily unsophisticated enemies. The return of great power competition has reintroduced the question of how the Pentagon should

deal with nuclear-armed near-peer adversaries like Russia and China.

DOCTRINAL CHANGES

In Russia, by contrast, nuclear weapons have been gaining more prominence since the early 2000s. Putin admitted that the Russian strategic nuclear forces had been put on high alert during the 2014 crisis in Ukraine. Putin was essentially warning Washington and its allies that Russia remains a nuclear power on a par with the United States, and that Moscow won't hesitate to use nuclear deterrence to protect its vital interests.

Discussing nuclear retaliation, Putin has said that he "has no interest" in a world without Russia, making it clear that Moscow would absolutely strike back if attacked with nuclear weapons. He has stated that retaliatory strikes-launched launch-on-warning before enemy missiles have detonated-are Russia's main strategy for using nuclear weapons. In such a scenario, he said, "we [Russians] as the victims of an aggression, we as martyrs would go to paradise while they will simply perish because they won't even have time to repent their sins." However, unlike a second strike, which is launched after nuclear weapons have already reached the country's territory, launch-onwarning retaliatory strikes carry the risk of missile warning systems errantly identifying a nuclear attack.

NATO countries believe that, in recent years, Russia has adopted a so-called "escalate-to-de-escalate" strategy: Moscow would use nuclear weapons first to end a military conflict on preferable—or, at least, acceptable—terms. Russian defense experts disagree with this interpretation, pointing to the fact that Moscow hasn't historically relied on conducting limited nuclear war. To the contrary, Russia's military and political leadership has traditionally believed that limiting a nuclear war is impossible. The use of tactical nuclear weapons opens the door to uncontrollable escalation. Unlike the United States, which is separated by oceans from possible theaters of war in Europe and Asia, Russia would face a nuclear war close to its borders or on its own territory.

In the aftermath of the Soviet Union's breakup, Russia dropped the its no-first-use pledge. Its conventional armed forces had been significantly weakened and the nuclear deterrent was seen as the only guarantee of Russia's military security. According to the current version of Russia's military doctrine, Moscow may use nuclear weapons if the state's existence is under threat. The pivotal question, however, is what can be considered a "threat to the state's existence"? What about a serious military defeat that might lead to the fall of the existing regime but doesn't threaten the lives of most Russians? No major nuclear state is likely to accept humiliating defeat in a conventional conflict.

Possible first use of nuclear weapons to de-escalate a local or regional conflict desirably is a core element of deterrence strategy. While the U.S. military is focused on protecting its allies and defeating nuclear adversaries, the Russian leadership is looking for ways to offset Washington's enormous conventional weapons advantage. Another important consideration is the use of nuclear weapons in local or regional conflicts beyond the U.S.-China-Russia triangle. If this were to happen, the major powers would likely try to stop the conflict before it impacted the rest of the world. This, however, would require a level of strategic cooperation that is currently difficult to imagine.

In the twenty-first century, nuclear deterrence—with all of its contradictions—continues to be the primary stabilizing factor in relations between the nuclear powers. However, the global strategic environment has become much more complex than it was during the Cold War: the accelerated development of technology encourages the pursuit of strategic advantages, psychological barriers that contributed to strategic restraint in the second half of the twentieth century have decreased substantially, and doctrinal changes intended to strengthen deterrence have effectively lowered the threshold for the use of nuclear weapons.

These technological innovations and the ensuing doctrinal changes, along with geopolitical shifts, necessitate expanding the concept of strategic stability itself.

EXPANDING THE CONCEPT OF STRATEGIC STABILITY

When the United States and the Soviet Union jointly formulated the concept of strategic stability near the end of the Cold War, it was defined as the absence of incentives for either side to launch a first nuclear strike. The logic was impeccable: The inability to gain any advantage makes a first nuclear strike irrational for both sides. That irrationality, in turn, renders the concept of nuclear war irrational. If there is no first strike, there will be no retaliatory strike. And if a nuclear war can't be won, it will never be fought in the first place.

This definition hasn't lost its meaning, but it's no longer sufficient. The concept of nuclear deterrence in the Cold War was based on the parties' guaranteed ability to inflict unacceptable damage on their respective adversary, amounting to millions of lost lives and crippling losses to the national economy. In the twenty-first century, any use of nuclear weapons against a large city is considered unacceptable. In a way, this enormous increase in the threshold of unacceptability compensates for the declining public fear of nuclear war.

Such a change in attitude toward the consequences of nuclear strikes and, accordingly, the possibility of a nuclear war has devalued the concepts of strategic balance and strategic parity, which guided U.S. and Soviet nuclear policies throughout the Cold War. Numerical parameters, so important then, have essentially lost their significance. Maintaining the capability to launch a retaliatory strike, rather than rough equality, is now what matters most. This approach both guarantees the destruction of the aggressor and insures against a tragic error.

It is now necessary to add new conditions to the original definition of strategic stability, beyond the guaranteed capability to launch a retaliatory strike, the high survivability of strategic nuclear forces, and the impossibility of destroying a large number of the opponent's nuclear warheads with one nuclear weapon.

In the current environment, it's not enough to strip any incentive from launching a first (massive) nuclear strike. Strategic stability requires eliminating incentives to use nuclear weapons at any level, globally (within the U.S.-Russia-China triangle) and regionally (in South, East, or West Asia). Since any major conflict between the nuclear powers carries the risk of nuclear first use and the ensuing escalation, strategic stability now demands the absence of incentives to fight a military conflict between any nuclear weapon states. In addition to no use of nuclear weapons by any party anywhere in the world, other necessary criteria for strategic stability include the invulnerability of nuclear arsenals and military nuclear infrastructure from paralyzing cyber attacks and a ban on antisatellite weapons.

Considering the existing nuclear arsenals and the need to maintain the credibility of nuclear deterrence at different levels, this is a much more challenging task.

There is, apparently, a general understanding of the basic stability of deterrence at the strategic level within the U.S.-Russia-China triangle. The mutual vulnerability of the parties render a first strike meaningless. The main challenge, then, is to prevent the first use of nuclear weapons in a regional conflict—for instance, in Eastern Europe or East Asia—that involves the major nuclear powers. Preventing such use of nuclear weapons, however, requires forestalling any regional military conflict that could compromise the political integrity of one of the major nuclear powers.

Reliable communication lines between the major powers can prevent armed conflicts or stop their escalation. But there are no technological guarantees that can completely rule out the use of force by rational actors in such cases. And it's impossible to prevent political conflicts that may lead to armed clashes without a system of inclusive security communities, which is unlikely to be created in the foreseeable future. Hope hinges, then, on the very possibility that knowing a local conflict could escalate into a regional war will restrain geopolitical adversaries from becoming enemies in combat.

This dynamic is already on display between Russia and NATO. It's hard to imagine a nuclear-armed state attacking any member of an alliance headed by another nuclear power. It's equally hard to imagine a largescale NATO attack on nuclear-armed Russia. Neither actor can be completely confident that it could enjoy a conventional military advantage, local or general, without the risk of incurring a nuclear counterstrike. Therefore, nuclear deterrence between Russia and the United States fully extends to Washington's allies in NATO.

In some ways, the situation between China and the United States and its allies is similar to Russia's relationship with NATO. China attacking Japan is as improbable as U.S. aggression against China. At the same time, a number of developments in the Asia Pacific lack such obvious clarity, such as territorial disputes in the South China Sea or the possibility of conflict in the Taiwan Strait. The U.S. nuclear umbrella doesn't extend that far, and the risk of escalation is fully present in both situations. Channels of communication between the U.S. and Chinese military headquarters, as well as appropriate political contacts between Beijing and Washington, are necessary to prevent escalation.

Relations between China and India already include an element of nuclear deterrence. This doesn't eliminate the possibility of military conflict between Beijing and New Delhi, but it deters both sides from the use of nuclear weapons and, by extension, reduces the likelihood of a large-scale war. Since they acquired nuclear weapons, India and Pakistan have learned how to coexist under conditions of nuclear deterrence. The relationship between New Delhi and Islamabad is far from stable, but India and Pakistan haven't gone to war since 1999. The most recent serious military incident between the two countries, in February 2019, was swiftly de-escalated. Functioning communication channels between top military commanders and a toplevel political dialogue may further strengthen regional stability in South Asia.

The complicated situation regarding North Korea is increasingly unclear and destabilizing. It's hard to tell whether Pyongyang's nuclear attack capabilities are sufficient to keep the United States from denuclearizing North Korea by force, if deemed necessary. The improving capability of U.S. missile defenses, as well as the possible deployment of U.S. high-precision intermediate-range missiles in Northeast Asia, may convince Washington that U.S. armed forces can shoot down any North Korean missiles that survive a U.S. attack. But it's impossible to be absolutely certain that North Korea will never use nuclear weapons offensively against South Korea or Japan. A North Korean domestic crisis could also be a catalyst for nuclear destabilization in the region.

WAYS TO STRENGTHEN STRATEGIC STABILITY

To maintain the minimum degree of strategic stability, it's essential to prevent a direct military collision between the United States and Russia or the United States and China. With that goal in mind, there are already around-the-clock communication lines between the top military leaderships: ministers of defense, chiefs of general staff, and key U.S./NATO and Russian military personnel. Direct communication lines make it possible to prevent or neutralize incidents in the air, at sea, or on land that involve Russian and U.S./ NATO armed forces, thus avoiding any uncontrollable escalation. Communication channels between the leadership of the U.S. armed forces and the top brass of the Chinese People's Liberation Army serve a similar purpose. A communication channel between the respective heads of U.S. and Russian intelligence, and between the U.S. and Chinese services, could play an important role as well. Direct contacts at the top political level are also critically important as a means of de-escalation in the most dangerous situations.

In addition to constantly functioning lines of communication, U.S., Russian, and Chinese heads of national security, foreign affairs, and defense should engage in regular dialogue on strategic stability issues. Such dialogue allows parties to better understand each other's strategic logic, the contents of military doctrines, and the rationale behind approaches to global and regional security programs. However, broader U.S.-Russian dialogue on strategic issues will likely remain blocked for a long time due to political reasons.

Functioning arms control treaties are not a sine qua non requirement for strategic stability. It is highly unlikely that the United States and China will conclude arms control agreements in the foreseeable future. Preserving U.S.-Russian arms control is already difficult enough, with no prospect for improvement visible on the horizon. But in this atmosphere of growing mistrust and mutual suspicion, discussions about strategic stability that aren't aimed at negotiating specific agreements will likely be ineffective. The most that can be done diplomatically in the short term or even the medium term—is to agree on conflict prevention, confidence-building, and transparency measures.

In the next decade, the world is likely to enter an era in which strategic nuclear arms are no longer controlled by international treaties. But this doesn't have to be an era of strategic chaos. After all, the demise of the Conventional Armed Forces in Europe (CFE) Treaty in 2007 did not lead to military escalation in Europe, where all parties continued to exercise restraint. Under the new conditions, the Russian, U.S., and Chinese leaders will also have to act unilaterally and be guided by their own interests. Ideally, Washington, Beijing, and Moscow will refrain from taking steps that undermine or subvert strategic stability, consequently impairing their own national security. In practice, however, it will be difficult to exercise such restraint. Each side will need to display its determination to maintain stability, which will require political courage and a sense of responsibility—two qualities that modern politicians unfortunately often lack.

One way to strengthen stability is for Russia to adopt a second-strike strategy as its main scenario for the use of nuclear weapons. The necessary preconditions already exist: Russian mobile strategic systems—submarinelaunched ballistic missiles and mobile intercontinental ballistic missiles—have a high degree of survivability. The Russian armed forces have developed an elaborate system of command posts. And the order to launch a retaliatory nuclear strike can be issued after an enemy attack has happened. A deep retaliatory strike carried out with weapons that survived a first attack guarantees the destruction of the aggressor.

It will likely be impossible to incorporate China into existing U.S.-Russian agreements. It's equally unrealistic to expect a tripartite nuclear agreement between the United States, Russia, and China any time soon. Yet bilateral consultations between Washington and Beijing on the issue of strategic stability are possible. The goal of such consultations would be to eliminate or reduce Washington's concerns about China's growing missile and nuclear arsenal, as well as to avert a provocative U.S. military buildup off China's coast. Just as in relations between Washington and Moscow, constant contact between military headquarters could play a crucial stabilizing role in U.S.-Chinese relations.

The denuclearization of North Korea—Pyongyang's complete abandonment of its nuclear weapons program and their total liquidation—is unrealistic. Having its own nuclear weapons and the capability to reach U.S. territory is the only conceivable security guarantee for the North Korean regime. It's in the interests of regional and global strategic stability for Washington to recognize this reality and refrain from attempts to resolve the North Korean problem by force. Further development of economic ties, political relations, and humanitarian contacts between the two Korean states could serve as an essential factor in regional stability in Northeast Asia.

Building mutual trust between India and Pakistan should help strengthen stability in South Asia. The mutual nuclear deterrence between New Delhi and Islamabad needs to be reinforced by improving emergency communication channels, exchanging information about the state and development of the countries' nuclear capabilities, and engaging in dialogue on military, security, and political issues. The political and military leadership of both countries—especially Pakistan's powerful armed forces, with its outsize influence on Islamabad's foreign, defense, and security policies—should be fully responsible for implementing these steps.

Since India's nuclear weapons are a means to deter China, in addition to Pakistan, stability in Asia depends on the nature of Chinese-Indian strategic relations. The ongoing development of political dialogue between Beijing and New Delhi offers hope that the two Asian powers will be able to reach a stable strategic equilibrium. In that case, their inevitable competition will be complemented by some cooperation and should lead to mutual restraint in the nuclear sphere. Just as with Pakistan, relations between China and India regarding such sensitive areas are exclusively bilateral responsibilities. Nevertheless, the membership of Pakistan, India, China, and Russia in the Shanghai Cooperation Organization (SCO) creates additional avenues for dialogue, possibly including discussions of strategic stability. In the Middle East, it is imperative to keep Tehran within the framework of the 2015 Iran nuclear deal, despite the United States' withdrawal. European countries—including the United Kingdom, Germany, and France—are trying to maintain economic relations with Iran despite the threat of U.S.-imposed secondary sanctions, and they will play an important part here. Since the European states' ability to resist U.S. pressure is limited, China and India (as Iran's leading economic partners) and Russia (as its military and political partner) can play key roles in preventing Iran from making the decision to acquire nuclear weapons. Iran's potential accession to the SCO could help to further its dialogue on nuclear issues with the major powers in Asia.

CONCLUSION

Analysis of the twenty-first-century strategic stability environment shows that:

- Strategic stability in the twenty-first century means the absence of incentives for any use of nuclear weapons, which effectively also requires preventing major military conflict among the nuclear weapon states.
- Stability at the global level hinges on relations among the three competing major powers the United States, China, and Russia—and on regional relations among other nuclear weapons states, primarily India, Pakistan, and North Korea.
- Stability stems from doctrinal restraint, as well as from technological and organizational solutions that deprive nuclear weapons holders of incentives to use them.
- While continuing to practice deterrence, nuclear powers should exercise unilateral, bilateral, and multilateral restraint in developing, manufacturing, testing, or deploying weapons in the absence of arms control.

- Traditional arms control mechanisms will need to give way to conflict prevention mechanisms, confidence-building measures, transparency, consultations, and dialogue.
- Protecting nuclear arsenals and their associated control, communications, and intelligence systems from the effects of cyber weapons is a crucial condition for stability in the twenty-first century.

This is a very challenging list of demands. But it is possible to ensure strategic stability, even under these increasingly complex geopolitical, technological, and psychological conditions. Successful efforts require a new outlook, a new strategy, and new instruments. It is time to start equipping the global security community accordingly.

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NOTES

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