

“Long Peace” and Nuclear Weapons

Will They Prevent Big War?

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Abstract

Technically and politically, a land-based regional war between Russia and the United States is now more likely than in the 1960s and it may be a great temptation for politicians. In this situation, nuclear weapons will hardly serve as a deterrent. We often forget that the use of nuclear weapons is not a military but a political factor: using them requires a top-level approval. Such an approval is unlikely not only during a limited war on the territory of a third state but also during a full-scale war. It would be appropriate to recall the “chemical precedent” when great powers fight without resorting to their weapons of mass destruction.

Keywords: nuclear weapons, chemical weapons, nuclear deterrence, world politics, strategic parity, nuclear war, total war, limited war

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Donald Trump’s statement about the U.S. withdrawal from the Intermediate-Range Nuclear Forces (INF) Treaty and the subsequent wave of predictions about an imminent collapse of the arms control system prompted the author of this article to summarize observations about the role of nuclear weapons in the contemporary world. When participating in numerous discussions on this issue (See, for example: RIA, 2017; RIAC, 2015), I was surprised to hear experts repeat axioms of the 1980s. Firstly, there can be no winner in a nuclear war as it would lead to the death of civilization; secondly, any direct conflict between nuclear powers would end in a nuclear escalation and this is why it is impossible in principle; and thirdly, mutual nuclear deterrence has ensured unprecedentedly long peace (Colby, 2018).

Meanwhile, nuclear weapons are not full-fledged weapons, strictly speaking. Since the Americans dropped atomic bombs on Hiroshima and Nagasaki in 1945, nuclear weapons have not been used again anywhere in the world. The nuclear attacks against the Japanese cities were a political demonstration rather than a test of real military capabilities (Finletter, 1956). We have not seen nuclear weapons used in a combat situation and, therefore, we cannot fully assess the results of their use: the number of targets destroyed and the degree of their destruction, the impact of nuclear weapons on the enemy’s armed forces, and the effectiveness of the latter’s nuclear countermeasures. Estimates of the destructive power of nuclear weapons are based either on ambiguous results of nuclear tests (Yesin, 2011) or theoretical calculations (Wilson, 2013). All “nuclear deterrence” concepts are, in fact, theory and games of the mind—hypothetical reflections on the topic “What will happen if we use weapons whose destructive functions we do not know?” In the contemporary world, it would be more correct to speak not about a “nuclear strategy” but about the philosophy of nuclear weapons as a combination of political elites’ views of them.

But if this is so, then the view that nuclear weapons ensure “long peace” is questionable. Weapons per se cannot ensure either peace or war: everything depends on intentions of the political elites of the

leading powers. No one can guarantee that the attitude of politicians towards nuclear weapons will not change. Therefore, in this article I will try to answer two questions: 1) Do nuclear weapons really ensure “long peace”? 2) Why has there never been a direct war between nuclear powers and can it take place in the future?

THE NUCLEAR BASIS OF “LONG PEACE”

The idea that nuclear weapons could keep the world from a new big war was first suggested in the United States back in the mid-1940s. American economist Jacob Viner said that nuclear weapons could perform a dual function: guarantee peace-making between states and be an effective deterrent force (Rosenberg, 1983). American political scientist Bernard Brodie, along with his colleagues at Yale University Frederick Dunn, Arnold Wolfers, Percy Corbett, and William Fox, published the book, *The Absolute Weapon*, in 1946 (Brodie, 1946). American mathematician John von Neumann proposed the term ‘Mutual Assured Destruction (MAD)’ in the 1950s. According to this concept, a full-scale use of nuclear weapons by two opposing sides would cause the complete annihilation of both sides, which makes any attempt to launch a first strike meaningless. During the presidency of Lyndon Johnson (1964-1968), MAD became a component of the American nuclear deterrence theory.

In the second half of the 1970s, the idea of MAD was transformed into a strategic stability concept (Savelyev, 2015). It was based on the idea of creating a situation in which both sides would have no incentive to use nuclear weapons. In the Soviet Union, the attitude to the term ‘strategic stability’ was initially critical, but during the years of *perestroika* the term became widespread (Kokoshin, 2018). Since then, Moscow and Washington have been arguing about what quantity and quality of strategic nuclear forces are necessary to ensure strategic stability.

In the 1980s, discussions about the stabilizing role of nuclear weapons began within the framework of neorealism. The classic of the neorealism theory, Kenneth Waltz (Sagan and Waltz, 2003), said that stability in relations between nuclear powers depended on

the amount of damage they could inflict on each other. Therefore, mutual deterrence is a universal instrument for ensuring stability, regardless of regional, cultural or historical specifics of a region. But Waltz also acknowledged that a stabilizing effect was achievable only if the opposing countries chose a certain type of nuclear strategy. “The policy of flexible response lessened reliance on strategic deterrence and increased the chances of fighting a war,” he wrote, as it can give hope for “victory” in a nuclear conflict (Sagan and Waltz, 2003, p. 32).

Another American author, Scott Sagan, a longtime opponent of Waltz, is more pessimistic. He describes nuclear deterrence as a moral and political category. But morality and norms, in his opinion, are relative categories. The military act according to the formula “order–technical readiness of delivery vehicles–strike.” Can anyone guarantee that in a certain situation (for example, during another Indo-Pakistani conflict) politicians will not succumb to generals’ calls for a nuclear strike? World War I, for example, was sparked by great powers’ desire to mobilize and deploy troops earlier than the others. Therefore, Sagan believes, all ideas about the stabilizing role of “deterrence” are just a complex of psychological views, which are now collapsing (Sagan and Waltz, 2003, pp. 91, 100).

Professor John Lewis Gaddis of Yale University proposed a different view on this problem. He described the Cold War era as “long peace.” Since then, political scientists have used this term to describe the entire period from the end of World War II to the present day (Gaddis, 1986). However, Gaddis attributed the long peace not to nuclear weapons but to the absence of political reasons for starting a big war between the superpowers. Ideological differences between the Soviet Union and the U.S. were not irreconcilable because there were no fanatical politicians at the head of both states. Both countries valued the postwar world order, which guaranteed them a privileged position in the world through the UN Security Council mechanism. Conflicts in the Third World were not a reason for a big war, either, because they did not affect vital interests of the Soviet Union or the United States. Any conflict involving nuclear weapons would have led to the collapse of the world system supported by both Moscow and Washington.

Gaddis proposed a comparison of two crises, the Cuban Missile Crisis of 1962 and the July Crisis of 1914, which is now popular in American political science. The two crises, Gaddis wrote, demonstrated two different types of elites' behavior. In the first case, the Soviet and U.S. leaders did all they could to prevent war and start a dialogue. (No one in Moscow called for severing diplomatic relations with the United States or disbanding the United Nations.) In the second case, the leaders of great powers worked towards war and did everything to make it happen. Here Gaddis echoed German strategist Carl von Clausewitz, as he suggested that the beginning of war depended not on the nature of armaments or staff plans but on elites' intention to start or not start a war.

But if Gaddis was right, then nuclear deterrence is nothing more than a myth. It is based on the conclusion of American diplomat George Kennan who, back in 1946, wrote that the Soviet leadership did not want a big war (Kennan, 1946). A country wishing to start a war cannot be contained by definition. For Gaddis, therefore, the "nuclear stalemate" is comparable with other periods of "long peace" between great powers. However, all previous periods of "long peace" ended in total wars.

IS "LONG PEACE" REALLY UNIQUE?

Back in the 1820s, von Clausewitz divided wars into total and limited. They differ from each other not in the scale of military actions or the number of casualties, but in the warring parties' goals. The aim of total war is to destroy the enemy as a political subject, whereas the aim of limited war is to coerce the enemy into a compromise. Total wars are usually fought by large mobilization armies, while limited wars are fought by small forces of professionals.

However, total wars are very rare. In modern history, one can recall only four of them: the Thirty Years' War (1618-1648), the French Revolutionary Wars and the subsequent Napoleonic Wars (1792-1815), World War I (1914-1918) and World War II (1939-1945). Of course, there had been wars before, in the 15th-17th centuries, aimed at overthrowing the existing regime, such as the Livonian War (1558-

1583) or the First Northern War (1655-1661). However, the winners in those wars sought a compromise that favored them more than the losers. Really total wars ended with the elimination of the enemy as a political subject, the destruction of the world order and the formation of a new one. Modern history was largely a time of limited wars with local goals. What we call “long peace” is a period without total wars but with limited wars and other uses of force. The nuclear era is not unique in this respect.

The Westphalian world order, shaped after the Thirty Years’ War, seemed to be violated by many wars. However, they were limited and consisted of a series of military operations in border areas or colonies. By the beginning of the 18th century, there emerged a new type of wars—“succession wars.” In a country torn by a crisis of statehood, two political parties were formed—a “pro-French” party and an “anti-French” one, which respectively invited France (or its junior partners) or its opponents to send in troops. The result was a war in the crisis-ridden country, during which France and its opponents tried not to encroach on each other’s territory. Therefore, a peace agreement was a “big deal,” somewhat more advantageous for the winner and less advantageous for the loser (Fenenko, 2018, p. 9). Even the Seven Years’ War (1756-1763), the key conflict of the 18th century, did not go beyond the framework of a “peace deal” and was limited to individual military operations in limited theaters.

The Westphalian era was the heyday of what we now call “hybrid wars.” They were invented by King Louis XIV of France (1643-1715). During the preparation of the War of the Palatine Succession (1688-1697), he decided that it would be more convenient for Versailles to act in German lands not directly but through the proxy of dependent German princes. In the event of defeat, France could disassociate itself from them without damaging its prestige; and in case of victory it could take the credit for it. Hence the main principle of French policy of those times: to establish regional balances of power by using small countries (including through palace coups in them) and playing them off against great powers. Opponents of France, which had fewer resources, adopted this style of warfare, too. Widespread types of

hybrid warfare included the use of mercenaries, privateering and wars waged by younger partners of some great powers against younger partners of other great powers.

There were at least three reasons for such a “long half-peace.” Firstly, European monarchs did not want to repeat the destructive Thirty Years’ War. Secondly, no European power wanted to immediately change the balance of power established by the 1648 Peace of Westphalia. Thirdly, wars were waged by small forces of professionals who could operate only close to their bases and in a limited area. The situation changed in 1792 when an off-system regime was established in France, which sought to demolish the entire Westphalian order. It was revolutionary (and later Napoleonic) France that resumed the practice of total wars, based on mass mobilization, almost forgotten since the middle of the 17th century. It viewed these wars as a tool to destroy the old order. Other powers had to adopt this system, too, to combat the hegemony of Paris.

The Vienna order, which existed from the end of the Napoleonic Wars (1815) to World War I (1914-1918), was a period of full-fledged “long peace.” Over the 100 years, only four limited wars took place between great powers: the Crimean War (1853-1856), the Franco-Austrian War (1859), the Austro-Prussian War (1866), and the Franco-Prussian War (1870). The Crimean War was a combination of military operations in regions far from the center of Europe: Crimea, the Caucasus, the White Sea, and Kamchatka, while warfare in the Baltic Sea was small in scale. The Franco-Austrian and the Austro-Prussian wars were brief armed conflicts in border areas, if we use modern terminology. They were more like Cold War conflicts (in Korea, Vietnam or Afghanistan) than the Napoleonic Wars or the 20th century world wars. As for local conflicts between Austria and Italian states, Prussia and Denmark, we would now call them “police operations” or “ethnic clashes.”

The only full-fledged war in Europe in the 19th century was the Franco-Prussian War of 1870. However, it was also a brief, three-month-long campaign waged by mobilization armies. This war was also limited in nature: it ended with the proclamation of a German

Empire (that is, the completion of the unification of Germany) and the German annexation of France’s Alsace and eastern Lorraine. The war was followed by 44 years of peace in Europe.

During the Russian-British Great Game in the 19th century, the conflict potential of the great powers was for the first time moved to the periphery. The rivalry focused on the Middle and Far East where a series of proxy wars began. It was there that wars began to be conducted as military expeditions against junior partners of another power (Russian campaigns in Central Asia and punitive expeditions of Western powers against Japan) or in order to improve one’s strategic positions (the Opium Wars or the Anglo-Afghan Wars). At the same time, the United Kingdom and Russia were officially at peace and maintained diplomatic relations with each other—in other words, formally it was a period of “long peace.” A similar system of proxy rivalry developed in the Western Hemisphere. Britain and France sought to undermine the United States’ Monroe doctrine—not through a direct war with the U.S. but through proxy military actions, without breaking diplomatic relations with Washington.

At the end of the 19th century, conflicts moved from the center of Europe to the Balkans. Russia and Austria-Hungary, while formally at peace, constantly fought for influence in Serbia, Bulgaria, Romania, and Greece. This rivalry later involved Germany, which fought on the side of Austria-Hungary, and Great Britain, which grew closer to Russia. Military conflicts among Balkan countries, ranging from the Serbo-Bulgarian war (1885) to the Balkan wars (1912-1913), were a form of concealed rivalry among great powers. European countries maintained peace on the continent for 35 years, taking their differences to the Balkan Peninsula.

In the last third of the 19th century, public sentiment in great powers was similar to that of the present day. A great war in Europe seemed inconceivable. Most people were confident that the Franco-Prussian war was “the last war between white people” and that “civilization will not allow a new war.” The war between France and Prussia was too destructive and gave no benefit to either the winners or the losers. The future of humanity was viewed as an age of science and a new society

in which the freedom of movement and means of communication would erase borders between peoples and countries.

The “long peace” of the 19th century collapsed due to political reasons. Germany, after Emperor Wilhelm II came to power in 1888, began to revise the rules of the game. The balance of power system broke up into two long-term military-political blocs: the Entente and the Triple Alliance. In such a situation, the conflict space in the Balkans, far from being a stabilizing mechanism, was a means of escalating inter-bloc confrontation. In full accordance with Clausewitz’s formula, war complemented politics: the concept of total war based on mobilization armies was developed to revise the Vienna order. The concept, developed back in the 1880s, was tested in practice in 1914.

The present Yalta-Potsdam order, established in 1945 and slightly modified since then, has been developing according to the logic of the Westphalian and Vienna orders. After the end of WWI, great powers established a set of rules which are still in effect: a (formally) leading role of the United Nations; permanent UN Security Council seats and the veto power of permanent members; the preservation of limitations on the sovereignty of Germany and Japan; and the military gap (nuclear-missile parity) between the U.S. and Russia, on the one hand, and the rest of the world, on the other. The rivalry between great powers has not gone beyond this framework so far. Conflicts and limited wars are moved to the periphery, thus stabilizing the system itself.

Of course, one can argue that within the framework of the Yalta-Potsdam order great powers do not formally declare war on each other. But this is not because they have nuclear weapons but rather because the warfare system has changed. Since the middle of the 19th century, weapons have been growing more and more expensive, and the factor of time has acquired an increasingly important role in military decision making. The best-case scenario for starting a war is delivering a preemptive strike to destroy the enemy’s political leadership and prevent the deployment of its armed forces. Formerly, a crisis led to war: there emerged a conflict situation; diplomats exchanged threatening notes; and at some point a war was declared. Now things have reversed: first a sudden strike and military action,

and then diplomats try to comprehend what has actually happened. This model was first used by Japan in Manchuria in 1931, and since then it has become a benchmark in military-staff planning.

This factor calls into question the Anglo-Saxon “nuclear deterrence” theory. It was based on American diplomat George Kennan’s postulate that the Soviet Union could be deterred because its leadership did not want a new big war (Kennan, 1946). It is impossible to restrain actors wishing to unleash a war: threats would only give them a long-awaited pretext to declare it. We cannot say whether “nuclear deterrence” is effective or not, since in the post-WWII world there have been no global revisionists, that is, political regimes that would seek to destroy the world order and that would be ready to unleash a war for that. We would say that the nuclear threat is effective only if it keeps them from starting a war. In the meantime, deterrence has been rather a “self-conviction”: threats against actors that have never wanted war.

THE CHEMICAL PRECEDENT

History also provides opposite examples: weapons of mass destruction (WMD) do not guarantee peace at all, as seen from the interwar history of chemical weapons (CW).

During World War I, Germany for the first time in history used a chemical warfare agent (CWA). CW used in WWI killed an estimated 1.5 million people. Simultaneously, CW were used in local wars (Gershater, 1963). The Red Army, led by Mikhail Tukhachevsky, used CWA to suppress the Tambov Uprising in 1921, while the Romanian army used CWA to suppress the Tatarbunary Uprising in Bukovina. During the Rif War in Spanish Morocco in 1921-1927, an allied force of Spanish and French troops used mustard gas bombs. During the Second Italo-Ethiopian War of 1935-1936, about 275,000 were killed in Italian chemical (primarily mustard gas) attacks. (As a comparison: total casualties from the atomic bombings of Hiroshima and Nagasaki amounted to 110,000-140,000 people by 1951, including those who died from after-effects.) In 1937-1945, Japan widely used CW in China, both against the Kuomintang and Communists, killing an estimated 60,000 to 130,000 people.

In the 1920s-1930s, it was widely believed that a future war would be chemical. European countries built special shelters, and soldiers and civilians were trained to use personal protective equipment. In a majority of countries, civil defense exercises were held in cities to train people to administer first aid to victims of chemical attacks (like, for example, OSOAVIAKHIM exercises in the Soviet Union). However, military experts admitted that the armed forces and the population could not efficiently withstand large-scale chemical attacks.

In June 1925, representatives of 37 countries signed the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare (the Geneva Protocol). It was signed in Geneva under the auspices of the League of Nations. The Protocol applied to all weapons of mass destruction that existed at that time. However, implications of the Geneva Protocol remain a debatable issue, as there are two points of view on them (Spiers, 2010). According to the first point of view, the protocol was humane and allowed avoiding the use of CW during World War II. The second point of view is that the ban on the use of CW was lobbied for by the command of the newly established armored forces. Free use of CW would have left tanks without infantry protection, which would have made the emergence of large mechanized units impossible. The Geneva Protocol allowed creating the main attack weapon of WWII—armored forces.

During WWII, none of the warring parties used CW, even when there was a threat of their complete defeat and surrender. (There were only local incidents, such as attempts by the Polish army to use a chemical warfare agent near Warsaw in September 1939 or by Germany to use gas in catacombs near Sevastopol and Kerch.) Some historians explain this unusual phenomenon by the inconvenience of using CW against dispersed enemy troops, poor controllability of the spread of CWA, and dependence on weather conditions. However, the experience of using CW by Japan against Chinese troops refutes these arguments. The logic of mutual deterrence from the use of CW apparently played a much greater role. In the interwar period, CW were used against enemies that did not have these weapons. The use

of CW against enemies with the same capabilities would have led to retaliatory strikes.

In the mid-1950s, Portuguese military thinker Ferdinand Otto Miksche (Miksche, 1956) proposed a scenario of a possible course of hostilities during a nuclear conflict, based on the campaign of 1940. He assumed that the parties possessed nuclear weapons at that time. According to Miksche’s scenario, Germany and its opponents would first use “nuclear artillery” and then proceed to trench warfare, not hurrying to make peace even after exchanges of nuclear strikes at their key cities. At the same time, Miksche ignored the fact that Germany and other Western powers already possessed CW. Following his logic, in the spring of 1940, it would have been in the Allies’ interests to deliver chemical attacks on Cologne and Berlin, while the Germans could have attacked Paris and London. Similarly, the Soviet command could theoretically have used CW when the Soviet-German front broke up in June 1941 to halt the German offensive.

In reality, during World War II, opponents deterred each other from using CW. On May 12, 1942, British Prime Minister Winston Churchill warned in a radio address that Britain would respond if Germany and Finland used poison gas against the Soviet Union. Churchill’s statement caused panic in Berlin: a large-scale British chemical attack would have killed an estimated 40 to 60 percent of the German population due to the lack of shelters and protective gear. A retaliatory chemical attack by the Luftwaffe could have destroyed only 15 to 20 percent of the British population. Germany never used CW against the Soviet Union, and in the fall of 1943 it removed chemical weapons from the eastern front. The parties to the total war refrained from using double-edged weapons of mass destruction.

The “chemical precedent” calls into question four stereotypes of the modern “nuclear deterrence” theory.

1. ***The threat of unacceptable damage may force a potential aggressor to give up war plans.*** The fact that the Allies had large CW reserves and could deliver chemical strikes did not stop Germany and Japan. (In the late 1930s, no one could guarantee that this would not happen.)

2. ***Local conflicts between nuclear powers will necessarily end with the use of CW.*** The Soviet-Japanese conflicts of the late 1930s prove the opposite. In 1937-1939, the Soviet Union and Japan waged an undeclared war in China: 3,500 Soviet troops were involved in hostilities with Japan. During the Battle of Lake Khasan (July-August 1938), 15,000 Red Army troops were confronted by 20,000 Japanese troops. Also, the Soviet Union used long-range aircraft against the Japanese forces. In May-August 1939, a 65,000-strong Soviet-Mongolian force fought a 75,000-strong Japanese-Bargut army near the river Khalkhyn Gol. However, none of the opponents “pushed the chemical button.”
3. ***Any state will necessarily use nuclear weapons if there is a threat of its complete military defeat.*** However, France in 1940 and Germany in 1945 capitulated but never used CW. Britain and the Soviet Union did not use CW, either, during the critical days of the fall of 1940 and the fall of 1941. Sometimes, political regimes prefer to capitulate without using weapons of mass destruction.
4. ***In the course of a nuclear war, opponents will necessarily deliver nuclear countervalue attacks on each other.*** However, during the Battle of Britain (August 1940-May 1941), the Luftwaffe did not deliver chemical countervalue strikes against British cities. Germany did not attempt to use CW in 1944-1945 even when faced with an imminent military defeat. The Royal Air Force, too, refrained from using chemical weapons against Germany during air attacks in 1943-1945.

The question arises: What if great powers one day try to sideline nuclear systems in a similar way? The WWII experience allows imagining a conflict between great powers without using nuclear weapons. It is widely believed now that the main distinction between chemical and nuclear weapons is a low combat value of CW due to their low effectiveness against regular troops equipped with protective gear, and against strategic facilities with protection, shelters, specially trained personnel,

etc. CW are also not effective in maneuver warfare. Nuclear weapons, by contrast, particularly nuclear missiles, are viewed as an “equalizer of chances” allowing the weaker side to contain the stronger enemy.

However, there are several counterarguments to this view. CW, combined with aircraft, proved their high effectiveness during Japan’s operation in China in 1937-1940. (By the way, it is difficult to create protection against general-purpose CWA, for example, hydrogen cyanide.) Most importantly, there is real combat experience regarding the use of CW, but there is no such experience with regard to nuclear weapons. The only experience is the nuclear exercises held by the United States in Nevada (1951-1957) and the Soviet Union in 1954 at the Totskoye proving ground. However, these exercises provided ambiguous results. Firstly, judging by the published data, the troops involved in the exercises accomplished their tasks, yet they failed to achieve a “crushing turnaround.” Secondly, judging by the results of the exercises, it is possible to create protective gear for troops against nuclear weapon effects. Thirdly, secondary effects of nuclear weapons used on the frontline may affect friendly troops. Therefore, the “chemical precedent” makes the entire “nuclear escalation” theory much less unambiguous than we used to think.

WHAT PREVENTS “NUCLEAR BLITZKRIEG”?

Experts divide the history of international relations into “pre-nuclear” and “nuclear” eras. But this is a fallacy. The modern understanding of the role of nuclear weapons is based on the concept of air power, developed by Italian General Giulio Douhet in 1918 (Douhet, 1936). This concept promises victory through strategic bombing—the destruction of the enemy’s key cities by aviation upon achieving command of the air. The “air power” concept postulated that the enemy would capitulate after the destruction of its key cities and industrial facilities, regardless of its achievements on the fronts. In this sense, the entire modern “nuclear strategy” is not innovative but archaic. It rests on strategic ideas of the first half of the 20th century and has inherited all of their problems.

During WWI, Douhet’s ideas were impossible to implement due to the low carrying capacity and short range of aircraft. The next twenty

years saw the development of military equipment to make it better fit for aerial warfare. It was aimed at improving individual components: 1) increasing the range and load-carrying capacity of bombers; 2) building fighter aircraft; and 3) developing air defense systems to protect other components of the armed forces from enemy aircraft. These theories were first tested in practice only during WWII.

The strategic bombing concept was first put to use during the Battle of Britain in the fall of 1940. Germany sought to compel Britain to surrender through regular bombings of British cities. However, this operation did not succeed due to the low load-carrying capacity of German bombers, the high maneuverability of British fighters, and the effectiveness of British air defenses, including radars.

Britain's strategic bombing produced a better result. Charles Portal, Chief of the Air Staff, proposed a strategic bombing concept to Prime Minister Winston Churchill (Barts, 2009), which provided for bombing major economic and administrative centers of Germany. Although this idea echoed Douhet's theory, it contained something new as it allowed bombing even when British aircraft did not have air supremacy. The emphasis shifted from "knockout blows" to the enemy to its "air siege."

After the United States entered World War II, it adopted the British concept of strategic bombing (Coffey, 1982). In January 1943, Churchill and Franklin Roosevelt at their meeting in Casablanca decided to launch joint strategic bombings of Germany. Operation Pointblank began in the summer of 1943 and continued, with some intervals, until the end of the war. In the fall of 1943, the U.S. also began strategic bombings of cities and industrial centers in Japan. (The largest attack was carried out against Tokyo on March 9-10, 1945, in which about 100,000 people died.)

At the turn of 1944-1945, the U.S. established special commissions to assess the effects of strategic bombings of Germany (Strategic Bombing Survey, 1945). Their findings were disappointing, as the strategic bombings failed to compel Germany to stop resistance. Firstly, strategic blows had little effect on the military-industrial potential of the country. (Suffice it to say that 1944 saw a peak of defense production

in Germany during WWII.) Secondly, even at the final stage of the war, the Third Reich carried out large and successful offensive operations, such as the defeat of the Allies in the Ardennes in December 1944. Thirdly, relatively successful bombings of large cities required a sufficient fleet of bombers and were carried out without encountering serious resistance from German fighter aircraft and/or air defenses. The findings contained an indirect warning that the Allies would not be able to effectively use their air power in a war against the Soviet Union.

At the end of WWII, American military analysts concluded that small yet high-yield air bombs would make strategic bombings more successful. Atomic bombs tested in August 1945 were to become such a weapon (Trofimenko, 1976, pp. 148-149). In the mid-1940s, the U.S. developed an “atomic blitzkrieg” concept holding that the massive use of atomic weapons by the Air Force would break the enemy’s will and ability to resist. On September 15, 1945, Major-General Lauris Norstad, assistant chief of Air Staff for Plans at Army Air Force Headquarters, sent a memorandum to Major-General Leslie Groves, the head of the Manhattan Project (Norstad, 1945). The document put forward views regarding the use of the Air Force in light of the emergence of the new weapon, contained estimates of the need for atomic bombs, and asked how many bombs the U.S. had. The U.S. strategy had the following basic provisions:

1. The U.S. should be prepared to conduct offensive operations against any world power or coalition of powers.
2. It should have a sufficient number of bases and aircraft to strike at the “strategic heart” of any potential enemy.
3. The most important task of strategic aviation after the start of hostilities is the immediate suppression of the enemy’s will and ability to resist.

Experts of the U.S. Strategic Air Command (SAC), created in 1946, viewed the possibility of delivering an immediate crushing blow against the Soviet Union, using atomic weapons, in the event of war with this country. However, according to estimates of the late 1940s, atomic weapons had a limited destructive capability (in particular,

they could not destroy reinforced concrete structures) and could be delivered only by aircraft (Brown, 1978). The Korean War (1950-1953) proved that air power could be blocked by air defenses and fighter aircraft. The Soviet Union's ability to impede air force operations complicated the delivery of many Hiroshima-class atomic bombs.

The situation seemed to change after the creation of thermonuclear weapons in 1952-1953. They had unlimited power and could destroy strategic targets and be delivered by both aircraft and missiles. In view of this, the Dwight Eisenhower administration adopted a concept of "massive retaliation"—an all-out nuclear attack against the enemy's cities in the event of war (Lay, 1953). The Single Integrated Operation Plan (SIOP), which was approved in 1960 and which provided for a massive strike using 3,400 strategic nuclear warheads, served as the technical basis for "massive retaliation."

However, U.S. scenarios of total nuclear war came across three limitations: 1) the difficulty of protecting the U.S. territory from retaliatory (albeit weaker) Soviet strikes; 2) an insufficient impact of nuclear strikes on the Soviet Union's ability to quickly occupy Western Europe and East Asia; and 3) the U.S. inability to support friendly troops' actions close to Soviet borders. A war turned out to have no political goal: it could not make America invulnerable, nor could it compel Moscow to surrender. In other words, the United States did not have the capability to quickly move a strong land army to Eurasia to back up an air offensive with successes on the ground. Moreover, in the event of war, American bases in Europe and East Asia could have been seized by Soviet troops.

The Soviet Union encountered similar problems when in the late 1950s it developed nuclear missiles that could reach the U.S. territory. Even the destruction of major U.S. cities with nuclear weapons would not have led to a U.S. surrender or enabled the Soviet Union to move a land force to North America. Another factor that made this task unfeasible was the absence of a powerful ocean fleet in the Soviet Union. The only way it could use strategic nuclear weapons was to deliver a massive retaliatory strike against American cities and industrial facilities in order to inflict sufficient damage on them in

response to a nuclear strike against the Soviet Union. All scenarios of Soviet military exercises held in the Cold War period provided for offensives to the Rhine or the English Channel, but by no means to Washington or Los Angeles.

To break the strategic impasse, American experts proposed several options of a revised nuclear blitzkrieg between the late 1950s and the early 1970s (Powell, 1990):

- disarming strikes at enemy launchers;
- using missile defense systems to protect the U.S. territory;
- destroying control centers by medium-range missiles with a reduced flight time;
- delivering combined (nuclear and conventional) strikes with high-precision weapons.

Subsequent U.S. nuclear concepts (including Prompt Global Strike of the early 21st century), in fact, repeated the ideas of combined counter-force strikes of the 1970s. Their main problem was a low ability to convert the use of nuclear weapons into a political victory. Exchanges of nuclear strikes per se cannot decide the outcome of war. The destruction of key administrative and industrial centers, military infrastructure and launchers should be complemented by the transfer of ground forces to enemy territory to establish a desired order there. However, neither the Soviet Union nor the United States could do this due to: 1) maximum geographical distance between the two countries; 2) difficult terrain for warfare; and 3) the lack of technical capability for prompt transfer of millions of troops across oceans.

Modern military science is still based on the “deep operation” theory developed in the late 1920s. Its main idea is to deliver strikes throughout the depth of the enemy’s defenses, using artillery, aircraft, armored forces, and airborne assault forces in order to hit the entire task force of the enemy. Mechanized corps were the main striking force and had two objectives: to break through the enemy’s defense throughout its tactical depth and immediately throw mobile forces into battle to develop the tactical breakthrough into operational success. The geographical limit of such planning is approximately 200-250

kilometers, after which a pause is required to regroup the troops and prepare a new “deep operation.” However, the geographical distance and oceans between the Soviet Union (Russia) and the United States did not allow them to reach each other’s territory even after three to four successful “deep operations.” Neither the U.S., nor Russia, nor China could, and still can, back up the results of their nuclear strikes in “deep operations,” given the development level of their military-technical forces.

In the 1970s, Washington and Moscow tried to solve this problem by building large-tonnage cargo ships, large-capacity military transport aircraft, and amphibious units capable of autonomous operation for a certain period of time. However, these efforts only resulted in the emergence of expeditionary forces capable of defeating a weaker enemy. Their actions could only rely on massive air force and air defense cover, which means the need for stationary military bases in the regional theater of operations.

So, it was not the “nuclear deterrence” theory but the superpowers’ inability to move multimillion armies to the other hemisphere and support their actions there that guaranteed the “long peace” after 1945. At present, scenarios involving strategic nuclear strikes are a no-win option for either party. The situation may change only in two cases: if large armies can be transported across oceans and their actions are maintained for a long time; and other land powers, apart from the U.S., Russia, and China, develop powerful conventional weapons.

“LIMITATION” WITHOUT GOALS

However, there arises a key problem: Can we wage limited wars using nuclear weapons? Modern military science seems to allow this type of war. A limited nuclear war is defined as “a war involving various types of weapons, including nuclear weapons, the use of which is limited in scale, area and the type of nuclear weapons.” Theoretically, such a war is possible for a limited period of time on one or several theaters of operations, involving mainly tactical and theater (or some strategic) nuclear weapons. From a military point of view, this war may have the following objectives: 1) the protection of friendly troops

in a crisis situation; and 2) the destruction of the armed forces and infrastructure of the enemy that does not possess nuclear weapons or is unable to retaliate.

British strategists were pioneers in developing the theory of the limited use of nuclear weapons. Back in 1945-1946, they came up with the idea of using nuclear weapons on a limited theater of operations in order to stop the enemy's large-scale ground attack. Yet, a full-fledged theory of “limited nuclear war” was developed in the late 1950s by Henry Kissinger (Kissinger, 1957), Robert Osgood (Osgood, 1957), and Herman Kahn (Kahn, 1961). They believed that nuclear weapons could be used on a limited scale on one or several theaters of operations. In their opinion, such a war would:

- force the enemy to make clearly defined political concessions;
- target primarily military facilities;
- possibly lead to a conclusion with the enemy a kind of (overt or tacit) convention on the limited use of nuclear weapons.

The proponents of the “limited nuclear war” theory expressly turned to the legacy of the early modern period. Kissinger drew attention to two features of the wars waged by Louis XIV: (1) the limited use of force to achieve a definite political objective; and (2) a commitment to military actions having as little impact on the civilian population as possible. Osgood believed that the experience of the “wars of succession” in the 18th century could come in handy in the nuclear era: limited use of tactical nuclear weapons would force the enemy to sit down at the negotiating table. Kahn's concept of escalation was also based on the 18th century campaigns. His concepts of “escalation control” and “escalation dominance” meant that the demonstration of U.S. military superiority would force the enemy to negotiate rather than turn a limited clash into a total war.

These ideas formed the backbone of the 1961 U.S. concept of “flexible response,” based on three premises: (1) it is possible to use nuclear weapons against a limited range of targets to induce the enemy to make a political compromise; (2) conventional warfare between nuclear powers is admissible (“a high nuclear ceiling”); and

(3) emphasis is shifted to limited military conflicts in regions. The latter implied the possibility of engaging the enemy in a “proxy war” through trusted allies.

Soviet military thought was moving in a similar direction. Officially, the Soviet Union rejected the concept of “limited nuclear war.” However, in the 1960s, Soviet military journals were full of debates on whether it was possible to keep a future military conflict at the pre-nuclear level. Soviet military experts, like their U.S. counterparts, agreed that nuclear weapons could be used on a limited scale and military actions could be confined to one or several theatres of hostilities.

Theoretically, given the experience of Hiroshima, Nagasaki and exercises at the Totskoye proving ground and in Nevada, a limited use of nuclear weapons was quite possible. The main problem, however, was the absence of political goals. What could such a war have given to Soviet and American leaders? Its first consequence would have been the collapse of the world order which ensured privileged positions for both the U.S. and the Soviet Union due to their status as permanent members of the UN Security Council. Even the seizure of some territories, such as West or East Germany, would not have compensated for these costs, as these territories would have needed to be restored at the cost of great financial and human losses.

There was no mechanism for escalating this kind of conflict. How could a limited war begin? There were no disputed territories within the bloc structure of the world. Theoretically, a conflict between the two Germanies could have served as the trigger. However, the German issue was stabilized by a complex of international agreements in the early 1970s. In peripheral conflicts, the superpowers used allies and conventional weapons. In Indochina, Nicaragua, Angola, Mozambique, and Afghanistan, there was simply no highly protected infrastructure that would require the use of nuclear weapons. According to Cold War doctrines, all scenarios for using tactical nuclear weapons were preventive-defensive. The characteristics of tactical nuclear weapons also allowed using them to repel enemy attacks, rather than prepare one’s own offensive. In the mid-1970s, the Soviet Union and the U.S. simultaneously came to the conclusion that tasks assigned to nuclear

weapons could be accomplished by conventional high-precision weapons. Nuclear weapons were not used because political elites lacked not only motives but also rational scenarios for their use.

DEPLETION OF “LONG PEACE”

Historical experience allows simulating a situation in which the “long peace” ends. This requires not a super new weapon but changes in elites’ political motivation. The following conditions are needed for a total war to begin:

- disappointment of elites over the current world order;
- the emergence of downright revisionist states seeking to break the rules of the game;
- consent of political elites and the public to solve problems by means of total war (that is, the emergence of a “nation of war”);
- availability of technical capabilities for crushing the enemy, that is, for destroying its armed forces and occupying its territory to establish a desired order;
- the existence of escalation mechanisms—crisis spaces where war can begin (as, for example, the Balkans on the eve of World War I, or Eastern Europe on the eve of World War II).

The contemporary world does not have all the prerequisites yet for the “long peace” to collapse. However, at least three of them are already present: the disappointment of elites over the current world order; the growing belief among elites and the public that a major military conflict is possible; and the emergence of escalation mechanisms in the form of crisis spaces. There are no obvious revisionists (“nations of war”) in the world yet, nor military-technological breakthroughs that would make total wars possible. However, there are more and more reasons for the leading players (the U.S., Russia and, possibly, China) to enter into a major military conflict.

The U.S. bid to build a new world order, made back in 1990 (Bush, 1990), requires accomplishing three tasks: abolishing the UN Security Council in its present form; dismantling Russia’s military-industrial potential; and securing international recognition of the right to intervene

in intrastate conflicts. For the past quarter century, the Americans have been creating a series of precedents in a bid to establish the concepts of “humanitarian interventions,” “regime change” (with the subsequent conviction of leaders of sovereign states), and “forced disarmament” of certain countries. But without solving the “Russian problem,” the American global project will not succeed (Fenenko, 2009).

Russia, in turn, is doing its best to slow down the American advance. Back in 1997, the leaders of Russia and China signed the Declaration on a Multipolar World and declared their non-recognition of a “unipolar world” (Declaration, 1997). Moscow and Beijing made several attempts (some of them successful) to win over some EU countries. The reincorporation of Crimea into Russia and the subsequent conflict in Ukraine were viewed by the White House as the beginning of a revision of the results of the Soviet Union’s breakup. Meanwhile, the entire ideology of the present world order was built on the recognition of the inviolability of the results of 1991. Tensions intensified after the success of the Russian campaign in Syria in 2015-2018, which demonstrated that the U.S. had lost the monopoly on operations far from its borders and with the use of space information systems.

The situation is a far cry from the Cold War when each superpower had a world of its own: the camp of capitalism and the camp of socialism. The 21st century is witnessing a rivalry between two global projects: “American leadership” and a “multipolar world.” Great powers cannot just “retire to their homes” as they did in the 1960s, as their projects are connected to their vital interests. Each party needs a major success in this confrontation. The U.S. needs to restore the position of the globalization project (possibly slightly modified), which has lost much of its attractiveness over the last ten years, and its own hegemony, while Russia and China need victories that would demonstrate the success of a multipolar world.

Problems of domestic politics may give an additional impetus to military confrontation. Firstly, the consolidation of elites requires the image of not just an enemy but of a realistic enemy that the population would take seriously. Secondly, there is a growing apathy of political systems in all great powers: fewer and fewer citizens take instructions

of their governments as a guide to action. Thirdly, long-term economic stagnation in all leading countries also requires some major upheaval that would make people forget about negative experiences.

The concept of such a conflict took shape in the 1990s (Strategy, 1995). It was then that the United States began to assert the idea of “coercion”: forcing the enemy to accept certain political conditions through a lightning military operation—the destruction of a set of targets. This option could be tested in a conflict with other nuclear powers on the territory of a third state. Simultaneously, Russia developed a concept of “intended damage”—destroying some targets to force the aggressor into negotiations. The war in Syria, with its border situations (ranging from using drones against Russian bases to eliminating instructors and contractors of private military companies), may be an attempt to test such conflicts. It is noteworthy that the United States, in unison with the Syrian war, is widely discussing ways to overcome advanced enemy air defenses.

Conditions are also developing for conducting major regional wars. Over the past ten years, there have emerged at least two conflict areas between Russia and the United States—the Baltic-Black Sea region and the Middle East—where the parties are deploying military infrastructures in close proximity to each other. In the future, Afghanistan may become a third such area, where U.S. bases are potential targets for Russian retaliatory strikes if Russian facilities are destroyed somewhere else. The U.S. and Russia are actively developing, and now deploying in crisis regions, various types of air defense systems and regional missile defense systems. Washington’s plans to recreate a fleet of medium and shorter-range missiles fit into this logic. They are an ideal means for taking hostage as many regional objects as possible.

Theoretically, one can imagine a limited war between great powers, in which nuclear weapons will not be used, just as chemical weapons were not used in World War II.

The key question of the 21st century strategy is: Can nuclear weapons be used in some other way, beyond the “air power” concept? There have been no such strategies so far. Yet, the past twenty years have seen new interesting studies in this area.

- *“Minimization” of nuclear weapons.* In the early 2000s, publications appeared in the United States on the creation of “mini-nukes” with a yield of one to five kilotons (Caldicott, 2004). This weapon can theoretically be used to destroy hard and deeply buried targets with minimal environmental consequences. Nuclear weapons will repeat the evolution of artillery in the early modern period, from heavy siege weapons of the Hundred Years’ War to light quick-firing guns of the 16th century.
- *Combination of tactical nuclear weapons and infantry actions.* Similar experiments were conducted during military exercises in the United States and the Soviet Union back in the 1950s. However, this idea was revived in the U.S. “joint operations” concept of 2005. It provides for combining the use of rapid reaction forces and local nuclear strikes (Doctrine, 2005). There has been no data so far testifying to the continuation of these studies, but these may be secret.
- *“Weapon of genocide”.* Russian expert Andrei Kokoshin back in 2003 wrote that nuclear war may have a political goal as a war waged by a nuclear state against a non-nuclear one (Kokoshin, 2003, p. 3). In this case, nuclear weapons turn into weapons of genocide of certain peoples. Perhaps, an ideal solution to this problem would be “a light version of nuclear weapons,” such as neutron bombs which destroy organic matter and inflict minimal damage on infrastructure. Genocide, the scale of which in the first half of the 20th century was limited due to a low technological level, is now becoming easier to commit.

There arises a seemingly unusual perspective. It is not nuclear weapons that help maintain stability; rather, a gradual decay of the “long peace” will raise the need for the transformation of nuclear weapons, perhaps, into some other type of weapon. Modern types of nuclear weapons are not suitable for large regional wars. Therefore, they may either die out (which, in fact, has happened to chemical weapons, which are now being destroyed) or adapt to new conditions and become an integral part of future regional conflicts. Nuclear weapons already act not so

much as a guarantee against war as a guarantee that your enemy will not use them against you—like chemical weapons in World War II.

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