**Analysis of the new forms of future wars and their influencing factors**

Source: People's Forum Academic Frontiers, May 2021

Author: Hong Yuan

Editor: Zhang Xiao

2021-08-11

<https://www.rmlt.com.cn/2021/0811/621420.shtml>

【Abstract】From infectious diseases to climate change, from artificial intelligence to potential financial crises, the destruction and turmoil brought to the world will be the main contradictions that mankind will face in the future. Existing contradictions and future challenges overlap with each other, and the ability of state actors and international organizations to cope with challenges shows inadaptability and imbalance. In the future, state actors in the world are likely to engage in more intense competition and even war in multiple fields. The future form of war mainly depends on the development trends of nuclear, conventional and high-tech military power of military superpowers, geopolitical development trends, and the widespread use of artificial intelligence in the military. Of course, the above three trend changes do not mean that a large-scale, mass-destructive world war will definitely occur in the future.

【Key words】superpowers, geopolitics, artificial intelligence, new forms of war

【Chinese Library Classification Number】E0 【Document Identification Code】A

【DOI】10.16619/j.cnki.rmltxsqy.2021.10.009

**Hong Yuan is a researcher at the Institute of American Studies, Chinese Academy of Social Sciences. His research interests include arms control, great power relations, strategic military, war and peace. His major works include New Issues Caused by Nuclear Proliferation (paper), Research on the Basic Views of Marxist Classical Writers on War and Peace (co-authored), and Analysis of the Second Amendment to the U.S. Constitution: Social Division under the Right to Own Guns (paper).**

The spread of COVID-19 in countries around the world has revealed the fragility of the current international system and exchanges, and has shown the inherent risks of high interdependence among countries. From infectious diseases to climate change, from artificial intelligence to potential financial crises, the destruction and turmoil brought to the world will be the main contradictions facing mankind in the future. These contradictions and challenges will repeatedly test the wisdom and resilience of state actors and the international governance system, and the destructive power brought by these challenges is likely to exceed the pressure resistance of the existing international system and the operating model of the international community. The existing contradictions and future challenges are superimposed on each other, and the ability of state actors and international organizations to cope with challenges is not adaptable and balanced. In the future, state actors in the world are likely to compete more fiercely in multiple fields, even to the point of war.

Since the beginning of the new century, the international community has experienced three dramatic changes: the terrorist attacks that first occurred in the United States, the subprime mortgage crisis, and Trump's "New Deal". Even more severe is the outbreak of the COVID-19 pandemic in multiple locations around the world in a short period of time, forcing the international community to take measures to restrict exchanges and enter a state of "self-isolation". Like the Spanish flu in 1918, the global pandemic of the COVID-19 pandemic will be the fourth dramatic change in the international community this century. These four dramatic changes will undoubtedly have a profound impact on the direction of international politics and economy. As General Secretary Xi Jinping pointed out, the world today is in a "period of turbulence and change", "economic globalization has encountered headwinds, protectionism and unilateralism have risen, the world economy has been sluggish, international trade and investment have shrunk significantly, and the international economic, scientific, cultural, security, and political structures are all undergoing profound adjustments." [1] Against this complex international background, the military power development trends of military superpowers, geopolitical development trends, and the large-scale application of artificial intelligence in the military will reshape the concepts and means of future wars and the landscape of future battlefields.

The development trend of military power of military superpowers will dominate the future war

The Marxist view of war holds that war originates from the private property system. Since human society entered modern society, the formation of wars has often resulted from conflicts between major powers, and peaceful coexistence between major powers is often a necessary condition for the international community to be in a peaceful period. [2] Sorting out the military development trends of the world's military superpowers today will help explore the form of future wars. Since World War II, especially after the end of the Cold War, the United States has been the world's only military superpower. In the late 20th century, with the disintegration of the Soviet Union, the United States, as the only superpower, dominated and maintained the world order defined by the United States. For more than 20 years after the end of the Cold War, the United States' relatively strong military strength dominated the peaceful state between major powers.

After entering the 21st century, the international political landscape has also ushered in a period of rapid change. Russia is still a crucial factor that cannot be bypassed in the evolution of international politics and military. Although its economic strength is limited, Russia has inherited the mantle of the Soviet Union and is still one of the most important countries in the world in terms of military strength and international political influence. The resolution of many international issues and international disputes still cannot be separated from its participation. Russia's influence on the international system depends not only on its military strength, but also on the goals of its foreign strategy. With military capabilities that exceed its economic strength, Russia's re-expansion and challenge to the international system will also have a crucial impact on the development of future wars. Therefore, to explore the future form of war, it is necessary to analyze the development trends of the military power of the military superpowers, the United States and Russia.

The development trend of US military power. The most direct way to measure a country's military strength is to consider the size of its conventional forces. According to this standard alone, the US military strength is obviously not as strong as it was at the end of the Cold War, and it may become even weaker in the future. However, it is undeniable that the improvement of military quality can often greatly increase the lethality of combat units. As US Navy Admiral James Stavridis (who served as the 16th Supreme Commander of NATO) said, "Victory depends largely on who has the best technology." [3] Therefore, the disadvantages brought about by the reduction of the conventional size of the US military during the same period are often offset by the improvement of military quality. However, quality advantage cannot completely replace quantity advantage. Even the most powerful high-quality military forces can hardly exceed human limits and maintain strategic presence in multiple regions. The 2018 US National Defense Report pointed out that the US military is in a critical period of getting rid of strategic contraction and the US military competitive advantage is shrinking. At the same time, the US Department of Defense pointed out that strategic competition with major powers rather than fighting terrorist forces has become the main concern of US national security. [4] The change of the US's imaginary enemy in future wars is also an inevitable prerequisite for the change of the US military development path. In recent years, the size and organization of the U.S. military have changed, but these changes are not enough for the United States to easily win future wars. Specifically, the trend of changes in the U.S. military power is reflected in the following aspects.

First, the conventional military strength of the United States is on a downward trend. The most direct manifestation of the change in the conventional military strength of the United States is the total number of active-duty U.S. military personnel. On the one hand, with the end of the Cold War and the easing of tensions on the Korean Peninsula, the United States began to reduce its military strength and began to enjoy the "peace dividend" brought about by military spending cuts. After about ten years, the number of active-duty U.S. military personnel dropped from about 2.1 million in 1990 to about 1.4 million in 2000, a drop of about 28%. After the September 11 attacks in 2001, the United States began to send more soldiers to participate in wars in Afghanistan and the Middle East. With the withdrawal of most U.S. troops from Iraq in 2011 and the withdrawal from Afghanistan in 2012 (completed in 2021), the total number of active-duty military personnel decreased again. It was not until Donald Trump entered the White House in 2017 that the total number of active-duty U.S. military personnel began to increase. By 2020, the total number of active-duty U.S. military personnel was about 1.34 million. Overall, the U.S. military is still on a downward trend in terms of size. [5]

On the other hand, the number of weapons and equipment in service in the US military is also on the decline. During the Cold War, the main task of the US standing military was to respond to the threat from the Soviet Union with high-speed mobile large-scale combat capabilities. After entering the new century, this task has changed to counter-terrorism and intervening in regional conflicts. Specifically, the US Army had about 2,200 main battle tanks in 2017, a decrease of nearly 85% from 15,700 in 1990. The total number of main battle ships owned by the US Navy was about 600 in 1990, and the total number of ships in 2017 was only about 297, a decrease of about 50%. Similarly, in 2017, the number of manned combat aircraft in the US Air Force was less than half of that at the end of the Cold War. [6] The decline in the total number of active US military personnel and military equipment is largely due to the end of the Cold War and the adjustment of the US military strategy, that is, the main imaginary enemy of the US military has changed from the Soviet Union, the superpower during the Cold War, to a secondary regional opponent after the end of the Cold War.

Second, US military spending remains stable. Most of the US defense budget is used to pay for military personnel salaries and benefits, military operations, and the maintenance and upkeep of weapons and equipment. First, the additional funding obtained by the US Department of Defense through continuing resolutions has to some extent made up for the losses caused by the budget cap since 2011. For example, the US Department of Defense plans to increase the number of strategic missiles by 10 F/A-18E/F fighters, 3 P-8A anti-submarine aircraft, 1 Arleigh Burke-class destroyer and refueling ship, and strategic missiles in fiscal year 2019, as well as an additional 22.8% of research, development, testing and evaluation (RDT&E) funds. Under the pretext that "great power competition is now the primary focus", the US Department of Defense requested Congress to provide $740 billion in the fiscal year 2018 continuing resolution in its fiscal year 2019 budget, equivalent to a real increase of 10% in defense spending over the previous year. [7] However, constrained by domestic spending priorities and the ever-widening budget deficit, the continued expansion of US military spending is unsustainable in the future.

Secondly, US military spending is not mainly used to improve the combat capability of the US military and to prepare for future wars. The total amount of expenditure authorized by the US Department of Defense is mainly composed of basic budget authorization, enacted war and supplementary funds, overseas contingency operations (OCO), emergency funds stipulated in Section 18 of Part B of Public Law 115-96, and supplementary amounts from continuing congressional resolutions. After the end of the Cold War, US defense spending was significantly reduced. However, the total amount of expenditure authorized by the US Department of Defense in 2018 was as high as US$679.26 billion, nearly 2.3 times the total amount of expenditure authorized by the US Department of Defense in 1990 of US$291.35 billion. [8] Similarly, between 2003 and 2013, the United States launched two anti-terrorism wars in Afghanistan and Iraq. The direct impact of its high involvement in overseas conflicts on the United States was that its defense spending was higher than that during the Cold War. In fact, US military spending is mainly used for the salary and welfare of military personnel, overseas military operations, and the maintenance of military equipment. Relatively speaking, the funds used for military procurement and research, development, testing and evaluation (RDT&E) are very limited. In fiscal year 2019, the expenditure on the first two was as high as $421.9 billion, while the expenditure on the latter two was only $244.7 billion. The latter two are the expenditures that the US military needs most to restore its conventional combat capabilities and prepare for future wars. [9]

In general, since the end of the Cold War, the size of the US military's conventional forces has been shrinking, both in terms of total personnel and total arms and weapons. Although the US Department of Defense has been striving to restore its pre-2019 military strength since 2019, its defense spending has remained at a relatively stable level due to domestic factors. In addition, the main part of the US defense spending is used for the salaries and benefits of military personnel and the maintenance of overseas operations and equipment and weapons, and the research and development spending to ensure the enhancement of the US military's future military strength has not increased significantly. From the perspective of a long input-output cycle, the US Department of Defense's wishful thinking of maintaining the US military's absolute advantage in the world through innovation and improving the quality of combat units is difficult to achieve, which will also limit the US's ability to deal with future wars.

Trends in Russian military power and the status quo of military reform. When the Soviet Union collapsed in 1991, the Russian Federation inherited its considerable military power. After the end of the Cold War, the realities of Russia’s social and financial environment soon forced Russian leaders to attempt institutional reforms. In the 15 years after the end of the Cold War, the Russian government repeatedly attempted to reduce the size of the army and promote its modernization. However, due to domestic political disputes and financial constraints, the Russian government’s reform efforts all ended in failure. At that time, the Russian military was bloated, the management system was outdated, the personnel were undertrained, the weapons and equipment were rudimentary, and a large number of equipment were scrapped. Since Putin came to power, Russia has been seeking to modernize its military and has carried out several large-scale interventions abroad. After the 2008 Russian-Georgian war, Russia formulated a military reform plan to establish permanent combat-ready forces, improve command and control systems, strengthen military personnel training, update weapons and equipment, and reform military personnel welfare. This marked the most thorough reform of the Russian military since 1945. [10]

Russia's defense budget and national armaments program. Russia's military spending has increased significantly over the past 20 years. Between 2010 and 2019, Russia's military spending increased by 30% in real terms, and by 175% between 2000 and 2019. [11] Although Russia's military spending fell in 2017 and 2018, it rose again in 2019 to $63.6 billion. According to a research report by the SIPRI Arms and Military Expenditure Programme, Russia's annual military spending increased from $49.2 billion in 2010 to $79 billion in five years. From 2010 to 2019, Russia's annual military spending averaged $63.6 billion, accounting for about 4% of its gross domestic product (GDP). [12] In order to maintain its military strength, the Russian government began to formulate and promulgate a national armaments program (GPV) to outline its defense spending priorities every 10 years. The 2020 State Armaments Program (GVP2020) states that Russia's long-term defense spending focus is to increase the overall share of modern equipment in the Russian military to 70% by 2020. The Russian government's latest 2027 State Armaments Program states that Russia will increase its total defense spending to approximately $330 billion over the 10 years from 2018 to 2027, accounting for 3% to 4% of GDP. [13] Currently, Russia's military forces include ground forces, air and space forces, navy, special operations forces, and coast guard. Among them, the ground forces currently have 11 combined arms armies, 1 tank army, and 4 army corps. The Russian air and space forces have fighters, spacecraft, and tactical bombers of various types and capabilities. The Russian military command system consists of five major military districts and joint operations commands across the country. The National Defense Management Center in Moscow is the central command center of the Russian military.

In 2009, the Russian Federation began to carry out a comprehensive reform of the Russian army. First, the Russian Federation re-divided the national military command structure, narrowed the scope of military control, reorganized the command system of military forces, enhanced joint combat capabilities, abolished the establishment of army, division and regiment, and established a new three-level command structure around military district, combat command and brigade. By 2008, the Russian army had 203 divisions, and only 85 brigades were retained when the reorganization was completed in December 2009. Secondly, streamline the size of the troops and improve the quality of Russian military personnel. After the Russia-Georgia war, the Russian Federation reduced the number of military personnel from 1.23 million in 2008 to 1 million, of which most of the military personnel cut were officers, from 350,000 to 150,000. At the same time, the Russian government began to train a group of skilled non-commissioned officers to take up leadership positions in technical specialties such as high mobility, reconnaissance and transportation. Finally, invest funds to update weapons and equipment and enhance the modernization level of the Russian army. In 2006, Russian President Vladimir Putin stated that from 2007 to 2015, Russia would invest the equivalent of $189 billion in the modernization of its armed forces, of which 45% would be spent on weapons systems. After its poor performance in the Russia-Georgia war, Russia's military spending increased significantly, with a 27% increase in 2009 alone. [14] In December 2010, Putin announced a $698 billion procurement plan aimed at upgrading or renewing 11% of Russia's military equipment each year, with the ultimate goal of increasing the proportion of modern weapons to 70% by 2020. [15] In this reform, Russia has upgraded its nuclear weapons and delivery systems to a certain extent. The "Vanguard" intercontinental ballistic missile with a range of 12,000 kilometers can be called the most important weapon. Its flight speed exceeds Mach 27. Since it begins to maneuver when approaching the target at the end of its flight, it is basically impossible for existing anti-missile systems to intercept it, which brings serious interference to the missile defense systems of potential enemies. The Russian S-500 "Prometheus" is the most advanced air defense missile system in the Russian Federation. It is a fifth-generation hypersonic weapon and equipment that can destroy low-orbit satellites and intercontinental ballistic missiles at an altitude of 250 kilometers. It is the only air defense system in the world that can intercept hypersonic targets, and the S-500 can guide and intercept up to 10 targets at the same time. The Russian army is also constantly equipped with fifth-generation fighters and new ships, improving digital communication and intelligence capabilities. The Russian Air Force tested the stealth heavy "Hunter" drone, making it a "loyal wingman" for the fifth-generation heavy air superiority fighter Su-57; in 2020, the Russian Navy received 6 new submarines including the "Kazan" nuclear attack submarine, creating the highest record of the Russian Navy's annual receipt of nuclear attack submarines since 1992. Among them, the "Belgorod" nuclear submarine will be equipped with the "Poseidon" nuclear-powered torpedo, with an almost unlimited range (allegedly up to 10,000 kilometers) and can be equipped with a 2 million-ton nuclear warhead.

Russia’s military reform has not been smooth sailing. From 2009 to 2014, the surge in Russian oil and gas prices brought a lot of cash, and the Russian government promised to spend a lot of its growing gross domestic product (GDP) on military spending. Russia’s military spending also rose from 3.54% of GDP in 2010 to 4.84% in 2015, and then fell to 4.17% in 2017. [16] At present, it is clear that Russia’s performance in the military conflicts in Syria and Ukraine has, to a certain extent, demonstrated the effect of Russia’s military reform. On October 7, 2015, a Russian corvette in the Caspian Sea launched 26 sea-based cruise missiles at Syrian anti-government forces, with a strike range of 2,300 kilometers, exceeding the highest record of 1,800 kilometers in the Soviet campaign in 1945. However, the shortcomings and major challenges facing Russia in its military reform are still financial issues. Since 2014, the plunge in oil and gas prices and economic sanctions have caused the Russian economy to be sluggish. In the current economic environment, it remains to be seen whether Russia has the financial resources to advance its military reforms while intervening in the conflicts in Syria and Ukraine.

It is undeniable that Russia's comprehensive military advantage, especially in land warfare with neighboring countries, will still far exceed NATO for a period of time. Since the 21st century, major European countries have abandoned the construction of heavy mechanized forces in order to win anti-terrorism operations. On the contrary, in future wars, Russia still retains the ability to conduct joint military mobile operations; Russia's integrated air defense system has the ability to intercept fourth-generation NATO aircraft flying over Eastern Europe in the early stages of a conflict; Russia's vast geographical advantage is still obvious, and it can quickly mobilize sufficient armed forces in future wars and win the war before the United States and NATO mobilize and deploy the forces needed for effective defense. It can be foreseen that in the future, if Russia continues to vigorously promote military reforms, or if there are negative changes in Russia's domestic political landscape, Russia's form and dominant position in future wars will also undergo corresponding positive and negative changes.

**Geopolitical Development Trends and Future War Forms**

As the military strategist Carl von Clausewitz said, war is the continuation of politics by other means. [17] Future wars will still depend largely on geopolitics. Since the beginning of the new century, terrorism, conflicts between small countries and proxy wars have been the main components of world wars. Looking ahead, the former may still be the main factor affecting the form of future wars. After the first decade of the new century, especially after Trump entered the White House, the international order declined, the international security environment became more turbulent and full of uncertainty, and the global geopolitical dynamics tended to be chaotic. Although the world today is still in a dynamic cycle of no war between major powers, with the polarization of American politics, the rising uncertainty in Europe and the continued turmoil in the Islamic world, the future geopolitical development trend of continental countries, maritime countries and marginal countries around the world is not optimistic. The world is entering an era of both strategic and geopolitical instability.

Polarized American politics. As the most powerful country after World War II, the United States participated in the formulation of the post-war international order and the definition of the code of conduct between countries. After the arrival of the "unipolar moment", the United States has become the actual leader of the international order and, to some extent, the "world policeman". In short, the United States is at the center of international affairs. As the US government takes "America First" as its governing slogan, isolationist sentiment has once again enveloped the American political arena, and the role of the United States in international affairs has become increasingly obvious. The current US Indo-Pacific strategy is gradually moving away from the ocean-European continental collective defense concept it determined after World War II. Regardless of the future direction of US domestic politics, the changes that have taken place are strategic and will have a profound impact on the future war pattern.

Historically, American domestic politics has developed in cycles, with alternating cycles of political unity and political division between the Democratic and Republican parties. During World War II, the two parties in the United States strengthened cooperation, and partisan disputes tended to weaken. At this time, American politicians showed confidence in American politics and rejected "extreme" political forces such as the right wing, the left wing, totalitarianism, elitism, and authoritarianism. Political unity has enabled Americans to reach a consensus on whether to use military force to achieve certain goals. However, during World War II, domestic political unity in the United States did not last until the end of the war. During the Vietnam War, with the disappearance of conservative Southern Democrats and liberal Northern Republicans, the ideological boundaries between the Democratic and Republican parties became increasingly clear. This divergence in concepts and ideologies has continued to this day.

First, there are serious differences in foreign policy. Polls on foreign policy are often a measure of the degree of differences. A Pew Research Center report shows that since 1994, the differences in foreign policy issues between Republican and Democratic middle-class voters have become increasingly different. Among voters with higher political participation, the differences in foreign policy agendas have become increasingly obvious. [18] Second, the polarization of American politics has continued to the field of defense budget. In 2017, 62% of Republicans believed that the United States spent too little on defense, while only 15% of Democrats held the same view. However, in 2012, only 42% and 10% of Republicans and Democrats believed that the United States spent too little on defense. [19] It can be said that the political differences between American parties are widening. The US defense budget has also often become a topic of boring partisan struggles. Third, the American public questioned the role of military means in maintaining international order. In 2011, the American public had huge differences in views on whether to send troops to Libya, with 61% of Americans disagreeing (38% of whom strongly opposed) to sending ground troops to intervene in the Libyan conflict. In 2017, when the Trump administration launched sea-based cruise missiles to carry out a punitive strike against Syria, about 57% of Americans approved, but only 18% were willing to send ground troops to carry out the mission.[20]

The polarization of American politics will not be reversed in a short period of time. The current political system in the United States does not allow the emergence of a third party, so the party structure will not change significantly. The polarization within the two parties in the United States has also exacerbated the continuous emergence of deadlocks in the operation of American politics to a certain extent. The polarization of American domestic politics is manifested in its foreign relations as a serious isolationist tendency. The continued party deadlock will also weaken the advantages of the US military, especially in the competition with major powers. Therefore, in the future, when resolving international disputes, it is more likely to turn to physical strikes easily due to domestic political polarization. On the one hand, if American politics continues to polarize, it may lead to a substantial strategic contraction of the United States worldwide, and then its absence in some regions, resulting in a power vacuum in key geopolitical regions, making regional stability unsustainable; on the other hand, due to the increase in defense spending costs and the relative reduction in defense budgets, US military operations may rely more on advanced technology and high-end weapon systems, which is the key to the superficiality of the war process and the difficulty in winning.

Uncertainty about European risks. Over the past decade, Europeans have become increasingly dissatisfied with the European Union. A recent report by Chatham House found that while 71% of European elites believe that the EU has benefited them, “dissatisfaction is growing within the public, with a large portion of the public having a negative view of the EU, wanting to see it return some power to member states, and anxious about the impact of immigration.” [21] Only 34% of the public across EU member states believe that they have benefited from joining the EU, and 54% believe that their country was a better place to live 20 years ago. [22] The main reasons for this change are the lingering economic impact of the Eurozone crisis and subsequent austerity measures, as well as the impact of four geopolitical factors: immigration, terrorism, political instability, and Russia.

In terms of European immigration. Since 2015, a large number of war refugees have poured into Europe. The surge in the number of immigrants has posed a huge security threat to Europe's economy and society. EU member states have not reached a consensus on how to deal with the immigration issue, and the immigration crisis has begun to emerge. Data shows that in 2015 and 2016, 2.5 million people applied for asylum in EU countries and 2.2 million people were illegally residing in Europe. [23] On January 1, 2017, the number of people living in EU member states with non-member citizenship was 21.6 million, accounting for 4.2% of the population of the 28 EU countries. [24] At present, although the immigration wave in Europe has subsided, the political division caused by the immigration wave still exists. EU member states are divided into those that support immigration and those that do not accept immigration. Due to the lack of effective response to the immigration crisis, political turmoil in many EU countries has intensified. The conflict over immigration issues once brought a governance crisis to German Chancellor Merkel's ruling coalition.

In terms of terrorist attacks, the immigration crisis and terrorism go hand in hand and have also heightened political tensions across Europe. The threat of terrorism in Europe mainly comes from homegrown jihadists, but 59% of the European public say that the immigration crisis will increase the threat of terrorism in their countries. [25] Between January 2016 and April 2017, immigrants launched at least four terrorist attacks in Europe. Terrorism has also undermined the European public's confidence in their respective governments and further divided European countries. Multiple opinion polls have shown that as many as 82% of the EU public believe that their governments are not adequately and effectively dealing with the problem of terrorism. [26]

In politics, far-right nationalism is on the rise across Europe. The governments of Poland, Hungary, Austria and Italy emphasize national sovereignty and oppose EU intrusion into their internal affairs. Eastern European countries also claim that they are vilified by the EU as "backward, authoritarian, neo-fascist and nationalist", and that there are many contradictions among EU member states. Nationalist and populist parties have used EU resentment to win elections across Europe. Germany's right-wing party won 94 seats in the Bundestag in September 2017; Austria's right-wing Freedom Party joined the ruling coalition in October 2017; conservative nationalist parties have been in power in Poland, the Czech Republic and Hungary. These traditional right-wing political forces have had a significant impact on the direction of European politics. Most notably, in June 2016, the far-right UK Independence Party promoted a referendum that led to the decision of the maritime country Britain to withdraw from the EU, further leaning towards American maritime hegemony while splitting the core interests of the EU's land power countries.

Looking ahead, European countries may become more divided and more focused on internal issues. Despite the recent decrease in the number of war refugees and immigrants, the crisis brought by immigration will continue to affect Europe. With the return of extreme terrorists to Europe, the threat of terrorism will continue to exist in the next five to ten years, and Europe will continue to face the challenge of monitoring cross-border terrorist activities. In the future, with the triple effects of identity politics, the immigration crisis and terrorism, the support gained by nationalist and populist parties as far-right forces in Europe may increase significantly, which will lead to more countries trying to leave the EU. The EU may face the risk of disintegration, and the possibility of war caused by the accumulated contradictions of European division is significant.

The Islamic world continues to be turbulent. Since the September 11th incident in 2001, the Islamic world has been shrouded in turmoil and has been brewing regional conflicts. In the past 15 years, the constant conflicts between the West and Islamic countries have also made Islamic terrorism continue to exist. After the United States launched the war on terror, it not only failed to eliminate the religious extremist forces in Iraq, but also made Iraq a breeding ground for terrorists such as the "Islamic State". The chaotic situation among various sects in the Islamic world has also intensified the struggles between and within countries of different sects in the region. In Syria, since 2012, the Iranian government, which is also a Shiite, has provided at least $15 billion in military aid to the Syrian government forces; in contrast, the Saudi government, which is also a Sunni, provides hundreds of millions of dollars in funds and weapons and equipment and other in-kind aid to the Syrian opposition every year. In addition, the shadows of Iran and Saudi Arabia can also be seen in the increasingly bloody "proxy war" between the Yemeni government forces and anti-government forces. The competition among major powers in the Islamic world has provided the necessary material conditions for the continued turmoil in the Islamic world.

It can be predicted that the competition between various sects and major powers in the Islamic world will be difficult to ease in the short term, and its turmoil will exist for a long time, and even its instability will suddenly accelerate. The two anti-terrorism wars launched by the United States in Afghanistan and Iraq were not as successful as the United States claimed. On the contrary, the US military was restrained, and the US national strength and soft power continued to suffer losses. Not only that, the withdrawal of the US military after its failure has created a certain degree of power vacuum in regional strength, which has given various radical Islamic organizations an opportunity to continue to stir up trouble in the Islamic world, further exacerbating the instability of the Islamic world. In the future, on the one hand, with the changes in domestic politics in various countries in the Islamic world, radical Islamic organizations may make a comeback again; on the other hand, after the development in recent years, the combat organizations, weapons and equipment, financial funds and combat experience of radical Islamic terrorist organizations have been accumulated to a certain extent. These organizations and regimes are not only difficult to contain in the power vacuum, let alone completely eliminate.

In addition, at the level of the Middle East and West Asia, the regional balance of power is gradually disappearing, and with the prominent conflicts between countries of different sects, there is a possibility of large-scale military conflicts in the Islamic world in the future. On the one hand, with the withdrawal of US troops, the Iraqi government may face the difficulty of appeasing various forces and maintaining the stability of the country; Syria has also become a battlefield for the secret struggle of various forces at home and abroad; Iran has also demonstrated strong regional influence. On the other hand, as the influence of regional power Iran in the region continues to increase, Saudi Arabia and Israel will also strengthen their awareness of prevention, and the conflict situation between regional powers will continue to ferment. At the same time, Russia has not only returned to the Middle East after the Cold War by continuously intervening in the Syrian civil war, but also increased its military presence in the region. The possibility of the Middle East becoming the focus of war between the world and regional powers in the future still exists.

**The application of artificial intelligence in the military and its impact on future war forms**

Over the past decade, the rapid development of artificial intelligence (AI), along with related technologies such as quantum computing, big data, the “internet of things”, and machine learning, has far exceeded the predictions of experts in the field. AI enables computers and other automated systems to perform tasks that historically required human cognition and that we would normally think of as requiring human decision-making. Increased computing power, the availability of large data sets and streaming data, and advances in machine learning algorithms have made it possible for the development of AI to revitalize industry and create new economic sectors. Military applications of AI will significantly change the military power of various countries in the next decade. Scientists in the field of computer science began research on intelligent machines in the early 1950s, and in the past 20 years, AI technology has made great progress and has been widely used in various fields, including the military. In the next decade, the rapid development of autonomous weapons, integrated circuits, big data analysis, robot warriors, intelligent drones, and deep neural network technologies will completely change the future form of war and battlefield landscape.

The current status of artificial intelligence. In 1950, British computer scientist Turing first mentioned artificial intelligence in "Computers and Intelligence". In 1997, after the "Deep Blue" artificial intelligence system developed by IBM in the United States defeated the chess champion, artificial intelligence ushered in the first milestone in its development. By 2016, the Alpha Go artificial intelligence system of Google, an American technology company, defeated the world Go champion with a score of 4:1, and artificial intelligence technology gradually moved towards the application stage. Since the 1990s, artificial intelligence has made significant progress in the fields of computer vision, speech recognition, natural language processing and intelligent robotics. The development of facial recognition and speech recognition technology has enabled artificial intelligence to interact with humans and achieved effective "communication" between humans and artificial intelligence. The development of big data and machine learning technology has made it possible for artificial intelligence to "evolve" rapidly.

At present, artificial intelligence affects the future of almost every industry and every individual in the world. Artificial intelligence has been established as the main driving force of emerging technologies. Entering the 2020s of the 21st century, artificial intelligence will continue to serve as a major technological innovator and leader in the foreseeable future. In the next decade, the military field will develop and adopt existing and emerging technologies at an unprecedented speed. However, a single artificial intelligence does not produce real strategic and military value, but is only a product of technological innovation in the high-tech field. Against this background, the application of artificial intelligence for military purposes is rapidly becoming a goal of competition among major powers, and is also an important leverage factor for future international instability and strategic competition among major powers. Therefore, the spread of dual-use artificial intelligence technology and the actual application of strategic-tactical weapon systems generated after the spread will lead to a high degree of uncertainty in the security of the entire world. In other words, these strategic-tactical weapon systems may deteriorate the international security order in many ways and bring new major threats. The pursuit of research and development of dual-use artificial intelligence technology by major powers will create the premise for new strategic competition and distrust among major powers, and thus bring major changes to the form of future wars and the situation of strategic weapons arms control.

Prospects for the application of artificial intelligence in the military field. With the development of artificial intelligence technology, people quickly realized that artificial intelligence has great potential in maintaining national security in the future. At present, the application of artificial intelligence in the military field is mainly combined with automatic weapon systems, through visual perception, voice, facial recognition and decision-making tools to perform a series of core complex ground combat, air interdiction, amphibious ground attack, long-range strike and maritime operations, which are "fire and forget" without human intervention and supervision. It should be pointed out that currently, among the automatic weapon system platforms that use artificial intelligence technology in the world, only a few can autonomously select and attack targets without human intervention. In 2016, the US Department of Defense issued the "National Artificial Intelligence Research and Development Strategic Plan", pointing out that artificial intelligence can be used to improve the combat capabilities of the US military and has the potential to revitalize the US military dominance. [27] Russia has marked 30% of its entire military force internal structure to achieve battlefield robotization by 2025. [28]

The goals and initiatives of the military powers at the national level indicate that the global military has fully recognized the significant potential of artificial intelligence in the field of national security and military technology. First, artificial intelligence combined with the deployment of land-based, sea-based and stealth autonomous weapon systems may break the deterrent effect of all existing strategic weapons in the execution of defensive and offensive missions. Artificial intelligence combined with early warning systems can compress decision-making time, making hidden high-value military assets easier to find and easier to target, which may have an adverse impact on international security and potential nuclear balance. Second, the continuous decline in manufacturing costs has led to the rapid and widespread application of strategic campaign and tactical drones in the military field, enhancing the ability of state actors and non-state actors to quickly equip asymmetric strike weapons and reducing the traditional strategic advantages and strategic deterrence of major military powers. The rapid popularization and diffusion of drones and their dual-use characteristics will also make the ability of countries to predict, determine and effectively counter autonomous attacks from the outside world quite uncertain. The war between Azerbaijan and Armenia that broke out in 2020, the large-scale application of artificial intelligence-drone technology caused the battlefield offensive and defensive advantages to change hands and change, opening the door to a new military revolution in the future world. Third, compared with the commercial sector, the traditional defense industry of major military powers tends to develop and apply artificial intelligence platforms later. On the contrary, countries that were originally in a disadvantaged position have the advantage of being latecomers. They can often give priority to the application of mature civilian artificial intelligence technologies in the development of national defense forces to quickly enhance their weak military capabilities, which may affect the balance of global military power and the focus structure of international competition, and may increase the number of wars and the unpredictability of the outcome in the future, and ultimately worsen the prospects for international security. Fourth, as the connection between big data and the physical field increases, the non-traditional threats and conflicts caused by cyber attack-defense operations will increase significantly. In the near future, the automatic learning and self-improvement capabilities of artificial intelligence machine platforms will enable them to expand the methods, breadth and scale of cyber attacks, resulting in a further reduction in the cyber defense capabilities of state actors. At present, it is unclear how and what capabilities artificial intelligence will enhance, whether new cyber intelligent weapons will emerge, and how these dynamics will affect the balance of military and even strategic weapons between major powers and between states and non-state actors in the future. Fifth, the innovation competition among major powers in the field of artificial intelligence may shake the strategic stability of the future world. Due to the extensive and critical role of artificial intelligence technology, major powers often communicate the development trends of artificial intelligence technology privately. The lack of communication and exchange in the field of artificial intelligence between major powers may lead to cognitive bias, and then produce different paths and standards for the implementation of artificial intelligence. In the future, after global crises and conflicts, these different technical standards and paths may cause mutual distrust, suspicion and misunderstanding among major powers. At present, the one-sided pursuit of artificial intelligence for military purposes by major powers, as well as the relatively low moral, legal and public opinion thresholds for the use of lethal autonomous weapons, may intensify the emerging strategic artificial intelligence arms race and shape the cruel battlefield of future wars, thus causing a new tragedy for human society.

In addition, the future application of artificial intelligence in the military field will become the main hidden source of instability in the international security situation and strategic competition among major powers. For human survival, destructive artificial intelligence technology is likely to be as risky as transformative military innovations in history. The rapid development, diffusion and synthesis of artificial intelligence, as well as the opacity and dual-use characteristics associated with this emerging technology, will not only lead to a highly unstable world situation, but also produce an irreversible artificial intelligence strategic weapons arms race. Without strong defense capabilities, domestic policies and international treaties and other paradigms to respond to and even mitigate these risks, destructive artificial intelligence technology may amplify the uncertainty and major risks brought about by existing threats in both physical reality and virtual reality, bring new threats to the international security situation, and may lead to a new type of super war between major powers.

**Conclusion to the Future War Exploration**

The future form of war mainly depends on the military power development trend of military superpowers, the geopolitical development trend and the widespread application trend of artificial intelligence in the military. It should be pointed out that the above three trend changes do not mean that a large-scale world war will definitely occur in the future. Looking back at history, the world today is still in a historical decline in the world hegemony of capitalist powers, and the war capabilities of military superpowers and other major powers are declining accordingly. However, due to the strong internal driving force of maintaining its world hegemony and preventing strategic competitors from taking over, the probability of a large-scale war in the future may increase compared to the first 20 years of this century. With the polarization of domestic politics in the United States and its strategic contraction on a global scale, coupled with the changes in geopolitical development trends and the gradual disorder of the international order, the medium-sized and large-scale new wars mentioned above may become the final confrontation mode of strategic competition between countries in the future. With the widespread application of new combat means such as artificial intelligence and drones in the military field, once a future war breaks out, the mode, process and intensity of the war will be difficult to predict.

(Liu Haiyi, lecturer at the School of Marxism at Guangdong Pharmaceutical University, also contributed to this article)

**Notes**

[1] “Xi Jinping: my country is at a critical stage in realizing the great rejuvenation of the Chinese nation,” Xinhuanet, October 10, 2020, http://www.xinhuanet.com/politics/2020-10/14/c\_1126603921.htm.

[2] Hong Yuan, “Prospects for the World Pattern and Great Power Competition in 2030”, People’s Forum Academic Frontier, No. 15, 2017, pp. 42-55.

[3]Admiral James Stavridis; Elliot Ackerman, "2034: A Novel of the Next World War", https://www.wamc.org/post/2034-novel-next-world-war-admiral-james-stavridis-and-elliot-ackerman.

[4]DoD, 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge, Washington, DC, 2018, p. 1.

[5]International Institute for Strategic Studies (IISS), "The United States", The Military Balance, Vol.90–103, 1990–2003; IISS, "North America", The Military Balance, Vol.104–118, 2004–2018.

[6]International Institute for Strategic Studies (IISS), 1990–2003; IISS, 2004–2018; Naval History and Heritage Command, "US Navy Active Ship Force Levels, 2000–2006", November 17, 2017.

[7]Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, Defense Budget Overview: United States Department of Defense Fiscal Year 2019 Budget Request, Washington, DC: US ​​Department of Defense, February 2018a, p. 1-2.

[8]Office of the Under Secretary of Defense (Comptroller)/National Defense Budget, April 2020, pp. 82-86.

[9]Office of the Under Secretary of Defense (Comptroller)/National Defense Budget, April 2020, p. 86.

[10] Roger McDermott, "Russia's Conventional Armed Forces and the Georgian War", Parameters, Vol.39, No.1, Spring 2009; Jim Nichol, Russian Military Reform and Defense Policy, Washington, DC: Congressional Research Service, R42006, August 24, 2011, p. 5; Athena Bryce-Rogers, "Russian Military Reform in the Aftermath of the 2008 Russia-Georgian War", Demokratizatsiya: The Journal of Post-Soviet Democratization, Vol.2, No.3, 2013.

[11]Keith Crane, Olga Oliker, Brian Nichiporuk, Trends in Russia's Armed Forces An Overview of Budgets and Capabilities, RAND Corporation 2019, CA: Santa Monica, https://www.rand.org/pubs/research\_reports/RR2573.html. Also available in print form.

[12]SIPRI Yearbook 2016/2017/2018, https://www.sipriyearbook.org/; "Russia's military spending: Frequently asked questions", https://www.sipri.org/commentary/topical-backgrounder/2020/russias-military-spending-frequently-asked-questions.

[13]"Russian Armed Forces: Capabilities", https://assets.documentcloud.org/documents/6982198/Russian-Armed-Forces-Capabilities-June-30-2020.pdf.

[14]Dale Herspring, "Russian Military Reform and Anatoly Serdyukov", Problems of Post- Communism, Vol.55, No.6, November/December 2008; McDermott, 2009; Nichol, 2011, p. 6; Bryce-Rogers, 2013.

[15]Jim Nichol, Russian Military Reform and Defense Policy, Washington, DC: Congressional Research Service, R42006, August 24, 2011, p. 21.

[16]Russia's defense spending in 2018 is projected to be at 3.90 percent of gross domestic product., See IISS, "Russia and Eurasia", Vol.117, 2017, p. 191; IISS, 2018, p. 175.

[17]Carl von Clausewitz, On War, New York: Princeton University Press, 1984, p. 87.

[18]"Political Polarization in the American Public", Pew Research Center, June 12, 2014, https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/.

[19]"1 in 3 Americans Say US Spends Too Little on Defense", Gallup, March2, 2017, https://news.gallup.com/poll/204782/americans-say-spends-little-defense.aspx.

[20] Jennifer De Pinto; Fred Backus; Kabir Khanna and Anthony Salvanto, "What Americas Think About US Strike on Syria", CBS News, April 10, 2017.

[21][22]Thomas Raines; Matthew Goodwin and David Cutts, The Future of Europe: Comparing Public and Elite Attitudes, London: Chatham House, June 2017, p. 2.

[23]European Parliament, "EU Migrant Crisis: Facts and Figures", News Blog, June 30, 2017.

[24]"Migration and Migrant Population Statistics", https://ec.europa.eu/eurostat/statistics-explained/index.php/Migration\_and\_migrant\_population\_statistics.

[25]Aaron Williams, "How Two Brussels Neighborhoods Became'a Breeding Ground' for Terror", Washington Post, April 1, 2016; Richard Wike; Bruce Stokes, and Katie Simmons, "Europeans Fear Wave of Refugees Will Mean More Terrorism, Fewer Jobs", Pew Global Research Center, July 11, 2016.

[26]European Parliament, "Survey: People Reveal Their Priorities for the EU", January 7, 2016; "France's Response to Terrorism: Loss of Faith", The Economist, July 30, 2016.

[27]National Science and Technology Council, The National Artificial Intelligence Research and Development Strategic Plan, October 2016, https://www.nitrd.gov/PUBS/national\_ai\_rd\_strategic\_plan.pdf.

[28]James Johnson, "Artificial intelligence & future warfare: implications for international security", Defense & Security Analysis, 2019, 35:2, pp. 147-169.