

Russian Forecasts of Future War

Lt. Col. Timothy L. Thomas,
U.S. Army, Retired

Strategists worldwide study not only the causes of past conflicts but also how to forecast and prepare for new ones. Forecasting the shape of future wars helps determine what capabilities nations require to thwart potential opponents and what issues to include in budget requests. Examining the future war scenarios of other nations can obviously lead to better domestic planning as well. Russian analysts are no exception to such studies. Its theorists constantly pursue an understanding of how war might evolve and unfold.

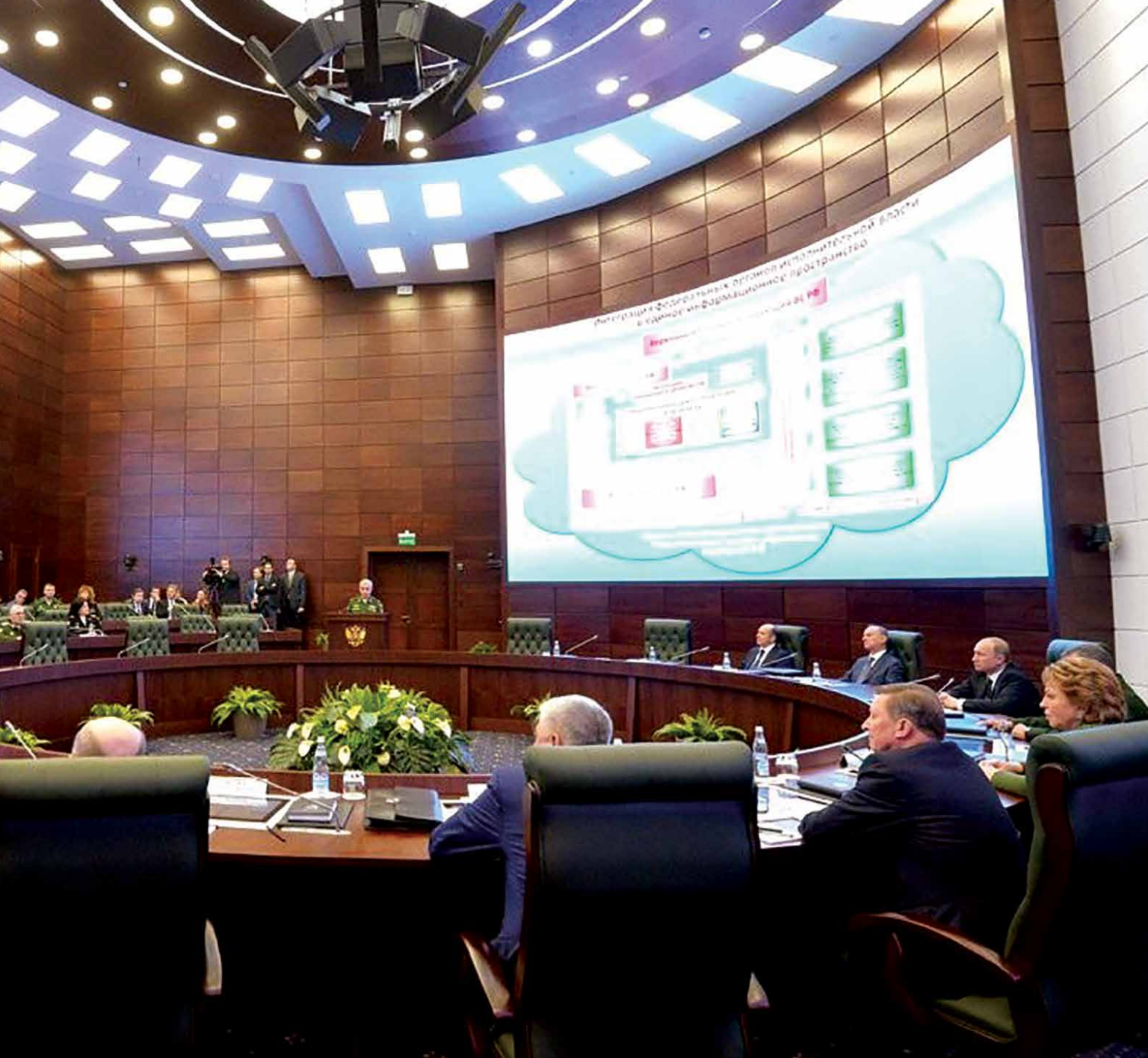
Russian future war planners input contemporary trends (scientific discoveries, etc.) into their analysis that lead to specific predictions (forecasts) as to how a future war might unfold and what its contents might be. These forecasts are further shaped by the logic of the situational context at hand, such as geopolitical conditions or resource exploitation potential. New forms (organizations, type of operations) and methods (new weaponry and military art) of fighting future conflicts are then considered and chosen to include a determination of the type of force correlations required to win future war battles.

Forecasting is the key to future war planning because it results in the most likely scenarios future war might take while attempting to avoid the “paths that lead nowhere” and accepting those that “help avoid errors.”²¹ This requires that Russia update its forecasting predictions



on a regular basis to contend with the pace of scientific and other developments. Staying current, for example, helps define ways that cyber or information technology developments—such as the creation of directed energy, precision-guided weapons, and ecological or infrasonic weapons—affect future plans.

Of increasing relevance to forecasting is what Russian officers have long referred to as the initial period of war (IPW). To properly prepare for the evolving IPW environment, operational adjustments are required in peacetime. As noted by one prominent Russian officer, General of the Army Makhmut Gareyev, if conflict is



imminent, previously formulated scenarios and models of combat operations will have to be implemented due to the speed and mobility of contemporary operations.² Planning tomorrow for a surprise development today is more than a day late, as the contemporary information environment's impact on the IPW may even result in the conflict's end before it starts, if enough capabilities and resources are destroyed or compromised.

This article focuses on the military's objective and openly expressed approach to future war planning. It first examines forecasting theory and how it assists planners in their future war preparations, to

President Vladimir Putin attends a meeting on commissioning defense industry goods 19 December 2014 in the control and coordination room at the Russian Federation National Defense Control Center in Moscow. In accordance with Russian practice, forecasting the nature of future war is an essential collective civilian and military enterprise that relies heavily on military-oriented educational and research institutions. (Photo courtesy of the Office of the President of Russia)

include consideration of how Russia views the shape of the contemporary IPW. It then considers the thoughts of several analysts, including the chief of



The attainment of information superiority and the use of the mass media will stir up chaos and confusion in an adversary's government and military management and control systems.



the General Staff, as to future war's components and how it might be conducted.

Some Views of Russian Forecasters

Forecasting has been a part of Russian military thought for decades. In a 1975 work on the topic of forecasting, the term was defined in the following way:

The study of the military-political situation, the pattern of war in the future, the prospects of developing strategy, operational art, and tactics, the qualitative and quantitative composition of the means of armed conflict (one's own and the enemy's), the prospects for the development of the potential of the war economy in the future, and the forecasting of the enemy's strategic and tactical plans.³

Contemporary authors have updated the concept but only in minor ways. Maj. Gen. (Res.) V. V. Kruglov, who wrote on forecasting and future war in 1998, 2016, and 2017, noted in 2016 that forecasting prepares the state for the most unexpected vectors of development, predicts global changes for the next twenty to thirty years, and estimates threats to the country thirty to fifty years out. Kruglov noted that President Vladimir Putin has requested work on a new, qualitatively different "smart" system of military analysis and planning. Weapon types, the nature of warfare, and better predictions of developments in the military, political, and strategic situations are required.⁴

Kruglov added that developing an armed struggle matrix for forecasters is difficult. The weapons, forms, and methods of employing formations, the theater's specific characteristics, and other issues change often. As technological and intellectual standards change, so does the nature of wars and future armed struggles.⁵ He recommended that forecasts and assessments be made every three to six months.⁶

In 2017, Kruglov and Lt. Col. V. I. Yakupov offered several important points to consider about forecasting's increased importance. They stated,

The reason armed struggle is steadily getting more complex, there is synergy between military and nonmilitary confrontation means, and lots of other factors. There are new spheres (continuums) of military confrontation: information-communication, consciential (psychological), and cognitive (area of thinking). Before long, new types of weapons will appear and, therefore, also new spheres of struggle (that are not much in evidence or are only forecasted).⁷

The authors ruled out a large-scale war but noted that forecast-based risks may entice confrontations to occur. However, starting such a conflict without a foregone conclusion of success is dangerous. Surefire forecasts are mandated, requiring a solid knowledge of forecasting theory and methodological skills.⁸

Kruglov and Yakupov explained that an objective difficulty of forecasting is simply the uneven progress of knowledge. With nano and other technologies increasing by some 35 percent a year, it is difficult to forecast which countries will make what discoveries and what their impact will be on their military forces. Further, the active and covert use of nonmilitary means are extremely difficult to "analyze, consider, and formalize, and this makes even more complex the process of forecasting armed struggle and interstate confrontation."⁹ Not mentioned by these forecasters are the expected changes to be wrought by quantum computing, artificial intelligence, and other discoveries that may double forecasting difficulties.

Forecasting the use of new weaponry with covert (cyber) or surprise characteristics has forced Russian analysts to focus on the growing importance of the IPW. Those nations that gain the initiative in the IPW due to scenarios that are preplanned will be more likely to attain initial success that could even lead to the quick subjugation of an opponent. Most likely, Russia's IPW focus is a direct result of the Soviet experience in World War II when the nation was not properly prepared to go to war with Germany and experienced early setbacks. Now, in the age of cyber, information superiority has

become crucial to success in the IPW. Russia must begin shaping the information environment (and geopolitical one) to its advantage in peacetime. Efforts can include planting cyber viruses in important systems of an opponent's infrastructure, capturing the electronic warfare frequencies and equipment operating parameters of a potential opponents' equipment, scrambling global positioning system frequencies, or conducting reconnaissance on key underwater cables for espionage or destruction purposes. Diplomatic, economic, and other environments are also potential targets of manipulation to enable victory in the IPW.

Russia's military often discusses the IPW. For example, a 2012 *Military Thought* discussion defined the IPW as operations conducted before the start of war to achieve objectives or to create favorable conditions for committing their main forces.¹⁰ Outer space, information warfare, and new weapon capabilities were said to help create conditions favorable for the IPW. More importantly, "In all likelihood, the aggressor country is to be expected, still in peacetime, to launch a wide-scale targeted information operation and intense reconnaissance activities, including a set of related and closely coordinated actions."¹¹ Thus, if an opponent is expected to perform in such a manner, Russia must either counter these actions or, more likely, take the initiative themselves to achieve control in the IPW. The IPW, authors S. G. Chekinov and S. A. Bogdanov note, will include the launching of information operations that include technical and psychological attacks, along with electronic operations and fire strikes to disorganize government systems, demoralize populations, and prevent leaders from rallying forces to repel aggression.¹² The attainment of information superiority and the use of the mass media will stir up chaos and confusion in an adversary's government and military management and control systems.¹³

In 2015, P. A. Doulnev and V. I. Orlyansky added their input to the IPW discussion. They wrote that a contemporary military goal is to put an adversary on the verge of defeat at the beginning of hostilities, accomplished by wreaking havoc on its political and economic situation using information technology-generated psychological and other types of warfare; and by disabling the adversaries control of the country and armed forces through attacks on strategic installations and infrastructure. The ability

to manipulate public opinion and utilize the benefits of nonlethal weapons is also under study.¹⁴

Perhaps due to concern for the United States' cybersecurity in the IPW, the Federal Bureau of Investigation (and earlier, the government of Ukraine) decided to no longer allow the sale of the Russian-produced Kaspersky antivirus solutions, a product sold in stores and advertised on prominent radio stations. Such products may have offered the ability to insert a virus or logic bomb into a critical information domain that would ensure Russia would have information superiority in an IPW. A recent *Wall Street Journal* article noted that the Kaspersky antivirus has been on a Defense Department watch list of potential problems since 2004. In 2013, the Defense Intelligence Agency issued a Pentagon-wide threat assessment about the company. U.S. officials noted that the firm's products were used as a tool for spying on systems in the United States.¹⁵

Contemplating Future War

After considering the trends in military affairs and how an adversary might use force or the manipulation of context in the IPW, theorists then contemplate how future war might unfold. The following summary from 2012 to 2018 of future war thought by several Russian military officers and civilians offers significant insights into a future war's potential conduct.

In 2012, G. A. Naletov, writing in the *Journal of the Academy of Military Science*, examined future war's impact on the development of new forms and methods of warfare.¹⁶ Naletov stated that outwardly, the forms of military operations have changed little and include

Lt. Col. Timothy L.

Thomas, U.S. Army,

is a retired officer who works for the MITRE Corporation. He served for more than twenty years as a senior analyst at the Foreign Military Studies Office, Fort Leavenworth, Kansas. He holds a BS in engineering science from the U.S. Military Academy and an MA in international relations from the University of Southern California. During his Army career, he was a foreign area officer who specialized in Soviet/Russian studies. He is the author of numerous articles and books, including three on Russia: *Russia Military Strategy: Impacting 21st Century Reform and Geopolitics*, *Recasting the Red Star: Russia Forges Tradition and Technology through Toughness*, and *Kremlin Control*.

war, armed conflict, operations, strikes, engagements, battles, and combat operations, while their content has changed significantly. Armed struggle is qualitatively different regarding weaponry and methods of their employment. He listed fire strike, electronic strike, robotized, aerospace, air mobile, air assault, information-reconnaissance strike, counterreconnaissance operations, and other actions as some of them.¹⁷

Naletov observed that combat and noncombat forms of actions are converging; defensive operations will be more dynamic in terms of maneuver as well as retaliatory-meeting or preemptive strikes. Future operations will consist of indirect, noncontact, and actively preemptive effects.¹⁸ He stated that it is time to “broaden the arsenal of resources” for conducting armed struggle, including weapons based on new physical principles (NPP). They will include geophysical, infrasonic, climate, laser, ozone, radiological, accelerator (beam), electromagnetic, directed energy (beam superprecision), nonlethal (against personnel: psychotropic preparations, infrasonic weapons; and against materiel: electromagnetic weapons, resources for radio-electronic suppression and physical effects against computers, and biotechnical and chemical resources that corrupt products), and genetic, ethnic, acoustic, and radio-frequency weapons.¹⁹ The speed of decision-making, tempo, and conflict intensity will increase, while temporal parameters (time to accomplish missions) decrease.²⁰ Operational speed and intensity will not give an enemy time to organize countermeasures. The space domain will increase in importance, and the nuclear domain will find its burden somewhat decreased. These, Naletov wrote, “are the principal opinions about the development of new forms and methods of conducting future armed struggle.”²¹

Authors P. A. Doulnev and V. I. Orlyansky, writing a few years later in the same journal, also noted space’s growing importance. Space-based weaponry or military malware used for the first time capitalize on surprise and fully implement other principles of operational art. A critical goal will be to attain space superiority in future wars. The authors stated,

Therefore, already in the nearest future we can expect the emergence of new forms of military operations in near space—space operations (military actions) aiming to defeat orbital alignments of forces, suppress radio communication systems in space, block orbital alignments of forces and means in specific areas of space, etc.²²

Russia’s *Army Journal* published an article in 2013 that Gen. Maj. Vladimir Slipchenko had apparently written before his death in 2005. It was odd that the article hadn’t appeared earlier, as he was one of Russia’s most popular military authors in the preceding two decades. Slipchenko wrote that superiority over an opponent was only possible after superiority in information, mobility, and rapidity of reaction were assured. Precise fire and information effects against economic structures and military objectives were required. Slipchenko referred to this as noncontact war. In such war, information confrontations would be continuous and would leave the operational and strategic levels and acquire a planetary scale.²³

Information confrontation’s principal goal is the maintenance of one’s own information security and the lowering of a potential enemy’s.²⁴ Recce-strike combat systems will be used extensively to detect and deliver strikes against various target types. This will, from Slipchenko’s point of view, radically change the content and nature of warfare, since

It will not be masses of forces, but rather recce-strike and defensive combat systems that will clash in such noncontact warfare. Their potentials are characterized not by the quantitative and qualitative superiority of one of the sides, but rather by structural and organizational factors, the uniformity and effectiveness of command and control, and the functional quality of communications and guidance systems and other links in the all-round support of military operations.²⁵

Other Russian analysts and Slipchenko stress the importance of structure and organization over quantity and quality.

Also in 2013, Gen. Lt. Victor Vinogradov shared his thoughts on how war may unfold in the future. He assumed the IPW would have a distinctive flavor of surprise and would include the use of weapons based on NPP, tilting war quickly toward the use of mass destruction weapons.²⁶ Offense and defense would share the following distinctions:

- the growing role of the first electronic and fire strike,
- resolve in achieving the goals of an operation,
- a dynamic and maneuverable style of combat,
- a greater role for highly effective strikes,
- tense fighting to seize and hold the initiative,



- ◆ sudden changes in the situation and tactics,
- ◆ a broader spread of simultaneous combat operations, and
- ◆ the rising role and significance of protection.²⁷

Finally, in a nod toward military art, Vinogradov stated that the course and outcome of operations would be affected by a potential adversary's view on the ways that advanced weapons and operations will be used.²⁸

In 2015, S. G. Chekinov and S. A. Bogdanov, two of the most popular Russian military authors with wide-ranging expertise (having written on indirect war, asymmetric war, twenty-first-century war, etc.), discussed forecasting and future war in the journal *Military Thought*. Forecasting, they note, reflects how the geostrategic situation is developing, how interstate relations are changing, and how these changes are affecting military art. To achieve its objectives, the military must "abandon decisively" the rigid canons of modern military art.²⁹ Perhaps this implies the extended use of more indirect and asymmetric responses to threat perceptions.

Long-term forecasting "has assumed the significance of a national task. Nothing will take the place of long-term forecasting trends in the way in which the geostrategic situation is going."³⁰ Forecasting must

A *Boyevaya Mashina Podderzhki Tankov* (BMPT) tank support fighting vehicle, also known as the "Terminator," on display 18 August 2018 at the International military-technical forum "ARMY-2018" in Moscow. Some Russian military theorists believe a modern ground force is essential to meet military objectives, but it should only be employed after setting conditions for success in other domains. (Photo courtesy of Vitaly V. Kuzmin, www.vitalykuzmin.net)

take into consideration that war's concept is expanding and includes economic, ideological, psychological, informational, and other areas, not just armaments.³¹ Chekinov and Bogdanov support the contention that all efforts initially will be tied to the attainment of information superiority, noting that "information warfare in the new conditions will be the starting point of every action now called the new-type of warfare (a hybrid war) in which a broad use is made of the mass media and global computer networks."³² Information weapons will paralyze the computer systems that control troops and weapons, and deprive the enemy of information transmission functions. Computers will turn into a strategic weapon of future wars.³³

The authors believe that future wars will begin with strategic electronic warfare and aerospace attack,

augmented with cruise missiles, reconnaissance-strike and -fire delivery systems, and unmanned aerial vehicles (UAVs) and robots. The goal is overwhelming superiority everywhere.³⁴ Speed, synchronization, and concurrency will be decisive factors for military operations, with joint task forces and their strike assets

troops, just aerospace weapons. Second, wars still can be conducted to seize territory by eventually relying on ground forces to obtain the war's objectives.³⁹ In both examples, the use of precision weaponry begins the active phase of conflict after being preceded by diplomatic, economic, and financial moves. Kiselev offered a third

“ Information weapons will paralyze the computer systems that control troops and weapons, and deprive the enemy of information transmission functions. Computers will turn into a strategic weapon of future wars. ”

controlled in real time relying on computers, telecommunications, and satellite communications.³⁵

Chekinov and Bogdanov then offered a few unconventional thoughts on future war that were also mentioned by Naletov. They stated that unconventional arms might cause earthquakes, typhoons, or heavy downpours leading to the erosion of economies and to the intensification of tension among the population in an adversary country. Further, space-based attack weapons, orbiting battle space stations, automated weapons control, and new weapons of improved destructive power, range, and accuracy will require new forms and methods of warfare.³⁶ Electromagnetic, information, and infrasonic weapons may be used against forces, economic facilities, government and military control systems, and energy generation centers.³⁷

Finally, future wars main distinctions are weapons designed on NPP; a reduction in the significance of nuclear weapons; strategic operations as the principal form of strategic task fulfillment; and a unified system for collecting and processing information through the integration of space, aerial, and ground reconnaissance capabilities for target allocation. The opening period of a future war with a competent enemy force would last at least a month, according to Chekinov and Bodanov, while the closing period has to conclude as soon as possible.³⁸

In 2017, V. A. Kiselev, a professor at Russia's Combined Arms Academy, discussed two lines of thought in *Military Thought* that have emerged about how warfare is conducted today and in the future. First, wars are now designed to destroy a country's military and its economic infrastructure without the use of ground

type of warfare as well, one that relies on illegal armed formations or private military companies. In each of the cases he cites, Kiselev refers to conflicts in which the U.S. military had been involved, failing to mention that all three types were used by Russia in Syria if one interpolates special operations forces as ground forces.⁴⁰

Kiselev focused on developments in future war's nature. He stated that

- outer space and information are two new independent spheres of combat actions,
- major targets and critical facilities will be attacked by precision fire and electronic and information attacks,
- reconnaissance-strike systems and electronic warfare systems should be used jointly,
- the technological constituent of future war will be weapons based on new physical principles, and
- information confrontation (in the form of a set of measures aimed at exerting influence on the will, emotions, behavior, psychology, and morale of the adversary) will play a prominent role.⁴¹

It is expected that information and cyberwar will merge and provide feed-forward and feedback between what he called psywars and neurowars (no further explanation of either term was offered).⁴² Behavioral wars drew his special attention, describing them as not only a new warfare type but also as the weapons of tomorrow:

At the core of those [behavior wars] is manipulating behavior algorithms, habits, activity stereotypes, etc. that have been installed in us by our social group, and also by our biographies and cultural environment. In short, the instruments for behavioral warfare work by

WE RECOMMEND

separating the habit from the previously formed type of activity, the situation that has formed the latter, and using behavior patterns to achieve other objectives.⁴³

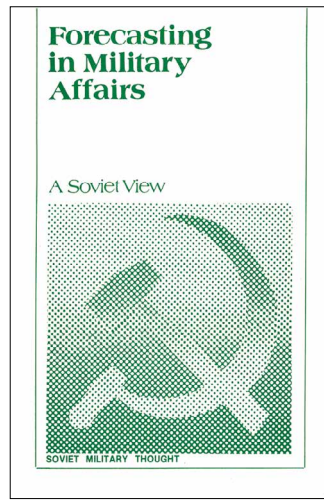
In closing, Kiselev noted that the theory of a new-type war must be elaborated, and it is “vital to develop the theory of asymmetric and indirect actions in conditions when the adversary acts with coalition groupings” and maintains numerical and technological superiority.⁴⁴ Asymmetric actions include secrecy, finding weak points and vulnerable facilities in an adversary, and imposing one’s own version of conflict on an adversary.⁴⁵

Gareyev, one of Russia’s greatest military theoreticians, stated in 2017 that the greatest enemy for the art of war is a “stereotyped and schematic approach.”⁴⁶ Regarding future war, Gareyev noted,

As far as the operations and hostilities of the future are concerned, it may be assumed that they will differ by their increased scale, the participation of heterogeneous forces equipped with complex heterogeneous combat hardware, a high level of dynamism and maneuverability, the absence of coherent fronts, a dramatically and rapidly changing situation, a fierce struggle to seize and retain the initiative, and a strong electronic warfare element. All this will significantly complicate the command and control of troops and naval forces.⁴⁷

A high level of planning will become the main prerequisite for success and previously formulated scenarios, and models of combat operations will have to be implemented due to the speed and mobility of contemporary operations.⁴⁸ This appears to be Gareyev’s statement that these models and scenarios must be ready for the initial period of war.⁴⁹

At a November 2017 speech to the Defense Ministry Collegium, General Staff Chief V. V. Gerasimov discussed the type of forces Russia should plan to use in case of war. He stated that primary military efforts would continue to be placed on the



Forecasting in Military Affairs: A Soviet View, first published in 1975 by Yu. V. Chuyev and Yu. B. Mikhaylov, is a Soviet-era book that retains enduring influence within the intellectual circles of modern Russian theory and practice. The book was intended for a wide range of military readers as well as for industrial workers and related educational institutions specializing in dealing with the military. As such, it is one of the key books with which students of the Russian military should become familiar in order to understand the evolutionary trends of thinking that have produced the current Russian perspective on all things military. Today’s Russian military strategic thinkers and operational leaders continue the legacy of processes outlined in this book that are used as tools to forecast the future political, social, and physical operational environment in which Russian forces may have to fight. The book analyzes existing and developing methods of forecasting of the era in which it was written (heuristic, mathematical, and composite) and examines their use in solving various military problems. It also asserts diverse recurring errors inherent in all the methods and how they affect the results of decisions that can be made and the final results of operations. The pictures above depict the original book (*right*) and an English-language translation sponsored by the U.S. Air Force published in 1980 (*left*).

development of nuclear and nonnuclear forces, the latter specified as precision-guided missiles and Kalibr and Iskander-M missiles. Other efforts included an emphasis on ensuring an echeloned system of aerospace defense, improving Russia's command and control system, improving the organizational development of general-purpose forces, creating self-sufficient groupings of troops and forces on strategic axes, and reequipping forces with state-of-the-art systems. Gerasimov discussed the need for increased readiness and arming of the military districts. He noted that improvements were made in UAVs, command-and-control capabilities, and electronic warfare systems.⁵⁰ Gerasimov's comment about increased arming of military districts implies an adjustment of the correlation of forces in each one.

Finally, in 2018, at the Academy of Military Science, Gerasimov produced what he described as the outlines of a probable future war. Such conflicts will feature the extensive employment of precision weapons and other types of new weaponry, such as robot technology. Priority destruction targets will include economic and state control systems, and the information sphere and space will be dynamically involved. Finally, a special role will be afforded to countering communications, reconnaissance, and navigation systems.⁵¹ Gerasimov noted that UAVs, on the one hand, are witnessing the development of future multipurpose complexes that make both reconnaissance and strike tasks plausible. On the other hand, Russian scientists are developing futuristic systems to counter adversarial use of UAVs with weaponry based on NPP.⁵² He foresees the use of precision means, including hypersonic, to shift the "principal portion" of strategic deterrence from the nuclear to the nonnuclear forces. The role of command-and-control organs is increasing in regard to decision-making, and future research must be directed at improving this area.⁵³ Local war experiences and Syrian operations have given "a new impulse for improving the system of the comprehensive destruction of the enemy."⁵⁴ Also of note, Gerasimov used the term "comprehensive destruction" three times in his presentation. In 2013, he noted that nonmilitary means would be used over military ones by a ratio of 4:1. There was scant mention of nonmilitary issues in 2018.

Conclusion

This analysis of Russian future war thinking over the past six years demonstrates that it is an evolving and dynamic process that is continuously being updated. An entire host of various weaponry (NPP, ecological, ultrasonic, etc.) is apparently under development. There were also warnings to Russian analysts to "abandon decisively" the rigid canons of military art and develop new methods for its conduct.

Three issues stood out from the analysis. First is the necessity to completely plan for the IPW now in peacetime; specific scenarios are required. Second is the warning that information technology's use in the IPW could end a war before it begins if, for example, information infrastructure or command-and-control nodes are completely put out of commission. Third, and perhaps most important, is the warning that a contemporary war's destructive nature, due to the growing capabilities of even conventional weapons, could quickly turn decision-makers to the use of weapons of mass destruction. Before long, new spheres of struggle (quantum, etc.), not much in evidence yet, will appear and make forecasting more complicated. These variables will enter the armed struggle matrix, affecting the forms and methods of combat actions, the theater's specific characteristics, and other issues such as nonmilitary trends.

Information warfare was stated to be the start point for all new types of warfare since even the mass media and global computer networks can get involved. The study of asymmetric, indirect actions, and aerospace operations is important. Finally, future war's priority destruction targets were stated to be economic and state control systems. Gerasimov's conviction that "comprehensive destruction" is required was not reassuring. Future war preparations also would involve assigning a special role to countering communications, reconnaissance, and navigation systems.

Russia will continue to evaluate all aspects of its operating environment and look for places where it can gain an operational advantage in the opening phase of any future conflict. One is reminded of the wise words of now deceased Russian Gen. Maj. V. D. Ryabchuk, who noted that "thought is the first to join a battle. Indeed, thought is a weapon."⁵⁵ ■

Approved for public release; Case Number 18-4369, copyright 2019 MITRE Corporation. All rights reserved.

Notes

1. S. G. Chekinov and S. A. Boganov, "A Forecast of the Character and Content of a Future War: Problems and Judgments," *Military Thought*, no. 10 (2015): 49.
2. Gennadiy Miranovich, interview with Makhmut Gareyev, "Knowledge and Skill. Reflections on What Qualities and Skills the Modern-Day Officer Should Possess," *Red Star* (website), 29 September 2017, <http://www.redstar.ru>.
3. Yu. V. Chuyev and Yu. B. Mikhaylov, *Forecasting in Military Affairs* (Moscow: 1975), trans. DGIS Multilingual Section, Secretary of State, Ottawa, Canada (Washington, DC: U.S. Government Printing Office, 1980), 14. Published under the auspices of the U.S. Air Force.
4. V. V. Kruglov, "Military Forecasting: The State, Potential, and Realization of Results," *Military Thought*, no. 12 (2016): 33.
5. *Ibid.*, 34–35.
6. *Ibid.*, 35 and 38.
7. V. V. Kruglov and V. I. Yakupov, "On the Methodology of Forecasting Armed Struggle," *Military Thought*, no. 4 (2017): 5.
8. *Ibid.*, 6.
9. *Ibid.*, 7–8.
10. S. G. Chekinov and S. A. Bogdanov, "Initial Periods of War and their Impact on a Country's Preparations for Future War," *Military Thought*, no. 11 (2012): 16.
11. *Ibid.*, 24.
12. *Ibid.*, 25.
13. *Ibid.*, 27.
14. P. A. Doulnev and V. I. Orlyansky, "Basic Changes in the Character of Armed Struggle in the First Third of the 21st Century," *Journal of the Academy of Military Science*, no. 1 (2015): 46. The author would like to thank Dr. Harold Orenstein for his translation of this article.
15. Paul Sonne, "Russian Firm Was Long Seen as Threat," *The Wall Street Journal*, 18–19 November 2017, A2.
16. G. A. Naletov, "On the Issue of the Development of the Concept of Non-traditional Warfare and Armed Conflicts," *Journal of the Academy of Military Science*, no. 1 (2012): 29. The author would like to thank Dr. Harold Orenstein for his translation of this article.
17. *Ibid.*, 30.
18. *Ibid.*, 33.
19. *Ibid.*
20. *Ibid.*, 33–34.
21. *Ibid.*, 34.
22. Doulnev and Orlyansky, "Basic Changes in the Character of Armed Struggle in the First Third of the 21st Century," 49.
23. V. Slipchenko, "Information Assets and Information Confrontation," *Army Journal*, no. 10 (2013): 52–53. The author would like to thank Dr. Harold Orenstein for his translation of this article.
24. *Ibid.*, 55.
25. *Ibid.*, 57.
26. V. A. Vinogradov, "On Tendencies in the Character and Methods of Conducting Operations in a Major War," *Military Thought*, no. 10 (2013): 27.
27. *Ibid.*, 26.
28. *Ibid.*, 29.
29. Chekinov and Boganov, "A Forecast of the Character and Content of a Future War," 42–43.
30. *Ibid.*, 43.
31. *Ibid.*
32. *Ibid.*, 44.
33. *Ibid.*
34. *Ibid.*, 45.
35. *Ibid.*, 42–43.
36. *Ibid.*, 44.
37. *Ibid.*, 46.
38. *Ibid.*, 47–48.
39. Valeriy A. Kiselev, "For What Kinds of Conflict Should the Armed Forces of Russia Prepare?," *Military Thought*, no. 3 (2017): 37.
40. *Ibid.*, 38.
41. *Ibid.*, 39, 41, 43, and 44.
42. *Ibid.*, 41.
43. *Ibid.*, 42.
44. *Ibid.*, 46.
45. *Ibid.*
46. Miranovich, interview with Gareyev.
47. *Ibid.*
48. *Ibid.*
49. *Ibid.*
50. "Remarks by Chief of General Staff of the Russian Federation General of the Army Valery Gerasimov at the Russian Defense Ministry's Board Session (November 7, 2017)," Ministry of Defense of the Russian Federation, 7 November 2017, accessed 31 January 2019, http://eng.mil.ru/en/news_page/country/more.htm?id=12149743@egNews.
51. V. V. Gerasimov, "The Influence of the Contemporary Nature of Armed Struggle on the Focus of the Construction and Development of the Armed Forces of the Russian Federation. Priority Tasks of Military Science in Safeguarding the Country's Defense," *Journal of the Academy of Military Science*, no. 2 (2017): 18. The author would like to thank Dr. Harold Orenstein for his translation of this article.
52. *Ibid.*, 19.
53. *Ibid.*, 21.
54. *Ibid.*, 19.
55. V. D. Ryabchuk, "Problems of Military Science and Military Forecasting under Conditions of an Intellectual-Informational Confrontation," *Military Thought*, no. 5 (2008): 67–76.