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Russian Military Strategy: Core Tenets and Operational Concepts

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Abstract

This paper explores the core tenets of Russian military strategy and associated operational concepts, situating its role within the Russian system of knowledge on military security. Russian military leaders describe the prevailing strategy as 'active defense,' a strategic concept integrating preemptive measures to anticipate and prevent conflict, wartime concepts of operations that seek to deny an opponent decisive victory in the initial period of war, degrading and disorganizing their effort, while setting the conditions to attain war termination on acceptable terms. The strategy emphasizes integration of defensive and offensive operations, maneuver defense, sustained counterattack, disorganization of an opponent's command and control, engagement of their forces throughout the theater of military action, including infrastructure in their homeland. Its theory of victory is premised on degrading the military-economic potential of opponents, focusing on critically important objects, to affect the ability and will of an adversary to sustain a fight, as opposed to ground offensives to seize territory or key terrain. The study also explores the content of Russian strategic operations, associated missions and tasks, the echelonment of Russian military concepts, together with Russian outlooks on the theory and practice of modern warfare.

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Executive Summary

Russian military leaders describe the current military strategy as one of "active defense." This concept has a deep history in Soviet military thought, evolving from an operational discussion toward a strategic framework in the late-Soviet period. In Russia, military strategy represents the highest form of military art, offering general tenets on the theory and practice of war, preparation for national defense, ways of preventing conflict, managing forces in wartime, and delineation of strategic operations. Taken together, the military strategy and associated operational concepts shed light on the "Russian way of war," and its influences. Russian strategy reflects choices in planning, operational concepts, and the force structure or capabilities to realize them. This study examines the choices made in Russian military strategy, under the rubric of active defense, their central tenets, and expression in strategic-operational concepts.

The notion of activity in Russian military strategy describes both preventive measures taken before a conflict breaks out, to deter it, and tenets for conducting the war. During a threatened period, or escalating crisis, Russian forces take preventive measures to neutralize threats, which can include preemptive use of limited force in a time of perceived imminent threat. A defensive strategy emphasizes maneuver defense and counterattack. It is a defensive-offense that envisions persistent engagement of an opponent throughout the theater of military action, to include critical infrastructure in their homeland, by executing strategic operations that affect an adversary's ability or will to sustain the struggle. Consequently, Russian military strategy is composed of operational concepts that represent defensive and offensive constructs without clear distinction. Active defense devalues strategic ground offensives, instead privileging the aerospace domain, maneuver defense, and forms of noncontact warfare.

The sense of "active" within active defense envisions demonstrations or limited use of force to convince opponents that the costs of aggression would exceed desired benefits. From a Russian perspective, states chiefly use non-military means, and indirect approaches, to achieve political goals. Hence, the Russian military seeks to offer answers to what the state perceives as forms of undeclared warfare, containment, and coercion. However, the nature of war is understood as one where non-military means are effective because they are backed by technologically advanced military capability. A strategic conventional offensive remains decisive in the initial period of war. The principal threat envisioned is an integrated, massed airstrike against critically important objects of military, economic, and political significance in Russia. The strategic nature of long-range precision guided weapons, and other forms of non-kinetic attack such as electronic warfare, is foremost in Russian military considerations.

Active defense seeks to answer this threat, addressing the use of indirect means during a tentative period of danger, or threat, and the military challenge posed by a technologically advanced opponent armed with strategic conventional capabilities. The strategy's general tenets are achieving surprise, decisiveness, and continuity of strategic action. It identifies an opponent's vulnerabilities, finding asymmetric counters to neutralize their advantages and seizing the strategic initiative. It envisions warfighting defined by fire, strike, and maneuver, where tactical formations engage each other at distances, and recon-strike contours enable warfare at standoff ranges.

The battlefield is seen as fragmented, or non-contiguous, without fixed battle lines, where radio-electronic means integrate with traditional fires and strikes to execute a "complex defeat" of an opponent's military effort. Ground forces conduct maneuver defense, seeking to sap an opponent's strength, degrade them, and preserve the force. Instead of ground offensives, Russian military strategy accepts the prospect of trading territory to attrite an opponent until a firmer positional defense and counteroffensive can be mounted.

The operative thesis is that an opponent can be effectively degraded, parrying their offensive ground operation and deflecting an initial massed aerospace attack. The goal is to disorganize the opponent's effort and shape their political calculus via long-range strikes against critically important objects. The calculus is that the center of gravity lies in degrading a state's military and economic potential, not seizing territory. Here the initial period of war, i.e., the first several weeks of conflagration, is seen to be decisive. The overall Russian objective is to prevent an opponent from achieving a decisive outcome, forcing them into a conflict with high levels of attrition. The vision is to inflict damage to military and economic infrastructure so that opponents will seek war termination on acceptable terms and become preoccupied by the ensuing internal instability.

Military strategy directly informs strategic operations, which involve coordinated tasks, strikes, operations, and combat actions carried out in a unified scheme and plan to achieve strategic goals. These operational constructs include a strategic operation to destroy critically important objects, a strategic aerospace operation, a nuclear forces operation, and a general strategic operation in theater, merging prior continental and oceanic operational constructs.

Russian military strategy reflects the Russian expectation that it will be the militarily inferior party in a regional or large-scale war against a technologically superior adversary. It speaks to the Russian integration of non-military, conventional, and nuclear means in the conduct of war, and in pursuit of strategic deterrence. It seeks to answer the perceived threat posed by emerging US concepts of operation, while informing Russian military discussions on force organization, posture, employment, strategic tasks, and missions of forces.

Contents

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Introduction

In a 2019 speech at the Russian Academy of Military Sciences, the Russian Chief of General Staff, Valery Gerasimov, described Russia's military strategy as one of "active defense."[1] How should we interpret "defense" as it is being used today by senior Russian military leaders, and what is the practical meaning of "active" in Russian military strategy? Military strategy represents the highest form of military art, but it also offers theoretical guidance for the conduct of modern war, and informs the organization of operations, along with their aims, or intermediary goals, in conflict. Military strategy is also a reconciliation of bureaucratic imperatives, military thought debates, and a management tool that reflects choices in operational concepts, force structure, or posture.

This report seeks to shed light on the evolution of the theory and practice of how the Russian military plans to fight, by focusing on military strategy and associated operational concepts. It delves into Russian thinking on the general tenets of warfare, developments from the late Soviet period, and the implementation of military strategy. The study explores higher-level operational concepts, such as strategic operations, along with emerging or maturing forms of operational art within the Russian military. Together these can help shed light on the so-called "Russian way of war," at the operational and strategic level. This study is focused not on capability development or tactics, but on the higher forms of the Russian art of war and relevant discussions in Russian military science.

The findings of this study can form a foundation of knowledge on how the Russian military plans to prosecute a regional or large-scale war, and shed light on the overall Russian system of knowledge on warfare. These insights can help interested researchers and practitioners better interpret the conceptual progression in Russian strategic operations, key tenets, and general principles for the conduct of warfare. Building on a 2020 CNA report, *Russian Strategy for Escalation Management,* this study explores select Russian military-analytical writings to better understand how the Russian military thinks about its military strategy, and the operational concepts that dominate contemporary Russian military discourse.[2]

[1] Anastasiya Sviridova, "Vectors of development of military strategy," Векторы развития военной стратегии, Krasnaya Zvezda, Mar. 4, 2019, http://redstar.ru/vektory-razvitiya-voennoj-strategii/.

[2] For the 2020 report, please see Michael Kofman, Anya Fink, and Jeffrey Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*, CNA, 2020, https://www.cna.org/centers/cna/sppp/rsp/escalation-management.

Methodology

The research team conducted separate queries across Russian professional military journals and associated literature. The writings we consulted were primarily published within the last 10–15 years, with a specific focus on the last 5 years. However, we also used earlier Soviet writing and analysis to help build out the background and evolution of terminology. The report does not intend to be an exhaustive review of this literature. It does leverage Russian-language resources intended to be summative and comprehensive, compiling terms, references, and concept definitions.

The journals we reviewed included *Voennaya Mysl'* (Military Thought), *Strategicheskaya Stabil'nost'* (Strategic Stability), *Vooruzhenie i Ekonomika* (Armaments and Economics), *Vozdushko-kosmicheskie sily: teoriya i praktika* (Aerospace Forces: Theory and Practice), and *Vestnik AVN* (Herald of the Academy of Military Sciences). Also included were limited numbers of analytical opinion and commentary from Russian military thinkers in the publications *Nezavisimoe Voennoe Obozrenie* (Independent Military Review), *Voenno-Promyshlennyi Kur'er* (Military-Industrial Courier), and *Vozdushno-Kosmicheskaya Oborona (Sfera)* (Aero-Space Defense (Sphere)). The team also analyzed several books, which were referenced by or debated within some of these articles, and consulted several official and unofficial Russian military dictionaries, along with encyclopedias, proved especially useful for parsing complex concepts, offering diagrams, and defining key terms.

We began by identifying key concepts in and terms about threat perception, strategy, and military operations in speeches by Russian military officials and then traced them in professional military literature and military encyclopedias/dictionaries. We hypothesized that there was an evolution in Soviet-era concepts, and continuity in debates and conversations, with some new additions or interpretations. We found that this was indeed the case. The team examined Russian military writings focused on warfighting at the regional to large-scale level by querying the Eastview Russian-language military writings database and several journals available online. The articles were grouped into categories as follows: first, military strategy, operational art, and strategic operations; then lessons learned and future warfighting.

Some writings, for example those of Colonel General Vladimir Borisovich Zarudnitskiy, are intentionally over-represented in citations, as they were the most current, and also the most comprehensive, discussions from authoritative sources. They represented "best in breed" writing that offered a glimpse of the latest iteration of these concepts or ideas as they are being used in Russian military discussions. As a note of caution, we found some term definitions to be dated. There are notable changes over the past 10 years in how the Russian military discusses theaters of military operations and strategic operations; this subject is a moving

target. Thus, the Russian military lexicon continues to evolve, requiring occasional updates to our understanding.[3]

Key terms

Please see a longer annotated glossary at the end of the report.

Active defense strategy: a strategic concept integrating preemptive measures to prevent conflict, and wartime concepts of operations that seek to deny an opponent a decisive victory in the initial period of war, degrading and disorganizing their effort, while setting the conditions for a counteroffensive or attaining war termination. This strategy privileges a permanent standing force, arrayed as high-readiness operational formations in each strategic direction prepared to execute operations jointly.

Critical objects: a broad term for important military and civilian infrastructure targets that varies at strategic, operational, and tactical levels.

Disorganization of command and control (C2): measures aimed at complicating and fragmenting the functioning of an adversary C2 system, preventing effective management of forces, and achieving information superiority.

Forms and methods of warfare: forms include operations, engagement, combat, and strikes; methods are understood as the aggregate of forms, modern approaches, and procedures.

Initial period of war: according to Soviet and Russian military science, this is the most critical and decisive period of conflict when countries launch strategic operations with already-deployed forces.

Maneuver defense: a form of defense predicated on avoiding decisive engagement by withdrawing forces to degrade an opponent with artillery until a positional defense is mounted. This defense trades territory to preserve the force.

[3] In conducting this research, we want to note previous works that have tackled aspects of this subject, including Dmitry (Dima) Adamsky, "From Moscow with Coercion: Russian Deterrence Theory and Strategic Culture," *Journal of Strategic Studies*, vol. 41 (2018), https://doi.org/10.1080/01402390.2017.1347872; Andrew Monaghan, "How Moscow Understands War and Military Strategy," CNA, 2020, https://www.cna.org/CNA_files/PDF/IOP-2020-U-028629-Final.pdf; Lester W. Grau and Charles K. Bartles, *The Russian Way of War*, FMSO, 2016, https://www.armyupress.army.mil/Portals/7/Hot%20Spots/Documents/Russia/2017-07-The-Russian-Way-of-War-Grau-Bartles.pdf; Timothy L. Thomas, "Russian Military Thought: Concepts and Elements," MITRE, 2019, https://www.mitre.org/sites/default/files/publications/pr-19-1004-russian-military-thought-concepts-elements.pdf; in addition, *Soviet Military Operational Art* by David Glantz, and the work of other researchers who shed light on Soviet military strategy and operational concepts.

Military doctrine: defines military-political, military-strategic, and military-economic foundations for ensuring the country's security. Represents a system of officially accepted views and positions on the goals or character of a potential war, including how to prepare for it and prevent it.

Military science: a system of knowledge about the current nature and laws of war, how to prepare armed forces, and modern methods for the conduct of armed struggle.

Military strategy: a branch of military science representing the highest form of military art (art of war), a system of knowledge about modern wars, ways to prevent them using military means, methods and forms of waging war in general, and conducting military action on a strategic scale.

Noncontact warfare: conflict where much of the fighting will take place via standoff precision-guided weapons.

Nonmilitary means: broadly includes measure that are political, information (both psychological and technical), diplomatic, economic, legal, spiritual/moral, and humanitarian.

Operational art: theory and practice of preparation and conduct of operational-strategic and operational-military actions; the component of military art that resides between military strategy and tactics.

Strategic deterrence: integrated military and nonmilitary approaches to deter an opponent, manage escalation, or terminate a conflict, premised on the ability to inflict progressive costs.

Strategic operation: joint operation, integrating operational formations from different branches and arms to project power across the theater of military action with the intent of attaining strategic effects.

Key geographical units of military action: theater of war (TV), theater of military action (TVD), strategic direction (SD), operational direction (OD).

Scale of military action: tactical, operational-tactical, operational, operational-strategic, and strategic.

Types of war according to Russian military doctrine: military danger, military threat, armed conflict, local war, regional war, large-scale war.

Russian Military Strategy

In this section, we first seek to disambiguate military strategy from doctrine and the broader Russian concept of military science. The goal is to describe the core components of military strategy, but also offer a broader lens on how strategy fits into the Russian system of knowledge on military policy and security. Russian military strategy is informed by the formulations in the formally adopted military doctrine, the latest iteration of which (at the time of this writing) is the 2014 "Military Doctrine of the Russian Federation." **Military doctrine** defines military-political, military-strategic, and military-economic foundations for ensuring the country's security. It represents a system of officially accepted views and positions on the goals or character of a potential war, how to prepare for it, how to prevent it, and how to conduct it.[4] Military doctrine determines the character of dangers to the state, their historical context, and likely opponents or potential allies. It also outlines the general ways or methods for solving these challenges, and the developments in the armed forces required to meet them.

Doctrine is meant to rationalize political efforts with available military means to attain security for the state. It is subordinate to military policy, offering an initial scientific and practical basis (foundation) for developing military concepts, programs, and plans, which are examined concretely by other government documents. Historically, Soviet military doctrine was separated into socio-political and military-technical components. These were not always aligned, as the former was set by political leadership while the latter was dominated by military considerations. Contemporary Russian military doctrine offers the broad provisions of "military policy and of military economic support for defense of the state based on an analysis of the military risks and threats facing the Russian Federation (RF) and the interests of its allies."[5] The military doctrine also offers a typology of conflicts and periodization leading up to conflict (period of military danger and military threat).

Russia's military doctrine also discusses measures to deter conflict and manage escalation. Deterrence and escalation management together have been a focus of Russian military science, growing in significance since the 1990s—hence, the prominent addition of concepts such as strategic deterrence and nonnuclear deterrence in doctrinal texts. These are not just elements

[4] Nikolay Tyutyunnikov, "Military thought in terms and definitions," Военная мысль в терминах и определения, (2005), pp. 95-96.

[5] "Military doctrine of the Russian Federation," Военная доктрина Российской Федерации, *Rossiyskaya Gazeta*, Dec. 30, 2014, https://rg.ru/2014/12/30/doktrina-dok.html. English translation available at https://rusemb.org.uk/press/2029.

of military policy, they also involve the employment of nonmilitary means, distinct from traditional forms of military art.

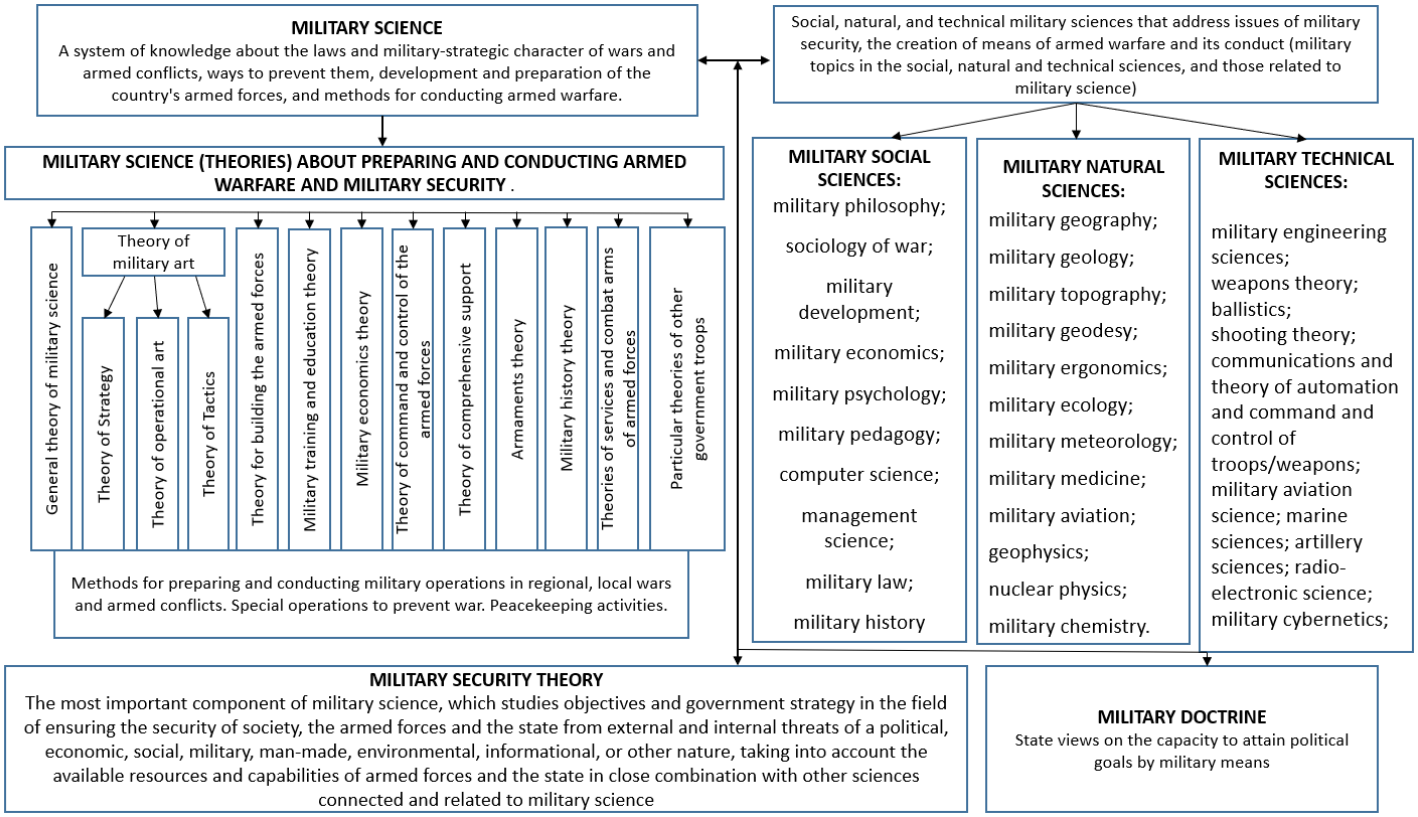
Military doctrine, especially its technical elements, is in turn informed by **military science.** In Russia, military science represents a system of knowledge about the current nature and laws of war, the preparation of armed forces, and modern methods for the conduct of armed struggle. It integrates the study of war along with social, natural, and technical sciences. In terms of subjects with military theory, its branches typically include military art (strategy, operational art, tactics), structure and organization of armed forces, military education, and preparation. Alongside these, the topics of study (theories) also include civil defense, military-economy, logistical support, military history, types of forces, and study of concepts in other militaries. A distinct place is reserved for the study of military technology. Military science encompasses a diversity of subjects: because war is seen as a complex social phenomenon, it requires the study of philosophy to understand socio-political causes of conflict, economics, history, geography, political science, education, and psychology.[6] Thus, according to one military terminology dictionary:

> **Military strategy** is best thought of as the highest form of military art, and a branch of military theory (under military science) that helps glue other elements together. At the theoretical level, military strategy is a system of knowledge about the nature of modern wars, ways to prevent them using military means, methods and forms of waging war in general, and conducting military actions on a strategic scale. Military strategy is also a practical set of measures and policies taken by the state, particularly higher-level military leadership, to prepare for defense during peacetime and manage the armed forces during a time of war. Military strategy is an integral component of broader military art (art of war), representing its highest field, which covers planning strategic operations, and the conduct of war in general. The elements of Russian military strategy include defining military tasks within strategic operations, the means necessary to carry them out, the general methods, forms and conditions for preparing and conducting military operations on a strategic scale. It also informs how to employ different types of forces in those operations, provide them with technical and logistical support, identify requirements for armed forces' development (structure and organization), and the socio-economic foundation that holds up the military. Military strategy, as an input, examines the military strategy of likely opponents, their plans, and views on the character of war.[7]

[6] D. Rogozin, "War and peace in terms and definitions," Война и мир в терминах и определениях, undated, http://rulibs.com/ru_zar/ref_dict/rogozin/0/j4.html. See also Tyutyunnikov, "Military thought in terms and definitions," pp. 128-129.

[7] Tyutyunnikov, "Military thought in terms and definitions," pp. 158-160.

Figure 1. System of knowledge on war and military security

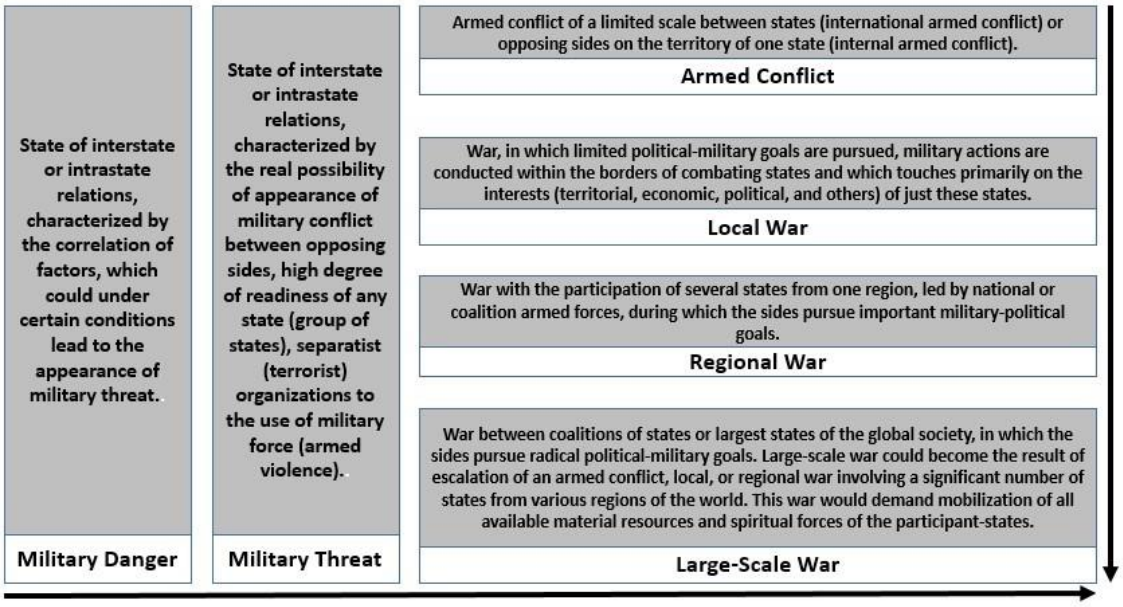


Source: Nikolay Tyutyunnikov, *Military thought in terms and definitions*, Военная мысль в терминах и определениях, p. 131.

Before embarking on a deeper discussion of military strategy, it is useful to cover a few more terms of reference that will be employed throughout this report. In Figure 2**,** we offer the current Russian typology for conflicts, as spelled out in the 2014 military doctrine, and distinct periods in the lead-up to a war. These periods are parsed by assessments of the evolving "**military-political situation**" (*voyenno-politicheskaya obstanovka*), and are consequently associated with specific actions the armed forces might undertake to deter an opponent, "neutralize" emerging threats, or prepare for war (in coordination with other efforts). This typology of war, and the periods leading up to it, helps describe the political-military goals pursued and define the anticipated scope of conflict. These are regularly referenced in Russian military discussions on the types of forces, operations, or capabilities that should be used, depending on the conflict scope in question.

When Russian military leaders speak to tasks or missions in the context of a local, regional, or large-scale war, they have distinct contexts in mind that are definable in Russian military thought. Typically, in thinking about a conflict with NATO and the US, the war type is generally confined to regional or large-scale war. While such a war can come about by way of escalation, beginning as a local war—for example, a crisis in Belarus—it becomes a regional war once a coalition of states is involved.

Figure 2. Typology of conflict periods and wars



Source: "Military doctrine of the Russian Federation," Военная доктрина Российской Федерации, *Rossiyskaya Gazeta,* Dec. 30, 2014, https://rg.ru/2014/12/30/doktrina-dok.html. English translation available at https://rusemb.org.uk/press/2029.

At this point it is useful to discuss the period of **military threat** and the **initial period of war (IPW),** because they feature prominently in Russian military thought. A period of military threat is likely to emerge from an intensifying crisis, or sharply worsening military-political situation, when there is a high chance of war, increased military activity, featuring evidence of readying or buildup of forces. The IPW constitutes an especially intense phase of the conflict, when states conduct combat operations with deployed forces, launch initial strategic operations, and seek to attain early war aims. Economies are transitioned to a wartime footing, and reserves or follow-on forces are deployed. This term, and its significance, dates to World War I, when it spoke more to mobilization, concentration, and operational deployment of forces ahead of planned operations or fighting. In World War II it took on a different character, involving offensive strategic operations by forces that were already prepared and deployed. The thrust of the concept has since then defined a period when governments would fight with forces deployed before the war to pursue their initial war aims.[8]

In its more modern iteration and usage today, the term signifies a period that may prove to be decisive for the outcome of the war, when opponents are likely to leverage the bulk of their military power to achieve maximum results or outcomes.[9] As will be discussed later, in a conventional conflict, this period is likely to be defined by massed aerospace and missile attack, aerospace defense, and countering operations, along with the beginning of strategic operations in continental (land) and maritime theaters. While there is no clear timeline that can describe this period, in its common usage the IPW is one of weeks rather than months, and speaks to an intense phase of combat and contending strategic operations launched by opposing sides.

Finally, Russian military discourse sometimes features a typology of war types, listing generations of war and their principal features. Table 1 outlines a typology for how the Russian military views the evolution of the character of war, divided into generations of warfare. Such divisions are not uncommon in analogous Western military discussions, but it is useful to consider how different military communities make choices in what they perceive as distinct generations of warfare.

[8] "War and peace in terms and definitions."

[9] Tyutyunnikov, "Military thought in terms and definitions," pp. 32-33.

Table 1. Russian views of the evolving character of war

Generation of war	Armaments	Scale of armed (military) actions	Goal of war
First	Steel arms	Tactical	Destruction of adversary, possession of his valuables and territory
Second	Gunpowder, smoothbore weapons	Tactical, operational-tactical	Destruction of adversary, possession of his territory or establishment of control over it
Third	Rifled high-capacity weapon with increased rate of fire	Operational-tactical, operational	Destruction of adversary armed forces' groupings, establishment of control over territory and its resources
Fourth	Automatic and reactive weapons, tanks, aviation, navy, transport means, and connections	Operational-strategic	Destruction of armed forces of the adversary, destruction of his economic potential and political system
Fifth	Nuclear weapons and its limited or mass employment	Strategic [operational-strategic]	Destruction of armed forces of the adversary, destruction of his economy and overthrow of his political system
Sixth	High-precision weapons based on land-air-sea, developed informational-space support	Strategic, operational-strategic, and operational	Conquering or establishing control over world resources of human livelihood, establishment of loyal power in states that have these resources on their territory, control of mass consciousness of peoples and large groups of people

Source: O.N. Ostapenko, S.V. Baushev, and I.V. Morozov. *Information-space support of RF armed forces groupings*. Информационно-Космическое Обеспечение Группировок Войск (Сил) ВС РФ: St Petersburg, 2012, pp. 92-93.

A strategy of active defense

Russia's Chief of General Staff has described Russian military strategy as one "active defense," most prominently in a 2019 speech to the Russian Academy of Military Sciences. Active defense conceptualizes what the Russian military should do to deter a war before it begins and the general tenets for how it would fight a war against a militarily superior opponent. The strategy is characterized by plans to take anticipatory actions during a threatened period (period of military threat) or crisis. This is not necessarily a preemptive strike, but can be inclusive of direct use of force against a massing opponent. Gerasimov (and others) has described "active defense" as a strategy that involves the "preemptive neutralization of threats to the security of the state." He characterized its tenets as "achieving surprise, decisiveness, and continuity of strategic action." Gerasimov explained, "Acting fast, we must preempt the adversary with our

preventive [*preventivnymi*] measures, engage in the timely discernment of his weak spots and create threats of inflicting unacceptable damage. This allows the capture and the continued possession of strategic initiative."[10]

Such measures are to be undertaken as a political crisis is intensifying, an opponent's forces are deploying, and the general military-political situation is perceived as trending toward conflict. The premise is to manipulate an opponent's calculus of expected costs relative to gains sought, while not necessarily denying the attack. This is the first meaning and implication of the term *active,* with emphasis placed on a period of danger or a period of military threat during which the Russian armed forces will take said preventive actions. As a defense management approach, this posits Russian requirements for a high readiness force, forward deployed or able to relocate easily, to conduct such activities in any direction along Russia's borders. What are examples of preemptive or anticipatory measures?

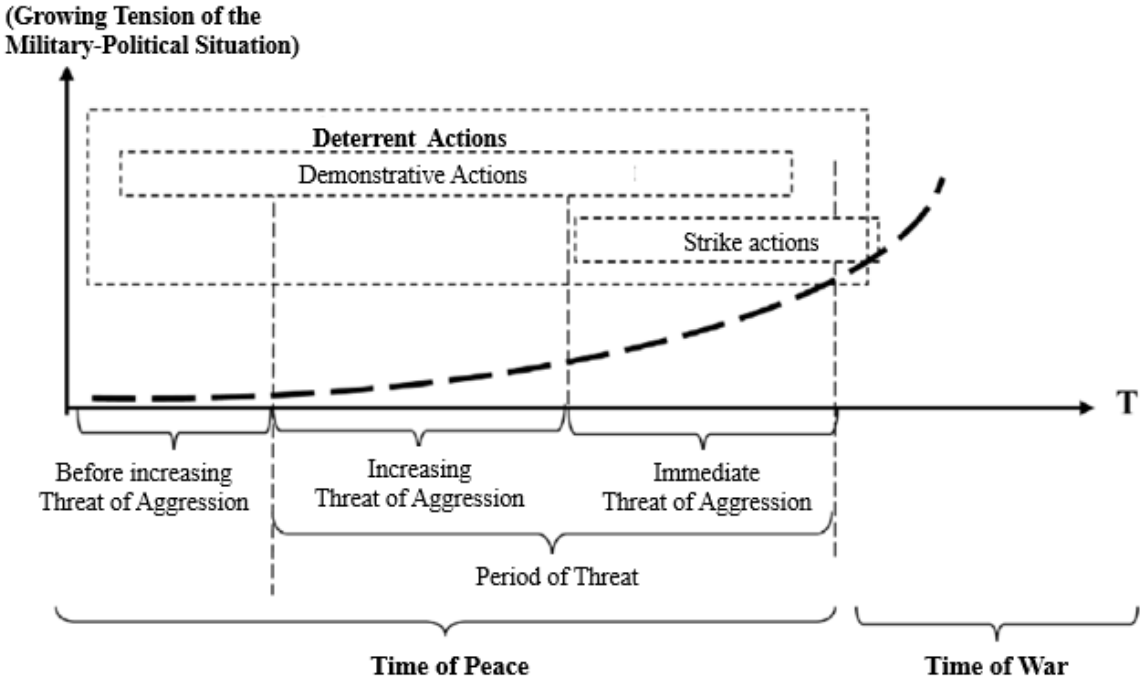
The Russian military considers these measures to include demonstrations of readiness, deployments, exercises, and weapon tests, or demonstrative actions. These can include military signaling (demonstrations of capability and resolve), demonstrative use of force, and limited strikes (single or grouped) with conventional weapons.[11] The damage levels in question are often described as forms of "deterrent damage"—a level of pain sufficient to deter a particular adversary, and consequently subjective, but not the kind of damage that an opponent would consider to be unacceptable.[12]

[10] Sviridova, "Vectors of development of military strategy," Векторы развития военной стратегии, *Krasnaya Zvezda*, Mar. 4, 2019, http://redstar.ru/vektory-razvitiya-voennoj-strategii/.

[11] A.V. Skrypnik, "On a possible approach to determining the role and place of directed energy weapons in the mechanism of strategic deterrence through the use of force," О возможном подходе к определению роли и места оружия направленной электромагнитной энергии в механизме силового стратегического сдерживания, *Vooruzhenie i ekonomika* 3 (2012), http://www.viek.ru/19/42-49.pdf.

[12] See Kofman, Fink, and Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*.

Figure 3. Place of deterrent (restraining) actions during different periods of the military-political situation (a variant)



Source: O.N. Ostapenko, S.V. Baushev, and I.V. Morozov, *Information-space support of RF armed forces groupings*, Информационно-Космическое Обеспечение Группировок Войск (Сил) ВС РФ (St Petersburg, 2012), p. 86.

Russian national security concepts, such as "strategic deterrence," tend to divide approaches for shaping an opponent's decision-making into forceful and nonforceful categories. The military further subdivides the "forceful" section, which falls largely under its purview, into nuclear and nonnuclear forms.[13] The nonnuclear capabilities discussed include long-range precision-guided weapons (VTO-BD) as their offensive component, along with weapons based on "new physical principles."[14] The latter comprise directed-energy, electromagnetic, radio-electronic, hypersonic, and other advanced emerging weapons considered strategically significant conventional capabilities. These can be used demonstratively to threaten adversary

[13] See Kofman, Fink, and Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*.

[14] Not to be confused with VTO, which are simply precision-guided weapons but in tactical-operational roles.

standoff strike systems, and to inflict calibrated forms of damage against critically important objects of military, political, or economic significance.[15]

Nonstrategic nuclear weapons (NSNW) are reserved for escalation management in the context of a regional war, after conventional means have proven ineffective, and for nuclear warfighting in the context of a large-scale war. They too can be used for demonstration, or in single or grouped strikes as part of an escalation management strategy. Their role in such concepts typically follows, rather than precedes, early attempts to employ nonnuclear deterrence.[16] Strategic nuclear weapons are generally reserved for nuclear retaliation. This triad of capabilities—strategic conventional, nonstrategic nuclear, and strategic nuclear—form what the Russian military functionally designates as its Strategic Deterrence Forces.

Active defense as a military strategy in wartime denotes operations premised on defensive maneuver, and a sustained counterattack throughout the depth of the theater of military action. It emphasizes defensive and offensive strategic operations during the IPW. This envisions degrading an opponent's forces via fires and strike systems, while parrying their initial offensive operations. It is not a theory of war that emphasizes positional defense at the outset. The means and ways of Russian military strategy are to inflict disorganization on the opponent via long-range strikes against critically important objects at operational depths and beyond.[17] Other effects can be attained via nonkinetic capabilities, such as information and electronic-fire operations, which will be discussed further in the report. The intended outcome of these operations is to disorganize an enemy's effort, degrade their ability to sustain operations, and affect their political will to continue armed struggle.

Seizing terrain is less relevant, with emphasis placed on the use of standoff weaponry, and precision and massed fires, plus decisive action by flanking formations.[18] The objective is to maximize the survivability of Russian units, and preserve the force. The operating assumption of the Russian military is that the military balance will prove unfavorable, and they cannot afford to misspend manpower or materiel. The overall task for Russian military strategy is to

[15] These are often paired with weapons based on new physical principles, such as directed energy, electromagnetic pulse, electronic warfare, and other emerging technologies. V.M. Burenok and Y.A. Pechatnov, *Strategic Deterrence*, Стратегическое Сдерживание (Moscow 2011), p. 11.

[16] Kofman, Fink, and Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*.

[17] See Russian military definitions for active defense, and defense activities: "Active Defense," Активная Оборона, Ministry of Defense of RF Encyclopedia, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=2748@morfDictionary; "Defense Activity," Активность Обороны, Ministry of RF Encyclopedia, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=2750@morfDictionary.

[18] A.A. Korabelnikov, "Relationship between military strategic operational art and tactics in present day conditions," Взаимосвязь военной стратегии, оперативного исскуства и тактики в современных условиях, *Vestnik Akademii voennykh nauk,* no. 2 (2019).

prevent an opponent from achieving a decisive outcome during the IPW, force them into a conflict of attrition, and inflict costs on their military and economic infrastructure so that they will seek war termination on acceptable terms. The strategy links strategic operations, considered to be the highest form of operational art, with the political objectives of the war.

Active defense also stipulates that, unlike military strategies during the Cold War (until 1986), the strategy does not seek to conduct operations to shift the conflict onto the adversary's territory at the outset of the war. The strategy, as devised, recognizes that, to a substantial extent, classical operational boundaries have been erased by the reach of weaponry and scope of modern combat operations. Therefore, attempting to shift the battle onto an opponent's territory via offensive land operations is of little practical utility given the scope of modern operations, the capabilities involved, and the lack of depth offered by physical terrain. At the same time, strikes against objects important to an opponent's ability to sustain the war effort can be conducted from the outset of the conflict at operational or strategic depths.

The "defensive" aspect speaks to the Russian military's expectation that in the IPW, their chief task will be organizing a defense against an opponent's massed aerospace attack and missile strikes, both against Russian forces and critically important objects at home. Operations to deflect that aerospace attack have a significant offensive component, hence the integration of Russian air defense and missile defense with tactical aviation and long-range aviation (discussed in the Operations section of this report). "Defensive" is a socio-political characterization about the expected political aims, or causes of major war. Consequently, while the military strategy may not envision the need for an initial offensive, it does include counteroffensive operations, retaliatory strikes, efforts at disorganization, and suppression of an opponent's effort. This is of course subject to political considerations: the fact that the military strategy is premised on deterrence and defense does not mean that the Russian military is not prepared to conduct offensive operations if that is what political aims dictate. Political leaders often use force to achieve aims under the conviction that the decision is compelled by adversaries, and they are fighting a defensive war via offensive means, or preemptively striking to attain security for lack of alternative options.

It is worth underlining two tenets within Russian military art that can be considered components of active defense: **maneuver defense** and **noncontact warfare**. In maneuver defense, there is a strong expectation that the battlefield will be fragmented (*ochagovy*), and there may be no contiguous front. Maneuver defense in this case means that there will not be a positional defense mounted with a high concentration of forces. Fixed battle lines of the kind that defined World War I and World War II, resulting in a large and continuously manned front, are not seen as a workable approach to modern warfare. If anything, the front is seen as "inverted," allowing both sides to attack the rear of an opponent's forces. Inversion also refers to aerospace attack and defense well behind the front lines, and the ability of maneuverable

formations to conduct flanking raids.[19] The general idea of a "front" appears to have become obsolete in Russian military thought. The density of forces to achieve those sorts of battle lines is no longer available in Europe—not even to Russia, whose active-duty ground forces constitute several hundred thousand. While positional defense, based on echeloned lines, prepared reserves, and fixed defensive emplacements, remains integral to Russian military planning, it is increasingly displaced in emphasis by maneuver defense.

Maneuver defense is premised on defeating and degrading an opponent while buying time and preserving forces at the expense of territory.[20] Fires and strike systems attrite the opponent's forces as they advance, forcing them to concentrate and redeploy ahead of each attack, while conducting brief counterattacks. Modern capabilities allow for deeper operational-level strikes with precision-guided weapons, laying down minefields remotely with ranged systems, and flanking counterattacks by highly mobile air assault troops.[21] Another element is setting up fire "caldrons," or pockets, by dragging an opponent into a predetermined sector where fires can be concentrated to destroy their forces.[22] Meanwhile, defending forces leverage their mobility to retreat across predetermined lines and attempt a positional defense where practicable.

Maneuver defense is intended to destroy an opponent's initial plan of operations, buy time for reserves or follow-on forces to arrive, exhaust an opponent's forces, and subsequently seize the initiative.[23] By forcing an opponent to conduct offensive operations, it maximizes the benefit of engineering units that can set up ambushes, barriers, and mines, along with fires that can better fix targets. Some units may conduct a positional defense, while others maneuver, but in general the idea is to sacrifice territory temporarily to attrite an opponent and set the conditions for a successful counterattack.

In the Russian view, modern warfare features a mix of positional and maneuver defense, not a complete divestment of one of the other. Russian military theorists continue to debate the distinctions between positional and maneuver defense, as they share the goal of enabling a

[19] Ivan Vorobyev and Valery Kiselev, "Everything about the Foundational Forms of Tactical Operations," Все об основной форме тактических действий, *Armeiskiy Sbornik*, no. 12 (2005).

[20] "War and peace in terms and definitions"; "Soviet military encyclopedia [1976-1980]," Советская военная энциклопедия [1976-1980], Militera.Lib.Ru, http://militera.lib.ru/enc/enc1976/index.html.

[21] A. Shelomski and D. Maksimov, "Maneuver Defense: History and Modernity," Маневренная оборона: история и современность, *Armeiskiy Sbornik*, no. 5 (2020).

[22] S. Buyanovski and V. Runov, "Maneuver Defense: Role and Place in Battle," Маневренная оборона: Роль и место в бою, *Armeiskiy Sbornik*, no. 1 (2016).

[23] For a good discussion of this topic by Western analysts, see Lester Grau and Charles Bartles, "The Russian Army and Maneuver Defense," *Armor,* Volume 2 (2021).

defense against a superior force.[24] However, maneuver defense is viewed as a more dynamic approach to the battlefield, designed to force an opponent into deploying their main forces and withdrawing to avoid being decisively engaged by a substantially superior adversary.[25] Therefore, the organizing principle of maneuver defense is preserving the force and sustaining a defense, while maximizing damage dealt to an opponent. In positional defense, the forces displace because they can no longer withstand the attack, or to avoid being enveloped, whereas in maneuver defense they elect to avoid a decisive engagement and displace in a coordinated manner to new lines. Prominent authors in the theoretical debate believe that neither form of defense is solely applicable, but, when it comes to combined-arms formations, the emphasis in Russian military thought and training appears to be on maneuver defense.[26] This prizes mobility in combined-arms formations, C2 across echelons, and the ability to quickly redeploy supporting fires.

Turning to noncontact warfare, the term is somewhat muddled, as there is a commonly held Russian military belief that modern warfare will feature forward operating sensors, fires, and precision strike systems. War will be driven by information, C2 systems, and precise means of destruction. However, noncontact speaks more to the employment of longer-range capabilities to attack critical objects at substantial operational and strategic ranges. There will indeed be sustained engagement of an opponent's forces throughout the theater, but not of the kind that characterized major wars of the 20th century, when most advanced capabilities still required a line of sight to the target. There are also unlikely to be operational pauses, and, because both sides can engage each other's forces in depth throughout the course of the conflict, the center of gravity will not be a critical piece of terrain. This view continues to be debated, as some question the prowess or ability of precision means to alter the need for "contact" warfare.

From a force structure and organization perspective, *active defense* means structuring the military around high-readiness combat groupings, manned and equipped in each strategic direction. These are operational-level formations, with supporting tactical units, that are deployed in each military district and capable of moving to a conflict zone on short notice. This is a significant accomplishment of the military reforms initially overseen by Chief of General

[24] V.V. Trushin, "On the Development of a Theory of Maneuver Defense," О развитии теории маневренной обороны, *Military Thought*, no. 3 (Mar. 2020).

[25] Here the ratios considered are reducing average casualties among the defending forces from a 1:3, suffered versus inflicted, and increasing that number towards 1:6 via maneuver defense. In general, the approach being advocated by V.V. Trushin appears to favor maneuver defense as the initial engagement and in cases where the opponent has significantly superior numbers, but strongly critiques over-emphasizing this form, and sees a mix of maneuver and positional as essential. The debate reveals a strong predilection in Russian military theory toward maneuver defense at this time.

[26] Ibid.

Staff Nikolai Makarov in late 2008 and Minister of Defense Anatoliy Serdyukov. In 2011-2012, Makarov was quite vocal in his belief that the military as a whole had failed to adapt to the requirements of modern wars—that it was unable to engage in noncontact warfare and was ineffective in an information-driven battlefield. Makarov was working to reform a large mass mobilization army, with dated stores of equipment, which in 2008 was still designed to take months to mobilize and deploy.[27] The Russian military had undergone several piecemeal reforms in the 1990s, which stabilized the force, but in practice much of the equipment available in cadre formations was not operationally ready, and the mobilization timetable was grossly misaligned with the pace at which combat operations develop.

High-level defense concepts have implications as defense management tools, intended to shape the bureaucracy and the military as an institution. They represent choices. Hence, *active defense* signifies a choice to focus on developing a force that is much smaller but is permanently ready, able to deploy substantial distances, and well equipped to succeed in what Russian military leaders see as the defining features of modern warfare. This can also be seen in the repositioning of tactical formations closer to where they are expected to be called on to carry out combat operations—for example, the reestablishment of divisions west of Moscow post-2014, and the increased logistical support, tactical aviation, rotary aviation, and other capacities to enable maneuver warfare in the western and southwestern strategic direction.

An important additional note: Active defense is not premised on area denial/anti-access (A2/AD), or on the efficacy of defensive capabilities at the operational level. This is a way to think about potential US military vulnerabilities, but not a correct interpretation of the Russian understanding of contemporary military art or military science. Indeed, such terminology does not appear anywhere in Russian military writing, and "active" by definition implies the conduct of offensive operations and maneuver defense, rather than betting on denial capabilities. Russian operational concepts are much more dynamic, showing no hard distinction in actions that comprise offensive and defensive operations, or a belief that A2/AD offers a viable theory of victory. The proposition that clear boundaries between offensive and defensive systems have been largely erased actually extends back to the late Soviet period of military thought.[28] Russian strategy is naturally informed by military technology and the modern forms of employing it, but it does not reflect a denial-based approach to warfare.

[27] "Nikolai Makarov's speech at the Academy of Military Sciences: 'A forced path of trial and error,'" Путь проб и ошибок вынужденный, *Military Industrial Courier (VPK)*, no. 12 (378) (2011).

[28] For more on these discussions during the Soviet period, see Dmitry Adamsky, *The Culture of Military Innovation* (Stanford: Stanford University Press, 2010).

Soviet origins

Active defense is not a new term in Russian military thought. As a term, active defense has appeared in debates among leading military theorists since World War I and the Russian Civil War. During the early 1920s, active defense was a tactical concept opposite passive defense. For example, Marshal Mikhail Tukhachevsky disliked active defense because in his view it required having parity of forces with that of the opponent. He saw it as an indecisive form of defense. Activity in his view meant counterattack and having deep echelons of available maneuverable reserves. Yet counterattacks required significant forces, and Tukhachevsky thought that to make active defense viable the defending side needed to have at least as much military power as the attacker. If this was so, then it should be going on the offense, because the offense was seen as generally more advantageous and decisive. Passive defense featured fortifications, entrenchments, and well-developed lines, which allowed a much smaller force to pin down a superior attacker and buy time for offensives or initiatives elsewhere.[29]

Tukhachevsky believed that active defense should be employed very rarely, in cases where the military is not prepared for an offensive, and argued for it to be erased from the tactical routines of commanders at all levels. His view was one perspective among many, and he frequently argued with A.A. Svechin, a revered Russian military strategist who was his contemporary at the time. The term evolved after World War II as "*activnost oborony*," or activeness in defense, quite closer to its contemporary meaning. This entailed continuity of action by the defending forces against an opponent, defeating them via intensive application of fires, disrupting offensive preparations, holding positions with maneuverable reserves, and employing counterattacks against enemy forces breaking through the lines.[30] As the term evolved it became more operational in nature and eventually came to reflect strategic precepts.

Conventional operations in Soviet military strategy saw a resurgence in the late 1960s, after a brief period of domination by offensive strategic nuclear weapons in Soviet military thought. In the late 1970s, it became clear that Soviet policy began positioning nuclear weapons as unusable for achieving political aims; hence, nuclear war was seen as something that "cannot be won and must never be fought." In the late 1980s the Soviet Union revised the political tenets in its military doctrine, and the military-technical dimensions had to catch up. By 1986

[29] M.N. Tukhachevsky, *Tukhachevsky M.N. Selected works in 2 volumes* Тухачевский М.Н. Избранные произведения в 2-х т, vol. 1 (1919-1927) (Military Publishing, 1964), http://militera.lib.ru/science/tuhachevsky/16.html#.

[30] "Defense Activity."

a concept of defensive sufficiency was adopted, which reduced Soviet military requirements to a level such that an opponent would see no advantage from launching a surprise offensive.

Defensive sufficiency shifted the debate on correlation between the offensive and defensive in war. Previous Soviet strategy was premised on the primacy of strategic offensive, but it was now seen as impractical and reckless, given the associated risks of nuclear escalation. Its tenets prioritized shifting the conflict onto an opponent's territory as soon as possible. The Soviet Union's political leadership established a defensive military doctrine in 1987. By this period in the Cold War, the USSR saw no political goals that could be achieved via an offensive war.[31] Consequently, the purpose of military operations was seen as primarily defensive and retaliatory.

Yet the military-technical aspects of the doctrine remained offensive. Soviet generals continued to define operations and the conduct of war in offensive terms. This discord was partly caused by an assessment that defense alone could not defeat or break down the enemy and therefore a counteroffensive would be necessary after the conduct of a strategic defense to attain a status quo ante bellum.[32] Inertia was another factor: military art and operational concepts would take years to adjust to the new political formulation. Force structure and procured weaponry offered strong legacy incentives to stick to existing concepts and requirements. However, questions remained as to how to attain war termination with defensive operations. An opponent had to be compelled toward peace on favorable terms.

The end of the 1980s saw the emphasis shift toward sufficiency and greater "activity" in defense. Defensive operations emerged as the way to counter an opponent's attack in the IPW. Soviet strategy had come to prioritize the IPW as the decisive phase of combat operations. Hence, defensive operations would be conducted alongside counterattacks whose purpose was to frustrate the enemy's offensive, seize the initiative, and create favorable conditions for follow-on operations that would amount to a counteroffensive. An active defense involved offensive operations, and the offensive was seen as counteroffensive to roll back an opponent's gains.

It is at this stage that "active defense operations" begin to emerge as a formulation in the twilight years of the Soviet Union, described in writing by leading Soviet generals, such as A.S. Kulikov and A.D. Nefedov.[33] However, Soviet literature in this period largely excludes the notion of conducting preemptive or preventive offensive operations. Such proposals would have been out of sync with the prevailing Soviet politics. At the time, these deliberations were held with nuclear weapons, not precision conventional weapons, foremost in mind. Given the

[31] Andrei A. Kokoshin, *Soviet Strategic Thought 1917-91*, (Cambridge, MA: The MIT Press, 1998), pp. 184-186.

[32] Ibid., pp. 187-189.

[33] Ibid., p. 190.

nuclear balance, there was no discernible benefit to preemptive nuclear use either in theater or at the strategic level. Hence, Soviet military strategy eschewed preemptive nuclear strikes, but did not offer clarity on preventive nonnuclear measures. Activity in military strategy centered on wartime rather than the deployment of forces, or their employment, to deter the opponent during a period of military threat.

As the Cold War faded, Soviet military doctrine reflected the general assumption that there were no political objectives that could be attained via an offensive war; hence, Soviet forces assumed that their war would be defensive in character, but nonetheless require offensive operations to prosecute. The correlation of the offensive versus the defensive in warfare remained the subject of debate, but the emerging trend was a diminishing difference between the requirements of offense versus those of defense. Terrain was steadily eliminated as a central objective as the USSR did not harbor expansionist goals in a conflict in Europe. Airpower grew in importance, as did long-range conventional strike systems, making operational maneuver groups and other formations less relevant to the outcome of a war. Growing sophistication and range of conventional strike power meant that the theater of military operations could be shifted to an opponent's territory without the need to introduce ground forces. Similarly, naval forces would operate closer to Soviet coastal waters and maritime approaches, under the assumption that operations in the maritime domain would also be primarily defensive, or retaliatory in character.

Active defense should be viewed in the context of a legacy strategy conceived, debated, and developed in the late USSR. This is not to say that strategy as an art form was influenced entirely in the Soviet period. On the contrary, Russian military thought shows strong influences from Russian imperial strategists before the revolution, and has been rediscovering military thinkers that lived outside the Soviet Union during the Cold War (such as Evgeny Messner). All of these are useful to consider as influences on Russian strategic culture and the development of the art of strategy.[34] They should be treated as sources of inspiration, but not as contemporary guides for strategy development where answers can be found to practical questions. The Russian military's adoption of active defense can also be interpreted as preferential treatment for the ideas of Svechin, over those of Tukhachevsky, who offered competing ideas in inter-war period Soviet military thought.

Strategy is typically evolutionary, rather than revolutionary, and active defense clearly evolves from active defense concepts of the late Soviet period. The practical aspects of Russian strategy making, operational concept development, organization of forces, armaments, support, etc., evince a direct lineage from late Soviet period deliberations, influenced heavily by doctrine and outlooks on military science of that time. Contemporary Russian military strategy has

[34] For a collection of selected works by Russian imperial military thinkers, see *Strategiya: The Foundations of the Russian Art of Strategy*, edited by Ofer Fridman (C. Hurst, May 27, 2021).

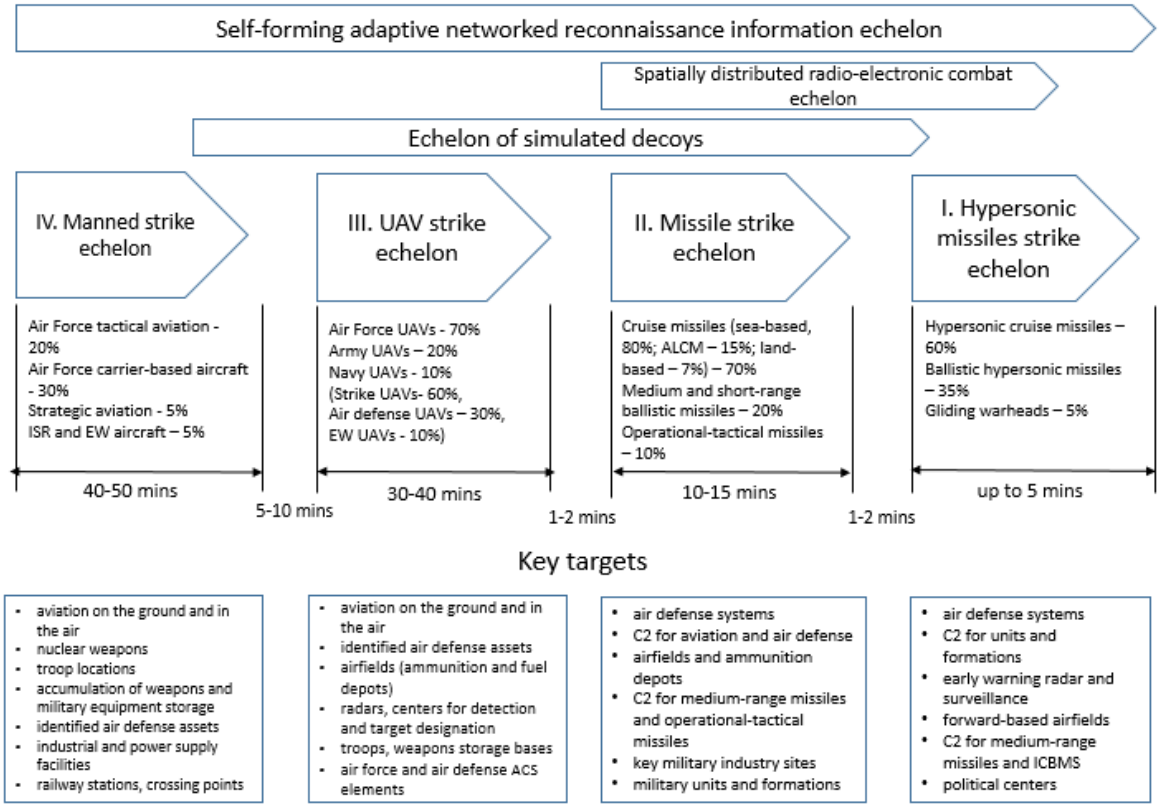
perpetuated many of the core assumptions of that period because the trends being observed were borne out as enduring features of modern warfare, as were many of the challenges or problems identified. Arguably, Russian military strategy today offers a much better alignment between political aims, military means, and the socio-economic requirements to support them in this iteration of "active defense" compared to the Soviet version. This is unsurprising: in the late 1980s military strategy was only beginning to adapt to new political realities, a new defensive military doctrine, concepts of defensive sufficiency, and conventional capabilities that were becoming more prominent and would come to shape the evolution of tactics and operational art to follow.

Massed aerospace attack and views on US concepts of operations

Russian military strategy is influenced by perceptions of adversary strategy—the concepts of operations and technologies being developed by potential opponents. These interpretations can be stylized with a set of overarching assumptions about what an opponent's strategy constitutes in practice. Russian strategy is oriented toward the prospect of a regional or large-scale war with NATO. It accommodates a range of conflicts, but it is aimed primarily at resolving that higher-order challenge. One of the principal challenges the strategy seeks to address stems from the Russian belief that the opening phase of a war with NATO will feature a massed missile-aviation strike. Here we should introduce the main operational concepts or challenges as the Russian military sees them, particularly in the IPW: **massed missile-aviation strike** (MRAU), **prompt global strike** (BGU), and, most recently, **integrated massed air strike** (IMVU). The latter, IMVU, is now described and interpreted as an evolution of the MRAU problem and a component of US multi-domain operations (MDO).

The Russian military is familiar with MDO concept development, although analysts view it through the lens of prior assumptions that the initial US campaign will comprise a large-scale missile and air attack. Prompt global strike remains more of a catchall term for a strategic intercontinental counterforce attack, using ballistic missiles, long-range bombers, and sea-based cruise missiles, against Russia's main conventional and nuclear forces. Conversely, MRAU and IMVU appear to be more operational-level discussions, though the strike carries strategic implications. Below is an example of how Russian military writing often depicts the challenge.

Figure 4. Possible composition of an integrated massed air strike (variant)



Source: D.V Mikhailov, "Future War: Possible order of a U.S. air attack in the context of a multisphere operation in 2025-2030." Aerospace-Forces. Theory and practice. Воздушно-космические силы. Теория и практика, no. 12 (2019), p. 85.

A fixation on the threat of massed aerospace attack from the US is not a recent trend in Russian military thinking—it was a staple of late Soviet military thought. Russian concepts for regional nuclear deterrence, which emerged in the late 1990s, were developed in part as a response to the threat of a US-led aerospace attack. The conventional military was not in a position to effectively deter or counter such a campaign, given its relatively shambolic state after the dissolution of the USSR and the Warsaw Pact. Russian understanding of the aerospace threat (increasingly linking air and space as one domain) evolved from historical Soviet-era concerns about NATO airpower, which themselves drew strong lessons from Germany's opening air attacks during World War II (particularly on the Soviet Union in the Great Patriotic War). However, aerospace attacks could now be conducted by advanced technological adversaries from great distances and across the full depth of Russian territory to achieve goals without

deploying ground forces to the theater. And, moving forward, they can be conducted with the support of pilotless (remotely operated) systems at even longer ranges and with faster speeds.

An aerospace attack could follow efforts by adversaries to internally destabilize Russia through nonmilitary means. Concerns about internal destabilization escalated after the Arab Spring, as evidenced in Gerasimov's discussion of the growing importance of nonmilitary means in 2013. As one analyst recently noted, a key characteristic of conflicts is the continued growth and increased complexity in nonmilitary means ("traditional-asymmetric-disruptive, scaled and decisive") and the increase in the importance of psychological combat. In turn, nonmilitary means "will allow [us] to prevent an armed conflict or halt it at various phases of development and transition to the resolution of the situation without the use of military force."[35] To some extent, this topic is fetishized by those who pursue it in the Russian military, but nonmilitary means have continued to capture the imagination of Russian military thinkers, especially post 2011.

Russian military writing also reveals two broad categories of activity in the evolution of a modern regional or large-scale conflict: a pre-conflict period involving nonmilitary means, psychological warfare, subversion, and the like; and an intense IPW that features the employment of advanced military technology in air/space, at sea, on the ground, and, most crucially, across the information spectrum.[36] There is an increase in the importance of space as a domain, and its transition as an arena for offensive and defensive actions, as opposed to just supporting functions.[37] Firepower and mass are now becoming only a part of a comprehensive and compound approach to inflicting damage on an opponent that begins with targeting of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), including in space, and critical infrastructure.[38] Also, informatization across the Russian armed forces has contributed to the creation of various "complexes" and "contours" or loops, building on two Soviet concepts we will discuss later: reconnaissance-strike and reconnaissance-fire.

The US concept of MDO features prominently in recent military writing and literature. Russian concept development is quite responsive to what Russians believe to be the trending doctrinal

[35] V.B. Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective," Характер и содержание военных конфликтов в современных условиях и обозримой перспективе, *Voennaya Mysl,'* no. 1 (2021).

[36] Aleksandr Serzhantov, Sergey Mazhuga, and Vladimir Loiko, "Wars of the future: what will they be like?," Войны грядущего: какими они будут?, *Nezavisimoe voennoe obozrenie*, no. 35 (2019).

[37] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

[38] Ibid.

and conceptual evolution on this side of the Atlantic. Here and elsewhere in the text we will feature excerpts from writing by authoritative sources such as Colonel General Vladimir Borisovich Zarudnitskiy, currently the head of the Russian Military Academy of General Staff, and formerly the head of the Main Operations Directorate of the General Staff.

MDO are interpreted as a much higher-level concept than envisioned by the US Army. For example, some write that a "global multidomain operation using **reflexive [control]** technologies at the political, strategic and operational-tactical levels" is a potentially new form of military art.[39] To be sure, "multidomain" ("multisphere" in Russian discourse) is not a new concept and "the need to integrate combat capabilities in all spheres of armed struggle in order to gain advantages over the enemy and reduce the vulnerability of their troops has always been obvious."[40] But the evolution of military technologies in conflicts suggests the centrality of this approach in modern warfare. In this regard, Zarudnitskiy writes the following:

> Multi-domain actions in a single combat space will be realized by remotely reducing the enemy's potential at any distance from its territory by simultaneously delivering global strikes from different directions with unmanned high-precision weapons of various basing, as well as functional software and hardware influence. At the same time, it is planned to carry out information-psychological and special operations, as well as to take non-military, asymmetric, and hybrid countermeasures.[41]

According to Russian military thinkers, the only way to counter this is to seize the initiative and carry out decisive efforts early in the conflict. Zarudnitskiy continues:

> Counteraction of multi-domain activities will require coordinated actions of the state in all spheres of confrontation within the framework of an active defense strategy, which, taking into account the defensive nature of the Military Doctrine of the Russian Federation, should provide for a set of measures to proactively neutralize threats to the security of the state.[42]

Furthermore:

> Changes in the methods of initiating and the nature of the conduct of military actions will be based on preempting [*uprezhdenii*] the enemy by improving the forms and methods aimed at conquering and maintaining dominance in all

[39] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

[40] A.G. Sokolov, "Tendencies of development of military art," Тенденции развития военного искусства, *Nezavisimoe voennoe obozrenie*, no. 36 (2019).

[41] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

[42] Ibid.

> spheres of confrontation using high-tech means of warfare in various spheres, as well as actively conducting information and ideological confrontation.[43]

Russian military writing alludes to a "functional defeat" of the opponent as one element of the strategy. These are premised on leveraging the inherent complexity of an opponent's way of war, their requirements for integration, simultaneity, etc. which also makes them vulnerable to counters. For example, as Zarudnitskiy writes:

> It is assumed that the beginning of the active phase will be determined by the degree of weakening or loss of the combat potential of the enemy's armed forces, primarily the strike potential. It will represent short-term stages of a massive complex impact, applied simultaneously in all spheres and throughout the entire territory of the state. New—not only physical—spheres of confrontation with new types of weapons are appearing, for which the priority is not physical, but functional defeat of the enemy. For example, a state, which is a recognized leader in the field of high technologies, creates on their basis a complex system of command and control of troops and weapons for conducting military operations. And the more complex the system, the more vulnerable elements in it, the defeat of which will allow to achieve the set goal.[44]

Zarudnitskiy continues:

> The development of means of warfare determines the transition from physical destruction (suppression) of the enemy only by fire means to complex (functional) impact on the basis of means of destruction (including high-precision weapons), reconnaissance, electronic warfare, information warfare (including software and hardware complexes) integrated into a single system. This comprehensive approach to the impact on the enemy in modern war is becoming an objective necessity, in contrast to the wars of the past, when defeat was carried out exclusively by means of fire.[45]

The Russian military takes a holistic view of the different means available to adversely impact an enemy system. They look beyond traditional fires and strikes to ways of affecting the software and hardware of opponent systems, combining precision weapons with forms of information and electronic warfare.

[43] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

[44] Serzhantov, Mazhuga, and Loiko, "Wars of the future: what will they be like?"

[45] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

The role of nonmilitary means

According to Russian officials and analysts, nonmilitary means broadly include political, information (both psychological and technical), diplomatic, economic, legal, spiritual/moral, and humanitarian measures.[46] Commonly mentioned examples include, but are not limited to, implementing economic sanctions, imposing economic blockades, forming coalitions and unions, breaking off diplomatic relations, and conducting information warfare.[47]

E.E. Kondakov notes that the usage of nonmilitary means differs based on capabilities, the political situation at that moment, and the current position on the conflict spectrum.[48] According to authors S.G. Chekinov and S.A. Bogdanov, nonmilitary measures offer a number of benefits in peacetime, including deterring armed conflict, stabilizing the international system, bolstering relations among states, and eliminating possible threats from adversaries.[49] Amid a political-military conflict, nonmilitary measures work to strengthen military actions by acting as a force multiplier, serving to weaken and reduce an opponent's forces and capabilities, and even completely eliminating a military threat.[50] Russian officials and analysts also frequently state that the realization of a military goal can depend on the coordination between military and nonmilitary means.[51]

In a 2013 article titled "The Value of Science is in Foresight," Gerasimov stated that "the role of nonmilitary methods in achieving political and strategic goals has increased, and in a number

[46]S.G. Chekinov and S.A. Bogdanov, "The Influence of Indirect Actions on the Character of Modern Warfare," Влияние непрямых действий на характер современной войны, *Voennaya Mysl,'* no. 6 (2011); V. V. Gerasimov, "Principal Trends in the Development of Forms and Methods of Employing Armed Forces and Current Tasks of Military Science Regarding their Improvement," Основные тенденции развития форм и способов применения Вооруженных Сил, актуальные задачи военной науки по их совершенствованию *Vestnik AVN*, no. 1 (2013), http://www.avnrf.ru/index.php/zhurnal-qvoennyj-vestnikq/arkhiv-nomerov/534-vestnik-avn-1-2013.

[47] V.V. Gerasimov, "The Value of Science is Foresight," Ценность науки в предвидении, *Voenno-promyshlennyi kur'er*, Feb. 26, 2013, https://vpk-news.ru/articles/14632.

[48] E.E. Kondakov, "Nonmilitary measures of ensuring the military security of the Russian Federation and the main problems of their realization," Невоенные меры обеспечения военной безопасности Российской Федерации и основные проблемы их реализации, Flot.com, https://flot.com/publications/books/self/safety/11.htm.

[49] S.G. Chekinov and S.A. Bogdanov, "Military Strategy: A Look Into the Future," Военная стратегия: взгляд в будущее, *Voennaya Mysl,'* no. 11 (2016).

[50] Ibid.

[51] S.G. Chekinov and S.A. Bogdanov, "Asymmetric Actions in Support of the Military Security of Russia," Асимметричные действия по обеспечению военной безопасности России, *Voennaya Mysl,'* no. 3 (2010); Sviridova, "Vectors of development of military strategy."

of cases significantly surpassed the power of weapons in their effectiveness."[52] He asserted that warfare now consists of a roughly 4:1 ratio of nonmilitary to military means.[53] To clarify, Gerasimov did not speak of the Russian approach to warfare, but Russian military impressions of US approaches. These were based on how they saw US involvement in the Middle East and support of so-called "color revolutions" in the former Soviet space. Gerasimov also noted that nonmilitary measures work in conjunction with a population's "protest potential" to achieve "desired objectives," underscoring a long-standing Russian threat perception about color revolutions and Western-backed regime change.[54]

This article, which was a summary of Gerasimov's annual speech to the Academy of Military Sciences,[55] is at times misinterpreted because of the focus on the nonmilitary-to-military ratio discussed. The ideas posited apply more to confrontation during a period of military danger or military threat, and less to actual warfare or armed struggle. There is a significant caveat here: nonmilitary means are conceived of as being more effective, or perhaps more commonly employed, in attaining political objectives, relative to military means. That is an important commentary on the utility of force and the different types of means used by states to attain political goals, many of which are pursued without fighting. This observation should not be surprising; most interstate competition is outside the realm of war or armed conflict, although it may entail militarized disputes and coercive diplomacy. Interstate warfare has become increasingly uncommon since the end of the Cold War, and wars are rare between great powers or major nuclear armed states.

Following the explosion of Russian military thought on nonmilitary means post-2011, the Chief of General Staff has seemingly sought to corral this discussion, and reorient it back to more traditional military strategy considerations. In his March 2019 speech at the Russian Academy of Military Sciences, Gerasimov noted that the "emergence of new spheres of confrontation in modern conflicts and methods of warfare increasingly shift towards the integrated application of political, economic, informational, and other nonmilitary measures, realized with reliance on military force."[56] According to Gerasimov, the military does take into account "all other non-military measures that affect the course and outcome of a war, provide and establish conditions for effective use of military force." Yet he emphasized that "the main content of military

[52] Gerasimov, "The Value of Science is Foresight."

[53] Ibid.

[54] V. V. Gerasimov, "Modern Wars and Real Questions in Regard to the Country's Defense," Современные войны и актуальные вопросы обороны страны *Vestnik AVN*, no. 2 (2017).

[55] Gerasimov, "The Value of Science is Foresight," Ценность науки в предвидении, 2013.

[56] Gerasimov, Red Star, Mar. 2019.

strategy is composed of questions on preparation for war, and its conduct, primarily by the armed forces."[57]

Gerasimov continues to set the tone for Russian military strategy discussions, which see the use of armed force as decisive in conflict and essential for backing nonmilitary forms of competition in peacetime. The military in his view serves a coordinating role for the application of military and nonmilitary measures, especially during tentative peacetime. However, its focus is on preparation for national defense, preventing conflict, and the conduct of war. Other departments or agencies are responsible for many of the nonmilitary activities or measures in pursuit of national security or strategic deterrence tasks, and they have their own budgets to execute those missions. In Gerasimov's view, confrontation in other spheres (nonmilitary) represents a separate area of activity with its own methods and strategies. It is the job of the Russian military to coordinate, rather than direct, those activities and functions.[58]

With this important corrective in mind, information confrontation, or struggle, is a frequently discussed instrument in the military's toolkit, although it sits astride military and nonmilitary measures, depending on what is being discussed as the means or form of action. Russian thinkers view information warfare as capable of disorganizing an opponent's C2, deceiving an adversary, sowing instability within an enemy's borders, and demoralizing an opposing population or military to the point that they even lose the will to resist.[59] A 2017 article in the *Journal of the Academy of Military Science* even appears to equate the use of information means with the use of traditional military means by stating that information has utility in solving tasks commensurate in significance and size with those requiring the use of fires.[60] This sentiment was echoed by the deputy chief of the Military Academy of the General Staff, Alexander Serzhantov, in a 2019 interview in which he stated that the use of information was now of utmost importance to create the proper conditions for a victory, and that information means can even achieve effects "comparable to the results of large-scale application of troops and forces."[61]

[57] Gerasimov, Red Star, Mar. 2019.

[58] Ibid.

[59] Gerasimov, "Modern Wars and Real Questions in Regard to the Country's Defense"; S.G. Chekinov and S.A. Bogdanov, "Initial Periods of War and Their Impact on a Country's Preparations for a Future War," Начальные периоды войн и их влияние на подготовку страны к войне будущего, *Voennaya Mysl,'* no. 11 (2012).

[60] N.N. Bolotov, "The Essence and Content of the Concept of 'War in the Information Sphere,'" Сущность и содержание понятия война в "информационной" сфере, *Vestnik AVN* 1 (2017).

[61] Sokolov, "Tendencies of development of military art."

Nonmilitary means feature prominently in Russia's strategic deterrence concept. They are also central to actions or measures taken during the pre-conflict phase and to Russia's escalation management strategy. Russian military analysts write that, while information has always been important in conflict, today nonmilitary means "complement the employment of military force, having an impact directly on the effectiveness of the realization of (military) forceful measures."[62] Information allows for controlling the population, shaping elite perceptions, and inflicting social disorganization that makes the opponent vulnerable. These methods establish favorable conditions for use of military force.

Military writings show concern about the emergence of psychological weapons and the effect of information-psychological combat on populations.[63] According to Zarudnitskiy, in the future, "measures of complex informational influence … will acquire, in our opinion, paramount importance in the interests of creating the most favorable conditions for achieving the set goals."[64] They "will acquire a purposeful and comprehensive character, become traditionally asymmetric-subversive, large-scale and effective, including due to the high level of technological equipment of the armed forces of the leading states of the world."[65]

Conceptual integration

In 2019, Gerasimov outlined that military strategy has evolved from that of annihilation and attrition to global war, nuclear deterrence, and strategies premised on indirect actions.[66] In Gerasimov's view, the US has been working on offensive concepts such as "global strike" and "multisphere battle," using technologies of "color revolutions" and "soft power."[67] The military and nonmilitary intersect in Russian views on US strategy, and have been described by Gerasimov as a "Trojan horse" strategy.[68] In Russian military conception, the US will employ political warfare to mobilize the protest potential of the population, leveraging a fifth-column

[62] Sokolov, "Tendencies of development of military art."

[63] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

[64] Ibid.

[65] Ibid.

[66] Sviridova, "Vectors of development of military strategy."

[67] Soft power is often featured in Russian military writing, but as a subversive concept and an instrument in political warfare. It is not interpreted in the same manner as the Western understanding of the dichotomy between soft and hard power. Multisphere is the Russian term for multidomain, commonly used to discuss MDO, but more as a strategic concept than an operational one.

[68] Valery Gerasimov's speech.

movement, and will then take advantage of the instability to deliver a decisive strike with precision-guided conventional weapons against critically important objects.[69]

Here, advanced military technology meets with political technologies to generate an integrated threat. This is where the massed rocket and aviation strike comes together with the use of various indirect means to shape a country's internal environment. In 2019, Gerasimov expressed the view that Russia is prepared to answer either strategy, and that its answer was "active defense." *Active defense* in this context is a countering strategy as a reply to how the Russian military sees the likely US approach, employing military capabilities (advanced conventional) in support of nonmilitary capabilities (political subversion). This problem statement is also incorporated in other concepts in Russian military thought, such as *indirect actions*[70] — an umbrella term for a system of warding or retaliatory measures taken against an opponent without engaging in direct armed confrontation, and similarly, offensive measures taken to subvert their activities.

This evolution of how the Russian military discusses the main challenge fits well with the main features of modern warfare that active defense is meant to address. The Russian military (senior leaders) see forms and methods of modern warfare as having transitioned from traditional to newer ones, sometimes under the catchall term of "new type warfare," though they also include a combination of elements of what was discussed in the 1990s and 2000s as 6th-generation warfare, noncontact warfare, and the rise of nontraditional wars. The main features or outlooks of this transition were outlined by Gerasimov in his 2013 speech to the Academy of Military Sciences and in well-known article in the Military-Industrial Courier in February of that year, along with prominent articles by other military theorists during that time.[71] They observe that, unlike 20th century conflicts, forces are not deployed in the IPW, but during peacetime, resulting in offensives and strategic operations beginning with already prepositioned forces. Operations are characterized as highly maneuverable, noncontact, with mass employment of high-precision weaponry, large-scale use of special operations forces, robotic systems, weapons based on new physical principles, and the participation of a strong civil-military component.[72] Simultaneous effects are achieved against forward enemy military

[69] Valery Gerasimov's speech.

[70] V. Suvorov, "Politics of Indirect Action," Политика непрямых действий, *Armeyskiy sbornik*, no. 4 (2020).

[71] Gerasimov, "The Value of Science is Foresight." These observations were echoed in writings by S.A. Bogdanov and S.G. Chekinov, "On the Character and Content of Wars of a New Generation," *Voennaya Mysl,* 10, 2013, and later by A.V Kartapolov. "Lessons of Military Conflicts and Prospects for the Development of Resources and Methods of Conducting Them. Direct and Indirect Actions in Contemporary International Conflicts," *Vestnik Academii Voennykh Nayk*, 2015.

[72] Ibid.

formations and facilities throughout the depth of their entire territory, with warfare taking place in all physical environments and the information space.

This invariably requires the Russian military to have C2 of their forces in a unified information space and to pursue information superiority.[73] Rather than focusing on destroying personnel and materiel, attaining new frontal lines and seizing territory, war is defined by the reduction of the military-economic potential of an opposing state. In wartime this takes place via destruction of critically important facilities, whereas in peacetime, or period of military danger, contests play out primarily through indirect and asymmetric means without direct force-on-force contact.[74] The Russian military is expected to be able to conduct classical operations, deal with traditional threats, and engage in asymmetric or indirect approaches where necessary. Therefore, new type or new generation warfare is less a substitution and more an evolution or expansion of Russian thinking about the character of war, the best ways of preventing or deterring it, and the kind of force that must be developed to deal with this spectrum of challenges.

Russian articulation of a strategy of active defense continues to evolve, but its thesis in terms of a regional or large-scale war appears to be a strategy that would deny an opponent the ability to conduct a paralyzing offensive and attain decisive victory in the IPW. If successful, the strategy would force a war with high levels of attrition, whereby operations that are both defensive and offensive in nature would help retain the initiative and dictate the course of the conflict. These operations benefit from more recently deployed means of electronic defeat, which can be used to disorganize an opponent. There is a strong desire to shape the cognitive space, placing emphasis on the psychological and not just the material means of warfare. The methods, however, are not based on simultaneity of operations, or shock and awe. Instead, the Russian military emphasizes deception, technical means to shape an opponent's decisions towards desired actions, and functional defeat of the opponent's information systems. The psychological aspect is an important auxiliary to material means in the war effort, and will be discussed further in this report.

Does theory meet practice, and does the Russian military reflect the kind of force designed to effect an active defense strategy? The answer is an unequivocal "yes," although any Russian military leader would consider the current state of the force a work in progress, even though the vision for its evolution is quite clear. First, it is a military designed for relatively high levels of readiness and manning; otherwise, it would be unable to conduct the sort of "active" deployments and demonstrative actions required of it. Therefore, it describes a military that is largely standing, as opposed to a mass mobilization army with cadre formations. Second, it is

[73] Ibid.

[74] Ibid.

a force with advanced capabilities—particularly, precision-guided conventional weapons, automated systems of C2, and advanced technical means for contesting the information environment. These capabilities are integral in actions that could be taken to neutralize threats before a conflict begins, and in sustaining pressure on an opponent throughout the theater of military operations. Third, the strategy speaks to a military that plans to defend forward, which means that it describes a force with good mobility or a forward defense posture. Active defense assumes that ready forces will be able to engage opponents from the outset of fighting and conduct a mobile defense while counterattacking. These considerations point to a military able to concentrate into joint or combined-arms maneuver formations, along key strategic directions. As a management instrument, this describes a force which is weighed more heavily toward capability, high readiness, and mobility, and less to capacity.

Does the Russian military believe it can win a sustained war of attrition? The likely answer is "no," and there is a visible trend toward greater capacity in the size of ground force formations, along with associated materiel deployed. However, there is a sense that the US or other opponents may not have the political will to engage in a prolonged conflict, especially when it is over limited political objectives, with the prospect of high cost and risk of escalation. In general, the latter is seen as a problem that is easier to resolve after successfully avoiding a decisive defeat in the IPW. The first task is to prevent a clear-cut US/NATO victory early on or unacceptable levels of damage to the homeland at the outset of a war.

The inescapable subtext in much of Russian writing is that its military is operating from a position of weakness, where general purpose forces are unlikely to deter a superior technological opponent. Much of the construct for operations therefore follows from the assumption that Russia will be disadvantaged and will require effective counters or asymmetries in its military strategy to prevail. Russian military thinkers regularly articulate the idea of asymmetric approaches, which often involve a strategy of the weaker or perhaps more constrained side that seeks to pull apart the advantages of a superior opponent.[75] These approaches can vary by conflict type, but the premise is isolating weak points, critical objectives that could be affected in a simultaneous or coordinated manner for maximum effect. "Cost-effectiveness" is another common slogan in discussing capabilities, and there is a veritable sense that regional war or large-scale war may result in nuclear escalation. Prevailing arguments on the efficacy of nonnuclear means generally delegate their efficacy to armed

[75] A.S. Fadeev and B.I. Nichipor, "Military conflicts of our time, prospects for the development of methods of their conduct. Direct and indirect actions in armed conflicts of the 21st century," Военные конфликты современности, перспективы развития способов их ведения. Прямые и непрямые действия в вооруженных конфликтах XXI века, *Voyennaya Mysl,'* no. 9 (2019).

conflict and local war, plus the initial phases of regional war, but do not see them as substitutes for nuclear weapons in larger conflict types.[76]

The Russian military is also institutionalizing and thinking doctrinally about how to better organize for future deployments outside of Russian borders, especially expeditionary operations. This has been referenced as a *strategy of limited actions* abroad. Working off the Syria experience, the basis of the strategy is creating a "self-sufficient grouping of troops (forces) based on a formation of one of the services, possessing high mobility and able to make the greatest contribution towards resolving assigned tasks."[77] In that case, the Aerospace Forces had the lead, but in a different situation the force could be structured around another service or independent arm. Gerasimov has noted that the conditions for a successful operation of this type include "retaining information superiority, readiness in command and control, comprehensive support, as well as the covert deployment of the grouping (of forces)."[78]

Operational art

Operational art can be thought of as the theory and practice of preparing for and conducting combined or independent operations by large units, such as armies and fleets, on entire "fronts." Historically, *fronts* were operational-strategic-level divisions of the theater that involved multiple army- or fleet-sized formations operating under a common purpose and command. Armies are the principal operational-level unit (today, combined-arms armies, tank armies, and air and air defense armies). Planning and devising operations consists of delineating functional tasks; organizing and supporting C2 and communication; meeting organizational and equipment requirements; and fulfilling requirements for preparation of a theater for said operations.[79] In Russian thinking, this is not simply a matter of organizing logistics or support at the operational level of war.

Russian military strategists pay particular attention to the changing dynamics of, and requirements for, managing larger formations. Military technology, science, organizational structures, and military history shape Russian thinking on operational design. According to Soviet military strategist Svechin, new military means affect strategy, but they do not lead to

[76] A.E. Sterlin, A.A. Protasov, and C.V. Kreidin, "Modern transformations of concepts and power tools of strategic deterrence," Современные трансформации концепций и силовых инструментов стратегического сдерживания, *Voennaya Mysl,'* no. 8 (2019).

[77] Sviridova, "Vectors of development of military strategy."

[78] Ibid.

[79] David Glantz, *Soviet Operational Art: In Pursuit of Deep Battle*, (New York Frank Cass, 1991), p. 10.

the creation of a new one.[80] Military strategy is therefore insulated from quick or sudden changes, and is not directly tethered to new developments in military technology. However, this is less so with operational art, which serves as a bridge between tactics and strategy.

The historical evolution in Russian military thinking can be roughly broken down as moving from a single decisive battle to successive battles, to the concept of the deep battle and deep operation, followed by a revival of strategic operations.[81] Much of the early Soviet thought in the inter-war period focused on how to return maneuverability to the battlefield. Operational art enabled a "way out of the positional deadlock in military art during the First World War."[82] While not dismissing the idea that one can destroy an adversary's army in a single operation, early thinkers, such as Tukhachevsky, focused on the need to think of destroying enemy forces through a "series of sequential (successive) operations."[83] These ideas were also informed by the Russian Civil War and the Soviet-Polish War, where maneuver warfare—rather than static battlefields and continuous fronts—was a common feature.

By the mid-1930s, the idea that war at the operational level rested on the successful execution of successive operations evolved into the concept of deep battle and deep operations, culminating in its sanction as doctrine in the *Field Regulation (Ustav)* of 1936. Tukhachevsky, commenting on and quoting the regulation, which he helped write, asserted that the enemy must be "chained to the full depth of his position, surrounded and destroyed" through the proper use of the infantry, supported by aviation and artillery.[84] The concept of the deep operation, although its popularity ebbed and flowed in the 1940s and 1950s, served as part of the foundation of Soviet thinking through the 1980s, and its effects are arguably seen in current Russian thinking about operational art.[85]

The evolution of Soviet thinking can be summarized with the theory of successive operations in the 1920s, followed by deep battle and deep operations in 1930s, the artillery and air offensive in mid-1940s, and a relatively dormant phase in the 1950s and early 1960s.[86] A period of stagnation in operational art ensued in the 1950s and 1960s, largely due to the belief that nuclear weapons would achieve key strategic goals, and that they could do so independent

[80] К.А. Trotsenko, "Information confrontation in the operational-tactical control link," Информационное противоборство в оперативно-тактическом звене управления, *Voennaia Mysl,'* no. 8 (2016), pp. 20-25.

[81] Glantz, *Soviet Operational Art: In Pursuit of Deep Battle*.

[82] N.V. Ogarkov, "Deep Operation," Глубокая операция, Soviet Military Encyclopedia ed. USSR Ministry of Defense (Military Publishing), оветская военная энциклопедия, http://militera.lib.ru/enc/enc1976/index.html.

[83] Tukhachevsky, *Tukhachevsky M.N. Selected works in 2 volumes.*

[84] Ibid., p. 245.

[85] Kokoshin, *Soviet Strategic Thought 1917-91*.

[86] Glantz, *Soviet Operational Art: In Pursuit of Deep Battle*, p. 12.

of activity at the operational level of war with conventional forces. That thesis eroded in the late 1960s, with an increased focus on the theater, front, and army levels of operational art in Soviet military thought. There was also a strong shift in emphasis towards the IPW in the 1980s, followed by acceptance that the defensive and offensive were slowly disappearing as clear distinctions. Strategic operations would be both defensive and offensive in nature, even as the character of military doctrine shifted to the defensive.

The Russian military continues to develop operational art based on the observed trends and developments in military science. Discourse on operational art often positions it as the implementing measures, or ways, by which strategic concepts, such as strategic deterrence, are realized. For example, A.A. Korabelnikov defined the main components of Russian operational art as follows:

> The main content of operational art will be a set of measures for strategic (nuclear and non-nuclear) deterrence and prevention of military conflicts, information operations (actions, campaigns), operations in the information and communication space; covering the land part of the state border; conducting operations (combat actions) in armed conflicts, and in operations to maintain (restore) international peace and security.[87]

Speaking more broadly, Korabelnikov discusses military art as consisting of "military strategy, operational art, and tactics," with operational art as the connection between strategy and tactics.[88] He states the following:

> Operational art, on the one hand, is subject to strategy, and at the same time it occupies a leading position in relation to tactics, determines their goals and directions of development. There is also a feedback. The development of tactics, the emergence of new ways of waging combat has an impact on operational art, and operational art, in turn, affects the development of strategy.[89]

The strategies outlined in his writing include classical strategies of annihilation, asymmetric strategies of indirect actions, and a combination of all these methods, called *hybrid.*[90] Korabelnikov discusses some of the prevailing trends today in operational art:

> Of the three most important components of military operations—maneuver, fire and assault by troops—the skillful combination of which has always achieved and will achieve decisive results, the first two, that is, maneuver and fire, are becoming increasingly important. Assault by troops, which previously predetermined the outcome of the battles, will be used today, and even more so in the future, only to complete the defeat of the enemy. The role of maneuver

[87] Korabelnikov, "Relationship between military strategic operational art and tactics in present day conditions."

[88] Ibid.

[89] Ibid.

[90] Sokolov, "Tendencies of development of military art."

> and fire is to prepare the assault and increase its strength, without compelling troops, as in the past, at the cost of heavy losses to overcome the enemy. There is also a direction in the development of tactics as increasing the role of information superiority over the enemy in battle, or, in other words, the transition from being "over-armed" to "over-informed." Advances in automatic computer processing, intelligence, navigation and communications provide the ability to accurately pinpoint in day, night, and other limited visibility environments the location of one's own and enemy troops, as well as in a short time to collect, process, and send relevant data to thousands of addresses.[91]

Thus, Russian thinking on operational art continues to leverage traditional strengths in fires and strike systems, but increasingly seeks to preserve the force and avoid costly offensives. There is an earnestly held belief that attaining information superiority, better C2, and decision-making advantage will further offer an edge over opponents. The trend is toward attaining synergistic effects but also looking for ways of fighting that are smarter, with less reliance on mass due to the much lower availability of manpower and materiel compared to Soviet concepts of operations. Ironically, these still rely on massed employment of artillery fires, a historical mainstay in the Russian ground forces, with the addition of precision and ability to target at much greater depths.

[91] Korabelnikov, "Relationship between military strategic operational art and tactics in present day conditions."

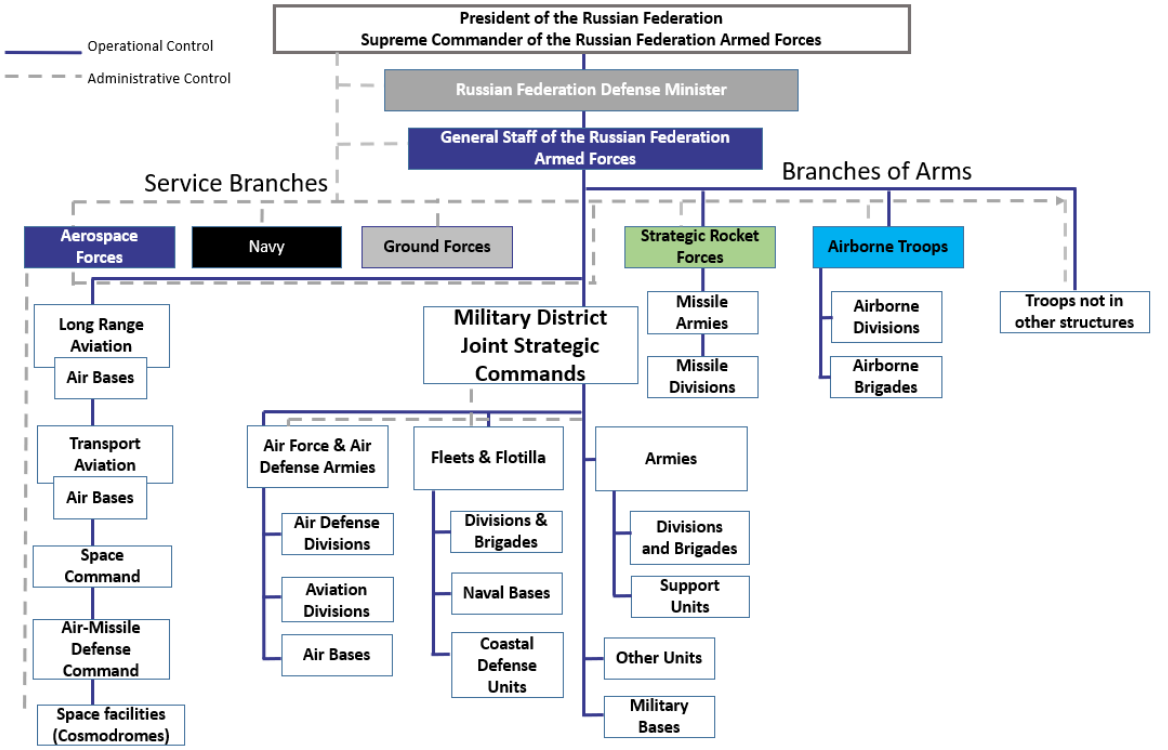
Strategic Operations

A *strategic operation*—a series of operations linked by a common purpose and organization—is the highest form of operational art in the Russian military. Its objectives are strategic and form a bridge between operational actions and the goals of Russian military strategy. These operations are intended to achieve military-political goals, representing defining constructs within Russian military strategy as it is applied. To better discuss the subject of strategic operations, it would be helpful to establish some key terms of reference and attain an applied understanding of the Russian military lexicon, which is commonly used to describe operational concepts.

Figure 5 shows the structure of the RF armed forces: There are three branches *(vid)*—the ground forces, the Navy, and the Aerospace Forces; and two independent arms *(rod)*—the Strategic Rocket Forces, and the Airborne Troops. There are also troops not included in the regular branches of the armed forces—the special operations forces, and the Material Technical Support system (the rear).

Russian formations and units can be seen as separated into five levels of echelonment. Tactical formations are divisions and brigades, generally operating within a range of 0-100 km. Operational-tactical formations are less common, usually Army Corps, most of which are assigned to fleets. These operate at greater depth towards 500 km. Armies are operational-level formations, the hubs of the Russian military system to which tactical units are assigned, operating at 500-1500 km. Fleets are operational but also work as a strategic-operational formation, i.e., at a higher level. Though typically at this level Joint Strategic Commands (JSCs) can be found that govern entire strategic directions at ranges of thousands of kilometers. National-level authority has control of strategic and global level matters beyond specified theaters.

Figure 5. Structure of the RF armed forces



Source: Adapted by CNA from Charles Bartles and Lester Grau, The Russian Way of War, Foreign Military Studies Office, 2016, p. 27.

Geographically, Russian military planning is oriented around five strategic directions: Western, Southwestern, Central Asian, Eastern, and Arctic. Each of these directions is the responsibility of a JSC headquarters, four of which are based on military districts and the fifth on the Northern Fleet. Each district is led by a JSC, which is responsible for housing the forces and retains operational-level control of most of the units in wartime. The command is responsible for a "strategic direction," which consists of operational directions that further subdivide an area of responsibility. The JSC essentially runs the fight, takes in units from other military districts, and assigns tactical units as necessary to operational-level formations, which are armies, fleets, and air and air defense armies. The JSC controls most of the capabilities housed inside its respective military district, except the Strategic Rocket Forces (RVSN), Airborne Troops (VDV), Long-Range Aviation (LRA), Military Transport Aviation (VTA), or special purpose units (SPN). These units may be attached to regular formations or perform independent missions as deemed necessary by the General Staff.

Figure 6 shows the JSCs and their respective military districts.

Figure 6. Map of JSCs and their respective military districts

Source: CNA.

Over the last several decades, the Russian military has spent a considerable amount of time reworking C2 arrangements.[92] The General Staff plays a central C2 function in peacetime and wartime and, more broadly, it is the way by which the Russian military does "joint" planning. In 2014, Russia established the National Defense Management Center (NDMC), intended as a central node or a "nerve center" for all defense- and emergency-related C2 functions. This center is a peacetime high command of sorts. In wartime, the military districts will subsume authority over key state functions within their respective regions, and the military structure will take over aspects of the economy or infrastructure, placing them on a mobilization basis. This transition can take place during a period of imminent threat, or the IPW. Hence, civilian ministries participate in strategic command staff exercises to work out coordination, but also to simulate the processes of a wartime footing.

To better understand the echelonment of Russian military concepts, it is important we consider four main constructs. The theater of war (TV), theater of military actions (TVD),

[92] For an extensive discussion, see Greg Whisler, "Strategic Command and Control in the Russian Armed Forces: Untangling the General Staff, Military Districts, and Service Main Commands," *Journal of Slavic Military Studies*, no. 4 (2019), no. 1 (2020), and no. 2 (2020).

strategic direction (SD), and operational direction (OD). The TV is a broad reference for a vast geographic theater, such as the European or Asiatic, consisting of several TVDs. The theater of military action, commonly also translated as theater of military operations, is delineated by the General Staff. It can be a temporary or standing designation. The TVD may comprise several strategic directions, and, as mentioned above, the job of the JSC is to command and field forces in a strategic direction. One analyst describes this as follows:

> Strategic actions in the TVD, as a form of employment of troops (forces), take place as the result of a merger between a strategic operation at the Continental TVD and strategic actions (strategic operations) on the Oceanic TVD. They are a set of coordinated and interconnected actions of troops (forces) in one or several strategic directions and independent operations carried out according to a single concept and plan.[93]

Unfortunately, the matter of TVDs is somewhat complex because at one point there were standing continental TVDs (known as KTVDs) and oceanic TVDs (OTVDs). These terms have fallen out of use, even though the General Staff is expected to designate TVD divisions in a time of war. Nonetheless, it is useful to review what was known about TVDs, strategic directions, and operational directions, along with how the Russian and Soviet military has historically viewed this subject. TVDs were delimited to continental, oceanic, maritime, and aerospace. In the European facing part of Russia, they were once listed as Northwest, West, Southwest, and South.[94] In Asia, according to one dictionary of military terms, they included the Near-east, Mid-east, and Far Eastern TVD. Each TVD had a strategic direction, composed of operational directions, and further divisions known as strategic regions. Strategic regions were sectors with defense-industrial production, population centers, and the like. They could serve as operational goals or military objectives. Standing TVDs no longer appear to exist, or at least have fallen out of reference to the point that they cannot be confirmed.

OTVDs have disappeared from regular references in Russian military writing. However, operational zones within oceanic TVDs were typically 1000-1500 km for a fleet, and 500 km for a flotilla or squadron.[95] These ranges of operation were determined as distance from the Russian coastline. The size of operational zones in a theater depended on the military-political situation, correlation of forces and means, and the tasks and missions in the theater in question. When it came to the navy, each fleet had its own operational zone of variable size. Strategic directions could include an entire continent in depth, but generally were 2500-3000 km in

[93] O.N. Ostapenko, S.V. Baushev, and I.V. Morozov, *Information-space support of RF armed forces groupings*, Информационно-Космическое Обеспечение Группировок Войск (Сил) ВС РФ (St Petersburg, 2012).

[94] "War and peace in terms and definitions," p. 280.

[95] Ibid., pp. 277-279.

scope, whereas operational directions ranged on average 700-1000 km. Instead of OTVDs, there are now regular references to *morskie napravaleniya*, or sea directions. Sometimes they are used in the manner of strategic directions, for example West or Southwest, and others more generally to discuss naval operations, missions, and tasks. In the 2015 Russian Maritime Doctrine, the term of usage is "direction," not TVD.[96]

Within a theater there were typically two types of actions, strategic and combat. Strategic actions can take place in peacetime or wartime. They speak to military uses at the operational-strategic level to achieve political goals. Combat actions are a more specific subset, referencing tactical-operational combat operations to achieve military goals. Therefore, TVDs are the bounded space within which strategic actions take place to achieve political goals. They are further subdivided into strategic directions, and then operational directions along which combat actions are undertaken to achieve military goals in wartime. See Table 2.

Table 2. Comparative characteristics of key parameters of forms of military actions

Titles of signs and conditions	Operation	Battle	Combat actions	Engagement	Strike
Level of goals and tasks	From strategic to operational-tactical	From strategic to operational-tactical	From strategic to tactical	Tactical	From strategic to tactical
Structure of troops (forces)					
Scale of actions in geographic space			No less than the area of actions of units	Area of actions of units and less	From global to minimal space
Duration of actions	4-6 days and more	From 1-3 hours to 1-3 days	Unlimited	From seconds to days and more	From a fraction of a second to several days
Components of the actions (methods)	Operation of smaller scale, battles, fights in various combinations	Fights, strikes	Sequential and (or) simultaneous battles, fights, strikes	Sequential and simultaneous conduct of fires and strikes	Destruction (suppression) of the adversary) with troops (forces)
Scale of the maneuver	No less than operational-tactical	From strategic to tactical	From strategic to tactical	Tactical	Corresponding to the scale of the strike

[96] See "Maritime Doctrine of the Russian Federation," Морская доктрина Российской Федерации, 2015, p. 19.

Titles of signs and conditions	Operation	Battle	Combat actions	Engagement	Strike
Level of coordination of actions	Necessary no less than at operational-tactical	Necessary no less than at operational-tactical	Desired, but not always implemented		At level corresponding to the scale of the strike
Necessity of design and plan	Mandatory design and plan	Necessary no less than at operational-tactical	Desired design and plan		Design is mandatory, plan is desired

Source: O.N. Ostapenko, S.V. Baushev, and I.V. Morozov, *Information-space support of RF armed forces groupings,* Информационно-Космическое Обеспечение Группировок Войск (Сил) ВС РФ (St Petersburg, 2012), pp. 66-67.

The Russian military arrays its forces in what is commonly termed "temporary" or "standing" joint combat groupings. They are also described as "interdepartmental" groupings because they may involve supporting forces from other ministries. In select cases where other countries are involved, such as Belarus and Armenia, these are referred to as a "regional" grouping of forces (which can be coalition based). For example, a standing joint formation can be seen in the case of the Russian expeditionary operation in Syria. These standing formations can exist at different echelons. An operational-strategic formation is typically joint; an operational-tactical or tactical formation most likely comprises a combination of arms within the same branch. An example of a permanent operational-tactical level grouping is the Army Corps. Many of these formations, except the 68th Army Corps, are subordinate to fleets.

Russian military thinkers highlight the increasing "jointness" and unity of effort within these groupings arrayed in each strategic direction.[97] This formation construct is an essential element of organization within Russian military strategy, which leverages high readiness joint formations (operational level) deployed along prioritized strategic directions. Each JSC is therefore prepared to command not only its own formations but also those from other supporting military districts that serve as force providers.

[97] Sokolov, "Tendencies of development of military art"; Serzhantov, Mazhuga, and Loiko, "Wars of the future: what will they be like?"

Origins of Russian strategic operations

The concept of "strategic operations" has become a focal point in Soviet and subsequently Russian military planning. Initially, it centered on the complex preparations required before a planned battle, but in time the idea evolved to encompass the operation itself.[98] As discussed in the previous section, in the 1920s, military thought shifted to discussions about operational art, its connection to operations at the "frontal" and "army" levels, as well as the theory of "deep battle." The concept of a strategic operation was reinvigorated during the Great Patriotic War, 1941-45, but more in practice than in theory (the term did not appear commonly) as key battles involved the headquarters directing multi-front strategic defensive and offensive operations.[99] In the context of the Soviet front in World War II, *strategic operations* meant conducting joint operations along several "fronts," each of which had multiple armies.

The term started appearing in works in the 1960s, and began to be applied retrospectively in discussions, initially to the Civil War of 1917-1922, then to World War I.[100] In the 1980s, the General Staff developed criteria for what is understood as a "strategic operation." The criteria involved "strategic significance of goals and results of the operation; quantity of participating fronts (usually, two or greater), [units] of various types of armed forces; planning and leadership of the operation by the Stavka (high command)."[101]

According to one analyst, until the 1990s, the Soviet strategic operations system consisted of the following:

> two global operations: operation of the strategic nuclear forces and the strategic operation on countering an adversary aerospace attack; five types of operations at the TVD: strategic offensive (counter-offensive) operations in the continental theater of operations, strategic defensive operations in the continental theater of operations, strategic operations in the oceanic theater of operations, as well as strategic air and air defense operations in the theater of operations. At the operational-strategic level, they distinguished the operation of the Strategic Rocket Forces, the operation of the aviation nuclear forces, the operation of the naval nuclear forces, front and naval operations, air and anti-

[98] N.F. Kovalevskiy, "Strategic operation as a category of Russian military science," Стратегическая операция как категория отечественной военной науки, *Voenno-istoricheskiy zhurnal*, no. 9 (2011).

[99] Ibid.

[100] See Russian military dictionary, referencing strategic operations beginning in 1914 and 1917-1922. "Strategic operation," Стратегическая операция, Ministry of RF Encyclopedia, Энциклопедия, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=14374@morfDictionary.

[101] Kovalevskiy, "Strategic operation as a category of Russian military science."

aircraft operations, large amphibious, air-sea, amphibious and amphibious operations, space and anti-space operations.[102]

According to the RVSN dictionary, a strategic operation "involves a correlation of agreed [on] and interrelated goals, tasks, place and time of strikes, operations, and combat actions of [armed forces units] carried out simultaneously and sequentially in a unified scheme and plan to achieve intended strategic goals."[103] The nature and selection of the strategic operation is determined by the "political goals of the conflict, goals and tasks of the conducted operation, the military-economic capabilities of the state, combat capability of own forces and that of the adversary, the physical-geographical environment and specificities of the TVD, the system of command and control of forces, level of their operational and combat preparations."[104]

Present-day strategic operations take advantage of evolution in military technology used in offensive (strike), defensive, information, and other operations.[105] Today there are broadly four standing strategic operations, which have integrated several others that existed previously. These include a strategic operation in the theater of military operations (SOTMO), a strategic aerospace operation (SAO), a strategic operation of nuclear forces (SONF), and a strategic operation for the destruction of critically important targets (SODCIT). Prior iterations included a strategic operation in the oceanic theater of military action, and a strategic operation in a continental theater of military action, but these have been consolidated in recent decades. SOTMO in particular appears to be a consolidation of the continental and oceanic strategic operations.

Strategic operation in a theater of military operations (SOTMO)

TVD, also often described as a theater of military actions, can be both functional and geographic. Therefore, this operation is one of the more broadly framed concepts as it describes a set of coordinated operations and actions of various types of armed forces carried out within the boundaries of a theater of operations to achieve military-political goals. The operation is carried out by ground forces and the Air Force, with the participation of a certain part of the Strategic Rocket Forces (in a nuclear war), the forces of the Navy, and special forces. It can cover the entire continental theater of operations as well as coastal zones of oceanic and

[102] Ostapenko, Baushev, and Morozov, *Information-space support of RF armed forces groupings*.

[103] "Strategic Operation " Стратигическая Операция, Ministry of RF Encyclopedia, Энциклопедия, Undated, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=10378@morfDictionary.

[104] Ibid.

[105] A different definition of "strategic operation" in "Strategic operation."

naval theaters, and can last from several weeks to one or one-and-a-half months. It can include simultaneous and sequential operations, including air, air defense, amphibious, counter-amphibious, massed fire, or nuclear strikes.

Given the nature and content of intended actions, the order of execution is presumed to be first defensive operations, paired with counteroffensives, and then offensive strategic operation in the theater. The goal of a strategic defensive operation, as a rule, is to repel aggression, to hold on to important strategic targets and lines, to defeat the main groupings of enemy forces, and to create conditions for the transition to a strategic counteroffensive (offensive). The goal of a strategic counteroffensive operation is usually to eliminate the consequences of an enemy invasion, restore the situation, defeat groupings of troops (naval forces) in a TV, transfer hostilities to enemy territory, capture its most important objects and lines to a limited depth, and create conditions for the transition to a strategic offensive.

Depending on conditions, a strategic operation may develop into a smaller-scale operation of a group of "fronts" and a fleet in the region, in one or several adjacent strategic directions.[106] However, keeping in mind that Russian military strategy is framed as defensive in character, the offensive operation is likely to consist of strikes as opposed to massed ground offensives that integrate multiple fronts. Both ideas are anachronistic: fronts no longer exist, and massed ground offensives do not appear to retain a strong place in Russian military strategy. This is also a more practical interpretation, given the current geopolitical environment and material constraints that bound Russian military capability. Military thinkers and strategists typically do not speak to, or envision, a political objective that would require ground advances of substantial depth.

Often, Russian military writing can be downright confusing in its use of the term *TVD*. It is often used to describe a specific area, a vector, or an entire warfighting domain. TVDs are generally assumed to be functional geographic boundaries that include the air above them and relevant littorals.[107] There were also four OTVDs, distinct from the continental, which will be discussed later. Hence, the term *continental TVD* appears to have become retrograde, even though it still

[106] "War and peace in terms and definitions."

[107] See for example: Vasily Alishin, "Build strength in all theaters: The present and future of the Naval Fleet of Russia," Нарастить силы на всех ТВД: Настоящее и будущее Военно-морского флота России, *Natsionalnaya Oborona*, no. 9 (2020).; Aleksandr Khramchikhin, "Northern Ice TVD," Северный Ледовитый ТВД, *Voenno-promyshlennyi kur'er* no. 16 (2010).;Yuri Krinitsky, "The Aerospace TVD To Be," Воздушно-Космическому ТВД Быть, *Vosdushno-Kosmicheskaya Oborona*, no. 1 (2015).; A. Smolovsky, "Operational-Tactical Events at the Ocean and Marine TVD's of Fleets and Flotillas of the RF Navy," Оперативно-Тактические События на Океанских и Морских ТВД флотов и Флотилий ВМФ РФ, *Morskoi Sbornik*, no. 5 (2010).

appeared with regularity alongside the *OTVD*. SOTMO appears to integrate the continental and oceanic domains of military action.

Although TVDs are assumed to remain a mainstay of operational planning, this is now often framed as something to be replaced or modified by other, newer conceptualizations. Given the receding plausibility of a major continental land war in Europe, large-scale SOTMO analysis has been particularly focused on the maritime and littoral domains, with southern water basins—the Caspian and the Black Seas—being noted as areas where it is necessary to update older assumptions.[108] Meanwhile, *TVD* has at times become a functional term of art, referring, for example, to aerospace or other domains in Western parlance.[109]

The broadest strategic discussions still heavily use basic SOTMO or what can also be called strategic operations in the TVD, language inherited from the late Soviet period. Most updates are based on suggesting that successful application of strategic operations can be shrunk into both more specialized domains and smaller territorial areas relative to classical examples from the Great Patriotic War.[110] Discussions about "the new TVD" usually refer to smaller-scale operations with a joint mixture of forces applied flexibly and ranging from offensive to defensive capabilities within a given warfighting domain. The question in these articles is always where this "new TVD" is going to be found. Some authors stick to prognosticating for specific regions—the southern seas bordering Russia, the Caucasus, or the Arctic—and others focus on specific sub-domains. The latter tend to emphasize aerospace issues, with an increasing view that air and space will feature prominently in all future TVD discussions, regardless of its land or naval character.

[108] Pavel Zavolokin, "Black Sea Fleet: Strategic Modernization," Черноморский флот: стратегическая модернизация, *Red Star*, no. 88 (2017); Yuliya Zemakova, "Caspian Sea – A Strategic Zone of Global Importance," Каспий - Стратегическая Зона Глобального Значения, *Kaspiets*, no. 31 (2013); A. Smolovsky, "Military-Strategic Situation in The South Sea Basins Before 2007," Военно-Стратегическая Обстановка В Бассейнах Южных Морей Накануне 2007 Года, *Morskoi Sbornik*, no. 2 (2007).

[109] Yuri Krinitsky, "Cosmos as a Field of Battle," Космос Как Поле Битвы, *Vozdushno-Kosmicheskaya Oborona*, no. 6 (2015) ; Krinitsky, "The Aerospace TVD To Be"; Vasily Dolgov and Yury Podgornykh, "Domination in the Cosmos – Victory on Earth," Господство В Космосе - Победа На Земле, *Vozdushno-Kosmicheskaya Oborona*, no. 3 (2014).

[110] Konstantin Sivkov, "TVD of One Actor," ТВД Одного Актера, *Voenno-promyshlennyi kur'er* no. 26 (2015) ;Sergey Rogov et al., "Strategic Stability in the 21st Century," Стратегическая Стабильность В XXI Веке, *Nezavisimoe Voennoe Obozrenie*, no. 43 (2012).;Vladimir Barbinenko, "Ways of Constructing the VKO of Russia," Пути Построения ВКО России, *Voenno-promyshlennyi kur'er*, no. 4 (2015).;Andrey Evdokimov, "From Strategic Command to Strategic Thinking," От стратегического командования - к стратегическому мышлению, *Zashchita i Bezopasnost'*, no. 4 (2010).; Anatoly Khiupenen and Sergey Pokladov, "Who Organizes the Fight in the New TVD?" Кто Организует Борьбу На Новом ТВД?, *Voenno-promyshlennyi kur'er* no. 50 (2011).

Strategic operation in the oceanic theater of military action (SOOTMO)

A strategic operation in the oceanic theater of military action SOOTMO was a system of coordinated military operations in the operationally important areas of the ocean and seas, as well as in adjacent coastal areas and in airspace. It had multiple purposes: to disrupt enemy attacks from sea areas; to gain dominance in the ocean (at sea); to defeat important coastal targets; to defeat the main groupings of the enemy's naval forces and its troops in coastal areas; to disrupt the enemy's ocean transport; and to protect communications, basing points, and coastal facilities. SOOTMO was carried out by the forces of the Navy in cooperation with other types of the armed forces. It could include a number of sequential fleet operations; army operations on the coastal flanks; air, air-sea, and amphibious assaults and anti-amphibious operations; and a system of fire strikes, naval strike-reconnaissance actions, and support measures.

However, there is no such standing operation in practice. So why discuss it? Because the missions, tasks, and roles under SOOTMO still exist, but have been integrated and repackaged into a joint operation. The Russian navy has not gone away, nor have many of its requirements or the geography within which it must operate. There is a strong maritime component to Russian strategic operations, but no longer a distinct and separate strategic operation in the oceanic theater. This is now more of a term of art referencing operational-strategic actions of fleets and various groupings of troops and forces interacting with them.[111]

In practice there were four main OTVDs and several identified theaters of interest. They included the Atlantic, Arctic, Pacific, and Indian Oceans. The Antarctic, along with the Caspian Sea, is listed as a strategic region in official policy documents. Historically, there were also sea theaters of military operations (MTVDs), but these appear to have fallen out of use as well. A strategic naval operation in the maritime theater was seen by Soviet military planners as a set of joint operations by the naval fleets, coastal armies, and other combat forces that were coordinated and interrelated in purpose, task, place, and time. The Navy would have the leading role, but the operation would be conducted according to a single plan under the overall leadership of the Supreme High Command and the direct control of the commander-in-chief in the naval theater of operations.[112]

In the second half of the 20th century, the Russian Navy accumulated considerable experience in creating large operational groupings of homogeneous and heterogeneous forces that

[111] "War and peace in terms and definitions."

[112] V.I. Koriavko, "Evolution of forms of employment of the Navy," Эволюция форм применения объединений ВМФ, *Voennaya Mysl'* (2004), pp. 64-67.

fulfilled missions in distant regions of the maritime zone. These forces generally did not take a direct part in local wars and armed conflicts, but instead were used as demonstrations of force against US or NATO naval groupings. According to V. Vasiukov, "The presence of ships under the flag of the USSR Navy was supposed to indicate not only the presence of Soviet interests in the region, but also the ability to provide effective assistance to one of the opposing sides in a local war." The groups also were intended to be used to maintain stability in zones of possible or past armed conflicts and to monitor enemy forces. The Soviet conception of naval strategic operations thus was not limited to warfighting but also included the use of naval forces as agents of political-military influence.[113]

A strategic operation in the oceanic theater, which existed at the time, was eliminated from Soviet military doctrine in 1987. This change was highly controversial, however, and the concept remained part of the discussion among military planners even though it was no longer part of the official doctrine.[114] In the post-Soviet period, the bulk of the intellectual discussion on this topic took place in the early 2000s, when it was a frequent subject of debate in both naval and general military journals, including *Morskoi Sbornik* and *Voennaia Mysl*.

In his discussion of how navies could be used in warfighting, Admiral Viktor Kravchenko, who was then serving as the chief of the Navy Staff, described the strategic operation in the oceanic theater as the highest form of warfighting for naval forces. He argued that full-scale strategic Russian naval operations in oceanic theaters were unlikely because of the lack of available forces in distant maritime zones and the absence of sufficient means of logistic and technical support and control systems. At the same time, given the rapid development of high-precision weapons, even limited-strength fleets operating in remote areas, under certain conditions, would be able to achieve strategic goals. Therefore, he argued, it would be premature for the Russian Navy to abandon strategic operations in the maritime theater.[115]

In the discussion that took place in the early 2000s, military planners were highly concerned about the role the Navy might play in contactless wars of the future, which have often been described as 6th-generation warfare (referenced earlier in the discussion on character of war). Fleet Admiral Ivan Kapitanets wrote extensively on new-generation warfare, highlighting five ways in which future wars would be different. First, battles would become more complex and

[113] V. Vasiukov, "Military-naval fleet and the provision of national security of the country in peacetime," Военно-морской флот и обеспечениенациональной безопасности страны в мирное время, *Morskoi sbornik* (2003), pp. 22-31.

[114] V.G. Lebedko, "Once again about the terms naval battle and tactical operation," Еще раз о понятиях 'морской бой' и 'тактическая операция', *Voennaya Mysl'* (2004), pp. 47-49.

[115] Viktor Kravchenko, "Threats from the maritime and ocean directions are growing," Угрозы с морских и океанских направлений растут, *Nezavisimoe Voennoe Obozrenie*, Jan. 31, 2003.

dispersed, covering all spheres of military operations simultaneously. Second, the role of conventional strategic precision weapons would continue to increase. Third, high-precision weapons deployed by naval and air forces would make it possible to deliver powerful strikes against the enemy throughout the entire depth of the theater of operations. Fourth, the need to coordinate the efforts of all branches of the armed forces and combat arms would require them to operate jointly through a system of unified strategic operations. Finally, decisive battles would take place in all domains and under conditions of electronic warfare. As a result, operations and hostilities would develop rapidly, without the presence of continuous fronts and would be highly maneuverable in nature.[116]

Kapitanets argued that in 6th-generation warfare, a defensive operation designed to repel and disrupt a major enemy offensive will require almost as much manpower and nearly as many resources as an offensive operation. This will lead to further convergence of defensive and offensive strategies.[117] Admiral V.V. Avdoshin, who served as head of the operational directorate of the General Staff, discussed the Navy's role in such joint operations. He noted that for large-scale and regional wars, forces could be organized into a coastal operational direction, with the coastline serving as one flank while the adjacent sea zone served as the other flank. The boundaries of the zone would be determined by the operational formation of enemy forces, the area's physical and geographical conditions, and the depth of the main logistics support zone for the fleet. The zone could potentially cover up to 200 to 300 km of land territory and up to 1,000 to 1,500 km of maritime territory, as well as the air and outer space zones above them.

For joint action, the groupings could include some combination of fleets, combined-arms armies and army corps, air force, and air defense armies, and airborne units, as well as other forces such as internal and railway troops. Depending on the nature and direction of the military threat, the core of the grouping could be either a naval formation or a ground forces formation. Accordingly, such a grouping might be headed either by a naval commander or a ground forces commander. Other formations would be subordinated to the lead unit.[118] For Kapitanets, in addition to the Navy's role in joint warfighting, it also has a unique strategic role, beyond the commonly discussed mission of strategic deterrence in peacetime and strategic nuclear strike in wartime. This additional role, carried out by the Navy's conventional forces,

[116] I. Kapitanets, "Problems and judgements, military-naval science and the perspectives of its development," Проблемы и суждения. военно-морская наука и перспективы ее развития, *Morskoi sbornik* (2002).

[117] Ibid.

[118] V.V. Avdoshin, "Tendencies in the development of forms of operational employment of naval formations and groupings in modern conditions," Тенденции развития форм оперативного применения объединений и группировок сил и войск ВМФ в современных условиях, *Voennaya Mysl'* (2004).

consists of conducting maritime operations to disrupt strikes by high-precision weapon carriers from maritime zones and carrying out systematic combat operations to defend the naval theater of operations.[119] Another perspective on the Navy's specific tasks comes from Admiral V.A. Prants:

> In wartime, the Navy ensures the stability of the strategic defense of the state and repulses aggression from the ocean and maritime areas, working toward the defeat of the enemy's naval forces, the reduction of the military, economic and informational potential of the opposing states. It also provides assistance to the troops in adjacent continental theaters in their conduct of military operations.
>
> The main tasks of the Navy in a large-scale war are to preserve the nuclear missile potential of naval strategic and other nuclear forces, to ensure their combat stability and assigned readiness to deliver nuclear strikes in any conditions; participation in repelling enemy strikes from aerospace, ocean and maritime zones; preventing, together with other types of armed forces, of invasion of the country's territory from the sea; inflicting defeat on the main naval groupings of the enemy's naval forces and disrupting their seizure of supremacy at sea; assistance to ground forces in defense and offensive, etc.[120]

Present-day Russian military theory continues to describe strategic operations in the maritime zone as the highest form of use of naval forces.[121] Highlighting the concept that 21st-century wars will have a global character focused on the use of aerospace assets and high-precision weapons carriers, Admiral Kapitanets returned to the topic in 2010 to address how the use of naval forces for strategic deterrence fits into strategic operations. He argued that to implement the concept of deterrence, it is necessary to create a new strategic strike system consisting of both conventional and nuclear weapons for the maritime theater. He noted that a new kind of naval mission involves using the fleet to engage in strategic deterrence in a maritime theater of operations to disrupt adversary strikes from maritime zones. This deterrence should be provided by a combination of forces that would include naval strategic nuclear forces for traditional strategic deterrence and general-purpose naval forces working to maintain strategic stability in important maritime zones. In wartime, the latter would include antiaircraft carrier and antisubmarine forces that would conduct naval operations to disrupt high-precision weapons strikes from maritime zones. In addition, the naval force would include a coastal defense force that would protect naval bases and ensure communications

[119] I.M. Kapitanets, "Fleet in the war of the future," Флот в войне будущего, *Voennaya Mysl'* (2003).

[120] V.A. Prants, "Geopolitics: its role and impact on the development and employment of the RF Navy," Геополитика: ее роль и влияние на строительство ипримененение ВМФ России, *Voennaya Mysl'* (2004).

[121] Ostapenko, Baushev, and Morozov, *Information-space support of RF armed forces groupings*.

among various naval forces. It would also include a grouping of rapid-reaction forces to assist ground forces in the coastal zone and an air defense component.[122]

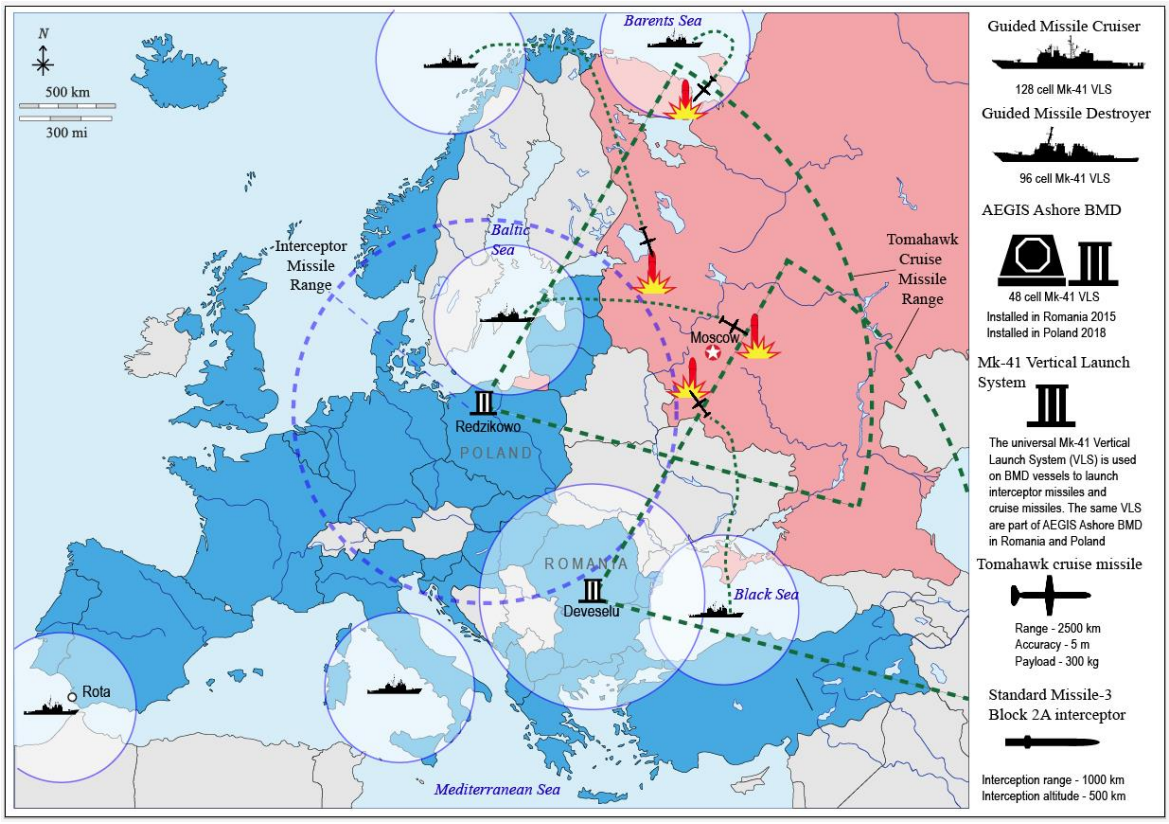
In discussing strategic operations in a maritime theater today, the Russian Navy's focus is on striking critical infrastructure on land in support of other strategic operations, ensuring the survivability of the strategic nuclear deterrent, and destroying enemy groupings that carry strategic conventional weapons. The latter is less a defense and more of a damage limitation approach to reduce the damage to Russian critical infrastructure. According to Vice Admiral R. Golosov, writing as far back as 2000, the Russian Navy is "designed to deliver strikes against industrial, economic regions, and important military targets of the enemy, and defeat his naval forces in the oceanic (naval) theater of operations."[123]

Figure 7 depicts how the Russian military envisions the threat from a maritime direction and the sea-based component of integrated strike concepts.

[122] Ivan Kapitanets, "Epoch of the ocean missile-nuclear fleet," Эпоха океанского ракетно-ядерного флота, *Voenno-promyshlennyi kur'er* (2010).

[123] V. Koriavko R. Golosov, "Development of views on the building and employment of RF Navy," Развитие взглядов на строительство ииспользование сил флота России, *Morskoi Sbornik* (2000).

Figure 7. Threat from a maritime direction



Source: CNA translation of General Staff slide presented at Moscow Conference of International Security 2016.

The Russian Navy divides the maritime domain into coastal (*pribrezhnaya*), near sea (*blizkaya*), far sea (*dalnaya*), and more generally the world ocean (*mirovoi okean*). These are not clear-cut divisions, but the coastal defense zone is assumed to be approximately within 200 km of the coastline. The near sea zone is perhaps 600-1,000 km from the coast. The far sea zone takes this distance out towards the 2,000 km mark, beyond which lies the world ocean. These zones are defined not only by operating ranges from Russia's naval bases but also by environmental factors such as sea states and the classes of ships that can operate in these areas. Perhaps the easiest way to conceive of these areas is that the near sea zone is where the Russia Navy seeks to establish sea control and fights to attain at least temporary naval superiority. The far sea zone is where it intends to pursue sea denial, contesting its use, but does not attempt to attain

superiority. The world ocean is primarily for presence operations, illustrating status and interests.[124]

Russia uses a ship ranking system that structures roles for vessels along these maritime divisions. The ranks themselves are assigned based on a combination of ship features or factors. First-rank ships include nuclear-powered submarines, carriers, cruisers, destroyers, large landing ships, and larger frigates. They are destined for the ocean zone or far sea zone. Second-rank ships are diesel electric submarines, frigates, heavy corvettes, and medium landing craft. These vessels operate primarily in the far sea zone. Third-rank ships consist of corvettes, missile boats, and minesweepers. These ships are destined for the near sea zone, but some can deploy and operate farther with limited endurance. In the fourth and final rank are coastal vessels, small landing craft, and patrol boats, which work the coastal defense zone, patrol naval bases, or operate in inland waterways.

While the Russian Navy has invested heavily in its ability to conduct strikes with conventional or nuclear weapons against fixed targets on land, much Russian military writing reflects a strong recognition of deficits in operational requirements for the near sea and far sea zones. These writings generally acknowledge a poor ability in antisubmarine warfare, or counter-mine warfare, and a low likelihood of being able to secure the sea-based nuclear deterrent in the near seas.[125] Similarly, offensive capabilities are hampered by a low availability of means for target detection and identification, while recognizing that US or NATO ships will be positioned much farther away from the Russian coast in the far sea zone. Consequently, the Russian Navy must operate in an environment with limited visibility and low likelihood of being able to wear down an opponent's naval forces given organic or land-based means or reconnaissance.[126]

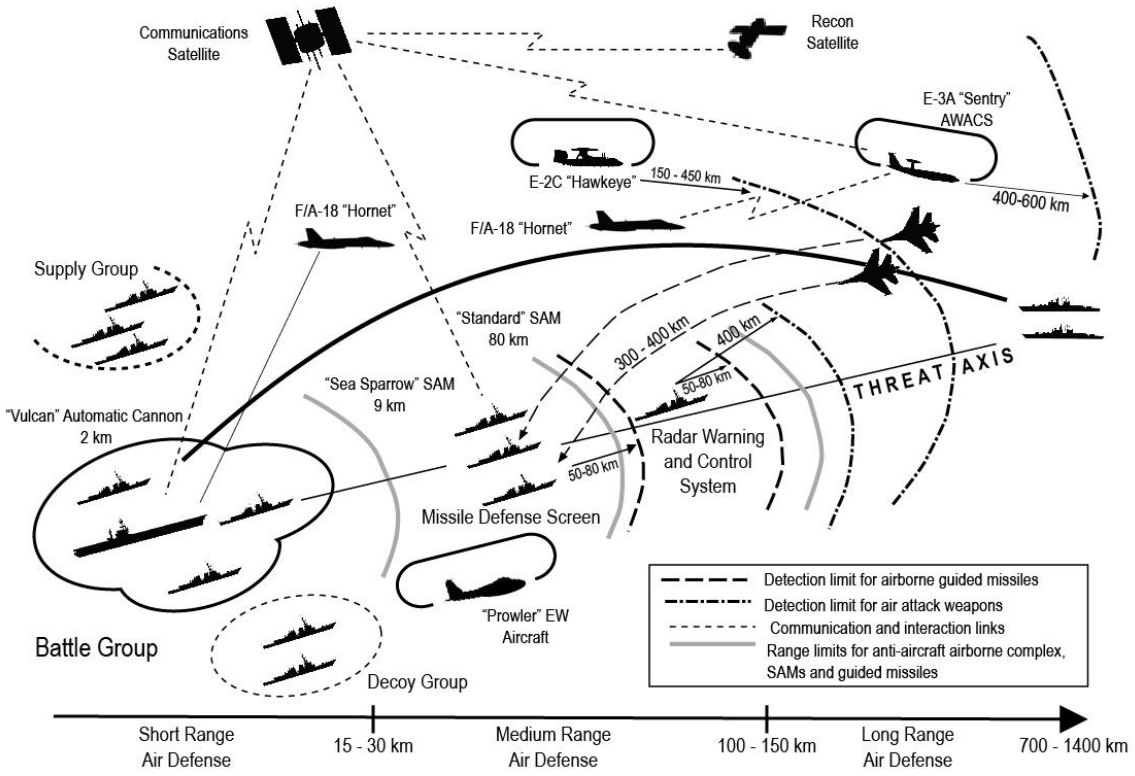
Figure 8 depicts some of Russia's operational challenges in engaging US carrier strike groups and supporting surface action groups at extended ranges.

[124] This section is taken from a forthcoming chapter by Michael Kofman.

[125] V. Kryazhev, "Assessment of the Military-Political and Operational-Strategic Situation in the Zones of the Fleets of Russia," Оценка военно-политической и оперативно-стратегической ситуации в зонах флотов России, *Morskoi Sbornik*, no. 2 (2019).

[126] I. Spirin and V. Alferov, "Specific Features of Objects in the Far Sea," Особенности поражения объектов в дальней морской зоне, *Morskoi sbornik*, no. 12 (2015).

Figure 8. US carrier strike group composition (options)



Source: A.I. Zholobitskiy, "On the means of inflicting damage of vessels from the composition of the carrier strike group of the adversary," Vozdushno-kosmicheskiye sily: teoriya i praktika, no. 12 (2019).

Writing more recently from the Academy of Military Sciences, Vice Admiral Viktor Patrushev is especially critical, emphasizing the threat of an IMVU that includes hypersonic missiles, cruise and ballistic missiles, drones, and piloted strike aircraft.[127] This is a common theme in Russian military writing, but he highlights the contemporary material limitations from a naval perspective. The strike could include 1,000-1,500 cruise missiles, 1,500-2,000 aircraft of various types, and 400-500 carrier aircraft (five to six carriers). An absence of means of reconnaissance, weak availability of land-based anti-ship aviation, failure to replace the Liana space-based system of targeting, and low availability of combat vessels suggest that deployed naval forces will be inferior to opponents by three to five times in most theaters. Notably, his article features the requirement to destroy enemy platforms carrying long-range cruise missiles before they are effectively able to launch missiles and naval aviation capable of long-

[127] Viktor Patrushev, "The Navy is not ready for a big war," К большой войне флот не готов, *Military-Industrial Courier*, no. 25 (888), July 6, 2021.

range strike, which is a damage limitation strategy. Furthermore, the article evinces the requirement to conduct a massed warding strike against NATO forces, in line with numerous other writings that suggest the Russian Navy is expected to contribute strike power to strategic operations that feature destroying such objects on land.

Finally, in focusing on the role of space forces in strategic maritime zone operations, some military writers highlight the role of information support from space in increasing the range of naval strike operations to over 1,000 km, which allows for the transformation of tactical operations into strategic operations. When firing from submarines, they argue, space-based targeting is the only reliable source for targeting information, which is consistent with observations by other Russian military analysts and former naval officers. With space-based targeting systems, antiship weapons change from operational-level reconnaissance-strike complexes into higher-level information strike complexes that can conduct strategic operations.[128] This argument is premised on the long-range potential of Russian anti-ship missiles if the intelligence, surveillance, and reconnaissance (ISR) capability were there to realize it. Yet, as Patrushev decries above, space-based maritime targeting continues to suffer delays.[129]

Strategic aerospace operation (SAO)

At the heart of the SAO is the Russian military's concern that US forces could conduct a massed aerospace attack against Russian forces or critically important infrastructure. An operation for the deflection of aerospace attack appears to be an integrated defensive component of this strategic aerospace operation, which consists of offensive and defensive elements.

This SAO has been described in the Ministry of Defense (MOD) dictionary as an operation in which the aerospace forces do the following:

- Counter (deflect) an aerospace attack of an adversary
- Achieve dominance in the air and strategic space zones
- Inflict damage on opponent aerospace forces and means in the aerospace domain, and on land (and at sea)
- Defend main points of state (administrative) and military command and economic infrastructure
- Disrupt state and military command of the opponent

[128] Ostapenko, Baushev, and Morozov, *Information-space support of RF armed forces groupings*, p. 211.

[129] We reference the Pion-NK targeting satellites—not the ELINT satellites already deployed, which permit targeting against cooperative targets.

- Thwart a strategic operation and operational deployment of forces
- Interdict maneuver between theaters of operation
- Decrease military and economic potential

The dictionary continues:

> A strategic aerospace operation includes air operations; combat actions by long-range aviation with use of conventional means; combat actions by forces countering aerospace attack, along with information-surveillance-reconnaissance (support) and combat actions by other units….[130]

Another authoritative definition describes the SAO as follows:

> A set of strategic measures and defensive offensive actions to identify and repel an enemy aerospace attack from all aerospace directions, to protect the armed forces and economic facilities from strikes by ground, air, and space-based strategic strike forces. Its constituent parts are: operations of the Space Forces (early warning systems, missile defense, SKKP), anti-aircraft operations by aviation using groupings of zones and areas of air defense of the Air Force and Air Defense (Air Force and Air Defense armies, Air Force and Air Defense corps, Air Force and Air Defense divisions). In the future, it can develop into a strategic anti-aircraft operation, and then into an operation of 'strategic defensive forces.'[131]

The SAO, or стратегическая воздушно-космическая операция (SVKO), is one of the main strategic operations in Russian military strategy. The concept evolved from its predecessors in the Cold War. Today it is heavily influenced by fears that the US or NATO could launch a massed air-missile strike (*massirovany raketno-aviatsionny udar)* designed to paralyze Russian forces, C2, and critically important civilian infrastructure. These fears grew out of the perceived growing importance of air superiority to the outcome of a conflict, starting with Nazi Germany's bombing campaigns in World War II, then strengthened by the Allied bombing campaign against Germany, and reinforced by US/NATO air campaigns in Iraq, Yugoslavia, and Afghanistan.[132] In 2003, former Russian defense minister Sergei Ivanov underscored this

[130]"Strategic aerospace operation," Стратегическая воздушно-космическая операция, Ministry of RF Encyclopedia, undated, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=10372@morfDictionary.; Tyutyunnikov, "Military thought in terms and definitions," p. 265.

[131] "War and peace in terms and definitions."

[132] Valentin Dybov and Yuri Podgornykh, "There is no comprehensively developed theory of aerospace defense yet," Всесторонне проработанной теории ВКО пока нет, *VKO*, no. 6 (2015), http://www.vko.ru/oboronka/vsestoronne-prorabotannoy-teorii-vko-poka-net.

threat, saying, "The enemy will not come to us in tanks. The enemy will fly to us in planes or deliver weapons by air."[133]

These events impressed upon Russian military strategists the need for an effective way to defend against such attacks. S.V. Yagolnikov writes:

> In the aerospace sphere, as in no other, there are highly mobile means capable of carrying out sudden single and massive strikes on any object, regardless of its location. Changing and evolving conditions in this area have very different time parameters, fundamentally different from the relevant time data that characterize the actions of on land and sea (ocean) TVDs. Air and space assets carry out global reconnaissance, navigation and communications for the use of all types of armed forces and troop types. Projecting force through air and space has fundamentally changed the nature of armed struggle.[134]

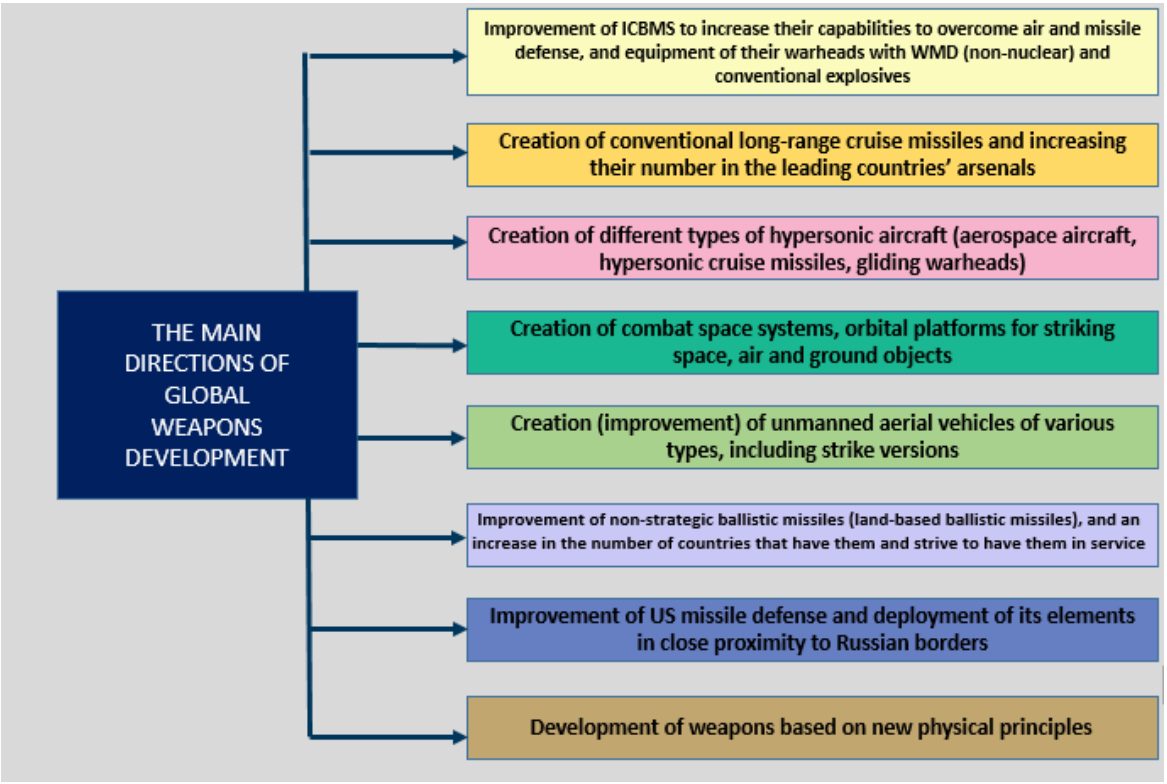
Technological innovations in the field of hypersonic weapons, gradual improvements in accuracy, and plans such as US prompt global strike have compounded these fears.[135] Figure 9, taken from Russia's aerospace forces journal, illustrates perceptions of tendencies in global capability development.

[133] "Actual tasks of the development of the Armed Forces of the Russian Federation," Актуальные задачи развития ВС РФ, Krasnaya Zvezda, Oct. 11, 2003.

[134] S.V. Yagolnikov, "Military-technical aspects of the organization and execution of aerospace defense in modern conditions," Военно-технические аспекты организации и ведения воздушно-космической обороны в современных условиях, *Vestnik AVN*, no. 2 (2017).

[135] Valentin Dybov and Yuri Podgornykh, "There is no comprehensively developed theory of aerospace defense yet."

Figure 9. Main directions of global weapons development



Source: Valentin Dybov and Yuri Podgornykh, "There is no comprehensively developed theory of aerospace defense yet," Всесторонне проработанной теории ВКО пока нет, VKO, no. 6 (2015), http://www.vko.ru/oboronka/vsestoronne-prorabotannoy-teorii-vko-poka-net.

A massive aerospace attack against Russia could come into play in any period of war, but is considered to be most critical in the initial period, with the element of surprise acting as a force multiplier. This aerospace attack is expected to be the opening offensive operation of the war. Russian analysts write that the adversary's massive air-missile strike will be conducted over a relatively short period of time—from several minutes to several days.[136] An initial attack is likely to come via low or extremely low altitudes, at night, and in conjunction with "stealth" aircraft.[137] It is also assumed that there will be a series of follow-on attacks, likely via aerospace

[136] V.V. Kruglikov, N.P. Shehovtsov, and S.V. Kruglikov, "Means and ways of repulsing high-accuracy weapons," Способы и пути борьбы с высокоточными средствами поражения, *Vestnik Akademii voennykh nauk*, no. 4 (2009).

[137] Ibid.

or through other domains. If not properly deflected, the disarming nature of the initial air strikes would allow the adversary to achieve their objectives in a matter of days.

Descriptions of a potential "massed missile-aviation attack" (MRAU) against Russia vary, but most include some combination of employment of hypersonic missiles, cruise missiles, ballistic missiles, unmanned aerial vehicles (UAVs), combat aircraft, combat helicopters, strategic aviation, offensive space operations, and the use of electronic warfare. V.V. Kruglikov et al. describe the initial attack launched by an adversary:

> The most powerful is the first MRAU which is being prepared in peacetime… The first MRAU uses the maximum possible number of combat aircraft, cruise missiles, combat helicopters, and artillery. Coordinated in place and time, forces and means, the first MRAU should include, as a rule, 2–3 echelons: a cruise missile echelon; air defense breakthrough echelon; and a strike echelon. The cruise missile echelon (sea and airborne) with a conventional warhead (UCH) is designed to strike at targets of the Strategic Rocket Forces and Air Defense Forces, command and control bodies, warehouses of nuclear and conventional weapons, airfields, naval bases and other important objects."[138]

A second air defense breakthrough echelon of strike, fighter, and electronic warfare aircraft focuses on the suppression of radar-detection equipment, the disturbance of control and communication systems, the defeat of active air defense systems, and the blocking and destruction of aviation at airfields. Finally, 10 to 15 minutes later, this is followed by a third echelon of strike and fighter aircraft aimed at destroying "strategic nuclear carriers, airfields, aviation and air defense command posts, aircraft on the ground and in the air, air defense missile systems, ammunition depots and fuel and lubricants." According to Kruglikov et al., the distinctive characteristics of the initial stage of a military operation will be "the suddenness of the outbreak and the high rate of hostilities, the massive use of aviation and cruise missiles, and the transfer of troops directly to their operational areas from the continental United States."[139]

Figure 10 shows one example of a contemporary MRAU using various missile types, remotely operated systems, such as swarming drones, and loitering munitions in lead echelons. The attack is supported by decoys, electronic warfare, and networked reconnaissance systems throughout its sequencing. This is now being depicted as a component of an integrated MDO, using the term *integrated massed air* (or *aerospace*) *strike*. This graphic helps illustrate depictions in Russian military journals of what a US IMVU could look like in the near future.

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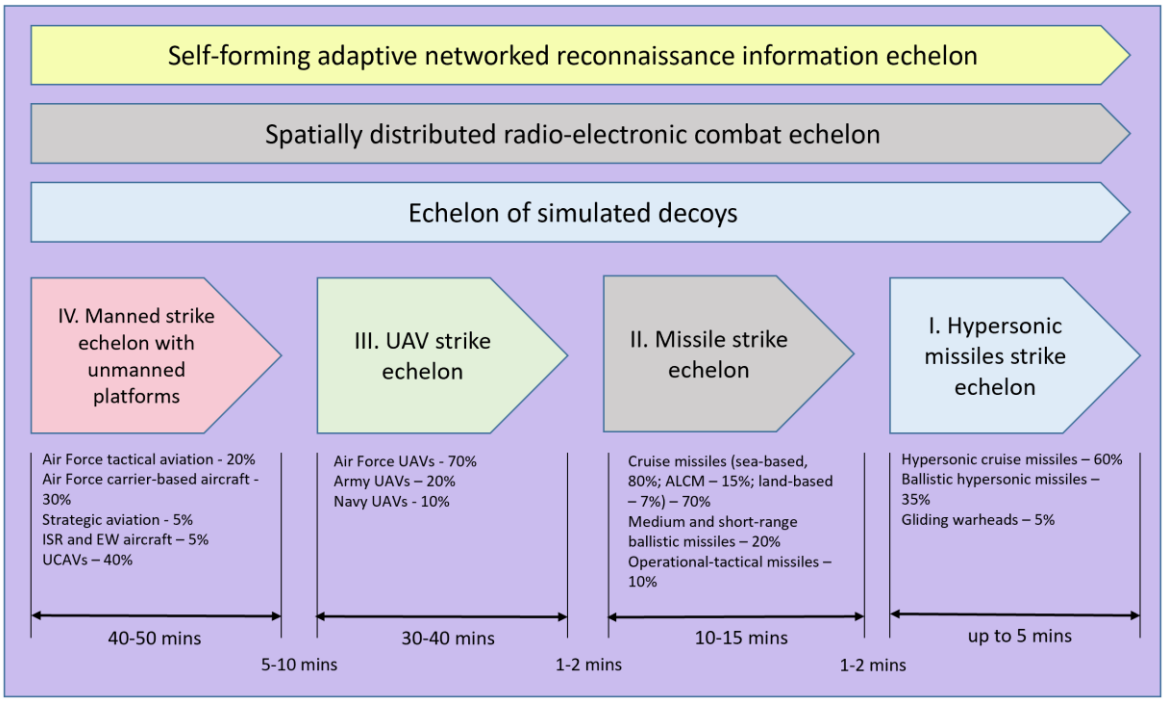
[138] V.V. Kruglikov, N.P. Shehovtsov, and S.V. Kruglikov, "Means and ways of repulsing high-accuracy weapons," Способы и пути борьбы с высокоточными средствами поражения, *Vestnik Akademii voennykh nauk*, no. 4 (2009).

[139] Ibid.

Figure 10. Possible time-distance organization of an integrated massed air strike by NATO forces in 2025-2030



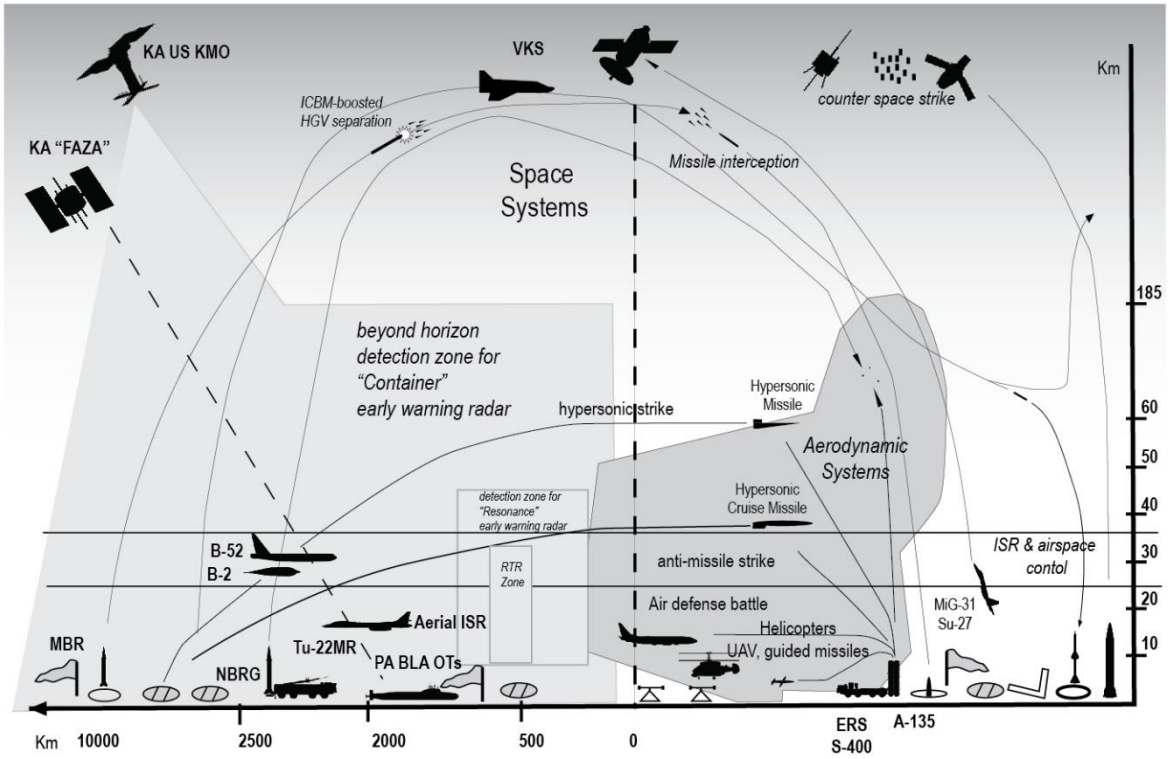
Source: V.I. Stuchinskiy and M.V. Korolkov, "Foundations for combat employment of aviation to disrupt an integrated massed air strike within an adversary's multi-domain operation," Aerospace-Forces, Theory and practice, Воздушно-космические силы, Теория и практика, no. 16 (2020).

The Russian response to adversary aerospace attack under SAO is not just defensive but proactive, designed to potentially limit the damage of the attack, parry it, or deflect it. As Dybov and Podgornykh note, "Usually, along with repelling enemy strikes, the defense also includes elements of offensive actions—the delivery of preemptive, oncoming and retaliatory strikes, counterstrikes and counterattacks, the defeat of the attacking enemy in the places of its basing, deployment, or on the initial lines…. The experience of many wars shows that only active defense can guarantee success."[140] Such targeting could include striking enemy airfields, command posts, electronic warfare systems, and air defense systems. The sustained use of active defense in reference to counterattack or counteroffensive operations is quite notable. The term pervades not only the level of military strategy but, equally, discourse on strategic operations and operational concepts in general.

[140] Dybov and Podgornykh, "There is no comprehensively developed theory of aerospace defense yet."

The wide collection of forces and methods for carrying out such an operation is often referred to as an *aerospace defense system* (VKO system). As Colonel Yuri Krinitsky, a professor of the military academy of aerospace defense, states, "The set of forces and means designed to combat an aerospace enemy necessitates that a hierarchy of management levels is established, a relationship between subsystems and elements, [and that] other requirements of the general theory of systems are met."[141] An effective execution of an aerospace operation necessitates that all of these moving parts come together to form a swift and effective force that can deflect an aggressor's attack and quickly regain air control. Figure 11 illustrates Russian depictions of the aerospace domain, including interactions between air, air defense, missile defense, and space-based elements.

Figure 11. Aerospace—single sphere of armed combat (Aerospace TV)



Source: A.I. Khiupenen, "Воздушно-космическая оборона отечества – веление времени" [Air and space defense of the fatherland – imperative of the time], *Vestnik AVN,* no. 2 (2009), pp. 91-102.

The concept of the strategic aerospace operation has evolved significantly over the past several decades, largely in parallel with technological innovation and in response to demonstrations

[141] Yuri Krinitsky, "A step forward and three steps back," Шаг вперед – три назад, *VKO*, no. 1 (2007).

of adversarial capabilities on the battlefield. For example, Krinitsky discusses how the practical foundation for aerospace defense was laid in the 1960s, with the principle of integrated management of antiaircraft, air defense, and missile/space defense against a single enemy operating in airspace.

Krinitsky notes:

> Within the framework of a single service of the Armed Forces (Air Defense Forces), a unified management of districts and individual air defense armies, a missile attack warning army (PRN), an anti-missile defense army (ABM) and an outer space control corps (KKP) was organized. Their joint use was envisaged within the framework of the general form of military operations—a strategic operation to repel an air and space attack of the enemy. And the Commander-in-Chief of the Air Defense Forces and his headquarters carried out the preparation of this operation, controlled the troops during its implementation and were responsible for the result of the actions of all forces of the aerospace defense.[142]

In 2003, two strategic operations—the strategic operation to repel an aerospace attack (SOOVKN) and the strategic air offensive operation (SVNO)—were merged to create one SAO.[143] In 2006, the Russian government published the "Concept of the Aerospace Defense of the Russian Federation for the period up to 2016 and beyond." In this text, the domains of air and space were merged into a single domain. The concept also describes aerospace defense as "a complex of national and military measures, ensuring the security of the Russian Federation from an armed attack from air and from space," which includes five relatively independent subsystems: air defense, missile defense (ABM), missile attack warning (PRN), space control (KKP), and electronic warfare (EW).

However, few actions were taken to apply the concept in a meaningful way, and the document served less to provide answers and more to raise new questions, such as: "What is aerospace defense (VKO)—a task or a system? Against which countries and in which conflicts should the aerospace defense tasks be employed? What principles should be used as the basis for the functioning of VKO? What are the criteria for the effectiveness of aerospace defense?"[144] In 2009, A.I. Khiupenin wrote the following:

> More than two years have passed since the RF Aerospace Defense Concept was approved. But until this point it has only been declared, and the existing experience and developments are not used. They are not even mentioned anywhere. The main problems, without the resolution of which the air defense

[142] Yuri Krinitsky, "A step forward and three steps back," Шаг вперед – три назад, *VKO*, no. 1 (2007).

[143] Yuri Krinitsky, "Objective reality of our time," Объективная реальность нашего времени, *Voyenno-promyshlennyy kur'yer* (2017).

[144] Sergei Sukhanov, "VKO is a task, not a system," ВКО--это задача, а не система, *VKO*, no. 2 (2010).

> system of the country cannot be created, are: scientific—the structure of the aerospace defense system has not yet been fully worked out, since the mission of the Aerospace Defense Forces in the country's defense system has not been determined; organizational—the main elements of the aerospace defense system are in different types (branches) of the RF Armed Forces; personnel—in the Armed Forces of the Russian Federation, specialists are not trained to control the forces of the aerospace defense.[145]

This inaction to organize an aerospace defense system opened the door to a series of heated debates, including on the hierarchy of VKO subsystems, whether the offensive and defensive VKO components should function jointly or separately,[146] and whether the VKO system should be focused around Moscow rather than encompass all of Russia.

Eventually, in 2011, by presidential decree, a new type of troop was created: the Aerospace Defense Force (VKO), which absorbed the Space Forces. From 2011 to 2015, there were debates regarding the most favorable organizational structure for the VKO—whether it should be its own single command with sole responsibility, or whether it should merge with the Air Force to create the Aerospace Forces (VKS). A VKO working group was created, tasked to recommend the best possible organizational structure for the VKO.[147] According to the guidelines given to the VKO working group, the RF Aerospace Forces should participate in ensuring strategic nuclear deterrence; fight the enemy's aerospace attack weapons in the course of military conflicts of a local (regional) scale; and protect the airspace of the RF and control its use of outer space. Additionally, it stated that the VKO system should consist of four subsystems: reconnaissance and warning of an aerospace attack; defeat and suppression of forces and means of aerospace attack; management; and comprehensive provision.[148]

Eventually, the VKO working group recommended that the Air Force and Air Defense Forces be merged to create the VKS, a new, third branch of the Russian armed forces. Yagolnikov notes that "this option ensured the minimization of the necessary organizational transformations [and] the maximum preservation of the existing command and control system of troops." In 2014, the research and military command staff conducted an "Autumn-2014" simulation to test the proposed version of the organizational structure of the VKS.[149] On August 1, 2015, the VKO

[145] A.I. Khiupenen, "Air and space defense of the fatherland – imperative of the time," Воздушно-космическая оборона отечества – веление времени, *Vestnik AVN*, no. 2 (2009).

[146] Dmitry Adamsky, *Moscow's Aerospace Theory of Victory: Western Assumptions and Russian Reality*, CNA, IOP 2021-U-029278-Final, 2021, https://www.cna.org/CNA_files/PDF/IOP-2021-U-029278-Final.pdf.

[147] S.V. Yagolnikov, "Direction of the Russian Federation's aerospace defense development in modern conditions," Направления строительства воздушно-космической обороны Российской Федерации в современмых условиях, *Vestnik AVN*, no. 2 (63) (2018).

[148] Ibid.

[149] Ibid.

and Air Force were formally merged to create the VKS, which includes the aerospace aviation forces, antiaircraft missile forces, radio-technical forces, special forces, and space forces.

The relevance of SAO is that it is an integrated offensive and defensive operation, designed to deflect what Russians believe will be an opening NATO aerospace assault during the IPW. Russian integrated air defense is commonly misperceived as part of an A2AD strategy, but this is largely capability-based mirror imaging. Russian Aerospace Forces are tasked with deflecting and parrying the blow, but also with conducting counterattacks to suppress an opponent's airpower. The organization combines air defense with missile defense, tactical aviation, and long-range aviation. SAO is perhaps the most important operation within the SO pantheon. The Russian military has long grappled with what they see as the principal US way of war: massed aerospace offensive, destruction of critically important objects, and so-called "shock and awe," which may visit paralyzing levels of destruction on the opponent. These views have strong historical antecedents, given the Soviet Union's own experiences in World War II, and the latter-day Soviet experiences in planning strategic air operations during the Cold War.

It is important to understand how the Russian military views the prospect of a massed air-missile strike, now increasingly referenced as an integrated massed air strike within the concept of MDO. From a planning perspective, this is what the Russian military sees as the decisive initial battle with a technologically superior aerospace power. It colors much of their thinking on what to target and how best to disorganize this type of effort. The Russian goal would be to disrupt such an attack and to inflict maximum attrition against an opponent's aviation assets. Significantly, this view also suggests what Russian military planners would be looking for as signs of an impending US attack in an escalating crisis, and could use as markers to consult political leadership as to whether they would order preventive or preemptive measures.

Strategic operation of nuclear forces (SONF)

The strategic operation that governs Russia's scalable nuclear employment and retaliation is a SONF.[150] According to Russian MOD references, the SONF is carried out "under the leadership

[150] Ministry of RF Encyclopedia, Энциклопедия Министерства Обороны РФ notes both first strikes and retaliatory SNF strikes. See Ministry of RF Encyclopedia, Энциклопедия Министерства Обороны РФ, "Эффективность ракетно-ядерного удара" [Effectiveness of nuclear strike] undated, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=13875@morfDictionary and Энциклопедия Министерства Обороны РФ, "Ядерный удар"[Nuclear strike] undated, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=13814@morfDictionary ; Энциклопедия Министерства Обороны РФ, "Ведение боевых действий частями и соединениями РВСН," undated, http://dictionary.mil.ru/dictionary/Terminy-RVSN/item/141587/.

of the supreme commander in chief and the direct command of the General Staff for the resolution of strategic goals."[151] It is aimed at the "de-escalation (halt) of aggression, initiated against Russia and its allied states and the destruction of the aggressor, who has employed or is ready to employ nuclear and other types of WMD on Russia."[152]

Russia's nuclear arsenal consists of a diverse set of strategic and nonstrategic systems in ground-based, air-based, and naval configurations. SONF, according to the MOD dictionary, is a joint operation that includes "nuclear strikes and military actions of strategic nuclear forces; nuclear strikes and military actions of units, which have NSNW that are based in the land, air, and sea, including the employment of nuclear missiles by engineering forces, as well as the actions of Space Forces and other forces."[153]

Russian military-analytical writings envision a series of steps in which nuclear weapons are first deployed and utilized for signaling, and are then potentially employed in a progressive fashion at the regional level of conflict, and finally are used in a large-scale war until the conflict reaches the "retaliation" of all-out nuclear war. At that level of war, in addition to the mass use of conventional precision strike, military writings suggest the employment of "single and/or grouped use of NSNW on adversary forces" as well as the "demonstration use of nuclear weapons by strategic nuclear forces or nonstrategic nuclear weapons."[154] However, there are strong indications that not all of Russia's nuclear employment appears to be under the rubric of SONF.

Indeed, some definitions and references suggest that SONF is activated only when the conflict has escalated to a large-scale war, in which nonstrategic nuclear forces could be used en masse on adversary forces, with the potential of "single and/or grouped use of strategic and nonstrategic nuclear forces on military-economic targets of the adversary."[155] For example, the MOD dictionary definition states:

> [SONF] carries a global character, reaches all strategic aerospace directions, and could be carried out at an intercontinental range. It will likely take place over the course of 3-5 days or more. The foundation of the operation is first a massive nuclear strike by strategic nuclear forces as well as first mass nuclear strikes of strategic units in the theater of military actions (strategic direction), inflicted by all or most of available means. Subsequent nuclear strikes in the context of [SONF] are carried out by the order of the commander in chief as the

[151] "Strategic operation of nuclear forces," Стратегическая операция ядерных сил (СОЯС), Ministry of RF Encyclopedia, https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=14375@morfDictionary.
[152] Ibid.
[153] Ibid.
[154] Kofman, Fink, and Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*.
[155] Ibid.

> environment is ascertained, the results of the nuclear strike are assessed, and nuclear forces return to combat readiness. [156]

Other sources—such as an informal, yet authoritative dictionary commissioned by Dmitry Rogozin—describe SONF as an operation "in a global scale or at a certain theater of conflict, [which] could begin from a mass nuclear strike or initial select strikes by limited means in selected regions (zones)." The operation is intended to destroy political, industrial, and military targets, takes advantage of both primary and secondary explosive factors, and has catastrophic consequences. Rogozin notes that this operation could lead to a global ecological disaster and a "nuclear winter" effect.[157]

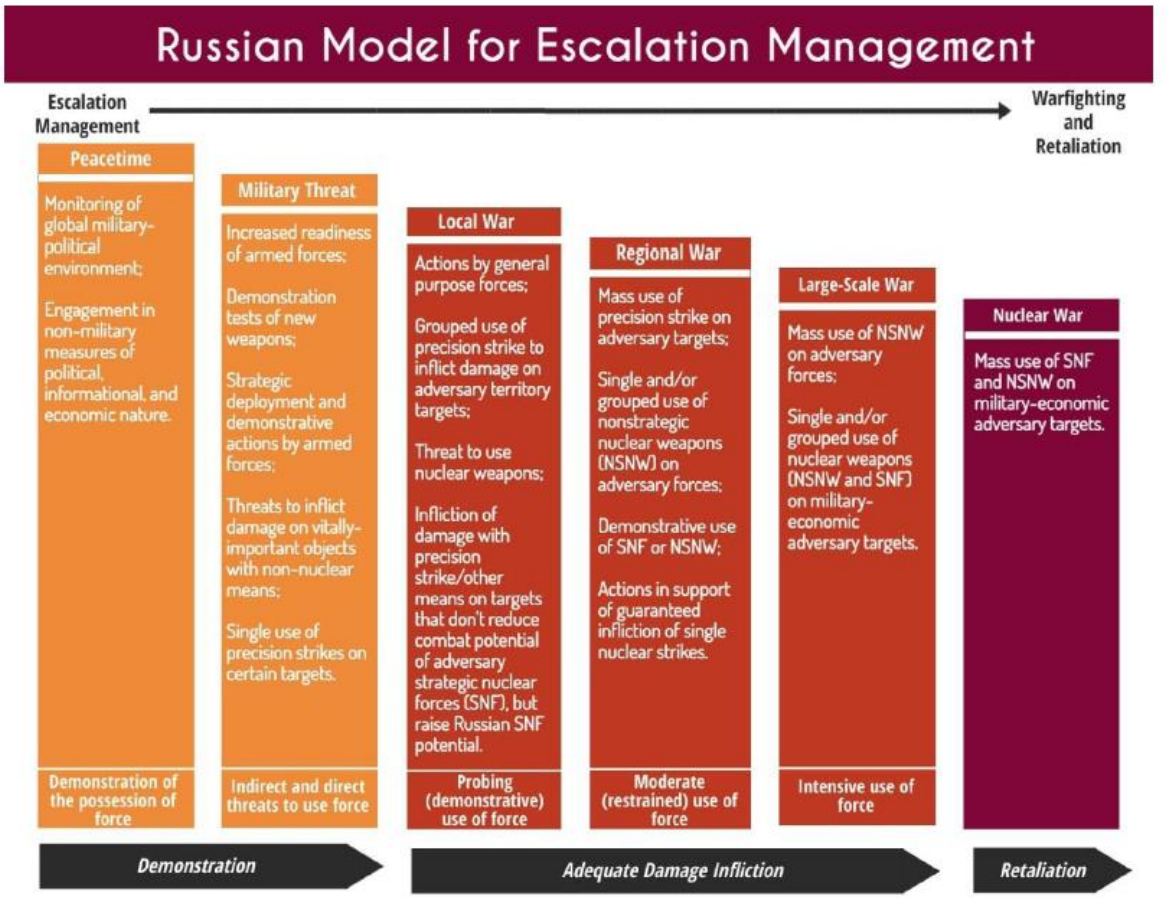
It is not clear whether SONF is an operation that includes Russian plans to execute single or grouped strikes with NSNW in the context of a regional war. These strikes would be for the purpose of escalation management, either against active military targets or for demonstration purposes. SONF appears to be an operation governing nuclear warfighting and strategic nuclear retaliation. These typically involve the global level of deterrence, and the context of a large-scale war that has escalated to nuclear war. The strikes can involve different elements of Russia's strategic nuclear or nonstrategic nuclear capabilities. It remains difficult to say whether SONF governs the use of nuclear weapons in a more limited fashion for the purpose of escalation management. It is well established that three general formats of nuclear employment exist: selective, to inflict deterrent damage; theater warfighting; and strategic nuclear retaliation.

Figure 12 presents a representative model for how the Russian military envisions escalation management, and the role of nuclear weapons in these constructs.

[156] "Strategic operation of nuclear forces."

[157] "War and peace in terms and definitions."

Figure 12. Russian conceptualization for use of force with non-nuclear and nuclear means



Source: A.V. Skrypnik, "On a possible approach to determining the role and place of directed energy weapons in the mechanism of strategic deterrence through the use of force"; A.V. Muntyanu and Yu.A. Pechatnov, "Challenging methodological issues on the development of strategic deterrence through the use of military force," *Strategic Stability*, no. 3 (2010).

SONF is one of the less-mentioned strategic operations, perhaps because it may appear self-explanatory. Strategic nuclear retaliation is a long-standing mission, as is the use of theater nuclear weapons for warfighting purposes. Yet at the same time, it is unclear what kind of nuclear use falls within SONF versus other operations such as SAO or SODCIT. Is SONF scalable? Does it govern calibrated forms of nuclear employment? What about grouped strikes or nuclear use for demonstration purposes?

SONF appears to oversee larger-scale nuclear employment scenarios, and, significantly, these can include massed use of NSNW for warfighting purposes. Despite successes in recapitalizing

Russia's conventional military, there is no intention to eliminate theater nuclear weapons from the significant role that they occupy. These are viewed as having a different psychological and deterrent effect, not to be replaced by precision-guided weapons, and a cost-effective offset to US conventional superiority. While there is a relationship between advanced conventional means and perceived need for nuclear weapons, it is not inverse, and there is every likelihood that the Russian General Staff will continue to invest in both capabilities.

Strategic operation for the destruction of critically important targets (SODCIT)

Of all the strategic operations, the strategic operation for the destruction of critical targets, sometimes translated as SOPKVO or SODCIT, has seemingly garnered the most attention. According to some analysts, the purpose of this operation is as follows:

> The purpose of SO[P]KVO is the creation of conditions to counter threats and prevent aggression and, in the case of the beginning of military action, the infliction on the adversary (the coalition) of damage, during which they would give up the continuation (escalation) on conditions beneficial to Russia. The infliction of necessary damage to the adversary could be achieved through damaging key targets of military and military-economic potential of the adversary to a level, the achievement of which the adversary could discontinue (the escalation of) military actions.[158]

SODCIT is an operation designed to inflict a combination of material and psychological damage, while limiting civilian casualties and avoiding unintended escalation. The operation is aimed at critically important objects, or targets, of the military, economic, and political-administrative types. These objects may include those belonging to "the system of command of state, armed forces, and force groupings; ISR and communications centers, key objects of economics, infrastructure and quality of life (including nonnuclear power plants, defense industry, civilian

[158] V. Roldugin and Yu. Kolodko, "General elements of the methodology of selection of combinations of adversary critical objects for strikes," Общие положения методики выбора поражаемых комбинатций критически важных объектов противника, *Strategicheskaya stabil'nost'*, no. 4 (2014). Also see Y. Pechatnov, "Scientific Approach to Define the Deterrence Strategy's Index of Efficiency," Научно-методический подход к формированию показателя эффективности механизма силового неядерного сдерживания, *Strategicheskaya stabil'nost'*, no. 1 (58) (2012). Also see A. A. Protasov et al., "Methodological support for the development of an idea for the use of long-range WTO in operations (combat operations)," Методическое обеспечение выработки замысла применения ВТО большой дальности в операциях (боевых действиях), *Voennaya Mysl,'* no. 10 (2011).

airpower, rail and road bridges, and ports), objects of communal infrastructure, and objects of mass public information."[159]

The criterion for selecting such targets typically includes infrastructure that may be considered "a key element of critical infrastructure or the grouping of forces, the damage of which could significantly lower the military and military-economic potential of the state and the combat potential of the force grouping," or an "element of the critical interrelation of the objects of the system." There is systems-based thinking involved, assuming a network structure with dependencies and subsystems that can be targeted either in critical economic infrastructure or in military structures.[160] The idea behind this approach is that there are "narrow spaces" or "keystones" in an opponent's industrial systems that could prove lucrative targets for conventional precision strikes.[161]

Russian military analysts note that SODCIT targets should be selected in a way that does not cause significant civilian casualties, "[does not] lead to an ecological disaster, and does not provoke further escalation."[162] Russian thinking here is keen to avert inadvertent escalation, or the strengthening of political resolve that comes from civilian casualties. The possibility of secondary or synergistic effects, which could result in unacceptable levels of damage, weighs heavily as a consideration. Here, target selection and warhead selection are relevant factors.[163]

The operation is premised on inflicting deterrent damage through the application of limited force. The psychological impact is meant to exceed the level of material damage, affecting the political leadership's will to fight. There are also hopes that it may have cascade effects on a coalition of adversary states, targeting specific nations to knock them out of the fight, and thereby potentially collapse the will of the coalition. Some articles divide targets under this operation into military active, military passive, and economic sets. Military active objects can include strategic nuclear forces and strategic conventional forces. Military passive objects

[159] Roldugin and Kolodko, "General elements of the methodology of selection of combinations of adversary critical objects for strikes."

[160] S.A. Polevoy, "Engineering support of the survivability of critically-important objects in the defense of a motor-rifle brigade," Инженерное обеспечение живучести критически-важных объектов в обороне мотострелковой бригады, *Voennaya Mysl'* (2011).

[161] V.V. Sukhorutchenko, A.B. Zel'vin, and V.A. Sobolevskii, "Areas of research into the combat capabilities of long-range high-precision weapons in conventional equipment," Направления исследований боевых возможностей высокоточного оружия большой дальности в обычном снаряжении, *Voennaya Mysl,'* no. 8 (2009).

[162] Roldugin and Kolodko, "General elements of the methodology of selection of combinations of adversary critical objects for strikes."

[163] This section is taken from a CNA report on Russian strategy for escalation management, Kofman, Fink, and Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*.

consist of strategic government and military command posts, launch control posts, air and missile defense objects, ISR and communication nodes, space reconnaissance elements, and armament storage. Economic objects range from industry and administrative buildings to hydrocarbon facilities, chemical industry, and power stations (hydro and nuclear power plants).[164]

The operation's targets are likely to be C2 centers; space-based assets; key communication nodes; and systems for reconnaissance, targeting, navigation, and information processing. These need not be military; they can also be civilian facilities or objects where the means of delivery for ballistic or cruise missiles are based.[165] Russian military writing seems to hold a particular penchant for targeting US space-based reconnaissance assets, especially by destroying or otherwise affecting their ground-based control stations. However, individual satellites can also be affected via kinetic and nonkinetic means. Similar prioritization is offered to forces that carry "strategic nonnuclear weapons" or serve as centers of C2 for the launch of such weapons against Russia.

SODCIT is a scalable and iterative operation, but is likely to precede any nuclear use. The Russian military can carry out this operation at any point in a conflict. However, its most probable phasing is in the initial period of a regional war, or during a transition from a time of imminent military threat to an active conflict. This would constitute preemptive use, to stun an opponent and make clear to them that they would suffer substantial consequences resulting from any aggression. Given the Russian view that the space between peace and war is no longer clear and clearly identifiable, combined with a long-held view that the initial period of conflict is crucial, it is conceivable that a SODCIT operation could take place before Western military and political leaders view a conflict as a foregone conclusion.

The operation appears to be based on conventional capabilities. What are the most probable means of attack? First are VTO-BD, considered to be strategic in Russian military science. These include long-range cruise missiles, hypersonic weapons, and ballistic and quasi-ballistic weapon systems. The platforms include Russia's long-range aviation, surface combatants armed with land attack missiles, guided missile submarines, and ground force missile brigades.

[164] A.V. Skripnik, "Methodological apparatus for ranking critical enemy targets in order to solve the problem of power strategic deterrence," Методический аппарат ранжирования критически важных объектов противника в целях решения задачи силового стратегического сдерживания, *Vooruzheniye i ekonomika*, no. 15 (2011).

[165] Sterlin, Protasov, and Kreidin, "Modern transformations of concepts and power tools of strategic deterrence."Селиванов и Ильин, "О выборе приоритетов при разработке кинетического оружия для решения задач в военных конфликтах"; Roldugin and Kolodko, "General elements of the methodology of selection of combinations of adversary critical objects for strikes."

SODCIT also includes forms of radio-electronic attack, offensive cyber capabilities, and the employment of select categories of advanced non-nuclear capabilities such as directed-energy weapons, which can similarly be used to affect critically important objects. The strikes need not be kinetic in nature.

The main strategic operations seem to overlap. For example, Russian analysts discuss employing strategic conventional weapons to compel an adversary toward peace at the same time as countering an aerospace attack.[166] Some propose more active participation by the Aerospace Forces in SODCIT.[167] Others advocate for the use of RVSN assets in SODCIT with both single and MIRV'ed warheads and with nuclear and conventional warheads alike.[168] The latter are unrealistic proposals, often made by defense research centers that serve those combat arms. In turn, the MOD dictionary notes that RVSN assets could be used in support of the strategic aerospace operation and the strategic operation in a continental theater of military operations. Both operations could involve precision weapons with either conventional or nuclear warheads.[169]

Strategic operations remain a moving target in terms of proposals and conceptualization: four are frequently referenced, indicating that they have been formally adopted (i.e., they are discussed as discrete operations that exist on the books); others are perhaps contemplated for the future and remain under development. For example, Russian analysts discuss prospective strategic operations that merge with other operations conceptually, such as a strategic deterrence forces operation and a strategic operation of general-purpose forces. From their standpoint, a further reduction is desirable, while perhaps adding others such as a strategic space operation.[170] Some analysts also argue for the importance of the information dimension, even positing the possibility of a strategic operation in the "theater of information combat."[171]

[166] Tyutyunnikov, "Military thought in terms and definitions," pp. 114, 265.

[167] Andrey Goncharov, "In the future-an anti-space operation," В перспективе-противокосмическая операция, *VKO*, no. 3 (2014).

[168] Roldugin and Kolodko, "General elements of the methodology of selection of combinations of adversary critical objects for strikes."

[169] "Strategic employment of RVSN," Стратегическое применение РВСН, Ministry of the RF Encyclopedia, http://dictionary.mil.ru/dictionary/Terminy-RVSN/item/141806/.

[170] Sterlin, Protasov, and Kreidin, "Modern transformations of concepts and power tools of strategic deterrence"; "War and peace in terms and definitions."

[171] S.A. Modestov, "Strategic deterrence at the theater of information confrontation," Стратегическое сдерживание на театре информационного противоборства, *Strategicheskaya stabil'nost,'* no. 1 (2009).

Maturing Operational Concepts

After a discussion of Russian military strategy and the evolution of key forms of operational art such as strategic operations, in this section we explore additional operational concepts of import. These include the emerging school of thought discussing "disorganizing strike," a composite of offensive information operations and radio-electronic fire operations. Their purpose is to disorganize an opponent's military effort, affect their C2, or otherwise influence their systems. We also explore the evolution of more traditional concepts such as recon-strike and recon-fire complexes, which evolved from late-Soviet tactical-operational concepts. Today these are referred to as *contours* or *loops*, and are mature operational concepts, with enabling technology diffusing across the Russian military. This section will also discuss the integration of traditional fire and strike missions, with emergent ideas on the use of radio-electronic concepts, presenting them as interrelated concepts that can be employed in combination.

Disorganization

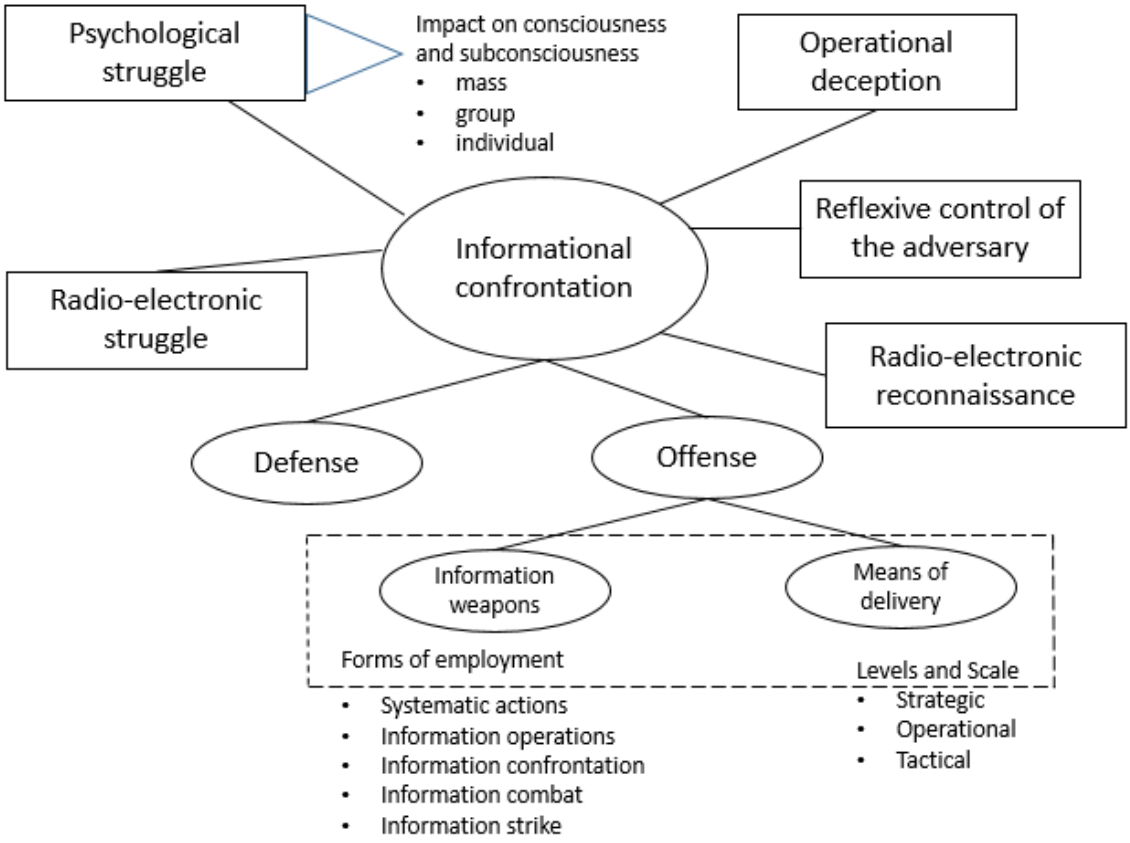
The Russian military continues to evolve concepts under the rubric of information confrontation, drawing on historical Soviet experiences with radio-electronic combat, contemporary combat experience with electronic means, and observation of Western use of these technologies.[172] In this section, we discuss several interrelated concepts that make up the Russian approach to information confrontation and, more specifically, disorganization of an opponent's efforts. Disorganization continues to rise in prominence as a composite of two interrelated Russian concepts, namely: complication of C2 via disruption of information flow, and fragmentation of the C2 system by isolating its essential elements. Disorganization plays an important role in Russian thinking about active defense. It is specific, aimed at C2 and an opponent's ability to manage their forces or have effective situational awareness.

Russian thinking on how to realize these concepts continues to evolve, but some of the forms and means include an "electronic-fire operation," which can be broadly conceived of as part of radio-electronic combat, emphasizing electronic warfare. This is perhaps more tactical-operational in nature. A higher-level operational approach is the "information-strike operation," employing different means to functionally defeat or disorganize an opponent, focusing on C2. The net desired effect is disorganization and attainment of information superiority at a tactical, operational, or even strategic level of war.

[172] I. Ivanov and I. Chadov, "Content and role of radio-electronic combat in XXI century operations," Содержание и роль радиоэлектронной борьбы в операциях XXI века, *Voennaya Mysl,'* no. 11 (2011).

Figure 13 presents a chart of the elements involved in informational confrontation.

Figure 13. Informational confrontation



Source: O.N. Ostapenko, S.V. Baushev, I.V. Morozov, Информационно-Космическое Обеспечение Группировок Войск (Сил) ВС РФ, [*Information-space support of RF armed forces groupings*] (St Petersburg, 2012), p. 225.

Some in the Russian military write about information confrontation in more traditional combat terms, using phrases such as "electronic fires" and "radio-electronic combat against information systems," or "radio-electronic systems of an opponent's forces."[173] This constitutes an offensive component of the information confrontation, leveraging "information weapons." This subset of military art is different from radio-electronic reconnaissance, electronic struggle, psychological struggle, or reflexive control. In this sense, it is easier to parse the likely use of military means under this formulation of offensive information attack. Some in the

[173] I.N. Chibisov and V.A. Vodkin, "Information-strike operation," Информационно-ударная операция, *Voennaya Mysl,'* no. 3 (2011).

Russian military argue that the impact of electronic operations could be "as effective as means of fire" and thus should be added to the lexicon of the "classical triad—fire, strike, maneuver."[174] They propose framing these ideas as an information-strike operation or an electronic-fire operation.[175] They describe this operation's characteristics as:

> being global, since it has no spatial limitations; a wide variety of forms and methods used; continuity regardless of seasonal, weather, and meteorological conditions; secrecy of the conduct, especially in peacetime. This type of operation is of particular importance in the context of highly maneuverable combat operations using reconnaissance and strike systems, high-precision guided weapons, the use of space assets and weapons based on new physical principles.[176]

They add that "an information-strike operation can be over 300–400 km along the front and up to 450–500 km in depth of the tasks performed" at the operational level, whereas "on a strategic scale the entire theater of military operations will be covered."[177] The conceptual references here remain somewhat classical, attempting to tie offensive information operations to existing operational art. Because fires were used historically to disorganize an opponent's offense or defense, there are attempts to use electronic means in similar roles given the significance and prevalence of information capabilities on the battlefield. Hence, fires remain important, but they could in some cases be held in reserve.[178]

Figure 14 helps illustrate how some analysts chart the evolution of systematic actions in the information domain, and radio-electronic strikes, over the past decade.

[174] I.N. Chibisov and V.A. Vodkin, "Information-strike operation," Информационно-ударная операция, *Voennaya Mysl,'* no. 3 (2011).

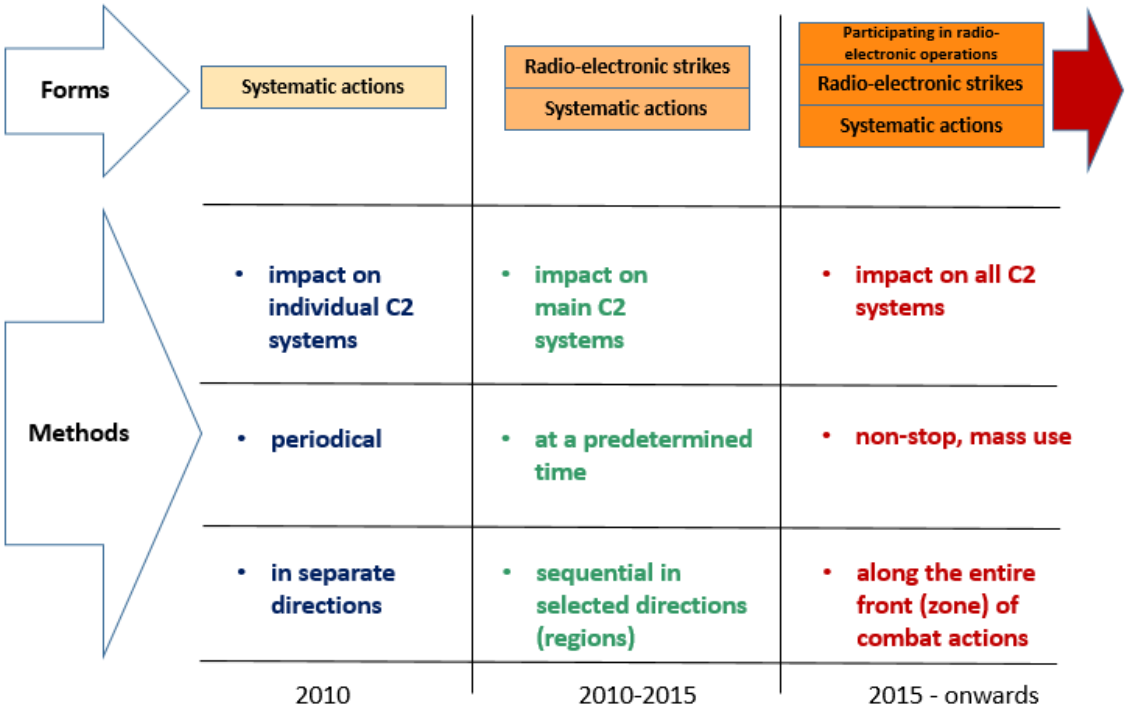
[175] Ibid.

[176] Ibid.

[177] Ibid.

[178] S.I. Pasichnik, "On the question of complex damage infliction on the adversary and its methods during disorganization of C2," К вопросу о комплексном поражении противника и способах его осуществления при дезорганизации управления, *Voennaya Mysl,'* no. 6 (2017).

Figure 14. Development of radio-electronic combat



Source: G.V. Konstantinov, A.V. Chizhan'kov, I.A. Shishechkin, "Развитие теории применения формирований радиоэлектронной борьбы в интересах противовоздушной обороны войск и объектов" [Development of the theory of employment of formations of radio-electronic combat in the interest of air defense of forces and objects] *Voennaya Mysl,'* no. 10 (2019).

Disorganization effects occur because electronic fires disrupt an opponent's C2, thereby decreasing their combat potential.[179] The desired disorganizing effect is expected within critical information systems that feed into C2 and intelligence. Electronic warfare creates a contested electromagnetic environment, and under these general conditions, strikes can be conducted with various missile systems to further disorganize the C2 of aviation and field artillery.[180] Therefore, it is not electronic fire or conventional strike, but rather both in combination.

[179] V.A. Anokhin et al., "Assessment of combat ability of military formations with consideration of effectiveness of C2 disorganization," Оценка боеспособности воинских формирований с учетом эффективности дезорганизации управления, *Voennaya Mysl,'* no. 12 (2019).

[180] Chibisov and Vodkin, "Information-strike operation."

Some posit a larger-scale information-strike operation (information weapon) to seize the initiative, gain information superiority, and reflexively dominate the opponent. The disorganization effort could involve electronic destruction, capture, disablement of the means of C2 of troops (forces), adversary's weapons, the means of his reconnaissance, and information support system; affecting the software and hardware of its information and computing systems; electronic suppression of telecommunication channels (communication channels); and misleading the opponent (misinformation, concealment, and imitation).[181] Some military thinkers frame this expressly as a struggle against an opponent's C2 systems, writing as follows:

> When developing the main provisions of the theory of disorganization of command and control of troops (forces), the authors proceeded from the postulate, the essence of which is that on the battlefield (tactical and operational level) information confrontation (information war in the old terminology) is transformed into a fight against enemy control systems, the main goal [of] which is to gain superiority in command and control.[182]

The goal from their perspective is systemic damage (complex defeat) of an adversary to attain disorganization.[183] A complexity in operations is achieved by determining the best composition of different capabilities, fires, and strikes, and employing the most optimal combination of these systems when looking at ranges and potential targets. Some develop methods to assess the effectiveness of disorganization of network-centric C2, breaking down the various subsystems and their interrelations.[184] These are systems theory approaches that see the opponent's military potential as being composed of critical nodes and sub nodes.

Efforts at disorganization involve simultaneous offensive actions as well as actions to defend own systems.[185] Across the spectrum of operational constructs, the operations themselves are

[181] Yu.E. Donskov, A.L. Moraresku, and V.V. Panasuyk, "On the issue of disorganizing C2 of troops (forces) and arms," К вопросу о дезорганизации управления войсками (силами) и оружием, *Voennaya Mysl,'* no. 8 (2017).

[182] A.N. Klyushin, D.V. Holuenko, and V.A. Anokhin, "On the elements of the theory of disorganization of C2 of troops (forces)," О положениях теории дезорганизации управления войсками (силами), *Voennaya Mysl,'* no. 9 (2017).

[183] Pasichnik, "On the question of complex damage infliction on the adversary and its methods during disorganization of C2."

[184] V.A. Anokhin and D.V. Kholuenko, "Methodological foundations of the assessment of effectiveness of disorganization of network-centric information-command systems," Методические основы оценки эффективности дезорганизации сетецентрических информационно-управляющих систем, *Voennaya Mysl,'* no. 12 (2020).

[185] G.V. Konstantinov, A.V. Chizhan'kov, and I.A. Shishechkin, "Development of the theory of employment of formations of radio-electronic combat in the interest of air defense of forces and objects," Развитие теории

typically offensive and defensive in character. One of the identified challenges in offensive electronic operations is overcoming the redundancy of systems delivering information, which requires the creation of new means of radio-electronic combat. Some of the proposed approaches to radio-electronic warfare and information-technical impact include employing space-based capabilities to affect an adversary's space assets, developing remotely operated radio-electronic systems, and the "creation of forces and means to conduct combat actions in cyberspace."[186] Analysts also explore approaches to disorganizing the C2 of Western robotic systems used in reconnaissance, data transmission, and navigation.[187]

Finally, there is an argument that all "information-technical impact" effects could eventually become part of "an information-radio-electronic-fire operation," which might be its own distinct strategic operation.[188] This operation could be added to the strategic operations roster, although most likely it will remain at the tactical-operational level and serve as a form of force employment. Figure 15 outlines a potential way to arrange these different concepts as forms and means for the conduct of radio-electronic combat. Consistent with other writings, offense and defense are organically interconnected, as are kinetic fire means and those employing electronic means. Together they influence an opponent's cohesion, situational awareness, and decision-making ability.

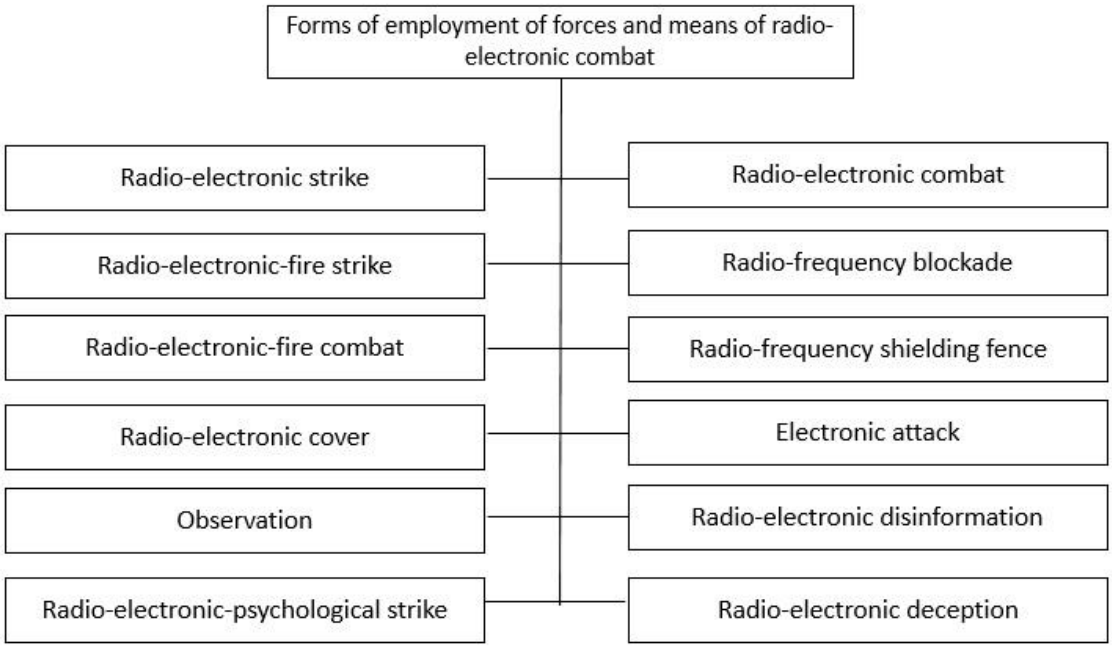
применения формирований радиоэлектронной борьбы в интересах противовоздушной обороны войск и объектов, *Voennaya Mysl,'* no. 10 (2019).

[186] Ibid.

[187] M.V. Zhirnov, "Organization of the preparation of radio-electronic combat specialists to disorganization of C2 of ground robotic systems of foreign militaries," Организация подготовки специалистов радиоэлектронной борьбы к дезорганизации систем управления наземными робототехническими средствами иностранных армий, *Vozdushno-kosmicheskiye sily: teoriya i praktika*, no. 14 (2020).

[188] Konstantinov, Chizhan'kov, and Shishechkin, "Development of the theory of employment of formations of radio-electronic combat in the interest of air defense of forces and objects."

Figure 15. Forms of force employment and means of radio-electronic combat



Source: V.K. Novichkov, S.B. Golubchikov, "Формы радиоелектронной борьбы в современных условиях" [Forms of radioelectronic combat in modern conditions], *Vestnik AVN*, no. 2 (2019).

Recon-strike and recon-fire contours

In discussions of Russian tactical and tactical-operational concepts, it is common to see the terms *reconnaissance-fire* and *reconnaissance-strike contours* (or *loops*). These "loops" emerged from Soviet military concepts that used similar names: *reconnaissance-fire* (ROK) and *reconnaissance-strike complexes* (RUK). In brief, they speak to the development of kill chains that link sensors, communication systems, and automated systems of C2 to shooters. Russian forces are thereby able to engage an opponent with standoff capabilities in real time. Soldiers or sensors can be used to mark targets, and these coordinates are transferred to supporting units that provide fires and strikes. There is thus a reconnaissance component, a shooter component, and C2 systems that provide the linking architecture.

Recon-fires employ tube artillery and multiple-launch rocket systems. This is chiefly a tactical-level concept, although some Russian rocket systems have ranges that can be considered more operational. Recon-strikes speak to precision-guided weapons with longer range, thereby extending the concept to operational depths and applying it to more lucrative targets. The

overall approach is the same, and the two terms are increasingly blurred as fires gain extended range to strike at more operational distances with precision means.

Recon fire/strike capabilities can be combined with the electronic warfare concepts described above, integrating both classical fire/strike combinations, and radio-electronic-strikes (REU) in support. Table 3 offers an explanation and disambiguation of these concepts, showing the relative depths at which they might operate.

Table 3. Zones of fire (strike) impact

Characteristic of the zone	Depth, km	Armament system
Zone of immediate contact with the adversary-zone of combat with fire	Up to 7 km	Small arms and artillery, etc.
Tactical zone—combat formation zone for tactical formations (brigade, division)	Up to 30-40 km	Reconnaissance-fire complex (Разведовательно-огневой комплекс РОК)
Operational zone—zone of operational formation of operational tactical (corps) and operational units (army) and forces (means) and their support	Up to 200 km	Reconnaissance-strike complex (Разведовательно-ударный комплекс РУК)
Operational-strategic zone—zone of operational formation of first and subsequent echelons, reserves, and rear of operational strategic and strategic units (front, regional grouping of troops (forces))	Up to 500 km and greater	Reconnaissance-strike system (Разведовательно-ударная система РУС)
Strategic zone—zone commensurate with the size of the Earth, and in which there are or could be important objects (targets) of strategic and operational significance	Greater than 500 km	Information-strike system (информационно-ударная система ИУС)

Source: Ostapenko, Baushev, and Morozov, *Information-space support of RF armed forces groupings,* p. 203.

The realization of these concepts, along with the associated technologies to make them practicable, speaks to the further evolution of Russian operational art along the course set by military strategy. The general tenets for the conduct of modern warfare emphasize fire, strike, and maneuver. Strike and fire operations are conducted without direct contact with the adversary, using sensors and automated systems of C2 to relay that information under the rubric of "non-contact" warfare. Artillery, therefore, remains essential to Russian concepts, with fires as the main means to attrite an opponent and preserve Russian ground forces.

As Russian fire systems gain range and precision, it is likely that reconnaissance-fire and reconnaissance-strike will be merged into one concept that integrates both tactical and tactical-operational systems. Technically this can be done, given the proliferation of new MLRS systems and precision-guided artillery munitions, along with remotely operated systems to enable targeting. The Russian military has benefited from the spread of drones and their

integration via drone companies in brigades and divisions. However, further concept unification would require reconciling echelonment issues, as typically battalions and brigades use the reconnaissance fire systems at the tactical level. Operational-level formations such as armies conduct reconnaissance strike missions at tactical-operational depths, using limited availability assets such as long-range precision-guided weapons and more advanced means of targeting.

Conclusion

In Russia, military strategy remains the highest form of military art, while strategic operations are the highest method of operational art. Strategy has many influences, but ultimately must prove responsive to the policy formulations of the political leadership, which dictates the political character of Russia's military doctrine. However, strategy takes note of developments in military technology and ongoing innovation in battlefield tactics. As Russian analysts write, military actions "will be dictated by the country that is most capable of practically realizing achievements in the military and technological fields."[189] It is therefore both a component of the Russian system of knowledge on war, which is highly interdisciplinary, and influenced by developments in military science.

A number of trends continue to influence the development of military art and military strategy in the Russian armed forces, including the following:

1. The informatization of the Russian armed forces, based on the diffusion of sensors and systems of C2 and increasing artificial intelligence assisted integration.
2. The further development of advanced precision strike weapons, such as hypersonic missiles, and the acquisition of new generations of strike systems across combat branches and arms.
3. The proliferation of remotely operated systems such as UAVs and the increased automation and robotization of the Russian armed forces.[190]
4. The consequent shift in operational art from traditional fires and strikes toward a "complex defeat" of an opponent by combining different means, including traditional conventional systems and those that can induce functional defeat via radio-electronic attack. The notion of simultaneity and complex defeat has always been there, and appears in part confirmed by the integration observed in US operational concepts such as MDO. Perhaps the terminology changes, from "complex approach" to a more mature "complex defeat" of an opponent, but the overall trajectory in Russian military thinking remains clear.
5. The continued prominence of air defense and missile defense as strategic imperatives, especially in the IPW, but with the addition of counter-space and counter-unmanned aerial systems missions.

[189] Sokolov, "Tendencies of development of military art."

[190] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

6. Emphasis on non-military means in warfare, and strategic or indirect actions either to advance interests or defend against an opponent's subterfuge, especially during a tentative time of peace.
7. Finally, the continued emphasis on targeting critical objects as the center of gravity in both warfighting and deterrence concepts, and equally, investing in the defense of Russian critical objects against US strategic conventional capabilities.

There is a general acceptance that ways of fighting that involve mass manpower have given way to more targeted means of struggle that require far fewer human resources.[191] Russian military concepts emphasize advanced weapon systems, quality over quantity, and asymmetric counters to neutralize a superior opponent's advantages. That said, these recognized developments in military science should not be mistaken for a Russian desire to abandon mass; rather, the desire is to evolve into greater application of precision-guided weapons, automated systems of C2, and ways of operating that leverage force multipliers as opposed to just quantity of systems. The Russian military continues to pursue a more networked, information-driven way of warfare, while retaining its classical advantages in fire and strike systems to enable maneuver.

In the IPW, Russian military strategy continues to emphasize aerospace attack and defense and information confrontation. The threat posed by a massed US/NATO aerospace assault in the IPW, increasingly characterized as an integrated massed air strike, continues to drive Russian operational concept development. Consequently, Russian military strategy prioritizes strategic operations to deflect or parry massed missile and air strikes. Conversely, combat operations increasingly adopt the rubric of defensive maneuver, dynamic raiding operations along the flanks, and capitalizing on massed fires/strikes.[192] Ground forces shift to assault only when the opponent has been sufficiently degraded via fires, strikes, and means of functional defeat. Preserving the force is philosophically an evolution in Russian military art, which historically had privileged material and mass over retention of manpower.

Active defense remains the guiding formulation in Russian military strategy. While the strategy is defensive in character—eschewing the notion of offensive war or the need for strategic offensive ground operations at the outset—it presupposes the need to respond to indirect actions prior to the onset of hostilities. This assumes that the US would attempt political subversion and pair such efforts with an advanced aerospace assault and strikes against critical infrastructure. Active defense is meant to answer this combined threat, delineating the role of

[191] Zarudnitskiy, "Character and content of armed conflicts in modern conditions and near term perspective."

[192] Sokolov, "Tendencies of development of military art."

the armed forces during a period of military danger, threat, the conduct of operations in wartime, and the Russian thesis for how to attain war termination on acceptable terms.

Activity emphasizes preventive measures to neutralize threats to the Russian state during a period of "imminent threat," but also the theory and practice of warfare. This can be summarized as defensive maneuver in combination with a sustained counterattack (offensive), and a shift to the counteroffensive to roll back an opponent's gains. Active defense envisions noncontact warfare as the form for how forces are employed, but sustained contact with an opponent throughout the theater of military action as the strategy. This translates into strikes across the theater, successive operations, and strategic operations to attain decisive outcomes. The battle is assumed to be non-contiguous (fragmented) and non-contact in character, with distant strike and fire systems engaging maneuvering forces. Its outcome is unlikely to be determined by seizing terrain. An opponent's ability to sustain the fight, or will to continue fighting, can be shaped by the decisive use of strategic nonnuclear, or nuclear weapons, and through successful execution of strategic operations.

Russian military strategy posits that deterrence should be premised on shaping an opponent's perception of costs, and convincing them that the cost of aggression would exceed any desired gains. In war, the goal is to prevent a decisive victory in the IPW and to convince the opponent that the contest will result in costly attrition. In both cases, the military strategy accepts that Russia is the weaker party in a regional or large-scale war against a technologically superior adversary (US/NATO). It is therefore a strategy that approaches the question from a position of military inferiority, seeking asymmetric counters to areas of US superiority and ways to decisively shape the outcome without presuming the likelihood of victory in a sustained conflict.

Russian military strategy is not premised on positional defense, or on Western concepts such as A2/AD. Indeed, no such terms exist in the Russian lexicon—they would be anathema to the prevailing understanding of military art and the core tenets of Russian military strategy, which place little faith in standing defense or antiaccess capabilities. In the context of these larger scope conflicts, deliberate defense is seen as cost-prohibitive or technically unworkable, given the penetrating power of emerging precision-guided weapons.

The defense planning community should be wary of a natural tendency to mirror-image Russian operational concepts based on how a Western military might use the same capabilities. Yet military communities come to dramatically different conclusions about the role and relevance of military technology, along with the operational concepts for fielding it on the battlefield. Their logic is informed by distinct military experiences, divergent practices in military art, organizational and national strategic cultures, or preferences for deductive versus inductive approaches to formulating strategy. Therefore, understanding what Russian military leaders mean when they reference a strategy of "active defense," the respective strategic

operations that make up key pillars of this military strategy, and associated operational concepts, can shed an important light on Russian military thought and bring together disparate strands of knowledge or information that exist currently in the field of Russian military analysis.

Glossary

Active defense strategy (стратегия активной обороны): a strategic concept integrating preemptive measures to prevent conflict, and wartime concepts of operations that seek to deny an opponent a decisive victory in the IPW, degrading and disorganizing their effort, while setting the conditions for a counteroffensive or attaining war termination. The strategy privileges a permanent standing force, arrayed as high readiness operational formations in each strategic direction, prepared to execute operations jointly.

Combined-arms (общевойсковые) formations: tactical formations assembled for the purposes of conducting combined arms battle, typically consisting of motor rifle, armor, artillery, airborne, reconnaissance, or airmobile troops.

Interdepartmental (межведомственные) grouping: temporary or permanent combat grouping consisting of forces from different agencies—for example, Russian MoD and Ministry of Interior troops.

Joint (межвидовые) grouping: permanent or temporary combat grouping consisting of different branches or combat arms—for example Russian forces in Syria.

Correlation of forces (and means) (соотношение сил и средств): assessment of the political-military balance between adversaries on various levels and/or theaters.

Critical objects/targets (критические объекты/цели): broad term for important military and civilian infrastructure targets: varies at strategic, operational, and tactical levels. Some distinguish between objects of significant value and vitally important objects, with the latter having more implications for economic and population losses, if destroyed.

Disorganization of C2 (дезорганизация управления)**:** measures aimed at complicating and fragmenting the functioning of an adversary C2 system, preventing effective management of forces, and achieving information superiority.

Forms and methods of warfare (формы и способы ведения войны): forms include operations, engagement, combat, and strikes; methods are understood as the aggregate of forms, modern approaches, and procedures.

Impact with software-hardware (програмно-аппаратное воздействие, ПАВ) and **Informational-technical impact** (информационно-техническое воздействие, ИТВ): terms related to the infliction of damage with information-technical means to include cyber capabilities.

Information warfare/information struggle (информационная война/информационная борьба): a frequently discussed instrument in the military's toolkit although it sits astride both

military and nonmilitary measures, depending on what is being discussed as the means or form of action. Russian thinkers view information warfare as capable of disorganizing an opponent's command and control, deceiving an adversary, sowing instability within an enemy's borders, and demoralizing an opposing population or military to the point that they even lose the will to resist.

Initial period of war (начальный период войны): according to Soviet and Russian military science, this is the most critical and decisive period of conflict when countries launch strategic operations with already deployed forces.

Key geographical units of military action: theater of war (TV), theater of military action (TVD), strategic direction, operational direction.

Maneuver defense (маневренная оборона): a form of defense predicated on avoiding decisive engagement, withdrawing forces to degrade an opponent with artillery until a positional defense is mounted. Trades territory to preserve the force.

Massed missile-aviation strikes (массированный ракетно-авиационный удар, МРАУ): critical part of an air campaign or air operation—the formulation of Russian understanding of US airpower operational concepts. The recent evolution of this concept is an **integrated massed air strike** (интегрированный массированный воздушный удар, ИМВУ), described and interpreted as an evolution of the MRAU problem, and a component of U.S. MDO.

Military doctrine (военная доктрина): defines military-political, military-strategic, and military economic foundations for ensuring the country's security. Represents a system of officially accepted views and positions on the goals or character of a potential war, how to prepare for it and prevent it.

Military science (военная наука): a system of knowledge about the current nature and laws of war, how to prepare armed forces, and modern methods for the conduct of armed struggle.

Military strategy (военная стратегия): a branch of military science representing the highest form of military art (art of war), a system of knowledge about modern wars, ways to prevent them using military means, methods and forms of waging war in general, and conducting military action on a strategic scale.

National Defense Management Center (Национальный центр управления обороной РФ): key Russian MOD node for C4ISR.

Noncontact warfare (бесконтактная война): conflict where much of the fighting will take place via standoff precision guided weapons.

Nonmilitary means (невоенные действия): broadly include political, information (both psychological and technical), diplomatic, economic, legal, spiritual/moral, and humanitarian measures.

Operational art (операционное исскуство): theory and practice of preparation and conduct of operational-strategic and operational military actions; component of military art that resides between military strategy and tactics.

Reflexive control (рефлексивный контроль): Russian term and analytical tool that refers to an approach involving strategic manipulation of an opponent's perceptions.

RF military districts: Western Military District, Central Military District, Eastern Military District, Southern Military District, Northern Fleet JSC.

Russian Federation (RF) armed forces composition: three branches (*vid*): the Ground Forces, the Navy, and the Aerospace Forces; two independent arms (*rod*): the Strategic Rocket Forces and the Airborne Troops; and the Special Operations Forces and, separately, the Material Technical Support system.

Scale of military action: tactical, operational-tactical, operational, operational-strategic, and strategic.

Strategic deterrence (стратегическое сдерживание): Russian military term that refers to integrated military and nonmilitary approaches to deter an opponent, manage escalation, or terminate a conflict, premised on the ability to inflict progressive costs.

Strategic operation (SO) (стратегическая операция): joint operation, integrating operational formations from different branched and arms to project power across the theater of military action with the intent of attaining strategic effects.

Strategic aerospace operation (SAO) (по отражению воздушно-космического нападения противника): a set of strategic measures and defensive offensive actions to identify and repel an enemy aerospace attack from all aerospace directions, to protect the armed forces and economic facilities from strikes by ground, air and space-based strategic strike forces.

SO in a theater of military operations (SOTMO) (на ТВД): a set of coordinated operations and actions of various types of armed forces carried out within the boundaries of the continental theater of operations in order to achieve certain military-political goals.

SO in the oceanic theater of military action (SOOTMO) (на океанском ТВД): a system of coordinated military operations in the operationally important areas of the ocean and seas, as well as in adjacent coastal areas and in airspace to disrupt enemy attacks from sea areas, gain dominance in the ocean (at sea), defeat important coastal targets, defeat the main groupings of the enemy's naval forces and its troops in coastal areas, disrupting the enemy's ocean transport and protecting their communications, basing points, and coastal facilities.

SO of nuclear forces (SONF) (стратегических ядерных сил): operation aimed at de-escalation (halt) of aggression, initiated against Russia and its allied states and the destruction

of the aggressor, who has employed or is ready to employ nuclear or other types of WMD on Russia.

SO for the destruction of critically important targets (SODCIT) (по уничтожению критических целей): purpose is the creation of conditions to counter threats and prevent aggression and, in the case of the beginning of military action, the infliction on the adversary (the coalition) of damage, during which they would give up the continuation (escalation) on conditions beneficial to Russia.

Strategy of limited actions (стратегия ограниченных действий): conducting military operations with limited political goals, within defined territories, while using only a part of military potential or specific components of the armed forces, and selectively striking objects or enemy forces without pursuing greater military involvement (and avoiding undesired escalation).

Prospective strategic operations: SO strategic deterrent forces (стратегических сил сдерживания); SO space (космическая); SO strategic defensive forces (оборонительных сил).

Types of war according to Russian military doctrine: military danger, military threat, armed conflict, local war, regional war, large-scale war.

Weapons based on new physical principles (оружие на новых физических принципах): a US-derived term that involves directed-energy weapons, electromagnetic weapons, geophysical weapons, genetic weapons, nonlethal weapons, and others.

Figures

Tables

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