

The Challenge-Response Dynamic in Military Affairs

Tracing the Origins of Multi-Domain Operations

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Abstract

This essay contributes to a better understanding of the challenge-response dynamic in military affairs. It suggests that the solution to a state's or alliance's military problem imposes a new problem on an adversary. Highlighting this dynamic, this essay traces the origins of the current American operating concept of Multi-Domain Operations (MDO) through three phases of US-Russian concept development and force design. First, the US response to the challenge of Soviet military powers during the Cold War resulted in a force design successfully executing Operation Desert Storm in 1991. Second, in the decades following Operation Desert Storm, Russian war scholars outlined response options for Russian force modernization to better address the challenge of US military power. In essence, this amounted to mirroring the US reconnaissance-strike complex and developing precision-strike munitions. Third, when Western militaries re-oriented from counterinsurgency to large-scale combat operations after the 2014 annexation of Crimea, they considered the challenge of Russian warfare at an increased stand-off distance. A leading response to this challenge is the American military concept of MDO, which many NATO Allies have adopted since its emergence. Key findings of this essay include the necessity to anticipate better adversarial concept development and the responsibility of military leaders to manage adversarial threat perception. Indeed, MDO specifically warrants a reevaluation of Bernard Brodie's 1946 observation that 'thus far the chief purpose of our military establishment has been to win wars. From now on, its chief purpose must be to avert them.'

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War scholars studying the future of war have their work cut out for them. On the one hand, they must work diligently to outline the contours of the future battlefield, a task that has not proved easy. Many, for example, wrongly believed in ‘the decisive battle narrative’, the idea that a decisive battle will lead to victory in future wars.¹ On the other hand, they must also study the history of warfare, looking for ways to prevent the future battlefield from materializing. Indeed, some of the fiercest antagonists’ force structure includes nuclear weapons, bringing images of a nightmare scenario with fall-out contaminating the battlefield. In 1946, this same fear compelled Bernard Brodie to wisely note that ‘thus far the chief purpose of our military establishment has been to win wars. From now on, its chief purpose must be to avert them.’²

The war scholar’s dilemma of developing military concepts that lead to victory on the battlefield versus concepts that prevent the battlefield from materializing is striking. However, a better understanding of the problem a military concept solves and, more importantly, who imposes a problem on whom and why, helps war scholars outline the future battlefield and better understand the dynamic of the reciprocal fear that partially shapes states’ behaviour in security policy.

This essay contributes to a better understanding of the challenge-response dynamic. It suggests that the solution to a state’s or alliance’s military problem imposes a new problem on an adversary. Highlighting this dynamic, this essay

traces the origins of the current American operating concept of Multi-Domain Operations (MDO) through three phases of US-Russian concept development and force design.³ First, the challenge of Soviet military power to the US and its allies during the Cold War resulted in a force design successfully executing Operation Desert Storm in 1991. From the Russian view, the US coalition’s overwhelming victory in Iraq brought alarming questions to light.⁴ Could the US also muster forces near the Russian border, challenging the Russian homeland as it did with Iraq? If so, could the Russian military defend against the specific way of warfare the US and its coalition showcased? Second, in the decades following Operation Desert Storm, Russian war scholars outlined response options for Russian force modernization to counter the US way of war.⁵ One prevalent response furthered the idea of increasing stand-off distance between the Allies and the Russian forces to offset US precision strike capability. Lastly, Western war scholars, re-orienting from counterinsurgency to the Russian force posture and large-scale combat operations (LSCO) shortly after the annexation of Crimea in 2014, considered the implications of Russian warfare at increased stand-off. It imposed a challenge upon the US and its Allies: How do NATO Allies defend themselves in the event of a military conflict with Russia? A leading response to this challenge is the American military concept of MDO, which many NATO Allies have adopted since its emergence. Studying the military ideas fuelling this challenge-response dynamic in military affairs between the US and its Allies on the one hand and Russia on the other, provides insight into the origins of MDO.

The approach for substantiating the thesis of the US-Russian challenge-response dynamic in this essay is qualitative content analysis. It derives from analyzing 1990s reports about how Russian war scholars viewed Operation Desert Storm, Russian military journals, reports on Russian military thought, US war scholars’ ideas on MDO, and U.S. Army doctrine publications. Concerning MDO, currently, within Allies military forces, three interpretations of the concept are in vogue.⁶ The first views MDO as a

1 The notion is from Lawrence Freedman, in Kori Schake, ‘Future of War’, *War on the Rocks*, 2018.

2 Bernard Brodie (ed.), *The Absolute Weapon: Atomic Power and World Order* (New York, Harcourt Brace, 1946) 76

3 In October 2022 the U.S. Army updated its Field Manual 3-0 Operations and codified MDO on page 1-2 as ‘multidomain operations are the combined arms employment of joint and Army capabilities to create and exploit relative advantages that achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders.’ Department of the Army, Field Manual 3-0 Operations, 2022.

4 Gilberto Villahermosa, ‘DESERT STORM: The Soviet View’, Foreign Military Studies Office, Fort Leavenworth, 2017, Summary, 5.

5 See for several response options Edward J. Felker, ‘Oz Revisited: Russian Military Doctrinal Reform in Light of their Analysis of Desert Storm’, Air University, June 1994.

6 Gijs Tuinman, ‘Het antwoord is Multi-Domain Operations! Maar wat is de vraag die daarbij hoort?’ *Carre* (2023) (2) 13.

concept integrating information technologies to augment a faster Observe, Orient, Decide, Act (OODA) loop in the targeting-to-kill process. This view is primarily prevalent in air components of armed forces. The second perspective aims to further integrate the military domains with non-military activities, similar to the comprehensive counterinsurgency approach. NATO doctrine writers largely devote their time to furthering this interpretation. The third departs from the idea that MDO is the operational concept for US and Allies' warfighting, aimed at deterring and defending against a peer competitor. In that sense, it resembles concepts such as the AirLand Battle doctrine from the 1980s. This essay takes the third perspective as a starting point and ignores the first and second. Finally, this essay disregards the Russian operation in Ukraine. Although it impacts the political-military environment significantly, it has limited influence on the origins of the third perspective of MDO outlined above.

The Challenge Imposed by Operation Desert Storm

The objective of tracing the origins of a military concept is doomed to fail from the outset. Indeed, a military concept, defined as a collection of coherent military ideas developed by war scholars, by its nature, has no starting point. Origins imply a starting point, however, so for practical purposes, this essay takes Operation Desert Storm as the starting point for tracing the origins of MDO. This 1991 US and coalition military operation culminated the Second Offset strategy. This strategy aimed to compensate the perceived superior Soviet conventional military with non-nuclear forces by leveraging computer processing and space technology.⁷ Desert Storm marked a watershed moment in modern military thinking: the ability of the US to project force and defeat another state with such overwhelming power stunned many war scholars worldwide. During the Cold War, the US and the Soviet Union developed military concepts to solve perceived battlefield problems. But as the era was ending, these concepts were, to a large degree, never tested by battlefield

conditions. Indeed, the theatre of operations primarily existed in the minds of military professionals and war scholars. So, what challenges did Operation Desert Storm impose on Russian concept development?

The Tenets of AirLand Battle

The force design that enabled the execution of Operation Desert Storm had its roots in the 1982 U.S. Army Field Manual No. 100-5: Operations. In this manual, the U.S. Training and Doctrine Command (TRADOC) introduced AirLand Battle, a military concept developed to address the problem of a potential Soviet echeloned advance in Western Europe during the Cold War. It emphasized that the US military 'must retain the initiative and disrupt our opponent's fighting capability in depth with deep attack, effective firepower, and decisive maneuver.'⁸ As one of the concepts never tested by battlefield conditions in Europe, its four tenets shaped the US forces operating in Kuwait and Iraq in 1991. Initiative, agility, depth, and synchronization routed the passive, rigid, linear, and incoherent Iraqi forces, armed mainly with Soviet equipment and following Soviet-style doctrine.⁹ The short duration and overwhelming coalition victory shocked many observers, with the Chinese and Russian militaries taking a keen interest in the perceived lessons of the conflict.

The depth of the US coalition operations concerned Russian war scholars particularly.¹⁰ There were two components to this: operational reach and tactical depth on the battlefield. Historic experience ingrained fear of an adversary's operational reach, the distance and duration over which a force can employ its military capabilities, in Russian military thought. Twice before, it threatened the very survival of the Russian state. In 1812, Napoleon marched on and seized Moscow, with his operation only culminating in the face of a bitter winter and stubborn Russian resistance. In 1941,

7 Damon V. Coletta, 'Navigating the Third Offset Strategy', *Parameters* 47, (2017) (4) 48.

8 Department of the Army, Field Manual 100-5, 1982, 1-1.

9 Robert H. Scales, 'Certain Victory: The US Army in the Gulf War', US Army Command and General Staff College Press, 1994, 25.

10 Felker, *Oz revisited*, 5.

Hitler's Operation Barbarossa penetrated Russian territory once again. It was only on the outskirts of Moscow and in Stalingrad that Russia's staunch resistance turned the tide. The influential strategist Aleksandr Svechin noted that Russia's vast space enabled trading time for space.¹¹ However, Barbarossa's initial stages overwhelmed Russian defenses and made trading time for space a necessity, not a deliberate strategy.¹² The trading for Russian space also meant the bleeding of its population. Hence, despite the absence of clear US offensive intentions, Russia's historical trauma made the United States' large operational reach showcased in Operation Desert Storm a concern for the Russian military leadership.

Tactical depth on the battlefield involved the US coalition's ability to strike Iraqi political, economic, and military control nodes with relative ease, unhinging the Iraqi ability to wage war. The U.S. Air Force mostly did this unhinging. In a short essay named 'Destruction and Creation' written in 1976, Air Force Colonel John Boyd argued that one does not determine the character of 'an abstract system within itself.'¹³ Making sense of the environment one operates in necessitates outward orientation. Indeed, inwardness increases uncertainty, and 'unless some kind of relief is available, we can expect confusion to increase until disorder approaches chaos – death.' This is what seemingly happened to Iraqi forces during Operation Desert Storm. Russian war scholars admired how the coalition air campaign deafened and blinded the Iraqi leadership. Some of Boyd's ideas seemed to have found their way into the

Russian future of war theories. In 'Lessons of Military Conflicts and Prospects for the Development of Resources and Methods of Conducting Them,' Boyd's ideas echo in the former commander of the Western Military District Andrey Kartapolov's 'new-type war,' including methods for 'disorienting the political and military leadership' and the 'simultaneous action against (destruction of) forces and targets to the entire depth of his territory.'¹⁴ During a presentation in 2015, he visualized elements of how a 'new-type war' waged against Russia could disorient the Russian leadership.

Deja-vu for Moscow: Rebalancing the Military Relationship with the US

Conceptually, the four tenets of AirLand Battle merged in what Russian war scholars identified as a new and daunting military threat to the Russian homeland: the reconnaissance-strike complex and conventional precision munitions.¹⁶ They viewed a reconnaissance-strike complex as having three interrelated components: deep-look reconnaissance assets, automated assessment and command and control, and precision-guided long-range attack systems.¹⁷ As early as the 1980s, Chief of the General Staff Marshall Nikolai Ogarkov warned that Western precision-guided munitions would erode Russian strategy.¹⁸ He pointed out that the Soviet leadership faced a similar problem during the 1960s and 70s when the US achieved superiority in the nuclear domain. At the time, a Soviet nuclear modernization and production program re-aligned the US-Soviet nuclear relationship by balancing it better.



During the Moscow Conference of International Security in 2015, Kartapolov presented ways NATO Allies could strike deep into Russian territory using precision-guided munitions.¹⁵

- 11 Lester W. Grau, 'Russian Deep Operational Maneuver: From the OMG to the modern maneuver Brigade', *Infantry*, April-June 2017.
- 12 Russel H. S. Stolfi, 'Barbarossa Revisited: A Critical Reappraisal of the Opening Stages of the Russo-German Campaign (June-December 1941)', *The Journal of Modern History* 54 (1982) (1) 27.
- 13 John R. Boyd, *Destruction and Creation* (Publisher unknown) 6.
- 14 Andrey V. Kartapolov's, in Timothy Thomas, 'The Evolving Nature of Russia's Way of War', *Military Review*, July-August 2017, 40.
- 15 Blog by Dmitry Gorenburg, 'Russian military reform'.
- 16 Stephan J. Blank, 'The Soviet Military Views Operation Desert Storm: A Preliminary Assessment', Strategic Studies Institute, 1991, 4.
- 17 Michael J. Sterling, 'Soviet Reactions to NATO's Emerging Technologies for Deep Attack', RAND Corporation, 1985, V.
- 18 Benjamin S. Lambeth, 'Desert Storm and its Meaning. The View from Moscow', RAND Corporation, 1992, 10.

Ogarkov argued that conventional forces required a similar rebalancing, taking the position that the Soviets should also attain conventional and technological equilibrium with the US. That would require the Soviets to strengthen and modernize their military significantly. Challenging prevailing ideas of his age, Ogarkov pitched the revolutionary idea of the obsolescence of the Soviet tank as early as 1982.¹⁹ Indeed, as many observers of the 1973 Yom Kippur War had also noted, a tank was no match for long-range missiles. In the 1980s, prominent military figures like Marshal Ustinov, Marshal Akhromeyev, and Defence Minister Sokolov echoed Ogarkov's warning by pointing out the Western improvements in their conventional reconnaissance-strike complex.²⁰ To many Russian war scholars, Desert Storm validated the concept of AirLand Battle, enabled by precision-guided munitions. To some, Ogarkov's warning appeared to be visionary. With the Warsaw Pact crumbling, Russian war scholars evaluating Operation Desert Storm identified several new challenges to retaining territorial integrity in the event of a military conflict with Western forces. Over the next decades, they formulated a response to the overwhelming and audacious global force projection of Western military power.

The Response to Operation Desert Storm: Increasing Stand-off Warfare

Russian war scholars formulating a response to the challenge of a technologically superior Western conventional reconnaissance-strike complex involved three inseparable elements: concept development, force design, and building a regional force posture. In a period of political and societal turmoil after the collapse of the Warsaw Pact, Russian war scholars faced a formidable conventional military problem.

Concept development

The idea that the tenets of AirLand Battle fostered a Western force that defeated the Iraqi forces on the battlefield presented Russian war scholars with more issues than just a rebalancing of conventional power. Soviet military doctrine underpinned the Iraqi force design, and

the Soviet military-industrial complex mostly provided Iraqi capabilities. The performance of Iraqi forces using Soviet equipment and doctrine led to many questions: How outdated was Soviet military doctrine? Also, could the US perform a decapitating first strike, using conventional precision-guided munitions targeting command and control of the Russian nuclear second-strike capability? Even before Operation Desert Storm, the challenges posed by AirLand Battle and NATO precision strike capability caused significant consternation in Soviet military circles. The Soviet military leadership, in line with Ogarkov's observation of the imbalance in conventional forces, felt compelled in 1987 to declare a defensive military doctrine formally.²¹ It called for a force posture to fend off Western military aggression but was insufficient to mount large offensive operations, a realistic measure given the overwhelming strength of Western forces. While the Soviet Army still outnumbered NATO forces regarding personnel and equipment, many perceived the fielding of technologically advanced NATO systems offset the NATO numerical inferiority.

As in any military-political establishment, the ideas that Russian war scholars developed in the 1990s as a response to Operation Desert Storm diverged.²² Conceptually, however, one can discern the idea of increased stand-off warfare in many Russian writings. An increased ability to strike deep and throw the adversary off balance meant increasing Moscow's strategic depth by pushing Western military power farther from Russian territory. By 2010, Russian war scholars largely concurred on the necessity of mirroring Western developments in the reconnaissance-strike complex.²³ There was also widespread agreement that the US capacity to apply precision munitions on the battlefield coherently

19 Rose E. Gottemoeller, 'Conflict and Consensus in the Soviet Armed Forces', RAND Corporation, 1989, 11.

20 Mary C. FitzGerald, 'Marshal Ogarkov on Modern War: 1977-1985', Center for Naval Analysis, 1987, 33.

21 Mary F. Fitzgerald, 'Advanced Conventional Munitions and Moscow's Defensive Force Posture', *Defense Analysis* 6 (1990) (2) 167.

22 Lambeth, *Desert Storm*, 89.

23 Clint Reach, Alexis A. Blanc and Edward Geist, 'Russian Military Strategy. Organizing Operations for the Initial Period of War', RAND Corporation, 2022, 6.

was the prime reason for the swift coalition victory over the Iraqi forces. Despite the U.S. Air Force's inability to win the war alone, Russian war scholars considered air power the decisive force element.²⁴ One war scholar noted that 'the "classic" formula gives the main role to land forces in military operations, and the air force supports them.' During Operation Desert Storm, however, 'the basic blows of strategic, decisive significance were struck by the air forces.'²⁵ An electronic warfare officer noted that crucial in the air domain, electronic warfare was 'the technical basis for modern combat.'²⁶ Additionally, Russian war scholars emphasized the destructive nature of the initial phase of military operations, coining concepts such as 'massed missile-aviation strike' (MRAU) and 'integrated massed air strike' (IMVU).²⁷ Future of war scholar Mikhailov, for example, theorized about the form a Western air strike might come in, suggesting four echelons: (1) a manned-strike echelon with tactical aircraft supported by ISR and electronic warfare, (2) a UAV-echelon, (3) a missile-strike echelon with cruise and ballistic missiles and (4) a hypersonic missile strike echelon. Each echelon of Western strikes had a reaction time for Russian countermeasures, from 50 minutes for the first echelon to 5 minutes for hypersonic weapons.²⁸ Decoys, electronic warfare, and a 'self-forming adaptive network' supported the potential air strike against Russian targets. A potential target list developed by NATO forces, theorized from the Russian view, featured Russian troop concentrations, air defence assets,

aviation, and radars. However, political centres, industrial and power supply facilities, early warning radars, and nuclear weapons also feature on that list, betraying the deeply rooted Russian fear of a decapitating first strike by Western forces. Such a strike would instantly remove the limits on the use of nuclear weapons by the Russian leadership.

The mirroring idea of increasing stand-off distance versus the Allies' deep precision strike munitions features in the train of thought of several Russian war scholars.²⁹ For example, an expert on future war, Vladimir Slipchenko, in 2005, defined 'remote noncontact warfare as the mechanism of future wars in which Russia may be involved.'³⁰ He categorized the history of warfare into six generations, each with iconic weapon characteristics: The first generation displayed edged weapons, the second gunpowder weapons, and the third rifled weapons. The fourth, which the Russian military was still rooted in, was characterized by automatic and mechanized weapons. During the Cold War, fifth-generation warfare was nuclear, but Operation Desert Storm iconized the sixth-generation with conventional precision-strike weapons.³¹ Slipchenko noted that the US successfully destroyed a fourth-generation military with sixth-generation warfare. He observed that the US could 'strike a target at the intercontinental level, even with interference and unfavorable climatic conditions.'³² This novel conventional intercontinental capacity to strike compelled Russia to design a force capable of operating at an increased stand-off with the US and its allies.

By 2019, with the gap between the US and Russia in precision-strike munitions still existing, the Chief of the General Staff, Vasily Gerasimov, explained the Russian strategy during a speech at the Russian Academy of Military Science. He explained the idea of 'Active Defense', which 'integrated means for the pre-emptive neutralization of threats to the security of the state.'³³ The concept involved the pre-emptive use of Russian precision-strike cruise and ballistic missiles 'against the decision centers and launch sites that support cruise missile strikes against targets on Russian territory – to answer a threat

24 Lambeth, *Desert Storm*, vii.

25 Lambeth, *Desert Storm*, A quote by TASS journalist Vladimir Chernyshev.

26 Mary C. FitzGerald, 'Russian Views on Electronic and Information Warfare: Volume II', Hudson Institute, 1996, 212.

27 Michael Kofman, Anya Fink, Dmitry Gorenburg, Mary Chesnut, Jeffrey Edmonds, and Julian Waller, 'Russian Military Strategy: Core Tenets and Operational Concepts', CNA, 2021, 21.

28 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* 12 (2019) 45.

29 See for example Michael J. Sterling, 'Soviet Reactions to NATO's Emerging Technologies for Deep Attack', RAND Corporation, 1985, 23.

30 Makhmut Gareev and Vladimir Slipchenko, 'Future War', O.G.I., 2005, 48.

31 Gareev and Slipchenko, 'Future War', vii.

32 Ibidem, 17.

33 Dave Johnson, *Review of Speech by General Gerasimov at the Russian Academy of Military Science*, NATO Defense College, Russian Studies Series 4/19, 2019.

by creating a threat.' Gerasimov's concept of Active Defense, rooted in the 1987 Soviet unwanted but necessary defensive doctrine and mirroring the Allies' reconnaissance-strike complex, suggests an overall response to the challenge of forces primarily designed by the AirLand Battle doctrine. Indeed, although defensive in nature, Active Defense incorporates 'active' operations such as counteroffensives to regain the initiative and create favorable battlefield conditions.³⁴ Indeed, many war scholars debate whether this Russian strategy is offensive or defensive. This debate's conclusion resides in the eye of the beholder. Ironically, its namesake from the U.S. Army, the Active Defense doctrine developed in 1976 and predecessor to AirLand Battle, was the first post-Vietnam US doctrine meant to offset Soviet conventional superiority.

Force Design

Designing the Russian military to operate at increased stand-off distance was a gradual, albeit ongoing, process. However, in 1991, the perceived imbalance in conventional military power required an immediate Russian countermeasure to stabilize the military relationship with the US. The instant countermeasure in Russian defense policy was a non-linear compensation strategy: Russian non-strategic nuclear weapons could threaten the US and its Allies with unacceptable damage, increasing the cost of potential Western offensive precision-strike operations on Moscow.³⁵ This emergency, short-term solution had drawbacks, including a limited number of (de)escalation options in situations where escalation control is paramount. Considering the drawbacks of nuclear compensation, Russian defence policy pushed for increasing Russian conventional forces. By the 2010s, this policy started to bear fruit.³⁶

Despite an overall strengthening of conventional Russian military power over the past three decades, force design focused on several elements to address the threat of conventional precision strikes better. First, the ability to better perform radio-electronic warfare. Former General of the Army and President of the Russian Academy of Military Sciences Makhmut

Gareyev noted during a speech to the Public Council of the Military-Industrial Commission in 2013 that the US accomplishes 'communications, navigation, reconnaissance, and all command and control of strategic nuclear, missile defense, and precision-guided munitions through space. A breakdown of this entire system by electronic and other asymmetric assets can largely reduce this advantage.'³⁷ Major-General Yuriy Lastochkin, former commander of the radio-electronic forces, emphasized 'methods of disorganizing adversary C2.'³⁸ In an exclamation of self-assurance, he said that the radio-electronic troops will 'decide the fate of all military operations.' The Russian Military Industrial Complex (MIC) answered the call and, by the 2010s, started producing modern radio-electronic warfare systems such as the 1RL257 Krasukha-4, designed to jam US' surveillance target attack radar systems (JSTARS) aircraft and NATO's airborne warning and control system (AWACS) aircraft.³⁹

Supported by electronic warfare, an integrated air defense system proved to be a second priority field. Such a system would be the logical answer to the overwhelming firepower of the U.S. Air Force. Conceptually, 'massed missile-aviation strike' and 'integrated massed air strike' were not limited to aviation. Indeed, the design of the integrated system also had to address other airborne threats, such as cruise missiles and satellites.⁴⁰ War scholars noted that in the eventuality of a military conflict with the US and its Allies, it is paramount to 'destroy the enemy's group of satellites in order to deprive him of communications, navigation, and the capability to conduct reconnaissance...in the USSR, for example, tests were conducted during

34 Kofman et al, 'Russian Military Strategy', 19.

35 Kristin Ven Bruusgaard, 'Russian Nuclear Strategy and Conventional Inferiority', *Journal of Strategic Studies* 44 (2021) (1) 26.

36 Ven Bruusgaard, 'Russian Nuclear Strategy', 23.

37 Timothy Thomas, 'Russian Military Thought: Concepts and Elements', MITRE, 2019, 5-9.

38 Major-General Yuriy Lastochkin in Timothy Thomas, 'Russia's Conduct of War: How and with What Assets', MITRE, 2021, 19.

39 Samuel Cranny-Evans, 'Fields of silence and broken cycles: Russia's electronic warfare', *Global Defense*, 2022.

40 Defense Intelligence Agency, 'Russia military power', 2017, 33.

which one satellite approached another and exploded, striking the target with fragments.⁴¹ Additional capabilities for the MIC to produce include the S-500 Prometheus mobile air defense system with a range of 600 kilometres. Its missiles include the 40N6M to intercept aviation and cruise missiles and the 77N6 for intercepting ballistic missiles and low-orbital satellites.⁴²

A third priority field was non-domain specific. Force design focused on integrating precision-guided munitions in the force structure of the Ground, Air, and Maritime forces. In service since 2012, the Russian Long Range Aviation Command arms its strategic bombers with the KH-101/102 air-launched cruise missiles with a range of 2,500 to 2,800 kilometres, with the 101 version delivering a conventional and the 102 version a nuclear payload.⁴³ The Russian Navy is armed with the 3M-14 Kalibr sea-launched cruise missile with a range of around 1,500 to 2,500 kilometres.⁴⁴ The 3M22 Tsirkon hypersonic coastal defense missile also provides stand-off versus American carrier strike groups. From the view of some Russian war scholars, increasing stand-off in the maritime domain is necessary. Yevmenov, Puchnin, and Yeshchenko insist that, by 2030, the U.S. Navy will have a stock of up to 6,000 missiles to strike targets inside Russia. Furthermore, they note that 90 per cent of Russian territory is within range of the naval component of the US reconnaissance-strike complex, putting virtually all Russian military and political centres at risk.⁴⁵

Until recently, the Russian Ground Forces took a relative back seat in the force design of increasing stand-off warfare capabilities. Indeed, firing precision-guided munitions depended largely on air and naval platforms operating away from the front lines. Nevertheless, increasing stand-off also took hold on the land domain. Former deputy head of the Military Frunze Academy for Scientific Work Lieutenant-general Sapozhinsky noted in 2008 that because 'most of the armies of developed countries now profess the NATO (more precisely, American) theory of air-ground operations' that, within combined-arms combat, 'even before the direct entry into battle of [opposing] combined-arms formations..., it is possible to influence...important objects in the depth of the operational construction of the enemy group.'⁴⁶ The Russian Ground Forces, already leaning to a larger degree on outranging NATO land forces with artillery, operationalized the ground-launched dual-capable 9M729 cruise missiles with a range of roughly 2,500 kilometers just a few years ago.⁴⁷ Thus, in all domains - air, land, maritime, space, EW, Russian force design in the past three decades sought to increase stand-off to reduce NATO force projection in the proximity of Russian borders and its precision-strike capabilities for deep attack. By the late 2010s, despite an ongoing favorable balance of conventional forces vis-à-vis Russia, some of these Russian capabilities exceeded those of US forces, compelling US military leadership to respond.

Regional Force Posture

Military concept development and force design resulted in a specific Russian force posture in the regions most vulnerable to Western conventional forces. From the Russian view, the Baltic and the Black Sea regions provided Western forces with geographical proximity to Russian borders. This proximity allowed military power projection and facilitated the reconnaissance-strike complex to strike targets inside Russia. Many reports denote this force posture as anti-access area denial (A2/AD), the strategy to prevent opposing forces from entering a geographical area and degrading their ability to operate in it when they do.⁴⁸ However, Romanchuk and Shigin, in a 2023 article in *Military*

41 S. Valchenko, N. Surov, and A. Ramm, 'Russia Sends Inspector into Orbit: Military Test Operations of Maneuvering Identification and Intercept Satellite', *Izvestiya Online*, 26 October 2017.

42 'S-500 Prometheus', *Missile Threat*, Center for Strategic and International Studies.

43 'KH-101/KH-102', *Missile Threat*, Center for Strategic and International Studies.

44 '3M-14 Kalibr (SS-N-30A)', *Missile Threat*, Center for Strategic and International Studies.

45 N.A. Yevmenov, V.V. Puchnin, YA.V. Yeshchenko, 'Main Trends in the Changing Nature and Content of Military Threats to the Russian Federation from Oceanic and Naval Directions', *Military Thought* 5 (2023) 23.

46 V.A. Sapozhinsky, 'Modern views on the system of destruction of the enemy in the operation (combined arms combat)', *Military Thought* 1 (2008) 11.

47 '9M729', *Missile Threat*, Center for Strategic and International Studies.

48 Mikkel Vedby Rasmussen, 'A2/AD Strategy for deterring Russia in the Baltics', *Centre for Military Studies*, 2016 38.

Thought, better formulate the Russian approach when they argue that with ‘a shortage of time, forces, and means, the most appropriate form of combat operations to repel the offensive of a high-tech superior enemy...’ should include ‘inflicting losses on the enemy during his advancement and deployment using a large number of precision-guided munitions’ forcing the adversary to bring the main forces into battle in an engagement box, and ‘firmly holding defensive and firing lines, delivering a series of fire strikes and counterattacks.’⁴⁹ Again, in line with Gerasimov’s ‘Active Defense’, this approach consists of a defensive posture with offensive elements.

In sum, Russian concept development, force design, and the resulting force posture at NATO’s eastern flank in the past three decades aimed to restore a balance to conventional military power between Russia and NATO. The mirroring of the reconnaissance-strike complex and the development of precision-guided munitions increased Russia’s ability to wage stand-off warfare and required a response from NATO forces.

The US Response to the Russian Challenge: Multi-Domain Operations

After the Russian annexation of Crimea in 2014, many American war scholars re-oriented from the war on terror and counterinsurgency to large-scale combat operations. Studying the Russian military, how the General Staff designed it in the past decades, and what force posture resulted from it became the object of study. Most notably, they identified a challenge in projecting force to defend Allies bordering Russia. In 2017, former commander of the U.S. Army TRADOC David Perkins concluded that US adversaries ‘limit access to critical domains, challenge the ability to maintain superiority in air and maritime domains, and attempt to deny access into the theatre.’⁵⁰ Indeed, to some extent, Perkins echoed an emerging consensus among many Western war scholars of a Russian A2/AD posture in the Baltic Sea region. Furthermore, he noted that ‘the battlefield is limitless.

From home station to the close area, there is the potential to be engaged instantaneously with long-range fires, cyberspace, space, electronic warfare, and information.’ Interestingly, this observation strongly resembles elements of the Russian war scholar’s evaluation of Operation Desert Storm in the early 1990s.

Multi-Domain Operations: Penetrating to Dislodge Defences

In response to this challenge, the U.S. Army TRADOC in 2018 published its new operating concept MDO. Originating from the U.S. Army, MDO gained clout after the Russian annexation of Crimea in 2014. At the time, China was the center of attention for the U.S. Department of Defense’s civilian leadership, leveraging US technology as part of the Third Offset strategy.⁵¹ Then Deputy Secretary of Defense Robert Work, during a 2015 speech at the Army War College after focusing mainly on China himself, urged Army leaders to develop AirLand Battle 2.0 due to the re-emergence of the Russian threat.⁵² In the following years, Army and civilian leadership tackled institutional hurdles, allocating resources, convincing non-believers, and overseeing the development and implementation of MDO.

The concept identified the perceived Russian challenge imposed on the US military of ‘multiple layers of standoff in all domains’ as problematic.⁵³ As part of the response, the U.S. Army’s future force design should ‘penetrate and dis-integrate enemy anti-access and area denial systems.’⁵⁴ The same year, the U.S. Army started experimenting with a Multi-Domain Task Force (MDTF). A Field Artillery Brigade with an

- 49 A.V. Romanchuk and A.V. Shigin, ‘Prospects for Increasing the Effectiveness of Army Defensive Operations’, *Military Thought*, April 2023, 26.
- 50 David Perkins, ‘Multi-Domain Battle Driving Change to Win in the Future’, *Military Review*, July-August 2017.
- 51 G. Gentile, M. Shurkin, A. T. Evans, M. Grise, M. Hvizda and R. Jensen, ‘A History of the Third Offset’, RAND Corporation, 2021, iii.
- 52 Dwight Phillips, ‘Multi-Domain Operations: Passing the Torch’, RAND Corporation, 2023, 2.
- 53 U.S. Army Training and Doctrine Command, ‘The U.S. Army in Multi-Domain Operations 2028, TRADOC Pamphlet 525-3-1, vii’.
- 54 U.S. Army Training and Doctrine Command, ‘The U.S. Army in Multi-Domain Operations 2028’, iii.

augmented headquarters practiced delivering 'long-range precision joint strike as well as integrate air and missile defense, electronic warfare, space, cyber, and information operations.' In early 2022, the U.S. Army re-established the divisional echelon as the primary unit of action for tactical operations.⁵⁵ The restructuring of the force design, which had been brigade-based since 2003, involved five new types of divisions, including a penetration division.

Interestingly, instead of a full frontal engagement, the penetration division's task 'is the neutralization of the enemy's long-range systems in decisive spaces enabled by Army long-range fires'⁵⁶ and setting conditions for the reception, staging, and onward movement of second-echelon forces. Conceptually, the idea of military penetration parallels Liddel Hart's idea of an indirect approach to solving military problems. Where a direct approach, such as a frontal attack, stiffens resistance, an indirect approach achieves the 'dislocation of the enemy's psychological and physical balance' and 'has been the vital prelude to a successful attempt at his overthrow.'⁵⁷ One US war scholar noted that penetrating prepared defenses has many historical parallels, but Operation Fall Gelb during World War II had the greatest effect. The 1940 German Army's concept of operations enabled the penetration of a seam

north of the defensive French Maginot Line, outmaneuvering the French defenses.⁵⁸

In 2020, the U.S. Air Force followed the Army's lead by underscoring the importance of the Department of Defense Joint All-Domain Operations (JADO) doctrine.⁵⁹ A seemingly semantic next step in concept development, JADO's 'operations conducted across multiple domains and contested spaces to overcome an adversary's (or enemy's) strengths' do not differ much from MDO's perspective on executing operations.⁶⁰ However, Chairman of the Joint Chiefs of Staff Mark Milley in 2020 assigned a line of effort to each US service to develop a functional concept to increase seamless lethality across all domains.⁶¹ The Air Force focuses on command and control, the Navy on Joint Fires, and the Army on logistics in a contested environment. Whereas MDO originated from the Army seeking increased jointness, JADO appears to be a step towards a joint US military that integrates across all domains.

Criticizing MDO: Reactive instead of Dissuasive

Despite its adoption by multiple services in concept, if not in name, MDO is not without its critics. A principal designer of the AirLand Battle doctrine, Huba Wass de Czege criticized MDO for failing to define a sound theory of victory.⁶² MDO 'overlooks the very demanding task of defending an ally's territory under armed attack'⁶³ because it is reactionary in nature. As a result, according to Wass de Czege, a theory of victory must 'deter rather than accelerate crisis escalation.'⁶⁴ The penetration of Russian regional defenses occurs after deterrence fails. Indeed, Wass de Czege calls MDO a counter-aggression concept. Instead, he advocates for forces to 'organize a forward stationed and rapidly deployable air, land, sea, space, cyber, and information defense of allied territory.'⁶⁵ From this perspective, Wass de Czege's suggestion corresponds to a current debate among Western war scholars, who advocate a military posture of NATO nations transitioning from deterrence by punishment to deterrence by denial vis-à-vis Russia.⁶⁶ According to some war scholars, attempting to dissuade the Russian political and military leadership from initiating

55 Andrew Feickert, 'The Army's AimPoint and Army 2030 Force Structure Initiatives', Congressional Research Service, January 2022.

56 TRADOC, 'The U.S. Army in Multi-Domain Operations', 37.

57 Basil Liddel Hart, *Strategy: The Indirect Approach* (Faber and Faber, 1967) 5.

58 Nathan A. Jennings, 'Considering the Penetration Division: Implications for Multi-Domain Operations', Association of the United States Army, 2022.

59 David L. Goldstein, 'USAF Role in Joint All-Domain Operations', Airforce doctrine note 1-20.

60 John R. Hoehn and Nishawn S. Smagh, 'Intelligence, Surveillance, and Reconnaissance Design for Great Power Competition', Congressional Research Service, 2020, 9.

61 Theresa Hitchins, 'Milley Assigns Service Roles in All-Domain Ops Concept', Breaking Defense, 2020.

62 Huba Wass de Czege, 'Commentary on "The US Army in Multi-Domain Operations 2028"', U.S. Army War College, 2020, xvii.

63 Wass de Czege, 'Commentary', xx.

64 Ibidem, 1.

65 Ibidem, vii.

66 Erica D. Borghard, Benjamin Jensen, and Mark Montgomery, 'Elevating "deterrence by denial" in US defense strategy', Atlantic Council, 2021.

military operations versus NATO nations by making success seem unattainable instead of threatening with punishment better addresses contemporary challenges. Furthermore, Wass de Czege's criticism of MDO parallels Brodie's 1946 observation that the chief purpose of military establishments must be to avert wars. Indeed, averting wars is the essence of deterrence, whether by punishment or denial.

What response will Russians develop to the challenge imposed by MDO? In Russian military journals, war scholars have already launched their initial ideas. Kruglov, Voskresenskiy and Mursametov note that future military conflict will be 'a strategic multi-sphere' operation initiated by the 'aggressive aspirations of the United States and NATO.'⁶⁷ According to these war scholars, Russia must think through anticipatory non-standard solutions to counter these aspirations. What these solutions will look like will be up to the Russian concept development process in the coming years. War scholar Ilnitskiy's assessment in the June 2023 edition of *Military Thought* doesn't bode well when he notes that Clausewitz's theorem that war is the continuation of politics with other means is no longer valid. Instead, politics has become war.⁶⁸

Conclusion

The challenge-response dynamic in Russia's and Western nations' military affairs follows a certain evolutionary logic of adaptation and countermeasures. Understanding this logic helps war scholars increase their understanding of the reciprocal fear military challenges and responses evoke among nations. The AirLand Battle doctrine, which shaped Western forces that executed Operation Desert Storm in 1991, shocked the vestiges of Russian military thought. The Allies' reconnaissance-strike complex laid bare a frightening imbalance in conventional military power between Russia and the West. The Russian response over the past three decades involved mirroring technological advances in precision-guided munitions and increasing the stand-off distance to wage a potential war. In response to this Russian

challenge imposed on the US and its Allies, the 2018 US MDO concept suggests designing a force that can penetrate and disintegrate adversarial defense. Indeed, tracing the origins of MDO by looking at the past helps war scholars think better through future warfare.

Two implications of the challenge-response dynamic pertain to military concept development: the ability to better anticipate and the responsibility of managing adversarial threat perception. First, understanding that the solution to one's military problem imposes a challenge on the adversary requires military professionals to anticipate that challenge better. A clear view of this challenge involves empathy to some degree and the ability of military professionals to put themselves in their adversary's shoes. Even if those shoes do not fit well. Indeed, because MDO aims to penetrate and dislodge Russian defenses, Moscow's perception of military threat will likely intensify in the coming years. NATO's conventional force elements will steadily improve their ability to deliver battlefield effects synchronized across domains as NATO develops coalitional abilities to integrate seamless, interoperable combat power through JADO. Consequently, Russia's military concepts must develop fresh ideas to compensate for the perceived reduced effectiveness of their current force posture in the future. Indeed, anticipating these Russian ideas will strengthen the potential execution of Multi-Domain operations on the battlefield.

Second, and perhaps paradoxical to the first, military leaders are responsible for managing adversarial threat perception. As this essay illustrates, threat perception drives ideas for military concepts, and fear presupposes a sense of weakness vis-à-vis an opponent. Indeed, when threatened and cornered, a bear might lash out uncontrollably. Consequently, new military concepts must not increase an already intensely

67 V.V. Kruglov, V.G. Voskresenskiy and V.YA. Mursametov, 'Trends in Development of Armed Struggle in the 21st Century and their Impact on Military Art of Leading Foreign Countries', *Military Thought*, April 2023, 132-133.

68 A.M. Ilnitskiy, 'Strategy of Hegemony Means Strategy of War', *Military Thought*, June 2023, 19.

perceived threat because that carries the risk of escalating existing tensions to the point of military conflict. Despite the reciprocal fear between NATO and the Soviet Union during the Cold War, military concepts largely aimed to compensate for a perceived weakness relative to the other. However, NATO in 2023 does not perceive itself as militarily weak vis-à-vis Russia. Instead, the sense of being outpaced militarily relates much more to China. In that sense, MDO breaks with a Cold War tradition, which risks further increasing an existing imbalance. Indeed, MDO's focus is overly concerned with regaining battlefield superiority *after* the commencement of war. With NATO allies already having an overwhelming military dominance over Russia, the advancement of MDO must balance better battlefield dominance during war and alleviating perceived Russian fears to prevent war from erupting in the first place.

In 1982, David Petraeus, reflecting on the US military experience in Vietnam, reassured that “the military took from Vietnam a new recognition of the limits of military power in solving certain types of problems in world affairs.”⁶⁹ Although Petraeus referred to the problem of successful counterinsurgency, one hopes that the current US and Russian political and military leadership have a firm grasp of the limits of their military forces when unleashed upon each other. Indeed, military forces can deploy to fight on the battlefield but can sometimes be better employed to deter others from deploying their forces. For one thing, a reevaluation in the concept of MDO of Brodie's observation that military power's chief purpose is to avert war is warranted. As for the Russians, a better understanding of the origins of their force design might have convinced them not to invade Ukraine. Military forces designed to defend against a technologically superior adversary at a considerable stand-off distance appear ill-suited for an offensive ground-centric invasion. ■

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69 David Petraeus, "Lessons of History and Lessons of Vietnam," *Parameters* XVI, no. 3 (Autumn 1986): 45

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