

Meeting Expectations

Failure in Ukraine Will Not Change the Russian Aerospace Defense Force



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Russia's invasion of Ukraine has put the so-called “New Look,” or Serdyukov Reforms of the Russian Aerospace Defense Force (RADF), to the test.¹ Western critics tend to interpret the air operation as a failure that would shift the RADF to a model of seizing control of the air, suppressing enemy air defense, and increasing integration with the Russian army. The Russians, however, see the air aspect of the invasion differently. Primary research in *Military Thought: A Russian Journal of Military Theory and Strategy* indicates that Russian military thinkers believe the invasion validates their air power strategy and operational assumptions.² They argue that the RADF should continue to focus on a defensive air power strategy that prioritizes defending against North Atlantic Treaty Organization (NATO) decapitation strikes, developing standoff weapons, and increasing the presence of uncrewed aerial vehicles (UAVs).³ RADF theory seeks to overcome enduring command-and-control (C2) challenges between the RADF and the Russian army through the use of attritable assets. The ideas presented in the journal combined with battlefield observations indicate that the RADF will not pursue meaningful reforms following the war against Ukraine.

Russia's invasion of Ukraine provides NATO with reams of data on the Russian military and its performance. The surprise of Russia's failed blitz was

palpable in the U.S. intelligence community.⁴ The RADF reached an apogee in status after contributing significantly toward victory over the Islamic State in Syria, a feat that analysts should not overlook. Western analysts anticipated greater competence and a more NATO-like approach to war: joint integration, emphasis on air superiority, and complex air operations combining multiple platforms to defeat air defense systems. This current literature compares the RADF negatively against NATO standards but does not examine the Russian military's self-perception.⁵ Analysts lacked material at the beginning of the war to understand Russia's air power intentions, but now, two years into the war, enough publications exist to create assessments.

Through an analysis of *Military Thought*, this article studies Russia's perception of the RADF's performance and the changes the RADF is likely to pursue. *Military Thought* is an excellent primary source because of its association with senior military leaders like Gen. Valery Gerasimov and its heritage as the journal of Soviet and Russian military theory.⁶ *Military Thought* is like PRISM or *Military Review*. Still, unlike these journals, the published articles are more controlled by the operational chain of command. From summer 2022 to spring 2024, *Military Thought* published seven articles on the future of aerospace operations and twelve articles related to the use of UAVs. The nineteen articles represent 18



A Kinzhal 47-M2 missile is mounted to a MiG-31K on display at the Army 2020 International Military-Technical Forum in Moscow. (Photo by vaalaa via Adobe Stock)

percent of the published material in *Military Thought*.⁷ The UAV articles focus primarily on the employment of UAVs by ground forces and provide insight into the different lessons Russian services gleaned from the invasion of Ukraine.

In addition to *Military Thought*, this analysis leverages current news articles, Russian Minister of Defense announcements on Telegram, TASS reporting, think tank reports, and journal articles to augment and contextualize the primary sources. Reporting about the war indicates which theories are becoming practiced and the likely impact on the future of Russian air-war making. Reports from RAND, MITRE, the Institute for the Study of War, the Center for Naval Analysis, and the Royal United Services Institute provide excellent background on the topics, including explanations of Russia's prewar aerospace doctrine. Their analysis, combined with a review of primary sources, establishes a baseline to assess changes in current doctrine.⁸ This article seeks to expand the analysis in journal

articles such as Matthew S. Galamison and Michael B. Peterson's "Failures of Russian Aerospace Forces in Ukraine."⁹ Their article assessed the doctrinal causes of Russia's failure but not the Russian perspective of the RADF's performance in war.

Understanding Russia's lessons learned requires an analysis of past, present, and plans at the strategic, operational, and tactical levels. The first section describes Russia's air power theory at the outbreak of the conflict to establish the RADF's defensive strategy and focus on standoff strikes. The second section examines Russia's self-assessment and argues that the conflict does not challenge Russia's prewar air power assumptions. In addition, it describes the Russian response to the invasion, including the embrace of UAVs, the finger-pointing of the RADF members, and, most importantly, the observed behavior from the battlefield. Finally, the third section projects the impact of the "special military operation" on the future of the RADF and the lessons NATO can learn about its adversary. Other factors

such as corruption, rigid command structure, and culture also play an essential role in shaping the future of the RADF but are not the focus of this study on the ideas of military thinkers in Russia.

Russian Air Power on the Eve of Battle

At the start of the invasion, Russian military officers' assumptions resembled Western assumptions on the future of air warfare. The Russians studied operations in Syria, Ukraine, and Azerbaijan in the years leading up to the invasion and sought to shape the RADF accordingly. They wrote that standoff or "non-contact" weapons would increase in importance operationally and tactically. Like the American air planners, they considered air superiority forces and C2 nodes the most critical targets for their fires.¹⁰ The development of precision weapons, they believed, required greater integration between domains, especially between sensors and shooters. They argued that air and space superiority would be essential to shaping the conflict and determining who would win. Lastly, they anticipated that UAVs would grow in value and use with war.¹¹

Despite mirroring the American assumptions about the future of air war, Russia's strategic, operational, and tactical response diverged significantly. Strategically, the Russians are much more defensively focused than Western-style air forces, especially the U.S. Air Force. The Russians express their probably accurate belief that

the RADF is no match in an air-to-air contest with NATO. The Russians understand they cannot symmetrically match the quantity and quality of the NATO force. For example, Russia's fifth-generation fighter, the Su-57, lacks the total spectrum stealth of the American F-22 Raptor, and Russia only has thirty-one copies of the plane to the 186 remaining F-22 airframes.¹² The RADF's strategic aim

is to defend the strategic missile forces required for a retaliatory nuclear strike.¹³ The RADF does not plan to dominate the skies over enemy territory but to ensure the Russian nuclear option remains available.

Russia's defensive strategic assumption shaped its operational approach from beginning to end. The Russians describe a need to operate through the air but would not need the command of the skies to the same degree as Western air forces. The RADF combined crewed counterair assets, mobile ground-based systems, disruptive standoff weapons, and electronic warfare units that operate best in defeating attacks, not projecting power. The RADF relies more on surface-to-air missile (SAM) systems than Western forces. Its SAMs are effective at point defense but have limited power projection capability. The prewar system sought to avoid the West's strengths and pursue limited aerial superiority in Russia.¹⁴

RADF's defensive approach discouraged the development of operational and tactical power projection skills. Most importantly, the RADF chose not to develop robust suppression of enemy air defense or destruction of enemy air defense tactics. Russian aviators learned from the last ten years that modern mobile advanced air defense systems effectively denied air space.¹⁵ The Russian solution was to avoid these threats and develop precision standoff weapons to disrupt SAMs from afar. RADF's prewar doctrine relied on hypersonic weapons, cruise missiles, and other standoff weapons launched from the safety of air space controlled and protected by Russian ground-based air defenses. The West first observed these strike tactics in Syria, where Russian long-range aviation used weapons like the Raduga Kh-101 launched from distant airspace.¹⁶ This operational approach relies on robust intelligence, reliable C2, and ground-based air defense that frees up aircraft to launch disruptive strikes.

Tactically, the RADF worked to create a "reconnaissance-strike complex" before the conflict. The Russians believed that the nation that converted intelligence into targets the fastest would win the battle. The Russians, however, lacked the C2 mechanisms to achieve this integration at the operational level. The Russians could not coordinate mixed squadrons, ground units, and UAVs in real time. Russia recognized the flaw but failed to gain the urgency needed for reform. With its lack of air threats, the Syrian environment did not challenge

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A 500 kg-class FAB-500 M-62 high-explosive bomb equipped with a UMPK guided glide kit is attached to the midboard port wing station of a VKS Su-34 strike fighter assigned to the 47th Bomber Aviation Regiment at Voronezh-Baltmor air base in Russia. (Still image courtesy of the Russian Ministry of Defence)

the targeting process. Russia would invade Ukraine in 2022, anticipating some challenges in C2 but hoped that advances with UAVs mitigated many of the challenges.¹⁷

The RADF intended medium-altitude long-endurance UAVs to complement standoff munitions, providing reconnaissance in their envisioned reconnaissance strike complex.¹⁸ The UAV proved itself to the RADF during operations in Syria, and the Russian military imagined an expanding role for UAVs over enemy air space. UAVs would allow the RADF to disrupt enemy offensive maneuvers by facilitating strikes at acceptable losses.¹⁹ Specifically, UAVs reduced the need for complex coordination with the Russian army's ground-based air defense system (GBAD). No military has yet mastered operating GBAD and friendly crewed airborne assets in the same space at the same time without incurring losses to fratricide. The UAV's expendability reduces the risk and allows Russian ground and air forces to operate without joint integration or loss of autonomy. The RADF, in theory, could hunt in the deep while the Russian army kept its GBAD on full alert.²⁰

Russia's prewar assumptions are best reflected in the development priorities of the post-Soviet reforms

announced by President Vladimir Putin in 2008.

Russia invested in modern precision weapons, hypersonics, SAMs, UAVs, and modern aircraft. RADF purchased aircraft, such as the SU-35 and SU-34, with electronic warfare and weapons guidance systems to take advantage of precision weapons. Simultaneously, Russia purchased advanced SAM systems like SA-22 Pantsir and S-400, which would provide reliable ground-based denial of and suited Russia's defense strategy.²¹ Russia felt confident in its New Look air force after successfully pummeling the Syrian resistance and showing NATO-like capabilities in a power projection environment.

Russian Air Power at War

From an outsider's perspective, Russia's air campaign in Ukraine seems like a failure. The Russians have failed to establish air superiority in the skies over Ukraine, and the ground component gave up its decapitation effort, settling into a war of position in southern Ukraine. The Russians have lost 234 aircraft, or 11 percent of their prewar total.²² Western analysts should be forgiven for assuming this loss level would

drive fundamental change. However, the seven articles published in *Military Thought* since the invasion do not indicate that the Russians are considering significant reform.²³ Of the seven articles, the “Use of Aerospace Forces’ Strike Aviation in Future Military Conflicts” by Cols. O. V. Yermolin, N. P. Zubov, and M. V. Fomin provides the most relevant assessments.²⁴ The Russian authors indicate that the war validated their strategic, operational, and tactical assumptions.²⁵

The invasion of Ukraine reinforced the RADF’s belief in its defensive strategy. Each aerospace article pays homage to the defense of the missile force, while three of the seven focus on defending missiles for strategic deterrence. The conventional inferiority on display in Ukraine further elevated the importance of nuclear weapons as the great equalizer to the economically and technologically dominant West.²⁶ The Russian military’s demonstrated weakness deterred the RADF from developing a more offensive outlook and focus on shepherding scarce resources to repel possible attacks by the West.²⁷ To highlight the defensive focus, Russia purchased ten Su-57s in 2024, aircraft most useful in air-to-air defensive operations, not air strikes in Ukraine.²⁸

The invasion of Ukraine provided more space for the evolution of air power operations. The RADF attempted a Desert Storm-like takedown of the Ukrainian state with considerable success. For example, the opening attacks destroyed 75 percent of Ukraine’s static air defense sites, and Russia was able to eliminate 51 percent of Ukrainian air assets. Nevertheless, Russia failed to destroy Ukraine’s numerous mobile SAM systems, disassemble the Ukrainian C2, or dominate the skies.²⁹ Ukrainian mobile SAM systems, in turn, degraded Russian capability, limiting the Russians to close air support missions and standoff strikes.

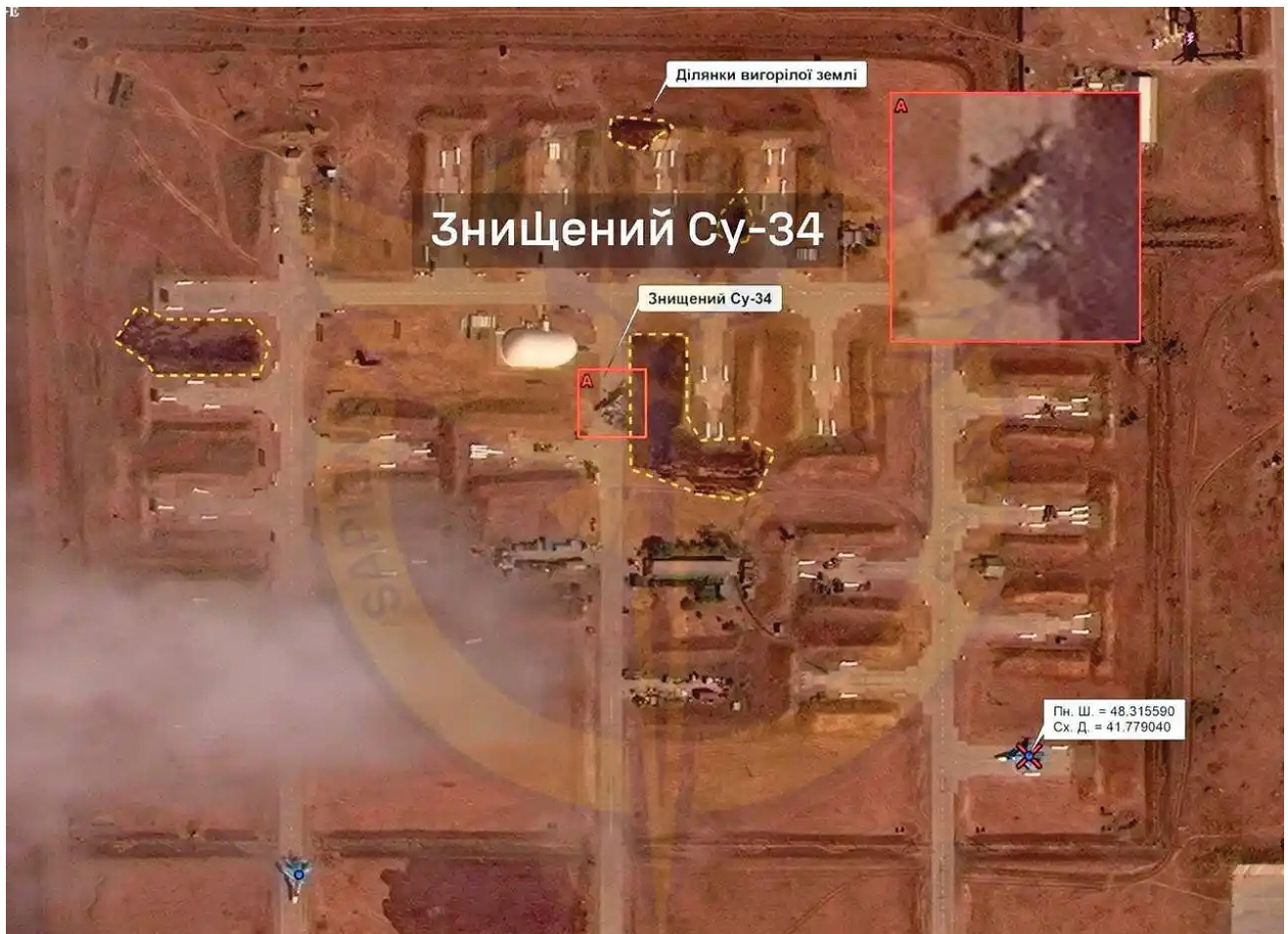
The RADF’s losses encouraged them to embrace standoff operations against fixed targets further. Russian thinkers sought to reinforce success by advising further investments into robotic wingmen, hypersonics, and cruise missiles. The crewed offensive was too hard, but the standoff disruptive strikes met the intent. The reconnaissance strike complex failed, not because the concept failed but because planners employed the reconnaissance UAVs improperly.³⁰ The UAV and standoff munition remain the support element of choice, given low costs and the inability of Russian

crewed aircraft to either operate safely near the front line or respond rapidly to need.³¹ The UAV’s versatility in spotting artillery fire, finding targets, and dropping munitions proved essential for the Russian army. The Russian services assessed the UAV across the board as the solution to cost-effective strikes and surveillance. Though this may seem like a change of assumptions, the assessment of the UAV reflects an acceleration of an anticipated future rather than a disruption.³²

Misses early in the war have not tempered Russian enthusiasm for standoff munitions. The writings indicate that more intelligent and numerous standoff weapons will be a part of the future RADF. Yermolin, Zubov, and Fomin argued that better training, intelligence, and more weapons could overcome any shortfall with standoff weapons.³³ The seven articles on future Russian warfare call for more standoff weapons, especially hypersonic weapons.³⁴ Russia, according to Ukrainian sources, launched over 7,400 guided missiles, including forty-eight hypersonic Kinzhals, since the start of the war.³⁵ Then Defense Minister Sergei Shoigu, while announcing the purchase of Su-57s, also announced the purchase of more hypersonic missiles.³⁶ The general sense in the journal is that mass and persistence will overcome weapon inaccuracy and degrade enemy air defenses. Russia’s development and employment of glide bombs and using SAMs as ballistic missiles are their attempt to use mass firepower to resolve intelligence shortfalls.

Complementing the use of standoff weapons like hypersonics, the Russians lean toward the promise of uncrewed aviation. The twelve articles on UAVs reveal that the Russian army and the RADF see the UAV as a panacea to their shortcomings. The term UAV is so broad that it tells little about the platform’s capabilities and requires clarification to appreciate the Russian’s employment. The Russian army uses uncrewed platforms to provide close air support, reconnaissance, and artillery coordination. The RADF uses UAVs as slow cruise missiles and would like to use them to accelerate their targeting cycle in line with their reconnaissance strike doctrine.³⁷

The Russian army evolved the air domain by increasing the use of UAVs at lower altitudes. Adopting micro- and mini-UAVs by the Russian army indicates tactical innovation. Due to their low cost and ability to create a quick kill chain, these platforms enhanced



Ukraine's Main Directorate of Intelligence confirmed reports 5 August 2024 of an early morning drone attack at the Morozovsk military airfield in Russia's Rostov region. The verified image showed that a Su-24 fighter bomber was destroyed and indicated that two other aircraft likely suffered damage. (Photo courtesy of Ukraine's Main Directorate of Intelligence)

the Russian army's lethality. For instance, the ZALA Lancet loitering munition aggregates the dynamic targeting cycle into a single platform. Operators do not need a sophisticated battle network. Instead, they can find and eliminate their targets without higher headquarters or significant risk to themselves. This streamlined process is far more efficient than the traditional Russian methods of calling for artillery fire or requesting close air support.³⁸

While strike UAVs aggregate the kill chain into a single platform for the Russian army, the quadcopter disaggregates the division reconnaissance strike complex to the platoon level.³⁹ At the tactical edge, Russian soldiers did not wait for the state to take care of their reconnaissance needs. Soldiers purchased commercial drones to provide intelligence on the local battlespace, dropped small munitions, and enabled indirect fires. Private

citizens rallied around these frontline forces, creating online training forums and providing UAV training to as many soldiers as possible.⁴⁰ The disaggregation of reconnaissance and strike processes compensates for the failures of C2 at the higher level.⁴¹ The Russian army observed that delegating power to the edge combined with organic reconnaissance and strike capabilities is their best method for a successful kill chain.⁴²

To complement the Russian army's widespread adoption of these tactical UAVs, the RADF employs larger classes of platforms. The RADF engages in a long-range standoff battle that uses UAVs to find targets deep in Ukraine or strike targets themselves.⁴³ The primary UAV is the Shahed, a remotely piloted munition operating like a slow cruise missile. According to the Ukrainian Armed Force Center for Strategic Communication, Russia launched 3,700 Iranian

Shahed or Geran-type attack UAVs.⁴⁴ These weapons complicate the Ukrainian defense planning and facilitate attacks by more deadly weapons such as the Iskander ballistic missile.

As revealing as the Russian's perceived successes are their perceived causes of failure, Yermolin, Zubov, and Fomin blamed shortfalls in intelligence, training, old equipment, and army-centric C2. The RADF's intelligence failures and C2 problems are linked at the operational level. The training and equipment shortfalls combined come together at the strategic level regarding funding and revealed shortcomings in the tactical employment of weapons. Lastly, the Russians reinforced the way forward with the New Look, indicating that a revolution was not underway.⁴⁵

As airmen are wont to do, the RADF complains about how the Russian army theater commander employs aircraft.⁴⁶ Russian air power theorists recognize that the Russian military district system prevents the centralized command of air power across Russia. They believe the siloing of air power prevents rapid intelligence sharing and coordination, degrading the ability of the RADF to coordinate complex air operations and leading to slow response times. Tactically, the Russian aircrew have good reason to be concerned as the air support capable platforms directed by Russian army leadership suffered disproportional losses. The RADF lost 33/197 (17 percent) Su-25 Frogfoots, 34/127 (26 percent) Su-34 Fullbacks, and 61/115 (53 percent) KA-52 Alligators of Russia's prewar total of aircraft.⁴⁷ Operationally, Yermolin, Zubov, and Fomin chastised theater commanders for the lack of interdiction efforts and focused on close air support. This maneuver attempts to shift responsibility for failed air operations onto the ground component.⁴⁸

Another external cause of failure remains funding priorities. Yermolin, Zubov, and Fomin argued that the RADF operates too many platforms and spends too few hours training for future conflict.⁴⁹ Western observers tend to agree with the assessment, noting that the best Russian units get around 120 hours of training a year while over 200 hours are necessary for proficiency.⁵⁰ Yermolin, Zubov, and Fomin stated that strike pilots lack experience launching standoff weapons or operating with UAVs to execute air operations. They would prefer that money shift from keeping Soviet-era platforms alive to investing in training pilots and

buying modern systems. Critically, Russian authors are not arguing for doctrinal changes or the development of suppression of enemy air defense training. Their argument aligns with the goals of the 2008 New Look reforms and prewar doctrine.⁵¹

Lessons for the Future

Russia's air operations in Ukraine offer NATO air planners lessons about and lessons learned from the RADF. In learning about the RADF, NATO should anticipate Russia will fight the next air campaign in a comparable manner to the operations in Ukraine. The Russians will fight behind their SAMs, launching varied waves of standoff munitions at fixed targets. The inability to effectively interdict fielded forces will lead them toward a punishment strategy, striking fixed targets. Russia's elimination of 50 percent of Ukraine's power generation and bombing of civilian centers forewarn its willingness to attack the essential infrastructure of society.⁵² The Russians believe the hypersonic always gets through.

The Russians seem unlikely to use this war as a pivot to develop a Western-style air force with Western-style operational goals like the U.S. Air Force adapted to precision weapons and SAMs in the 1970s and 1980s.⁵³ Ironically, the UAV may prevent the reform. The UAV empowers the Russian army and takes pressure off the RADF to evolve. The Russian army prefers UAVs and ground-based air defense, which it can control and does not require contentious coordination with other services. Russia's new ground maneuver system will build on the UAV as its air support and reconnaissance capability and attempt to free itself from the slower RADF system. The RADF, likewise, appears content to divest the close air support mission to focus on its primary defensive missions and standoff operations.⁵⁴ The Su-25 Frogfoot ground attack aircraft, which no longer has an active production line, might be the first Soviet-era asset eliminated. The RADF will likely conduct air support missions using preprogrammed glide bombs dropped in salvo to saturate the enemy battlefield and enable ground maneuvering.

Russia's most significant weakness will be its inability to create a joint C2 system that gives the RADF a more substantial role in planning and operations. C2 failures limit the role of air power, which, given its speed and complexity, requires more significant levels

of communication than ground operations. The UAV is a technical solution that attempts to solve a maladaptive command structure. Yermolin, Zubov, and Fomin's idea of using organic UAVs to crew wings will not work as it did for the Russian army.⁵⁵ The aircraft's speed and need to operate over long ranges require a C2 system that the Russians are not trying to develop. The RADF crewed force will remain aerial artillery and ground-controlled defensive counterair assets.

the privilege of tanks, helicopters, and crewed aircraft. Now, a twelve-man team can carry television-guided weapons. These weapons increased the lethality of small teams on the battlefield, spreading units out and forcing the dissemination of authority to the lowest level. The UAV further saps the power of offensive weapons and strengthens defensive operations.

The ubiquity of UAVs also places a premium on electronic warfare and counter-UAV systems. Modern

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Continuity in strategy and operations also translates to continuity in procurement. The RADF will continue New Look modernizations but with a decidedly more international production line. Russia grows steadily more reliant on China, Iran, and North Korea for war materials as the war continues. The most likely course for RADF inventory in the future is to leverage its comparative advantage and points of national honor within this group.⁵⁶ The Russians will continue to make fighter and bomber aircraft, but they will become more dependent on Chinese electronics. The Chinese will benefit from additional help modernizing jet engines and ground-based air defense. The Russians have and will continue to buy UAVs from Iran, a state with demonstrated capability in the field.⁵⁷ In return, the Russians are likely to continue to modernize Iran's air defense and fighter fleet. Lastly, Russian trade, diplomatic support, and nuclear expertise will probably reward North Korea's contribution. The exchanges fulfill the participant's strategic needs, support Russian industrial strengths, and provide solutions for the air power theories proposed in *Military Thought*.

NATO should also apply the lessons learned from Russia to its operations. The most apparent lesson is the mini-UAVs' value for reconnaissance, precision attacks, and assisting indirect fire. The modern soldier must become more familiar with robotized weapons like the mini-UAV and prepare to attack and defend with these intelligent weapons. The guided weapon was once

military units will need dedicated electronic warfare capability at the company level and below. As micro and mini attack UAVs evolve, the soldier will have to be able to eliminate them to survive. Passive methods like cover and concealment are less valuable against these weapons than kinetic direct or indirect fire weapons. The modern soldier needs to be able to destroy or turn off attacking UAVs to survive much less advance. The Russian acclaimed success at jamming the United States' precision strike systems is a lesson NATO must heed for the sake of its troops and victory.

The second major lesson is that combined arms across the domains are essential to offensive operations. The modern system described by Stephen Biddle, which combines fires, armor, air, and infantry, still works despite the advance of robotic weapons.⁵⁸ Russia has advanced by employing combined arms tactics and massed airpower. Russia's advanced in Adivka through a combination of Ukraine's exhaustion, Russian commitment, and mass employment of glide bombs from Sukhoi attack aircraft. UAVs are deadly, but their users themselves are vulnerable to coordinated operations by a peer opponent.

The employment of air power en masse reinforces a third lesson NATO can learn from Russia: the centralized command of air power. The Russians hamstringing themselves by not employing their aircraft as coordinated strike packages. The district system that splits up the Russian air force reduces the risk of NATO surprising Russia from an unknown direction

at the expense of the speed and flexibility of air power. Through better-centralized control of air assets, the Russians could concentrate the RADF's assets with ground-launched attacks like Iskander missiles to create opportunities for deeper penetration by the Russian army. The inability of a single air commander to build a continuous attack, taking advantage of each platform's unique capabilities, hinders the Russian offensive effort.

Lastly, Russia's biggest shortcoming is the inability to collect and communicate intelligence rapidly enough to conduct dynamic targeting. The United States should take note of the growing importance of targeting intelligence in modern combat. The further the weapon must fly to its target; the more critical intelligence becomes to success. The Russian's inability to find, track, and engage Ukrainian ground-based air defense denied them control of the air. The Joint All Domain Command and Control (JADC2) concept of the United States attempts to collect, communicate, and control the battlespace in a way that resolves Russia's current problems. The JADC2 vision is to match the best weapon to the target regardless of service or command. The ability to strike within minutes of discovery will be the difference between air superiority and taking crippling losses in a future war.⁵⁹

Conclusion

The invasion of Ukraine has not led to a significant reformation in RADF's strategy, operations, or tactics. Articles in *Military Thought* indicate continuity with prewar assumptions and a lack of disruptive proposals. Russia is not trying to build an American-style air force. NATO should not expect an aggressive RADF with a well-integrated attack capable of asserting aerial superiority over a given territory. NATO should expect more standoff weapons, such as the loitering munitions and glide bombs, to be employed in future conflicts. These assets will augment Russia's doctrine by increasing the RADF's ability to overwhelm enemy air defenses. The Russians will employ barrages of relatively accurate standoff munitions at static targets. Rather than inspiring reform, the high losses of crewed assets and assessed success of standoff weapons entrenches the RADF in its assumptions. NATO air forces do not have to make the same mistake. The NATO allies can invest in electronic warfare, loitering munitions, intelligence networks, and all-domain C2 solutions like JADC2. ■

The views presented in this article are the author's own and do not represent the views or policy of the Air Command and Staff College, Air University, the U.S. Air Force, or the U.S. government.

Notes

1. Michael Kofman et al., *Russian Military Strategy: Core Tenets and Operational Concepts* (Arlington, VA: Center for Naval Analysis [CNA], August 2021), <https://www.cna.org/reports/2021/08/Russian-Military-Strategy-Core-Tenets-and-Operational-Concepts.pdf>. On 1 August 2015, Russia reorganized its air domain forces into a single service.

2. Eastview Press translates *Military Thought: A Russian Journal of Military Theory and Strategy* into English. The journal's Latinized Russian name is *Voyennaya Mysl*, commonly abbreviated *VM*. This article will use the abbreviated *Military Thought* for simplicity.

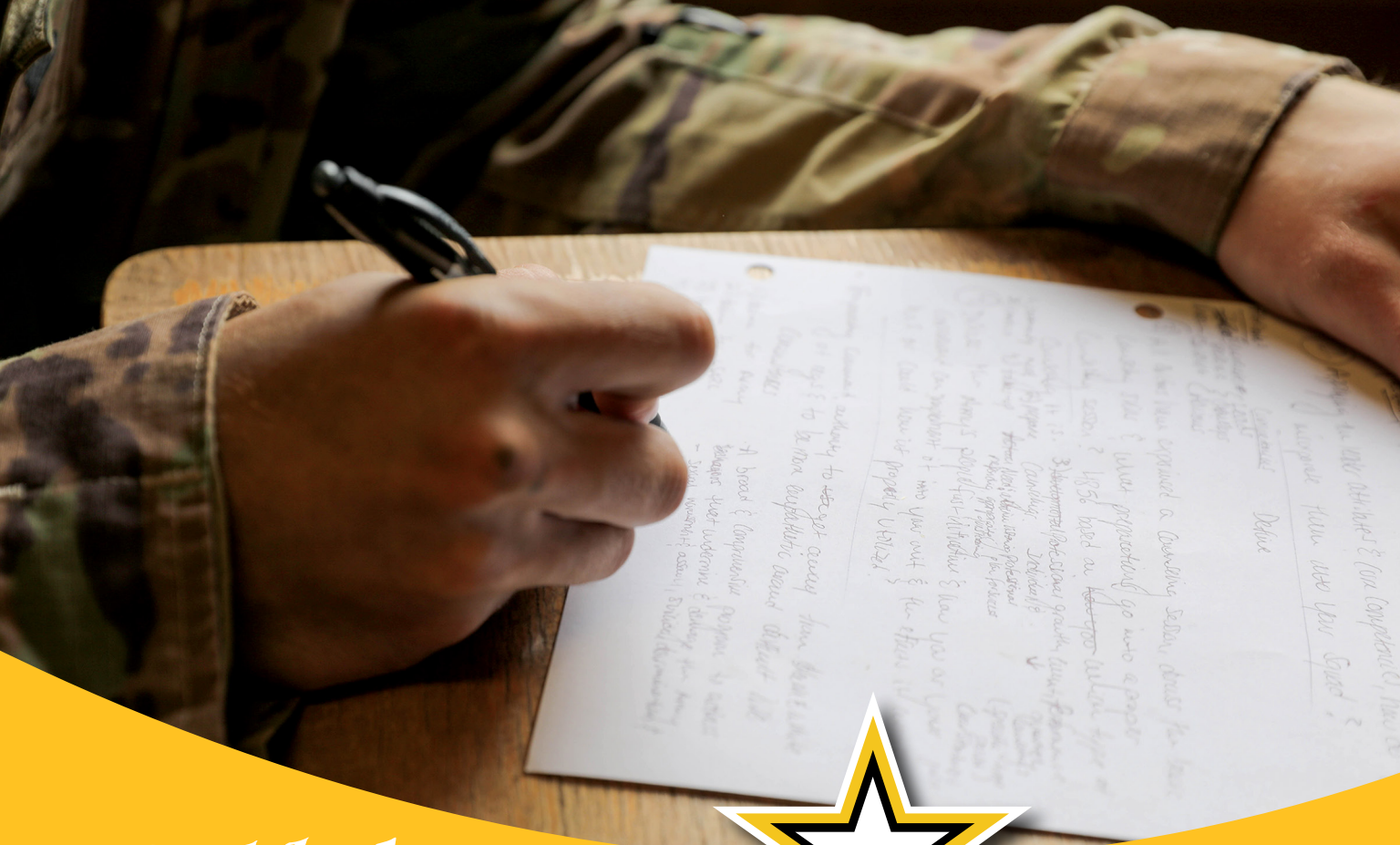
3. This article will use the anglicized Russian Aerospace Defense Force (RADF) abbreviation for simple reading. The actual name, converted to Latin script, reads *Vozdushno-Kosmicheskiye Sily (VKS)*. The most common vernacular for uncrewed aerial vehicle is UAV or unmanned aerial vehicle. This article will use a gender-neutral "uncrewed" and eschew the alternatives of "drone" due to its assumption of autonomy and Army doctrine's unmanned aircraft system (UAS) due to its lack of everyday use in the U.S. Air Force community. The most accurate description of current technology is remotely piloted aircraft, or RPA.

4. Mary Louise Kelly et al., "What U.S. Intelligence Got Right and Wrong About the War in Ukraine," NPR, 6 April 2022, <https://www.npr.org/2022/04/06/1091308714/what-u-s-intelligence-got-right-and-wrong-about-the-war-in-ukraine>. A Google search returns 1,210 articles on U.S. intelligence failures in Ukraine.

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