

A Ukrainian soldier provides security during a fast rope from a Ukrainian Mi-8 helicopter as part of Rapid Trident 2021 near Yavoriv, Ukraine, Sept. 21, 2021. Ukraine developed a professional NCO corps in 2015 with support from the U.S. and NATO countries, embracing decentralized decision-making, establishing mutual trust, and facilitating mission command. (U.S. Army photo by Spc. Preston Hammon)

Adapt, Lead, Win: **NCO Lessons from Ukraine**

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"History does not repeat itself, but it does rhyme." - Mark Twain

rmy Doctrinal Publication (ADP) 6-0, Mission Command: Command and Control of Army Forces, describes the attributes and competencies demanded of leaders through the Army leadership requirement model (Department of the Army, 2019a). The critical attribute of intellect, combined with

the competency to develop, inspired this article. As NCOs, an essential part of the profession remains preparing ourselves to develop our formations for mission accomplishment in the contemporary operational environment (OE) by using our intellect to gain mental agility and expertise.

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The war in Ukraine allows NCOs an opportunity to analyze the challenges in the contemporary OE and see how the Ukrainian Armed Forces (UAF) adapt to overcome difficulties. As NCOs, analyzing the war yields valuable lessons to improve training to win in the contemporary OE against near-peer adversaries.

The ongoing conflict highlights NCOs' vital role on the battlefield. It demonstrates that adaptability, empowered leadership, and a working knowledge of emerging technologies are essential for success in the contemporary OE and teaches NCOs to enhance their battlefield effectiveness.

Background

Prior to the full-scale invasion of Ukraine on Feb. 24, 2022, the Armed Forces of the Russian Federation (AFRF) had evolved since the early 2000s. Their development

encompassed vital areas such as structure, organization, technology, equipment, training, professionalism, doctrine, and tactics.

Military expenditure rose significantly during the period. The swift and decisive victory in the war in Georgia in 2008, the annexation of Crimea, and operations in eastern Ukraine in 2014 highlighted the initial success of reforms and AFRF evolution (Galeotti, 2022).

Moreover, AFRF's development gave the Russian political leadership the ways and means to pursue their ambition to stagger Western influence and stymie NATO's expansion to Ukraine.

In March 2021, the Russian military buildup for the full-scale invasion of Ukraine began by reinforcing existing Russian forces

deployed to its borders, reaching an estimated size of 190,000 soldiers in the weeks prior to invasion.

The Russian campaign plan was based on a 10-day invasion period, followed by the complete occupation of Ukraine and the country's annexation by August 2022.

To achieve this objective, Russia launched its invasion on four avenues of approach — from the north, northeast, east, and south — with the main effort on the northern and northeastern axis (to encircle and rapidly seize the Ukrainian capital of Kyiv). The goal was to force the collapse of the Ukrainian Armed Forces (UAF) and the country's government (Zabrodskyi et al., 2022).

Since Russia's full-scale invasion of Ukraine in 2022, the UAF adapted the doctrine, tactics, techniques, and procedures (TTPs) to counter the challenges in the contemporary operational environment (OE) by using



A Ukrainian soldier launches a drone. The country's unmanned aircraft systems (UAS) longrange program demonstrated its effectiveness from January through September 2023, with 190 strikes in Russia and Crimea. (Creative Commons photo by Territorial Defense Forces of Ukraine)

mission command, exploiting technology to create operational advantages, applying the principles of war, and mastering combined arms operations to achieve operational success in a multi-domain war against a superior enemy.

NCOs and Mission Command

Russian separatist operations in Eastern Ukraine and the Russian occupation (and later annexation) of Crimea in 2014 revealed an ineffective, unprepared Ukrainian military that lacked initiative.

The need for reform in the UAF was evident. It was top-heavy, relying on old Soviet-era officers with a topdown approach seen in Russian doctrine and military operations today (Detsch, 2023).

A new generation of UAF leaders, hardened by battle in Eastern Ukraine prior to 2022, paved the way for a more dynamic command structure adapted to

> mission command. It was one of the Ukrainian military's most significant reforms. Training and collaborating with U.S. and other NATO forces formed the foundation for a UAF mission command culture (Sanders, 2023). Moreover, fostering the principles of mission command and developing a professional NCO corps led to continued success on the battlefield.

Using mission command effectively requires competent forces to assume mutual trust and shared understanding. Competence, mutual trust, and shared understanding are three of the seven principles of mission command. The remaining four principles are commander's intent, mission orders, disciplined initiative, and risk

acceptance (Department of the Army [DA], 2019a).

Effective mission command relies on tactical and technical competence at all levels, and the ability to use mission command to operate directly relates to competent soldiers (DA, 2019a).

Ukraine developed a professional NCO corps in 2015 with support from the U.S. and NATO countries to facilitate mission command and fully embrace its advantages. By training and educating a professional NCO corps, the UAF decentralized decision-making. They established mutual trust in their ranks, providing Ukraine with a distinct advantage over the AFRF (Sanders, 2023).

By empowering their NCOs, the UAF's operational tempo and proficiency on the battlefield, compared to the AFRF, increased significantly through disciplined initiative within the commander's intent (Garamone, 2023).



Ukrainian soldiers stack on a vehicle during a fire team movement and room-clearing demonstration, Sept. 20, 2019, near Yavoriv, Ukraine. By empowering NCOs, Ukraine's operational tempo and proficiency on the battlefield, compared to Russia's, increased significantly. (U.S. Army photo by Pvt. Joanna Gaona Gomez)

The human dynamic and the decisive advantage that empowered and competent NCOs bring to the fight can be the difference between victory and failure in the contemporary OE (Garamone, 2023). In addition, the UAF gained operational advantages by exploiting and adapting technology in the contemporary OE.

Exploiting Technology

Ukraine's battlefields show how the contemporary OE is evolving and the importance of technological advances in modern warfare. Those battlefields also show the complexity advanced technology brings to contemporary and future OE.

One of the critical elements of Ukraine's success in staggering the Russian invasion traces back to its vibrant and sophisticated technology sector and a rooted digital culture. Using approximately 300,000 information technology professionals in the war effort demonstrates the strategic importance of a strong technology sector to succeed in the contemporary OE (Fedorov, 2023).

In the spring of 2023, Ukraine launched a defense technology platform, BRAVE1, to create faster technological innovation in the defense and security sector. It developed technology prioritized by the military leadership in Ukraine. Drones, electronic warfare, artificial intelligence (AI), cybersecurity, robotic systems, and information management systems represent the current priorities for BRAVE1 (Fedorov, 2023).

Also, by creating networks and exploiting opensource and off-the-shelf technology, Ukraine successfully collected data, connected data to systems, and analyzed data to destroy targets rapidly and more proficiently than its enemy (Cronin, 2023).

Ukraine's military has successfully used opensource intelligence, commercial satellite services, and unmanned aircraft systems (UAS) to collect data on Russian troop movements, positions, supply depots, and high-value targets.

The most significant open-source intelligence sources used in the war were smartphone apps. Ukraine used them to transmit enemy activity and positions and collect metadata from Russian troops' social media (Harwell, 2022).

Geospatial and signal data collection represent two critical aspects of commercial satellite services to collect data. These services also track Russian radio signals from space (Feldscher, 2022).

The UAF combined the two data collection methods with off-the-shelf commercial UAS to conduct intelligence, surveillance, and reconnaissance missions in the close battle area. It provided them an abundance of data and information on the enemy. Transmitting the data through low-orbiting satellites and telecommunications networks provided data from the vast number of sensors uniting Ukrainian units across the battlefield.

Using AI to compile and analyze information, combined with a digital battle management system, generated a common operating picture of battles and enemy units. AI provides analysis to generate, identify, and track enemy forces in real time in the battlefield management systems at the UAF's operational and tactical level, which enhances the command and control (Cronin, 2023).

To further exploit technology to their advantage, Ukraine must seamlessly integrate old and new technology to adapt to the challenges of the contemporary OE.

Over the last two years, Ukraine has displayed a remarkable ability to exploit technology to gain an advantage on the battlefield and adapt to the challenges in the OE.

According to Army Doctrine Publication (ADP) 3-0, Operations, the OE will continually evolve due to the

complexity of human interaction and that human actions change the environment by adapting and learning (DA, 2019b).

Ukraine's battlefield demonstrates the importance of integrating new technology, such as digital battlefield command systems supported by AI, with military equipment based on older technology, such as a large portion of their tanks and artillery. Resolving this issue is complex and time-consuming due to security issues resulting from linking the different systems, which the enemy can exploit.

Unevenly distributed solutions across the UAF further hampers integrating new and old technology (Ryan, 2024). Furthermore, the technological evolution of autonomous and long-range UAS

A Ukrainian soldier defends his post during a

security exercise near Yavoriv, Ukraine. A new generation of Ukrainian leaders, hardened by battle in Eastern Ukraine prior to 2022, paved the way for a more dynamic command structure adapted to mission command. (U.S. Army photo by Pfc. Caleb Minor)

currently in service gives Ukraine an operational advantage.

The war in Ukraine depicts how UAS transforms the battlefield, and the importance of mastering the rapid evolution of its technology is clear.

In 2023, the Ukrainian Saker company confirmed autonomous strikes on Russian forces by a Saker Scout drone. Based on machine learning, the Saker Scout drone can identify 64 types of Russian military equipment and conduct lethal strikes without a human operator (Hambling, 2023).

The long-range strike capability in the UAF began in 2022 against targets in Russia. The long-range strike UAS capability program demonstrated its effectiveness from January through September 2023, with 190 strikes in Russia and Crimea, culminating with the attack on Pskov

air base, 370 miles from Ukraine (Pettyjohn, 2024). The UAF demonstrated an exceptional understanding of the principles of war and applied these principles to accomplish operational and tactical success.

Principles of War

Warfare is ever evolving. Conducting military operations and campaigns in the contemporary OE are highly complex. The nine principles of war — objective, offensive, mass, maneuver, economy of force, unity of command, security, surprise, and simplicity guide the use of combat power and are relevant in the contemporary OE (Joint Chiefs of Staff [JCS], 2022). Consequently, the UAF applied the objective principal to prioritize the defense of the capital during the initial phase of the Russian invasion.

Directing military action and applying combat power

to achieve strategic, operational, or tactical objectives requires clearly defined and achievable goals, and achieving objectives requires destroying enemy forces and their will to fight (JCS, 2022).

The overarching strategic objective for Ukraine in the war with Russia, clearly defined by political leadership from the beginning of hostilities, is to defend the country's territorial integrity and sovereignty and to restore the territorial integrity of the territory occupied by Russia (Saidel, 2022).

This broad objective guides operational and tactical level objectives, clearly depicted in the early days of the Russian invasion when the UAF prevented the Russian invasion force from encircling and capturing Kyiv. Prioritizing this operational and

tactical objective stalled the Russian forces, forcing AFRF to relinquish their objective (Clark et al., 2022). Furthermore, the UAF successfully applied the mass principle during the initial stages of the war.

The mass principle addresses the importance of concentrating the effects of combat power at the most optimal location and time to achieve the desired outcome. Mistaking mass for concentrating forces is common, but the principle is based on massing the effects of combat power. Massing combat power enables forces with disadvantages in force strength to obtain decisive results (JCS, 2022).

The UAF, vastly outnumbered in resources compared to the AFRF, masterfully used the mass principle by employing small-unit ambushes and precision indirect

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Sgt. Brett Mussyal, 45th Infantry Brigade Combat Team, explains how to clear a trench to Ukrainian soldiers from the 79th Air Assault Brigade. For NCOs, the conflict in Ukraine underscores the evolving nature of war and the need for adaptability, leadership, and proficiency in emerging technologies. (U.S. Army photo by Sgt. Anthony Jones)

fires to strike Russian sustainment lines during the attack on Kyiv. The UAF strikes made sustaining Russian forces nearly impossible, hampering supplies and the ability to evacuate wounded personnel to a level that affected the Russian forces' will to fight (Martin et al., 2023).

The UAF also achieved operational and tactical goals by mastering and adapting combined arms operations.

Combined Arms Operations

Mastering combined arms operations in the contemporary OE requires synchronized and simultaneous application of arms to achieve effects with more significant results than employing elements separately.

Employing combined arms integrates different capabilities, leaving the enemy vulnerable by counteracting the impact of one capability. Combined arms operations must embrace multi-domain operations to achieve maximum effects (DA, 2019b). Indeed, the UAF displayed successful combined arms operations by defeating the Russian air assault on Hostomel Airport in the first days of the war.

On Feb. 24, 2022, Russian airborne forces penetrated deep into Ukrainian territory to seize the Hostomel Airport north of Kyiv, intending to establish an airbridge to support their attack on the Ukrainian capital (Collins et al., 2023).

The assault force consisted of 200 to 300 Russian

airborne soldiers and 34 helicopters. Its task was to seize Hostomel with minimal resistance, facilitating reinforcements arriving from Pskov in 18 transport planes. The Ukrainian defenders, made up of National Guard conscripts, managed to defend the airfield but had to withdraw because they were short of ammunition (Collins et al., 2023).

A UAF counterattack to regain the airport was launched later that afternoon. It successfully applied a combined arms operation, consisting of joint assets conducting close air support, indirect fire, airborne forces conducting an air assault, and mechanized forces to close with and defeat the Russian forces at the airport (Collins et al., 2023).

Another 2022 UAF action, in September, demonstrates how combined arms operations can achieve operational success against a superior enemy.

Initial Russian offensive operations in Ukraine culminated in the summer of 2022 because of several factors. One was the UAF's effectiveness in combined arms operations (Bugayova, 2023).

By the fall of 2022, counteroffensives by the UAF in the Kharkiv and Kherson regions of Ukraine liberated 17,000 square kilometers, exploiting a weakness in the AFRF by maximizing the effects of combined arms operations (Khvostova & Kryvosheiev, 2023).

The Kharkiv counteroffensive demonstrated the

effectiveness of a properly employed combined arms operation. The UAF shaped the battlefield by indirect fire, destroying critical infrastructure, command and control assets, supply hubs, and railroad junctions in the months prior to the offensive. It set the stage for the six maneuver brigades to launch the Sept. 6 attack (Gady & Kofman, 2023).

Ukraine's attack used speed and Russian command and control breakdown to penetrate deep into their lines of defense, forcing a hasty retreat and disorganized withdrawal to liberate the vast areas they occupied after the invasion (Gady & Kofman, 2023).

Conclusion

For NCOs, the conflict in Ukraine underscores the evolving nature of war and the need for adaptability, leadership, and proficiency in emerging technologies. UAF's success demonstrates that empowered NCOs, equipped with the right training, intellect, and authority, can play a decisive role in mission command and operational success.

Today's NCOs must embrace these lessons by developing their leadership competencies, fostering mutual trust within their ranks, and mastering both the conventional and technological aspects of warfare.

In a multi-domain operational environment, NCOs should not just follow orders but exercise disciplined initiative and drive decision-making at the tactical level.

By continuously enhancing their tactical and technical expertise and staying abreast of technological innovations — through artificial intelligence, unmanned systems, or digital battlefield management — NCOs can ensure the U.S. Army remains ready to face and defeat near-peer adversaries.

What does all this mean for today's NCOs? It means they must know the historical and present-day aspects of war to best prepare for the battlefield. As today's NCO corps evolved from influences around the world, they must continue to do so by closely analyzing their role in the Russia-Ukraine conflict. ■

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Sgt. Curtis Chancey (center), an infantryman with the 3rd Infantry Division, teaches soldiers with the Ukrainian army how to determine a point's grid coordinates. In a multi-domain operational environment, NCOs should not just follow orders but exercise disciplined initiative and drive decision-making at the tactical level. (U.S. Army photo by Staff Sgt. Adriana M. Diaz-Brown)

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