

Making Attrition Work: A Viable Theory of Victory for Ukraine

Franz-Stefan Gady and Michael Kofman

As the Russia–Ukraine war enters its third year, Ukraine faces a daunting task: how to restore its military advantage. The 2023 summer offensive, which dragged into autumn, was unsuccessful. Planning for the offensive appears to have been overly optimistic and poorly connected to how the Ukrainian armed forces actually fight, despite numerous analyses warning that the operation would prove costly and difficult, and that manoeuvre warfare was unlikely to attain a quick breakthrough against a well-prepared defence.¹

Conditions are not propitious for another major ground offensive in 2024. Our observations during field trips to Ukraine over the past year indicate that, to maximise Ukraine’s chances of eventual victory, Western countries need to recognise that the driving engine of Ukraine’s effectiveness has been a destruction-centred approach, resulting in high levels of attrition – that is, reducing an enemy’s capacity to fight by inflicting higher losses in personnel and materiel than one’s own side is suffering, which privileges firepower over mobility and direct attack or prepared defence over flanking action. Attempts at manoeuvre against a prepared defence have consistently floundered, especially in the absence of a decisive force advantage. While manoeuvre is still relevant on the battlefield, it will need a lot of help from attrition to bear fruit.

Franz-Stefan Gady is IISS Consulting Senior Fellow for Cyber Power and Future Conflict, and an Adjunct Senior Fellow at the Center for a New American Security. **Michael Kofman** is a Senior Fellow in the Russia and Eurasia Program at the Carnegie Endowment for International Peace.

The West should focus on resourcing Ukraine's ability to establish a decisive advantage in fires – meaning, typically, tube and rocket artillery, battlefield strike drones, long-range precision-strike systems and support by tactical aviation. No less important, the West needs to help Ukraine scale its capacity to employ units so that it can exploit that advantage in offensive operations. Western countries should also help Ukraine ramp up industrial production of those capabilities that provide the greatest advantages in an attritional war. The West will need to be appreciative of Ukrainian force structure and military culture, as well as the challenges posed by an increasingly mobilised military, which means avoiding the temptation to try to convert the Ukrainian military to a more Western, manoeuvre-centred way of fighting.

A war of attrition

The more we know about the history of this war, the clearer it becomes how much was contingent, and how little was in fact overdetermined. Russia's initial invasion was a high-risk operation, premised on the assumption that a long war could be avoided through the combination of a subversion campaign and a decisive decapitation strike against the Ukrainian government.² In essence, the Russian concept of operations was driven by political assumptions, and therefore involved the use of forces in a manner that did not reflect how the Russian military trains and organises to fight in larger-scale combat operations. The invasion instead assumed that Russian forces could paralyse Ukrainian decision-making, isolate Ukraine's armed formations and quickly advance across the vast country without meeting sustained resistance. The plans and objectives were also kept secret from the Russian troops until the final days or hours, leaving them materially and psychologically unready for a major campaign.

The first few days saw a confluence of events. Ukrainian units deployed on short notice, encountering streaming columns of Russian forces that were trying to meet compressed timetables. The decisive factor in many of these battles was not Western-provided weaponry but rather artillery. Russian forces were dispersed, unable to mass as they attempted to rapidly advance along divergent routes, and at a firepower disadvantage despite

having overall superiority in fires.³ The Russian invasion force was brittle, consisting of perhaps 150,000 troops, with a third of it composed of mobilised personnel from the Luhansk and Donetsk people's republics, and auxiliaries from RosGvardia, Russia's National Guard.

Following a series of defeats, Russian forces regrouped and pursued a campaign in the Donbas, offsetting a deficit in personnel with an artillery fire advantage of 12:1. They fired an average of 20,000 shells per day during this time period, and likely averaged 15,000 over the course of 2022.⁴ Ukrainian casualties rose as Ukrainian forces were outgunned and ran low on ammunition. At this stage, Western assistance became crucial. Various types of tube artillery and long-range precision-strike systems entered the war. Most importantly, Western ammunition enabled Ukraine to sustain defensive fire so as to exhaust the Russian offensive in the Donbas and conduct localised counter-offensives to maintain pressure. Although Russia's sieges of Mariupol and Severodonetsk were ultimately successful, Russian forces paid a steep price. The decisive factor in the Russian campaign was artillery firepower, which allowed the Russian military to establish localised advantages in the correlation of forces, despite being disadvantaged in personnel overall.

Ukraine then retook the initiative, launching two major offensives of its own in late summer and autumn 2022. Attrition worked to its advantage. Ukraine had mobilised and substantially expanded the size of its forces, whereas Russia was trying to fight the war at peacetime strength. Russia lacked the forces to stabilise a front stretching more than 1,600 kilometres. In Kharkiv, Russia had only a thinly manned line with an incohesive mixture of units. The bulk of those units were the remnants of the Western Group of Forces, in some places at 25% strength, with low morale due to desertions.⁵ Ukrainian forces broke through at Kharkiv, leading to a Russian rout. But the decisive factor was attrition, which forced the Russian military to choose between defending Kherson and reinforcing Kharkiv.

The Russian military deployed airborne units in Kherson, prioritising that region with a relatively well-prepared defence. The initial Ukrainian offensive was unsuccessful, prompting the replacement of the commander in charge of the operation. Entrenched behind multiple lines peppered with

minefields, Russian units held in September, yielding little territory. The geometry of the battlefield was highly favourable to Ukraine, with Russian units separated from their logistical-support network by the Dnipro River. Months of High Mobility Artillery Rocket System (HIMARS) strikes had further reduced the Russian supply line to one bridge across the Kakhovka Dam and a network of ferries. Although Russian forces contained a renewed Ukrainian offensive in October, Moscow was compelled to retreat in order to preserve the force, as the attritional battle strongly favoured Ukraine.

Kherson was a portent of the challenge to come in the Ukrainian counter-offensive of 2023. Ukraine struggled to break through a prepared defence.⁶ Months of HIMARS strikes constrained Russian logistics, but they did not enable a breakthrough, and Russian forces were ultimately able to withdraw. They were at their weakest point over the winter, but the Ukrainian army was also in no condition to press the advantage. Having run through mobilised personnel from Luhansk and Donetsk, Moscow was forced to mobilise another 300,000 men, which served to stabilise their lines. Meanwhile, a grinding battle at Bakhmut, led by the Wagner Group, turned into a bloody and politically symbolic fight. Wagner eventually captured Bakhmut in May due to three factors: the Russian airborne held their flanks to prevent counter-attacks; Russian commanders had access to a large supply of convicts from the Russian prison system to use as assault infantry; and most importantly Russia enjoyed a fires advantage of 5:1 for much of the battle. Both sides thought that attrition favoured them.

Based on our research, Ukraine enjoyed a favourable loss ratio over Russia of up to 1:4 in total casualties during the nine-month battle, but the Russian forces that were fighting as part of Wagner were likely 70% convicts. Bakhmut thus immersed Ukrainian units in a fight in which Ukraine had the advantage on the basis of the attrition ratio, but which would pit its more experienced and valuable soldiers against Russia's relatively expendable ones. The city itself had little strategic value. Wagner was particularly effective in urban terrain owing to its ruthless employment of expendable assault infantry. As the battle dragged on, the rest of the Russian military used the time to dig in, entrenching and laying down minefields across much of the southern and northern fronts. Buoyed by mobilisation, the

Russian military launched its own winter offensive in late January by way of a series of localised attacks across a broad front.

This effort proved unsuccessful because the Russian forces were unable to achieve a sufficient advantage to break through, the force quality being too low to coordinate attacks in large formations. Many of the attacks were undertaken by platoon-sized units, which quickly drew Ukrainian fire and were defeated. The fires advantage Russian forces enjoyed in 2022 also started to deteriorate. This was not due primarily to HIMARS strikes, which forced a reorganisation of the Russian logistical system, but rather to the fact that Russia lacked the ammunition reserves to sustain the volume of fire reached in 2022. Those deficits began to force doctrinal adaptation in the Russian military, with greater emphasis on strike drones and more precise types of munitions.

This brief, circumscribed account does not explore the air war or maritime operations, but it does highlight the importance of force management, terrain and establishing a fires advantage, and the struggle by both sides to effectively employ their forces in offensive operations. With the exception of an initial manoeuvre-and-strike phase, which failed for conceptual and political reasons, the war has been characterised by attritional fighting and set-piece battles. In 2022, Ukraine was able to make effective use of attrition and exploit the structural problems in the Russian war effort. In 2023, it was not able to repeat the success of 2022, though Russia too has failed to make any significant gains on the ground.

Ukraine's 2023 offensive

Ukraine's offensive was freighted with unrealistic expectations, but the fact remains that summer 2023 presented a good opportunity to inflict a strategic defeat on Russia. Russian forces were low on ammunition and lacked offensive potential. It was reasonable to think that Ukraine could establish an advantage in artillery fire, and the risk of a Russian counter-offensive was low. Western support, which has been essential to Ukraine's war effort, was also likely to peak in summer 2023. The United States was burning through its stockpile of ammunition, while European states had failed to ramp up munitions production in 2022 and were just beginning to make

the required investments, with lacklustre results. With elections looming in 2024, the political headwinds in Western capitals also suggested that funding to support Ukraine would decline following this operation. The US borrowed ammunition from South Korea, and other Western countries made efforts to contribute as part of a crash train-and-equip programme for Ukrainian forces. All told, the West trained and equipped nine brigades for the offensive. Ukraine would field several additional brigades from the armed forces and national guard, organised under two corps, and a reserve task force.

Ukraine had no risk-free options, but its strategy incorporated several choices and trade-offs, some of which compounded risk. Newly trained brigades, with just a few months of training, would take the lead in the assault, while more experienced units were kept fighting at Bakhmut. Ukraine also split its forces and artillery along three axes – Bakhmut, Velyka Novosilka and Tokmak – in hopes of pinning down Russian forces. Essentially, there were three offensives, which would pressure Russian forces such that they could not redeploy forces to one front without weakening another. In retrospect, the value of a prepared defence was underestimated, and Ukrainian forces could not attain the requisite advantage to break through along any of the operational directions selected. Western countries provided long-range air-launched cruise missiles in advance of the operation, but these capabilities did not prove decisive.

Whether Ukraine had sufficient breaching equipment, mine-clearing assets and air defence is still debated. But the more salient fact is that mobilisation had helped refill personnel levels within the Russian military and yielded more than 70 additional motor-rifle regiments, among other units.⁷ Consequently, Russian force density was much higher relative to terrain held. Furthermore, Russian engineering brigades prepared defences with digging machines and cement, using bunkers and towns as strong points. In the south, along the Orikhiv–Tokmak axis, the Russian military established multiple defensive lines and held the high ground. Russian units focused on manning the first line of defence and conducted counter-attacks to prevent Ukrainian forces from gathering momentum. The challenge to Ukraine – involving an established defence, a high force-density-to-terrain ratio and

unfavourable geometry – was much greater than it had been in Kherson. In terms of the condition of Russian forces, the situation was practically the opposite of the one that had prevailed in Kharkiv during Ukraine’s breakthrough in September 2022.

The initial Ukrainian breaching effort in June failed. New units made common mistakes with respect to planning, coordinating artillery fire with assaults, orienting at night and employing breaching equipment, and in a few cases had engaged in unfortunate friendly-fire incidents early in the attack. Moreover, Ukrainian brigades could generate at most a few reinforced companies on the offence, backed by artillery. This meant that a brigade-level attack was in practice two reinforced companies advancing, with perhaps one in reserve. Ukraine was deploying combat power onto the battlefield in small packets, unable to coordinate formations at larger scale. Western equipment helped save lives, and proved much more survivable than comparable Russian kit, but by itself it was hardly a game-changer. In fact, more experienced units that stepped in after the failed initial assault, without Western equipment, performed better in both offensive and defensive tasks, demonstrating that while capability matters, experience and leadership also figure significantly into the equation. An advantage in artillery fire of between 3:2 and 2:1 yielded little better than overall parity, not enough to shock or suppress Russian formations, which anticipated and defended the main axis of the Ukrainian advance.

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Subsequently, the Ukrainian military changed tactics, stressing dismounted-infantry attacks and seeking to attain an advantage in artillery fire sufficient to suppress Russian batteries. Much of the combat shifted to individual tree lines, typically at the level of platoons and occasionally that of reinforced companies. This approach reduced losses and preserved equipment, but did not lead to a breakthrough. Ukraine was able to breach the first Russian defensive line in the south but exhausted its offensive capacity by October without reaching its minimal objective of Tokmak. Ukraine also stuck with the overall strategy of splitting forces in three directions and

keeping some of its better units in a sustained counter-attack at Bakhmut that yielded little.⁸ Russia had enough reserves to rotate in airborne regiments by September and generated additional combat power sufficient to launch its own offensive in Avdiivka in October. The Russian offensive in Avdiivka equally failed to achieve a breakthrough, but it demonstrated that Russia had regenerated sufficient combat power to try to retake the initiative, and sufficient reserves to stop a Ukrainian breakthrough that year.

If Ukraine's summer offensive fell short of its objectives, it was hardly a disaster. Ukraine retained much of the equipment it had been allocated while inflicting significant losses on defending Russian forces. Tactically, it was closer to a draw. The initial attack failed due to a combination of planning choices, force-employment issues, a shortage of enablers and most importantly a lack of a clear fires advantage relative to a well-prepared defence. The West did fail to provide available counters that could have negated some of the Russian advantages, such as long-range strike against Russian helicopter bases. But the narrative that the offensive failed solely because the West failed to provide sufficient equipment to Ukraine lacks explanatory power, especially since Ukraine did not run out of equipment during the offensive and could not employ it at scale from the outset.

In retrospect, what is notable about the offensive is how conventionally it was planned. It assumed an assault could breach Russian lines relatively quickly, and then be exploited with reserve forces.⁹ This line of thinking discounted the presence of Russia's layered defences, persistent drone-based surveillance and panoply of capabilities that could deny manoeuvre. Given that Ukraine lacked a decisive superiority in the overall correlation of forces, the errant assumptions likely stemmed from the inordinate influence of the Western manoeuvrist school of thought, whereby the cognitive impact and shock of a combined-arms assault was supposed to force Russian units to withdraw from the first line, enabling a rapid breach and obviating the need to inflict high levels of attrition to set the conditions for success. In fact, the course of the war indicates that Ukraine and its Western backers did not sufficiently appreciate the importance of attrition as an enabler of manoeuvre, and that of a firepower advantage over combined-arms integration. Manoeuvrist tenets, which projected

strong cognitive effects from manoeuvre, did not prove out in Ukraine's offensive, and indeed have not been validated over the two-year span of the Russia-Ukraine war.

Air superiority and fire control

The war has played out in a largely air-denied or air-contested environment. Nevertheless, Russian Aerospace Forces have enjoyed greater freedom of action than their Ukrainian counterpart and employed stand-off strikes to some effect. Tactical aviation – namely, American-made F-16s – or a much larger set of long-range strike capabilities are important factors, but by themselves they were unlikely to make the crucial difference. Ukrainian force structure and doctrine are not designed around attainment of air superiority or the need for substantial air-delivered fires, and some of the challenges posed by Russia's defences did not have obvious air-power solutions.

There is a tendency to treat air power as talismanic. But unstated assumptions about air power or long-range strike are often baked into expectations for what they might achieve. While Ukraine is steadily acquiring F-16 fighter aircraft and training to use them, this transition is a multiyear process. The fighters will eventually help Ukraine employ more Western strike capabilities and contest Russian air power, but having Western aircraft does not secure the ability to attain and maintain air superiority in an air-denied environment.

There is much a military would have to adjust with respect to how air power is employed, its organisational capacity and how operations are planned to effectively integrate air and land operations, and to realise the benefits of air power most associated with US achievements. Presuming sufficient kit would easily translate into that level of operational capability is especially problematic against a military, such as Russia's, with an extensive network of integrated air defences and a large fleet of tactical aircraft. It is therefore unsurprising and appropriate that current discussions in Ukraine centre less on conventional air superiority and more on the advantages derived from the employment of drones at the tactical level and as part of long-range strike campaigns.¹⁰ This is a productive way to think about the sort of strike-support roles drones can play, and their ability to offset deficits in other capabilities.

The 'deep battle' notion, advanced by some, that Ukraine might have attained fire control – that is, the ability to strike critical Russian targets far behind Russian lines to facilitate a breakthrough – had it been able to advance within range of Russian ground lines of communication also seems unconvincing. This technology-centred theory of success made little sense: if it had been possible to achieve deep-battle effects by leveraging long-range strike capabilities, the offensive would not have been necessary in the first place. In the event, fire control via long-range precision strike was not practicable, and the persistent intelligence, surveillance and reconnaissance capabilities, magazine depth and other requirements needed to establish it at longer ranges were not attainable. Furthermore, long-range precision strikes were poorly coordinated with attacks along the front line, further reducing their tactical impact. Where Ukrainian forces excelled was in delegating HIMARS systems to engage Russian artillery and high-value targets close to the front line. This leveraged qualitative superiority in fires to establish some degree of advantage. However, in most battles in Ukraine, each side has been able to range the other's ground lines of communication, command and control, and forward logistics, with the lines often separated by a few kilometres. With rare exceptions, the combatants could not control the engagement via fires, resulting in attritional warfare that could last weeks or months.

While it makes sense for Ukraine to pursue localised air superiority and contest Russian air power, expectations about how quickly such efforts might produce meaningful results should be low. A long-term strategy should incorporate these efforts, but should not assume that they will be decisive or serve as centrepieces of the approach. Although fire control appears impractical, Ukraine could instead cultivate an expanded long-range strike capability for targeting key supporting elements of the Russian war effort far beyond tactical depths. In particular, low-cost drones in high volumes might prove more useful in degrading the Russian air advantage than in directly contesting it, and could anchor a sustained Ukrainian strike campaign over the course of 2024. They should not be viewed as a substitute for close battle, however. No matter how abundant, long-range strike capability is not likely to force a collapse of Russian positions without another

ground offensive. In sum, it is necessary but not sufficient, and no theory of victory should be based on these means alone.

Making attrition work

The most recent offensive raises the question of whether the West should emphasise a combined-arms, manoeuvre-based approach, or focus instead on helping Ukraine attain advantage via a destruction-based approach, especially given what is likely to be a prolonged attritional phase. The course of the war illustrates that manoeuvre will have to be earned, and that integration and simultaneity – basically, the key virtues of combined-arms operations – are not only difficult to achieve but also unlikely to produce breakthroughs under the conditions prevailing in Ukraine. Rather, the focus needs to be first and foremost on the attritional destruction of Russia's forces by firepower in both the close and deep battles to pave the way for manoeuvre. Ukraine, in short, needs to embrace a destruction-centred approach for the next stage of the war, which may in time enable manoeuvre to be more successful.

Attrition is a more dependable approach in part because the force quality required to execute combined-arms operations at scale is often difficult to maintain and reconstitute later in a conventional war. The Ukrainian armed forces have had to undergo cycles of reconstituting and rebuilding formations, often after losing more experienced soldiers and leaders to attrition. New units often consist of mobilised personnel, officers from other formations, and those who were promoted in grade, most without any professional military education. The emphasis therefore has to be on the fundamentals to build planning capacity within battalion and brigade staffs. This is required before higher levels of coordination are possible and instilling a major doctrinal evolution into a traditionally fires-centred military is feasible.

Furthermore, Ukraine's principal problem in the 2023 offensive was not an inability to conduct combined-arms manoeuvre. While it is true the new brigades trained by Western countries struggled to coordinate combat arms, this was ancillary rather than central to the offensive's failure. Accordingly, it is incorrect to conclude that Ukrainian forces could not succeed because they could not fight like a Western military, or that fighting like a Western

military doctrinally requires air superiority, without which success is impossible. In fact, Ukraine made progress by trying to gain better positions, fighting for relative fires advantage that reduced overall losses, and made Russia pay a high price to defend terrain. Fighting like a Western military is not necessarily a recipe for success in this war. As many Ukrainian soldiers have suggested, the operating environment is such that some Western tactics and techniques appear unsuitable or dated.

Restoring Ukraine's advantage

In a prior article discussing the course of the war in 2022, we assessed that combined-arms training and precision-strike systems would not prove sufficient to escape attrition in the coming offensive.¹¹ Assuming Ukraine and the West now accept the unavailability of a long war, both need to settle on a long-term strategy to effectively defend against Russian offensive operations, reconstitute Ukrainian forces and maintain pressure on the Russian military with the goal of restoring a battlefield advantage to Ukrainian armed forces. The strategy should cast 2024 as a pivotal year, with an eye to restoring the ability to conduct a successful offensive in 2025.

At this point, Russia has several material advantages. It is likely to retain an artillery-fire edge over the course of the year and beyond. Russia will also continue regenerating combat power, recruiting more than 10,000 troops per month. It will probably hold the strategic initiative along much of the 1,000 km front line and expand its strike campaign against Ukraine given increased production of drones and cruise missiles. Moreover, Moscow is now set to spend 6% of GDP on defence – a significant increase – and the real figure may be closer to 8%.¹² Its apparent intent is to overwhelm Ukraine through defence-industrial mobilisation and sustained regeneration of combat forces.

The most effective way for Ukraine to rebuild its advantage is to mount an effective defence in depth, which will reduce Ukraine's losses and ammunition requirements. At present, Russia holds the defensive advantage, on account of dedicated engineering brigades, machinery and the capacity to fortify quickly, as well as extensive minefields and sophisticated minelaying systems, including those capable of distance mining. A better defence

would also permit Ukraine to restructure its force deployments, rotate brigades and free up parts of the military for reconstitution.

Ukraine will also have to replenish its force. Based on our field research, Ukraine's average soldier appears to be in his 40s, which is ill-suited for certain combat tasks. Ukrainian leadership needs to review policies on the ages of those conscripted. The West can assist by scaling up training programmes, which need to be adjusted on the basis of lessons learned in the 2023 offensive and Ukrainian experience in this war. Within Ukraine, expanded facilities and training ranges will be needed to rotate units off and onto the front line. Further, units that have been on the front lines since the beginning of the war – particularly those at Bakhmut – need rest and recuperation.

More broadly, Ukraine's military requires recapitalisation. Ukraine and its Western backers need to increase industrial capacity and output of key systems in order to ensure that Ukraine will have the requisite fires advantage. For supporting countries, the challenge is to significantly increase production of artillery ammunition and air-defence interceptors. Our field research indicates that Ukraine will need around 75,000–90,000 artillery shells per month to sustain the war defensively, and more than double that – 200,000–250,000 – for a major offensive. At this stage, the Western coalition depends mostly on US stocks to sustain the lower range of this figure and does not have the ammunition to support a major offensive next year. Ukraine can reduce its requirements for artillery ammunition by significantly increasing production of strike drones, both first-person-view drones for use in close battle and long-range strike drones to target Russian critical infrastructure. To do this, Ukraine will have to resolve several financing, contracting and industrial-capacity issues. The West, for its part, will need to support Ukraine in procuring or developing munitions to use with drones, as such munitions from other sources are in short supply. Ukraine's indigenous ability to maintain and repair Western armoured fighting vehicles and artillery is growing, and the West should work to advance the localisation of maintenance, parts replacement and production of strike systems.

Naturally, defence and reconstitution by themselves are not enough, and Ukraine will have to be careful about being drawn into costly battles like Bakhmut, which tend to lead to a sunk-costs mentality. These may be

politically symbolic, but they trade short-term gain for strategic costs that hamper reconstitution. At this stage of the war, the West is neither expecting nor desirous of fleeting or isolated battlefield victories for the continuation of its support. Instead, Ukraine should plan for and execute strike campaigns – for example, against the Russian Black Sea Fleet, Russian air bases in Crimea or key supporting infrastructure. Heading into 2024, it is clear that the optimal strategy is one that avoids a costly stalemate, or worse, a mounting Russian advantage that leads to Ukraine’s defeat. Both Ukraine and the Western countries involved retain good options, but success will require better alignment on strategy.

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We recognise that much of our analysis represents an incomplete first draft of military history. Other analysts and historians will undoubtedly revise and improve our understanding of this war. But it does seem fairly clear that the war has seen prolonged phases in which the ability to manoeuvre has been earned chiefly through extensive attrition and the destruction of the enemy’s capacity rather than through cognitive effects or effective employment of combined arms. Modern forms of long-range precision strike have helped Ukraine to interdict or suppress Russia’s logistical nodes, but they have not established fire control beyond tactical ranges or circumvented the need for close battle. We appreciate that these results may be due to the specific context of this war, and analysts should be careful in trying to translate observations about the Russia–Ukraine war in particular into lessons learned about the character of contemporary war in general.

While Western countries should continue to help Ukrainian forces improve their overall quality and their ability to scale up combined-arms operations, prevailing conditions in Ukraine still favour attritional and positional approaches rather than those suitable for manoeuvre warfare.¹³ The operative factor is attrition, inflicted primarily through artillery and strike drones. The West is therefore best served by focusing on resourcing Ukraine’s fires-centred approach and helping Ukraine scale offensive operations to exploit a fires advantage when it is attained. This may be

impossible to achieve via quantity, but it can be done through a combination of means which altogether add up to meaningful superiority in support of an offensive. These two factors should drive investment in drones to offset shortages of artillery ammunition, cheaper precision-strike capabilities, and electronic warfare to help restore mobility to the front line and reduce current Russian advantages in drone systems.

Ukraine's military leadership appears keen to embrace technological innovation and tactical adaptation, and to rebuild the force's combat potential. These objectives will take time to achieve, but it is clear that Ukraine's military recognises the scale of the challenge and the need to move out as soon as possible in 2024. This will be a long war requiring a long-term outlook in strategy, but also timely decision-making. Despite the high stakes, it has become less clear that Washington and European capitals can muster the political will to see Ukraine through this war. The fact remains that Ukraine and the West enjoy the overall advantage in resources, and attrition can prove an important part of their theory of victory.

Notes

- 1 See Franz-Stefan Gady and Michael Kofman, 'Ukraine's Strategy of Attrition', *Survival*, vol. 65, no. 2, April–May 2023, pp. 7–22; Michael Kofman and Rob Lee, 'Beyond Ukraine's Offensive', *Foreign Affairs*, 10 May 2023, <https://www.foreignaffairs.com/ukraine/russia-war-beyond-ukraines-offensive>; and Rob Lee and Michael Kofman, 'How the Battle for the Donbas Shaped Ukraine's Success', Foreign Policy Research Institute, 23 December 2022, <https://www.fpri.org/article/2022/12/how-the-battle-for-the-donbas-shaped-ukraines-success/>.
- 2 See Jack Watling, Oleksandr V. Danylyuk and Nick Reynolds, 'Preliminary Lessons from Russia's Unconventional Operations During the Russo-Ukrainian War, February 2022–2023', RUSI, 29 March 2023, <https://rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-russias-unconventional-operations-during-russo-ukrainian-war-february-2022>.
- 3 See *ibid.*; and Mykhaylo Zabrodskyy et al., 'Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022', RUSI, 30 November 2022, <https://rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-conventional-warfighting-russias-invasion-ukraine-february-july-2022>.
- 4 See Jack Watling and Nick Reynolds, 'Ukraine at War: Paving the Road

- from Survival to Victory', RUSI, 4 July 2022, <https://www.rusi.org/explore-our-research/publications/special-resources/ukraine-war-paving-road-survival-victory>.
- ⁵ See Mari Saito, Maria Tsvetkova and Anton Zverev, 'Abandoned Russian Base Holds Secrets of Retreat in Ukraine', Reuters, 26 October 2022, <https://www.reuters.com/investigates/special-report/ukraine-crisis-russia-base/>.
- ⁶ See Isabelle Khurshudyan et al., 'Inside the Ukrainian Counteroffensive that Shocked Putin and Reshaped the War', *Washington Post*, 29 December 2022, <https://www.washingtonpost.com/world/2022/12/29/ukraine-offensive-kharkiv-kherson-donetsk/>.
- ⁷ According to the Conflict Intelligence Team, a total of 123 military units were established, including 77 motor-rifle regiments and 18 separate motor-rifle battalions. See 'As Part of the Mobilization, More than 120 New Military Units Were Created in Russia. A Third of Those Called Up Were Sent to Personnel Units – To Make Up for Combat Losses', *Meduza*, 5 October 2023, <https://meduza.io/feature/2023/10/05/v-ramkah-mobilizatsii-v-rossii-sozdali-bolee-120-novyh-voinskih-chastey-tret-prizvannyh-otpravili-v-kadrovye-chasti-vospolnyat-boevye-poteri>.
- ⁸ See Michael Kofman and Rob Lee, 'Perseverance and Adaptation: Ukraine's Counteroffensive at Three Months', *War on the Rocks*, 4 September 2023, <https://warontherocks.com/2023/09/perseverance-and-adaptation-ukraines-counteroffensive-at-three-months/>.
- ⁹ See 'Miscalculations, Divisions Marked Offensive Planning by U.S., Ukraine', *Washington Post*, 4 December 2023, <https://www.washingtonpost.com/world/2023/12/04/ukraine-counteroffensive-us-planning-russia-war/>.
- ¹⁰ See Valery Zaluzhny, 'The Commander-in-Chief of Ukraine's Armed Forces on How to Win the War', *The Economist*, 1 November 2023, <https://www.economist.com/by-invitation/2023/11/01/the-commander-in-chief-of-ukraines-armed-forces-on-how-to-win-the-war>.
- ¹¹ Gady and Kofman, 'Ukraine's Strategy of Attrition'.
- ¹² See Alexandra Prokopenko, 'Putin's Unsustainable Spending Spree', *Foreign Affairs*, 8 January 2024, <https://www.foreignaffairs.com/russian-federation/putins-unsustainable-spending-spree>.
- ¹³ We define manoeuvre operations or warfare at the tactical level of war as the combination of rapid movement with firepower. As Amos C. Fox explains, 'modern maneuver warfare has two goals: (1) to achieve a psychological impact on an adversary – to create panic, or cognitive paralysis, forcing the enemy's will to resist to collapse; and (2) to gain and maintain a position of relative advantage in relation to a belligerent. Creating confusion (a cognitive effect) and disorganization (a physical effect) are subordinate goals of maneuver warfare that contribute to the concept's overarching aims. The idea of defeating the enemy through the most economic use of force is closely aligned with both of

these goals.' Positional warfare, he continues, 'can be defined as the use of force – through tactics, firepower or movement – to move an opponent from one position to another for further exploitation or to deny them access to an area for further exploitation – while attrition warfare can be defined as the methodical use of battle or shaping operations

to erode or destroy a belligerent's equipment, personnel and resources at a pace greater than they can replenish their losses.' Amos C. Fox, 'A Solution Looking for a Problem: Illuminating Misconceptions in Maneuver-warfare Doctrine', US Army Maneuver Center of Excellence, Fall 2017, <https://www.moore.army.mil/armor/earmor/content/issues/2017/Fall/4Fox17.pdf>.

