

## *The Russia-Ukraine Conflict and the (Un)Changing Character of War*

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The war between Russia and Ukraine that started in February 2022 is far from over and may well continue for a long time yet. A full assessment of its lessons may have to wait for years. Nevertheless, the conflict has already surprised analysts in many ways, challenging certain contemporary understandings of the nature and character of war. This article therefore undertakes a preliminary analysis of the lessons learned from events in Ukraine.

Western analyses of the conflict have tended to focus on issues such as tactics, logistics and technology rather than broader questions of the nature and character of war. In particular, they have concentrated on the perceived deficiencies of the Russian army. A US army report, for instance, found poor leadership and discipline and inadequate logistical preparation.<sup>2</sup> Other analyses have faulted the Russian military for initially failing to concentrate force and instead dissipating it over multiple axes of

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<sup>2</sup> Andrew Eversden, "US Army Secretary: 5 Lessons from the Ukraine Conflict," *Breaking Defense*, 1 June 2022, <https://breakingdefense.com/2022/06/us-army-secretary-5-lessons-from-the-ukraine-conflict/>.

advance; failing to carry out proper joint operations (land, sea and air); not providing sufficient logistical support to the initial invasion; ignoring the need for surprise; and practicing over-centralized command and control.<sup>3</sup>

These lessons learned conform with well-established principles of war, such as concentration of force, surprise, and cooperation. In line with this, an Indian lessons learned report lists its findings under two headings – “timeless principles” and “timely reminders.” The report has no heading for “new principles.”<sup>4</sup> In short, rather than find new insights into contemporary war, commentators have tended to highlight the importance of well-established ideas of how wars should be fought and have noted failures of the Russian side to conform with those ideas. While this is fair enough, the lack of novelty is some ways surprising. Over the past 30 years, students of war have repeatedly promoted the thesis that fundamental changes are taking place in the character, or even the fundamental nature, of war. If this is the case, we would expect at least some of these changes to be observable in the Russia-Ukraine conflict and to feature prominently in commentary about it. Instead, we have reference to *timeless principles* and *timely reminders*. This casts doubt on the claims about the changing character of war.

### **The Changing Character of War?**

This section examines several theories concerning the changing character of war, namely: a) the Revolution in Military Affairs; b) Fourth Generation Warfare and *New Wars*; and c) Hybrid Warfare. The section that follows will then compare the claims that these theories make about modern war to the realities of the current conflict in Ukraine.

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<sup>3</sup> For instance, Philip Whiteside, “The Lessons Military Planners are Learning from the Ukraine Invasion and What It Means if the UK Went to War with Russia,” *Sky News*, 26 June 2022, <https://news.sky.com/story/the-lessons-military-planners-are-learning-from-the-ukraine-invasion-and-what-it-means-if-the-uk-went-to-war-with-russia-12638587>.

<sup>4</sup> Delhi Policy Group, *Fighting Conventional Wars: Lessons from the Ukraine Conflict*, DPG Policy Brief VII, 20, 16 May 2022.

*The Revolution in Military Affairs*

One of the most influential theories of contemporary war has been that of the Revolution in Military Affairs (RMA). This acquired considerable momentum following the 1991 Gulf War and has continued to affect military thought to this day. The RMA focuses on conventional inter-state war. As such, it is highly relevant as a model for studying the Russian-Ukraine conflict.

According to the theory of the RMA, modern computer and information technologies, combined with appropriate changes in doctrine and organization, have “fundamentally alter[ed] the character and conduct of military operations.”<sup>5</sup> This change is allegedly so fundamental as to constitute a revolution.

Key technologies thought to have produced the RMA include precision-guided munitions (PGMs) and advanced surveillance, intelligence and reconnaissance (ISRs) assets. PGMs are said to allow military forces to substantially reduce ammunition expenditure (by being able to strike targets accurately),<sup>6</sup> and to reduce so-called *collateral damage* (i.e. harm to civilian life and property). ISR systems, when connected via computer networks to command, control and communications systems, allegedly act as powerful force multipliers “by reducing the surveillance-synthesis-assessment-command-strike loop to a matter of minutes.”<sup>7</sup>

According to the theory of the RMA, armed forces equipped with such technologies will be able to achieve *information dominance* over their enemies. By means of rapid movement and precision strikes, this will enable them to destroy much larger forces who lack similar battlefield awareness. Mass will no longer be the deciding factor in warfare. In this view, war is said to be becoming “demassified,”<sup>8</sup> “the age of the mass military manned by short-service conscripts and equipped with the products of high-volume military manufacturing is coming to an end.”<sup>9</sup> As Elinor Sloan explained in a book on the RMA published in 2002:

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<sup>5</sup> Elinor C. Sloan, *The Revolution in Military Affairs: Implications for Canada and NATO* (Montreal and Kingston: McGill-Queen’s University Press, 2002), p. 3.

<sup>6</sup> *Ibid.*, p. 13.

<sup>7</sup> *Ibid.*, p. 8.

<sup>8</sup> *Ibid.*, p. 20.

<sup>9</sup> *Ibid.*, p. 15.

By tying enhanced reconnaissance and surveillance systems to precision-guided munitions, the combat capabilities of army units will be multiplied. Information age technologies will confer greater warfighting capabilities on smaller combat formations, giving them the strength of units many times larger and eliminating the need for large troop build-ups in the conflict area.<sup>10</sup>

Sloan adds that: "Advances in speed, mobility, and surprise are likely to reduce the effectiveness of the defence and place the advantage with the offence."<sup>11</sup> Furthermore, "Future ground operations are likely to see troops moving rapidly over the battlefield in small groups. These forces will be 'non-linear' in the sense that they will be more widely dispersed than in the past and will bear little resemblance to the front line of yesterday."<sup>12</sup>

Advocates of the RMA have tended to place great emphasis on air power, seeing it as the dominant force in modern war. In their view, NATO's 1999 air campaign against Yugoslavia provided an example of air power being used to achieve strategic success without the application of ground forces. This led to speculation that this represented the pattern of future warfare. As Sloan put it, "Advances in precision capabilities have made air power the decisive force in war, allowing for the doctrine of 'disengaged combat,' under which ground commanders do not have to face the enemy directly until the costs of such contact have been made tolerable."<sup>13</sup> Russian military theorist Major General Vladimir Slipchenko has similarly claimed that future wars will be "remote and contactless," "mainly fought with long-range precision-guided missiles, without soldiers coming into direct contact with one another."<sup>14</sup> Slipchenko wrote that "no one is ever going to come to us by land again," and that if Russia was ever attacked it would be from the air and with precision weapons. "This strike will not be against the armed forces, if they are still in the old generation, but against the national economy," he concluded.<sup>15</sup>

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<sup>10</sup> Ibid., p. 12.

<sup>11</sup> Ibid., p. 24.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Oscar Jonsson, *The Russian Understanding of War: Blurring the Lines between War and Peace* (Washington DC: Georgetown University Press, 2019), p. 46.

<sup>15</sup> Ibid., p. 47.

*Fourth Generation Warfare and “New” Wars*

Most wars today are not fought between states but within states, and very often at least one of the sides involved in these wars uses what are often called *irregular* tactics and organization. The experience of the late Cold War and post-Cold War eras convinced many thinkers that conventional inter-state war was becoming obsolete.<sup>16</sup> Simultaneous to the development of the theory of the RMA, various ideas therefore emerged that challenged it, arguing that the model proposed by the RMA was inappropriate for the realities of contemporary warfare.

An early example was William Lind’s concept of Fourth Generation Warfare (4GW), which was first proposed in 1989 but which really came to prominence in the early 2000s when the United States engaged in counter-insurgency campaigns in Afghanistan and Iraq. Lind classified the “first generation” of modern warfare as that fought between roughly 1648 (the Peace of Westphalia) and the start of the American Civil War in 1860. Second-generation warfare was total war such as that fought in the First World War, in which belligerents sought to win by the use of maximum firepower, following the maxim “Artillery conquers, infantry occupies.” And third generation warfare was that of maneuver, as practiced for instance by the Germans in the Second World War. Fourth Generation Warfare, Lind argued, would be very different, as it would be fought not between states but between states and non-state actors, the latter of whom would fight in an unconventional manner, using guerrilla tactics and terrorism, merging with the civilian population, and ignoring the laws of war. Heavily equipped state armies would be inadequate to deal with this problem. Rather than tanks, heavy artillery, aircraft, and the like, the solution would lie primarily in light infantry and information operations designed to persuade local populations to support the state rather than its opponents.<sup>17</sup>

Very similar ideas appeared a couple of years later in Martin van Creveld’s 1991 book *The Transformation of War*, subtitled *The Most Radical Reinterpretation of Armed*

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<sup>16</sup> See for instance John Mueller, *Retreat from Doomsday: The Obsolescence of Major War* (New York: Basic Books, 1989).

<sup>17</sup> See William Lind and Gregory A. Thiel, *4th Generation Warfare Handbook* (Kouvola: Castalia House, 2015).

*Conflict since Clausewitz*.<sup>18</sup> Van Creveld wrote that, “We are entering an era of warfare between ethnic and religious groups. Even as familiar forms of conflict are disappearing into the dustbin of the past, radically new ones are raising their heads ready to take their place.”<sup>19</sup> In his view, “Clausewitzian” war – i.e. war fought by states in the pursuit of political goals – was being replaced by ethnic and religious conflict. In an era dominated by “low intensity war,” regular armies would “change form, shrink in size, and wither away. ... the visions of long-range, computerized, high-tech warfare so dear to the military-industrial complex will never come to pass.”<sup>20</sup> Future war, he concluded:

will have more in common with the struggles of primitive tribes than with large scale conventional war of the kind that the world may have seen for the last time in 1973 (the Arab-Israeli War), 1982 (the Falklands), 1980-88 (the Iran-Iraq War), and 1991 (the Gulf Crisis). Since the belligerents will be intermingled with each other and the civilian population, Clausewitzian strategy will not apply. Weapons will become less, rather than more, sophisticated. ... War will not take place in the open field ... It will be a war of listening devices and of car-bombs, of men killing each other at close quarters, and of women using their purses to carry explosives and the drugs to pay for them. It will be protracted, bloody and horrible.<sup>21</sup>

Possibly more influential than the work of either Lind or van Creveld was Mary Kaldor’s book *New & Old Wars*, first published in 1999, which argued that modern, “new,” wars are fundamentally different from those of the past (“old” wars).<sup>22</sup> Drawing on the experience of civil wars in the 1990s in Africa and the Balkans, Kaldor claimed that new wars are characterized by the “privatization” of war, with the increasing involvement of criminal gangs pursuing private profit. Such wars, Kaldor argues, are notable for a lack of respect for the rules of war and for “extreme and conspicuous

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<sup>18</sup> Martin van Creveld, *The Transformation of War: The Most Radical Reinterpretation of Armed Conflict since Clausewitz* (New York: The Free Press, 1991).

<sup>19</sup> *Ibid.*, p. ix.

<sup>20</sup> *Ibid.*, pp. 207 & 212.

<sup>21</sup> *Ibid.*, p. 212.

<sup>22</sup> Mary Kaldor, *New & Old Wars* (Cambridge: Polity, 2006).

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atrocities.” The primary victims in wars of this type are civilians, with civilian deaths far outnumbering those of soldiers.<sup>23</sup>

### *Hybrid Warfare*

The ideas of Lind, van Creveld and Kaldor reflected the concerns of the immediate post-Cold War era, when the prospect of war between major powers seemed remote. The Russian annexation of Crimea in 2014 and the subsequent outbreak of war in Eastern Ukraine called attention once again to inter-state conflict, leading to a new round of speculation about the changing character of war. With this came the rise of a new theory, that of hybrid warfare.

Originally coined by American strategist Frank Hoffman with reference to the 2006 war between Israel and Hezbollah, the term “hybrid warfare” gained traction in the West after 2014, reflecting a widespread belief that Russia had mastered a new means of international conflict. The concept also gained adherents in Russia, although in their case they viewed it as an activity undertaken against them by the West.<sup>24</sup>

Unfortunately, despite the large amount of effort expended on discussing it, the concept of hybrid warfare remains very poorly defined. One view is that of Hoffman’s, who describes it as a form of warfare involving a combination of conventional military and other means. He states that,

The evolving character of conflict that we currently face is best characterized by *convergence*. This includes the convergence of the physical and the psychological, the kinetic and the non-kinetic, and combatants and non-combatants. So, too, we see the convergence of military force and the interagency community, of states and nonstate actors ... What once might have been distinct operational types or categorizations among terrorism and conventional, criminal, and irregular warfare have less utility today.<sup>25</sup>

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<sup>23</sup> For a critique of this thesis, see, Mats Berdal, “The ‘New Wars’ Thesis Revisited,” in *The Changing Character of War*, edited by Hew Strachan and Sibylle Scheipers (Oxford: Oxford University Press, 2011), pp. 109-133.

<sup>24</sup> For a full discussion of this, see Ofer Fridman, *Russian Hybrid Warfare: Resurgence and Politicisation* (Oxford: Oxford University Press, 2018).

<sup>25</sup> Frank G. Hoffman, “Hybrid Warfare and Challenges,” *JFQ*, 52 (2009): p. 34.

Belligerents in future wars, claims Hoffman, will combine conventional fighting means with “all forms of war and tactics, perhaps simultaneously,” including “criminal activity ... smuggling, narcoterrorism, illicit transfers of advanced munitions or weapons, or the exploitation of urban gang networks”<sup>26</sup> in order “to achieve synergistic effects in the physical *and* psychological dimensions of the conflict.”<sup>27</sup> The resulting wars will “blend the lethality of state conflict with the fanatical and protracted fervor of irregular warfare.”<sup>28</sup>

Whereas Hoffman sees hybrid warfare as combining conventional and unconventional means of struggle, others see it as an alternative to conventional war. According to this view, hybrid warfare is a strategy of subversion by which countries undermine foreign regimes from within, using information and psychological warfare, criminal networks, economic pressure, and other means. The idea is to destroy the enemy without the need for conventional military force. If force is required, it will be only for a final mopping up stage to finish off an opponent whose will and capacity to resist have already been fatally weakened by hybrid warfare. Such theories can be so all-embracing that almost anything can be seen as an aspect of hybrid warfare, as seen by the title of Mark Galeotti’s book *The Weaponisation of Everything: A Field Guide to the New Way of War*.<sup>29</sup>

Despite the differences between them, one point that all the concepts of hybrid warfare share is the idea that Clausewitz’s notion of war as “an act of violence intended to compel our opponent to fulfil our will” is obsolete and that the boundaries between war and peace are blurring. Oscar Jonson concludes that,

The traditional Russian understanding of war as defined by armed violence has broadened to include nonviolence means of information-psychological warfare and color revolutions, which are now seen to be so effective that they are equivalent to violence, blurring the boundaries of war and peace.

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<sup>26</sup> Ibid., p. 35.

<sup>27</sup> Ibid., p. 36.

<sup>28</sup> Ibid., p. 37.

<sup>29</sup> Mark Galeotti, *The Weaponisation of Everything: A Field Guide to the New Way of War* (New Haven: Yale University Press, 2022).



... Russia has seen itself as the victim of these forces but also has sought to master them for both domestic stability and its own offensive purposes.<sup>30</sup>

Hybrid warfare implies that future war will be fought as much on the psychological as the physical plane. The former head of the Main Operational Directorate of the Russian General Staff, Lieutenant General Andrei Kartaplov, thus claimed that a “classical war of the twentieth century consisted usually of 80 to 90 percent violence and 10 to 20 percent propaganda. New-type wars consist of 80 to 90 percent propaganda and 10 to 20 percent violence.”<sup>31</sup>

### **The Russia-Ukraine War**

The previous section analyzed different, sometimes contradictory, claims about modern war and identified certain features that will supposedly characterize wars of the future. These include:

- A shift to precision-guided munitions, permitting a reduction in ammunition expenditure and in large logistical infrastructure, as well as a reduction in collateral damage.
- A reduction in the importance of mass. Successful armies will be smaller and more mobile.
- Non-linear methods of combat – static front lines will become a thing of the past.
- Modern information technologies as a decisive factor in war, enabling those who can achieve information dominance to win rapid victories. This will shift the advantage from the defence to the offence.
- Airpower as more important than ground forces. Aircraft, drones, and missiles will allow for a *contactless* war, in which face-to-face ground combat will become a thing of the past.
- Irregular *new wars* instead of *old* conventional inter-state wars. Heavily armed conventional militaries will become redundant. War is being privatized and will become increasingly brutal, with belligerents no longer respecting the laws of

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<sup>30</sup> Jonsson, *The Russian Understanding of War*, p. 152.

<sup>31</sup> *Ibid*, p. 118.

war. The main targets of military action, and the main victims of war, will be civilians.

- Hybrid warfare. The focus of war will shift from the physical to the psychological plane. Conventional military power will be required only to deliver the *coup de grâce* once an enemy has been fatally weakened by other means.

This section will now examine each of these in the context of the Russia-Ukraine war.

### *Precision Warfare*

Both sides have made use of precision-guided munitions (PGMs) during the Russia-Ukraine war. While Russia's pre-war stocks of such weapons far outnumbered those of Ukraine, the latter has been provided with a substantial number of PGMs by the United States and other Western allies, an example being the HIMARS rocket system. Precision strikes have been undertaken on numerous targets well behind the front lines of both sides, including ammunition depots, headquarters, military barracks, and bridges. Nevertheless, PGMs have not proven a decisive factor in the war, let alone the dominant form of weapons system. Nor have they noticeably reduced ammunition expenditure or eliminated collateral damage.

Both sides have resorted to using very large quantities of less accurate munitions. This can be seen, for instance, by the quantity of ammunition expended by Russian artillery. A study by the Royal United Services Institute (RUSI) in June 2022 came to the conclusion that the Russian army was firing around 7,000 shells a day in Ukraine.<sup>32</sup> Ukrainian officials have given a higher estimate, of around 20,000 shells a day,<sup>33</sup> while General Valerii Zaluzhnyi, the Commander-in-Chief of the Ukrainian army, has cited an even higher figure of 40-60,000 rounds a day.<sup>34</sup>

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<sup>32</sup> Alex Vershinin, "The Return of Industrial Warfare," *RUSI*, 17 June 2022, <https://www.rusi.org/explore-our-research/publications/commentary/return-industrial-warfare>.

<sup>33</sup> David Pugliese, "Russia Dominating Battle of Artillery with Ukraine," *Ottawa Citizen*, 5 August 2022, p. A4.

<sup>34</sup> "Russia Fires 40,000 – 60,000 Shells at Ukraine Every Day – Zaluzhnyi," *Ukrainian News*, 17 August 2022, <https://ukranews.com/en/news/876410-russia-fires-40-000-60-000-shells-at-ukraine-every-day-zaluzhnyi>.

Even if one was to take the lowest of the figures above – RUSI’s estimate of 7,000 rounds a day – that would mean that by the time of writing, nine months into the conflict, Russia must have fired around two million artillery shells. The reality may be much higher. Consumption of all types of munitions has been huge. RUSI reports that, “Ukraine claims to use 500 Javelin missiles every day,” and that “the expenditure of cruise missiles and theatre ballistic missiles is just as massive.” The Russians used four times the annual American production of such missiles in the first three months of the war alone. RUSI concludes:

The first key assumption about [the] future of combat is that precision-guided weapons will reduce overall ammunition consumption by requiring only one round to destroy the target. The war in Ukraine is challenging this assumption. Many ‘dumb’ indirect fire systems are achieving a great deal of precision without precision guidance, and still the overall ammunition consumption is massive.<sup>35</sup>

Needless to say, the expenditure of two million or more shells, plus millions more rounds of small arms ammunition, has not resulted in anything like two million casualties. It remains the case that the overwhelming majority of munitions fail to kill or injure anybody. This is not unique to the war in Ukraine. A report by the US General Accounting Office found that, in Iraq and Afghanistan, US forces fired 250,000 bullets for every insurgent that they killed.<sup>36</sup> American units are said to have fired some 30,000 artillery rounds into the city of Raqqa in Syria during the battle to capture the city in 2017.<sup>37</sup> The results were devastating. According to a report by the UNHCR, “The UN team entering Raqqa city [after the defeat of ISIS] were shocked by the level of destruction, which exceeded anything they had ever seen before.”<sup>38</sup> It has been

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<sup>35</sup> Vershinin, “The Return of Industrial Warfare.”

<sup>36</sup> Jonathan Turley, “GAO: U.S. Has Fired 250,000 Rounds for Every Insurgent Killed,” *Jonathanturley.org*, 10 January 2011, <https://jonathanturley.org/2011/01/10/gao-u-s-has-fired-250000-rounds-for-every-insurgent-killed/>.

<sup>37</sup> Amnesty International, “Syria: Raqqa in Ruins and Civilians Devastated after US-led ‘War of Annihilation,’” *Amnesty.org*, 5 June 2018, <https://www.amnesty.org/en/latest/news/2018/06/syria-raqqa-in-ruins-and-civilians-devastated-after-us-led-war-of-annihilation/>.

<sup>38</sup> Maysa Khalaf, “First UN Humanitarian Mission to Raqqa City Post-ISIS,” *UNHCR*, 5 April 2018, <https://www.unhcr.org/sy/11607-first-un-humanitarian-mission-raqqa-city-post-isis.html>.

estimated that 1,600 civilians were killed by US and allied air and artillery during the battle for the city.<sup>39</sup>

The enormous expenditures of ammunition witnessed in the Russia-Ukraine war, as well as other conflicts, suggests that claims by RMA advocates that future wars will not require large logistical infrastructures are wrong. There may, of course, be occasions when wars are short and ammunition consumption is low. But this cannot be guaranteed. In general, military forces can continue to expect to consume prodigious quantities of ammunition. The United States Secretary of the Army, Christine Wormuth, thus concludes that, “Ukraine underscores the importance of maintaining our industrial base and our munitions stockpiles. Munitions are going to be very important in the future, particularly if we get into a protracted conflict.”<sup>40</sup>

Furthermore, the experiences of Ukraine and other recent wars challenge another of the claims made in the previous section – that the advent of precision-guided weapons would make it possible to wage war without causing considerable collateral damage. The war in Ukraine, like that in Syria from 2011 to today, has taken place largely in an urban environment. Indeed, one may conjecture that urban warfare is now very much the norm, if only because most people today live in town and cities. When confronted with a well-armed and determined enemy defending a city, attackers may try to force them to withdraw by threatening their lines of communications, but that is not always possible to achieve, and even if it is achieved, the enemy may choose to hold their ground regardless. In such circumstances, attackers have little option but to resort to the expenditure of copious amounts of ammunition. The result is massive destruction and with it, inevitably, a considerable amount of harm to civilians, as witnessed for instance during the battle for Mariupol. The myth that it is possible to fight a major war cleanly, without killing a significant number of civilians, remains exactly that – a myth.

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<sup>39</sup> “IS Conflict: Coalition Strikes on Raqqa ‘Killed 1,600 Civilians’,” *BBC*, 25 April 2019, <https://www.bbc.com/news/world-middle-east-48044115>.

<sup>40</sup> Eversden, “US Army Secretary.”

### *Mass*

The discussion of ammunition expenditure above casts serious doubt on the claims made earlier in this article that future wars will be *demassified*. It seems more likely that superior firepower will remain a key to victory. This is not, however, the only way in which mass will continue to matter. The experience of the Russia-Ukraine war suggests also that the RMA model of small, lightly armed, mobile forces, or the 4GW model of an army based on light infantry, are not appropriate for all circumstances, and certainly not for a prolonged major conflict with a peer or near-peer adversary.

Russia's campaign against Ukraine has floundered for many reasons, including the deficiencies mentioned at the start of this essay. But another reason why Russia has failed to subdue Ukraine is that its initial invasion force was far too small for the task. The front line in Ukraine is about 1,000 kilometers long. Exact figures for the size of the Russian force initially deployed in Ukraine are not available, but it would appear that it included about 150,000 Russian troops and 40,000 soldiers belonging to the militia of the rebel Donetsk and Lugansk People's Republics. With under 200,000 troops, Russia has been able to deploy less than 200 soldiers per kilometre of front. If one considers that the majority of troops in a modern army are not actually on the front lines and that those who do serve on the front lines are regularly rotated in and out, the number of soldiers available to defend each kilometer is in reality much smaller. It is hardly surprising, therefore, that Russia has found it difficult to garrison the entire front sufficiently.

By contrast, the Ukrainian army has grown significantly from its pre-war level of about 250,000 troops, due to several waves of mobilization. While it remains at a disadvantage in certain areas, such as artillery and airpower, it has a significant advantage over Russia in terms of sheer numbers in the zone of conflict. It also enjoys interior lines of communication, allowing it to shift reserves much more rapidly from front to front than the Russians. Combined, these two factors enable the Ukrainian army to keep the Russians off balance and to amass significant numerical superiority at the points at which it wishes to attack. It also enables it to rapidly fill gaps in the line in the face of Russian offensives.

The benefit of superior numbers became clear in late summer 2022, when the Ukrainians launched an attack on the Izyum salient in the Kharkiv (Kharkov) region. The Russian front was weakly held, mainly by reservists of the Donetsk People's Republic and policemen of the Russian National Guard, Rosgvardiia. Few regular Russian army troops were present. Consequently, the Russian front collapsed fairly rapidly. Elsewhere, in areas which have been more strongly defended by the Russians, the Ukrainians have found the going harder. Numerical superiority does not alone guarantee success, but it undoubtedly makes a difference.

The decision by Russian president Vladimir Putin in September 2022 to order a partial mobilization of reservists with the objective of raising another 300,000 troops for the war is an acknowledgement of the fact that numbers matter and that the original force allocated to the conflict was insufficient. Likewise, the United States and its allies found to their cost that the forces they deployed to Iraq and Afghanistan were woefully inadequate for the task of occupying those territories. Occupying a large foreign country is a personnel-intensive task.

### *Linearity*

As discussed above, many theorists have posited that future war will lose its linear characteristic. Clear front lines will supposedly disappear, whether this is due to the ability of air forces and missiles to bypass them or to the replacement of war between regular armed forces by irregular warfare or what Rupert Smith calls "war amongst the people."<sup>41</sup> Militaries will switch to a form of warfare based on small, lightly-armed, rapidly moving units.

The Russia-Ukraine war does not bear out these predictions. The relatively low density of troops mentioned above means that it is not possible to garrison every inch of the front line. This creates opportunities for what are called "diversionary-reconnaissance groups" (DRGs) to infiltrate behind the lines and disrupt communications. Ukraine has made considerable use of DRGs, with some success. Nevertheless, DRGs are not the primary form of military unit, and by themselves are not able to capture or hold large areas of land. Although the front lines are thinly held,

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<sup>41</sup> See Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (London: Penguin, 2006).

they are nevertheless fairly clear. And in some areas, particularly in Donetsk province around the cities of Donetsk and Gorlovka, the front lines somewhat resemble those of the First World War, with several lines of trenches and bunkers.

Carlo Caro writes that “Russian military doctrine reflects the traditional concepts of non-linear warfare and deep operation.”<sup>42</sup> Were this the case, one would expect Russian military operations in Ukraine to involve rapid maneuver, airborne assaults and air strikes deep in the Ukrainian rear, and so on. This is not what has happened. The Russian army to some degree attempted such operations in the opening days of the campaign, but it soon became clear that it was incapable of carrying them out in the face of heavy Ukrainian resistance. Instead of deep battle, it has fallen back on decidedly linear tactics.

Thus, after one airborne assault on an airport near Kyiv (Kiev) on the first day of the war, airborne troops have stayed firmly on the ground. Meanwhile, Russian aircraft have tended to avoid operating too deep in the Ukrainian rear due to fear of enemy air defences. To fight their way through the Ukrainian trench lines, the Russians have resorted to First World War-style tactics of *bite and hold*, using massive artillery bombardments to clear the way for infantry. This is in many ways a reversion to William Lind’s second-generation warfare principle of *artillery conquers, infantry occupies*. Notwithstanding Russian cruise missile and drone strikes into the Ukrainian rear, a deep battle has failed to materialize. This, of course, may change as the war progresses. But at the time of writing, the Russia-Ukraine conflict has a very old-fashioned linear nature.

### *Information Dominance and Offensive Advantage*

In the theory of the RMA, the side which succeeds in achieving information dominance should be able to progress through the decision making and action cycle so fast as to be able to paralyze its enemy and so win a rapid victory. The offence will prevail over the defence. The Russia-Ukraine war fails to bear out this theory too.

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<sup>42</sup> Carlo J. V. Caro, “The Truth about the Evolution of Russian Military Doctrine,” *The National Interest*, 1 July 2022, <https://nationalinterest.org/blog/buzz/truth-about-evolution-russian-military-doctrine-203327>.

Theoretically, the information dominant side should be able to acquire near perfect battlefield awareness while depriving the enemy of the same, thereby gaining an immense advantage. In fact, modern technologies make such dominance extremely hard to obtain. Once the purview only of the most powerful states, surveillance assets of reasonable quality can now be purchased over the counter and deployed by the most modest military actor. The ubiquitous presence of quadcopters over the battlefields of Ukraine proves the point. As *Forbes* magazine reports, “Aerial reconnaissance was previously confined to higher levels of command and only gradually filtered down the chain; now every squad leader can have a folding Mavic Mini 2 small enough to fit into a cargo pocket but able to send back HD video from three miles away for half an hour.”<sup>43</sup>

The thousands of miniature surveillance devices on the battlefield do not entirely eliminate the fog of war. Nevertheless, as David Johnson notes, “This new reality essentially means that there is nowhere for a relatively large formation to hide. Surprise ... may not be possible.”<sup>44</sup> It may be an exaggeration to say that surprise is entirely impossible, but a good argument can certainly be made that it has become much more difficult. This is true not just at the tactical but also at the operational level. For instance, the Ukrainian buildup near Balakliia (Balakleia) prior to the offensive on the Izyum salient was well reported by Russian military analysts on social media such as Telegram. If the Russian command was surprised, this was more an error of command than of intelligence.

The increased battlefield awareness associated with modern surveillance technologies also makes it dangerous to concentrate force. The large concentrations of troops and equipment required for successful offensive operations are likely to be detected, bringing down artillery fire. Entire units can be destroyed in minutes. The fate of a Russian battlegroup that was destroyed when attempting a river crossing over a pontoon bridge in May 2022 is a case in point. According to one report, “The Ukrainian

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<sup>43</sup> David Hambling, “Small Quadcopters Rule the Battlefield in Ukraine – Which Makes Their Chinese Manufacturers Very Unhappy,” *Forbes*, 29 April 2022, <https://www.forbes.com/sites/davidhambling/2022/04/29/small-quadcopters-rule-the-battlefield-in-ukraine---which-makes-their-chinese-manufacturers-very-unhappy/?sh=260fd26d7685>.

<sup>44</sup> David Johnson, “Would We Do Better? Hubris and Validation in Ukraine,” *War on the Rocks*, 31 May 2022, <https://warontherocks.com/2022/05/would-we-do-better-hubris-and-validation-in-ukraine/>.



Army 17th Tank Brigade spotted the bridge, perhaps using one of the many small drones that function as the army's eyes over the battlefield." The brigade's artillery struck the Russian formation, destroying around 70 armoured vehicles.<sup>45</sup>

All this creates huge problems for those wanting to conduct offensive operations and suggests that the conditions of modern war favour the defence. The Russian response to these problems has been to rely on artillery fire to thoroughly destroy defensive positions prior to launching ground assaults. While effective, this tactic is slow, as it can take the artillery a considerable amount of time to destroy all of the enemy's strong points. The capture of the town of Piski (Peski) near Donetsk, for instance, took around two weeks despite massive artillery support, including the use of TOS-1 thermobaric rockets. The slow pace means that the enemy has ample time to bring up reserves so that by the time an opening has been created the enemy will already have formed a new line behind it, forcing the attacker to restart the process from scratch. The slow advances also mean that it is very difficult to encircle enemy formations, as they have plenty of opportunity to withdraw before the noose tightens around them. This was seen in the battle for Lysychansk, which took place over several weeks in summer 2022. Russian forces gradually encircled the town from the south and west, but by the time they had closed the last way out of Lysychansk its garrison had escaped. Thus, with the sole exception of 2,000 or so Ukrainians taken prisoner in Mariupol, neither side has as yet managed to capture a significant number of troops in any single engagement during the war.

### *Airpower*

Although Russia enjoys a considerable advantage over Ukraine in terms of airpower, it has failed to establish air supremacy during the current war. Ukrainian aircraft, helicopters, and drones continue to operate, while Russian air assets largely

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<sup>45</sup> David Axe, "The Russians Lost an Entire Battalion Trying to Cross a River in Eastern Ukraine," *Forbes*, 11 May 2022, <https://www.forbes.com/sites/davidaxe/2022/05/11/the-russians-lost-nearly-an-entire-battalion-trying-to-cross-a-river-in-eastern-ukraine/?sh=605bc8441689>.

avoid penetrating deep into Ukrainian-held territory due to the fact that Ukrainian air defences remain active. Consequently, rather than being an independent strategic force, Russian airpower has largely operated in a tactical role, providing close air support to ground forces. This contradicts predictions that airpower will be the decisive factor in future war.

Western critics see this as being due to Russian military doctrine which gives a low priority to the suppression of enemy air defences (SEAD) and “sees airpower as subservient to its larger ground forces.”<sup>46</sup> Taking this attitude implies that the experience in Ukraine does not invalidate theories about the dominant role of airpower in war, because if Western doctrine is followed and SEAD prioritized, the situation will be very different. Writing for the Atlantic Council, for instance, Tyson Wetzel concludes, “The United States and its coalition partners have proven their ability to execute a devastating air campaign over the past thirty years, and to avoid many of the mistakes Russia has made.”<sup>47</sup>

While there may be an element of truth to this, the United States and its allies have not at any time in recent years fought a military campaign against an enemy capable of mounting an effective defence. As David Johnson notes, in recent years Western states have fought only “against opponents who were vastly overmatched,” and they, therefore, have “chronic inexperience in offensive combat against a competent adversary that is able, in today’s description, to contest all domains in a protracted war that generates high numbers of casualties.”<sup>48</sup>

Putting Russia’s inability to obtain air supremacy purely down to doctrinal errors may therefore be inaccurate. While Russia has a definite advantage over Ukraine, the differences in capabilities between the two is far less than those between the United States and the enemies it has fought in recent years. Ukraine began the war with a substantial quantity of air defence assets, which have been supplemented over time

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<sup>46</sup> Alex Hollings, “We Think We Know Why Russia’s Air Force is Failing in Ukraine,” *1945*, 24 March 2022, <https://www.19fortyfive.com/2022/03/we-think-we-know-why-russias-air-force-is-failing-in-ukraine/>.

<sup>47</sup> Tyson Wetzel, “Ukraine Air War Examined: A Glimpse at the Future of Air Warfare,” *Atlantic Council*, 30 August 2022, <https://www.atlanticcouncil.org/content-series/airpower-after-ukraine/ukraine-air-war-examined-a-glimpse-at-the-future-of-air-warfare/>.

<sup>48</sup> Johnson, “Would We Do Better?”

with new weaponry from NATO countries, including hundreds of hand-held air defence missiles as well as larger air defence systems. Air supremacy of the sort envisioned by airpower theorists might simply be impossible in such circumstances. Should Western states ever find themselves fighting an enemy that could be deemed a peer or near-peer competitor, they might similarly discover that air supremacy is elusive. In any case, it is probably an objective that is beyond the capacity of most states most of the time, and therefore should not be considered the model of future war as a whole. Maximilian Bremer and Kelly Grieco conclude that “the air war in Ukraine is likely to be the rule rather than the exception. It offers a harrowing glimpse into the future of air warfare, one in which medium-size powers, not to mention other great powers, will increasingly control and deny areas of airspace to US and other Western air forces.”<sup>49</sup>

The increasing use of drones in modern war has added to this levelling effect. Drones are much cheaper than manned aircraft, require less training, and do not require the same infrastructure. They are also easier to move and hide and put no pilot at risk. These factors make them an effective tool for states that are unable to afford large conventional air forces. The cost of drones is so low that they can be bought in sufficient numbers to overwhelm air defences. Wetzel thus writes of the “democratization of airpower,” with the proliferation of drones making it increasingly difficult to achieve air supremacy of the type achieved by Western states in recent wars.<sup>50</sup>

Both Ukraine and Russia have made extensive use of drones during the current war. While there have been instances of their use for long-range bombing missions, their primary uses have been tactical, namely reconnaissance, artillery spotting, and close air support. To date, therefore, drones are not doing anything obviously new but instead carrying out exactly the same missions that aircraft carried out back in the First World War. Furthermore, it is noticeable that they operate primarily to support ground troops rather than as a separate strategic force. Their use does not as yet constitute a sea change in military tactics.

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<sup>49</sup> Maximilian K. Bremer and Kelly A. Grieco, “In Denial about Denial: Why Ukraine’s Air Success Should Worry the West,” *War on the Rocks*, 15 June 2022, <https://warontherocks.com/2022/06/in-denial-about-denial-why-ukraines-air-success-should-worry-the-west/>.

<sup>50</sup> Wetzel, “Ukraine Air War Examined.”

### *New Wars*

Contrary to the *New Wars* thesis, the Russia-Ukraine war shows that inter-state war fought between heavily armed militaries is far from extinct. One should be careful not to conclude from this that inter-state war will now become more common. Most wars remain intra-state wars and the Russia-Ukraine conflict may prove to be an exception. Nevertheless, it is obvious that the predictions of theories such as fourth-generation warfare, van Creveld's *Transformation of War*, or Kaldor's *New Wars* are not borne out in this instance.

The Russia-Ukraine war is also being fought between traditional military forces. There is minimal evidence of the "privatization" of war predicted by Kaldor. Perhaps the one exception is the prominent role played by the Wagner Group private military company, which has been involved in heavy fighting in the Donetsk region. However, the Wagner Group is in effect acting as a branch of the Russian Army rather than as an independent actor. Likewise, the militia of the rebel Donetsk and Lugansk People's Republics have over the past eight years been turned into regular military forces.

Nor are irregular methods of warfare the norm. There have been instances of terrorism and what might be termed *partisan warfare* in parts of occupied southern Ukraine, including attacks on rail infrastructure and alleged collaborators. It is striking, however, how little of this there has been. According to one analysis, there were 33 "acts of resistance" in Russian-occupied Ukraine from 6 July to 2 August 2022, of which only 16 were violent.<sup>51</sup> Between 13 and 31 August 2022, there were 24 attacks, a little over one a day.<sup>52</sup> If one compares one act of guerrilla warfare a day to the thousands of military actions taking place daily, along with the enormous expenditure of ammunition mentioned above, one sees that the irregular component of the war in Ukraine is tiny. This is an almost entirely regular war.

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<sup>51</sup> Alexander Motyl, "Ukraine's Guerrilla War against Russia Making Putin Pay a High Price," 1945, 2 August 2022, <https://www.19fortyfive.com/2022/08/ukraines-guerrilla-war-against-russia-is-making-putin-pay-a-high-price/>.

<sup>52</sup> Alexander Motyl, "Guerrilla Warfare: Ukraine's Partisans are Taking the War to Russia," 1945, 1 September 2022, <https://ukrainetoday.org/2022/09/01/guerrilla-warfare-ukraines-partisans-are-taking-the-war-to-russia/>.

This is reflected in the ratio of military to civilian casualties. Exact casualty figures are not available as both sides have avoided giving regular updates on their losses. The exception is the Donetsk People's Republic, whose human rights ombudsperson provides a detailed breakdown of both military and civilian casualties in the republic. According to the ombudsperson's website, 16,797 people were wounded on the republic's territory and 4,188 were killed between 1 January and 29 September 2022. Of the wounded, 13,677 were military and law enforcement personnel (*silovye struktury*) and 3,120 were civilians. Of the dead, 3,218 were military and law enforcement personnel and 970 were civilians.<sup>53</sup> This indicates a ratio of military to civilian casualties of about four to one. Clearly, the war is taking a heavy toll on civilians. At the same time, however, it is not the case that they are the primary targets or victims of military action.

Both sides have accused each other of war crimes. There is evidence to justify some, though not all, of these claims. In September 2022, Erik Møse, chairman of the United Nations' Independent International Commission on Ukraine told journalists that, "Based on the evidence gathered so far during the Commission's existence, we found out after having carried out the investigations ... that war crimes have been committed in Ukraine."<sup>54</sup> The fact that war crimes have been committed is not, however, proof of a systemic campaign of terror against civilians or of a complete breakdown of the laws of war of the sort envisioned by New Wars theory. According to research carried out by *Newsweek* magazine into the 25 largest incidents of civilian deaths during the Russia-Ukrainian war, "none of the cases unambiguously qualifies" as a war crime.<sup>55</sup> While the press and politicians have a tendency to classify every incident of civilian casualties caused by the enemy as a crime, the laws of war in fact allow for considerable collateral damage as long as civilians are incidental victims

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<sup>53</sup> Upolnomochennyi po pravam cheloveka v Donetskoi Narodnoi Respublike, "Obzor sotsial'no-gumanitarnoi situatsii, slozhivsheisia na territorii Donetskoi Narodnoi Respublike vsledstvie voennykh deistvii v period s 24 po 30 sentiabria 2022 g.," <https://ombudsman-dnr.ru/obzor-sotsialno-gumanitarnoj-situacii-slozhivshejsya-na-territorii-doneczkoj-narodnoj-respubliki-vsledstvie-voennykh-dejstvii-v-period-s-24-po-30-sentyabrya-2022-g/>.

<sup>54</sup> "War Crimes Have Been Committed in Ukraine Conflict, Top UN Human Rights Inquiry Reveals," *United Nations*, 23 September 2022, <https://news.un.org/story/2022/09/1127691>.

<sup>55</sup> William M. Arkin, "War Crimes Investigation: Is Putin Targeting Civilians in Ukraine?" *Newsweek*, 1 August 2022, <https://www.newsweek.com/2022/08/12/putin-targeting-civilians-ukraine-what-evidence-shows-1729463.html>.

rather than the intended target. *Newsweek's* investigation concluded that "In most incidents, the intended Russian targets were indeed military in nature. And there are many cases where civilians were killed because weapons – Russian and Ukrainian – just failed to work."<sup>56</sup> One would be hard put to find a war in which the established rules were not sometimes broken, but that does not mean that they are not generally respected. As yet, despite some undeniable misdeeds, the available evidence from the Russia-Ukraine war does not suggest a descent into the type of lawless anarchy predicted by some thinkers.

### *Hybrid Warfare*

A serious failure of hybrid warfare theory is that using a combination of military and non-military means has been the norm throughout the history of war, in that sense, making all wars *hybrid*. If the concept is to have meaning as something distinct, hybrid warfare must be more than *hybrid* the *non-kinetic* methods used must be of such importance as to fundamentally alter war's dynamics, reducing violence to a secondary role and blurring the boundaries between war and peace.

It is difficult to see how this applies to the Russia-Ukraine war. With tens of thousands of military casualties and cities in ruins, it is hard to say that violence is not central to war or to claim that war and peace are somehow becoming alike. As bombs rain down on their towns, the citizens of Ukraine are surely aware that their situation changed fundamentally when the Russian invasion started in February 2022 and that war and peace are indeed quite distinct.

This does not mean that violence is the only tool used by the belligerents in the war. The physical war is accompanied by a propaganda war and an economic war. There is, however, nothing obviously new about either of these. By contrast, cyberwarfare, which some analysts classify as part of hybrid warfare, is relatively new. According a BBC report two weeks into the war,

Ukraine's cyber-security authority says it is fighting a war in the digital realm, as well as on the ground. The ministry says it is facing constant

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<sup>56</sup> Ibid.

cyber-attacks against its government and infrastructure networks ... It claimed that its cyber-defences are repelling most attacks. But it added that the cyber-conflict with Russia was unprecedented, describing it as a 'hybrid war.'<sup>57</sup>

This points to the opening of a new domain of warfare, but it is notable that cyberwarfare has failed to make a significant impression during the Russia-Ukraine conflict. Cyber defences appear to have been quite effective in defeating attacks,<sup>58</sup> leading to the conclusion that cyber operations have had "minimal impact," and thereby raising "questions on the effectiveness of cyber operations in direct support of conventional conflicts."<sup>59</sup>

Similarly, one might note that information operations, economic sanctions, and other supposed facets of hybrid warfare have not as yet made a notable impact on either Russia or Ukraine's ability to carry out military operations. Those operations remain the primary focus of war, and it is on them that the Russia-Ukraine war's outcome will ultimately depend. Contrary to hybrid warfare theory, violence is still war's defining feature.

## Conclusion

Comparing the Russia-Ukraine war with the past 30 years of theorizing on the changing character of war, one is forced to the conclusion that very little, if any, of that theorizing applies. Indeed, what is striking about the war is how *un-new* it is in almost every respect. Theories of military revolutions suggest that such revolutions take place when new technologies are combined with dramatic changes in organization and doctrine, producing a synergistic effect that fundamentally alters the character of war. In the Russia-Ukraine war, however, new technologies are being used to supplement and reinforce existing ways of waging war, rather than to change them. Meanwhile, old technologies and methods retain their value. In October 2022, Alexander Khodakovsky,

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<sup>57</sup> Joe Tidy, "Ukraine Says it is Fighting First 'Hybrid War'," *BBC*, 4 March 2022, <https://www.bbc.com/news/technology-60622977>.

<sup>58</sup> James Andrew Lewis, "Cyber War and Ukraine," *Center for Strategic & International Studies*, 16 June 2022, <https://www.csis.org/analysis/cyber-war-and-ukraine>.

<sup>59</sup> Delhi Policy Group, *Fighting Conventional Wars*, p. 7.

commander of the Donetsk People's Republic's Vostok Battalion, commented that "the soldier's main weapon ... is the shovel."<sup>60</sup> This is a conflict that, despite its modernity, is in many ways very old-fashioned

One must be careful not to over-generalize. One example does not prove a trend. The Russia-Ukraine war may be an exception, not a model of how future war will look. Still, one may expect military planners to draw from it the conclusion that they must prepare for the possibility that wars of the future may look very like wars of the past, in other words, that they may be prolonged and bloody wars of attrition, and that the outcome may be determined by which side is able to mobilize the largest army and the greatest firepower. This will necessitate a move away from the smaller, lighter forces favored by Western states in the immediate post-Cold War era and towards bigger, more heavily equipped militaries, with large peacetime stockpiles, all backed by a significant domestic military-industrial capacity.

Military planners like to prepare for all eventualities. For them, the possibility that future war *might* resemble that in Ukraine may be reason enough why one *should* prepare for it. There are dangers in this approach. Sun Tzu wrote that "There has never been a protracted war from which a country has benefitted."<sup>61</sup> The United States and its allies have recently fought protracted wars in Iraq and Afghanistan. It is hard to see what benefit has been derived from them. Russia and Ukraine now find themselves fighting what may well be a very protracted war, from which neither is likely to emerge in a good condition. Again and again, in recent years, military force has shown itself to be of little value, and even deeply counterproductive, as a means of promoting the national interest. Examples of short and successful wars are rare (Azerbaijan's recent victory over Armenia being an exception). Rather than showing what needs to be done to fight a protracted inter-state war, what the Russia-Ukraine conflict really teaches us is that we must do everything we can to avoid having to fight such a war ourselves.

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<sup>60</sup> "Khodakovskii nazval glavnoe oruzhie soldata," *Vzgliad*, 10 October 2022, <https://vz.ru/news/2022/10/10/1181643.html>.

<sup>61</sup> Sun Tzu, *The Art of War* (Oxford: Oxford University Press, 1971), p. 73.