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# Lessons for Poland from the War in Ukraine. Part 2

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In February this year, war broke out in the east. Russia attacked Ukraine. A certain stage in the history of our region and in the history of the world has come to an end. For years, we have been talking and writing here at Strategy&Future about the need to prepare for the new times, to prepare for the reform of the Polish military. These new times have come. Today, part two of the lessons from the war, for Poland and for our military.

**1) The Ukrainian leadership and the Ukrainian armed forces turned out to be resilient, professionally led despite their initial failures and indecisiveness, and the Russian side was taken by surprise, often outsmarted with the way of fighting. It turned out that the Ukrainians are able to stay ahead of Russian actions and prevent the establishment of air domination by the Russians, control of sea communication lines and a close sea blockade of Ukrainian ports, and the capture of key centres such as Kyiv, Kharkiv and Odesa, the takeover of which was planned by Russia.**

It is worth emphasising (and there is a paradox in this) that what initially seems to decide the advantage can also be a real problem with a well-thought-out method of counteracting the opponent. An example is tanks and the fuel that tanks burn in large amounts. This is especially true during combat or during an emergency, when tankers try to keep their engines running in order to move and to operate the tank's combat systems. This results in exceeding the planned fuel consumption and generates logistical bottlenecks. The logistic tail, becoming sluggish, is a target that is very easy to attack, even by a much less armed opponent. Near Kyiv, in February and March 2022, it turned out that the Russian mass of heavy equipment (misused over long distances, without securing logistics) is a problem, because despite theoretically great impact force, it needs fuel and undisturbed communication lines from the front to the rear.

In addition, the tankers and soldiers serving it must remain psychologically convinced that the supplies are undisturbed. (They need fuel in order to survive on the battlefield, especially in the face of enemy fire; they must be able to move under fire, move the turret, close the hatches). Otherwise, the soldiers start to "retrench" (or pare down), and this makes it impossible to carry out planned operations, resulting in an uncontrolled blurring of plans which ultimately may lead to defeat.

This asymmetry emerging on the approaches to Kyiv was capitalised on by the mobile tactics of the Ukrainian light infantry using modern anti-tank missile systems, a lack of necessity to concentrate numbers in order to execute a strike and, in fact, the lack of any sublime need for one's own logistics in this type of light infantry operations. The Russians had stretched their lines of communication too far and had set themselves the very ambitious political goal of taking Kyiv in a short time ('Shock and Awe'). They did not have the strength or the resources in battalion tactical groups to press against Kyiv, additionally occupying and manning cities and communication junctions. On the other hand, the Ukrainians were constantly appearing in small mobile units on the Russian rear and flanks. They were stealthily approaching unsecured vehicles. These vehicles were not effectively secured because the forward troops had too little organic Russian infantry to defend them against raids by small units of the Ukrainian army. In addition, the Ukrainians conducted short-range tank raids from the defended cities, thus disrupting the enemy's logistics and command, distracting the Russians and, at the same time, dominating the information domain. Because the pictures of destroying Russian lost and fuel-depleted logistics units looked great on social media, on YT and FB, Telegram, etc., attracting the eyes of Western societies (with time also forcing the hands of the political elites), plus the emotional reflexes, delight with the attitude of the Ukrainians bravely defending themselves (on paper, the weaker side, and therefore all the more sympathetic and admirable).

The disruption of Russian logistics finally caused a critical imbalance on the Kyiv front in March 2022, when the leading Russian troops, deprived of infantry cover, isolated from the command, operating without safe access to provisions and fuel, were lost and exposed to destruction. The critical imbalance led to the defeat

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of the Russian army by the materially and militarily weaker Ukrainian army, despite the known (to both sides) potential equipment lists, published all over the world.

The principle of war is in fact simple, but not easy to implement: what is a strength can also be a weakness with a skillful way of counteracting the enemy and the discipline of war leadership. A large number of tanks seems theoretically desirable, but with skillful operation against their logistics and fuel supply, this number becomes a problem. This is what war and the genius of command are all about, being able to anticipate asymmetries and put in place adequate means of action to use them properly.

Whoever has not mastered this art (because it is art, not science, which is why it's called the art of war), loses and most often nobody remembers him. War is a way, not a mathematical calculation of potentials, numbers and techniques. After landing in Normandy, the Allies did not try to fight great tank battles against excellent German armoured technique and experienced German tankers (an asymmetry in favour of Germany — tank quality and experience), but destroyed German railway logistics for armoured units with aviation, thus depriving them of fuel and ammunition. In the event of combat contact, after the first, most often unfavourable clashes (the difference in the quality of equipment and experience can be quickly felt in the fight), they simply called their own air force to support the battlefield, and in this area they reigned supreme. Thunderbolts massacred the German land forces whenever the weather permitted. The Allies were slowly, though in this methodical way, moving towards the heart of the Reich and they did so without great losses of their own. They operated in such way instead of losing people and equipment in an attempt to symmetrically cope with the battlefield with the blunt "tank-to-tank" method, or more specifically "the number and quality of tanks by the number and quality of enemy tanks", as the theoreticians-military enthusiasts and fans of periodicals describing military technique, always looking for new Kursks and Prokhorovkas that will look spectacular on the TV screen, in the cinema or on the wargame board. In real war, such symmetrical clashes are avoided as much as possible, and when they do occur, they are the product of a series of rarely coinciding circumstances.

Great thinkers such as Sun Tzu, Vegetius and Hetman Jan Tarnowski wrote about war as a method. Vegetius wonderfully opens his cannon from the times of the Roman Empire, first pointing to the negative asymmetries of the Roman recruit: their weaker physicality of the body compared to the Germans, a smaller number of troops than the Gauls and the Spaniards. And yet the Romans won in a way that, in the case of the legions, depended primarily on the discipline of using the collective strength of the legion, which the opponents of the Roman Empire lacked. Leaders such as Mao Zedong, Giap and Stefan Czarniecki would agree with this approach as supporters of asymmetric irregular wars, the hit-and-run tactics known in the Polish military tradition as *wojna szarpana*.

The Duke of Wellington also weakened Napoleon through asymmetric peripheral campaigns, taking advantage of the geographic challenges of France's vast newly emerging continental empire, such as Portugal, where he avoided a long frontal clash with the "god of war".

Therefore, war is a way. There is talk of the art of war as a way, and one should never stop practising thinking about war, because only then can one perfect the art and sharpen the senses, so as to be able to correctly read changes and react to enough variables that generate asymmetry that must be avoided or that creates an opportunity to win — to make asymmetry beneficial, to ruthlessly use it for oneself.

**2) Ukraine effectively used its advantage in the information domain, mobilising for the needs of the war a large part of society, both to join the army and to participate in resistance and to create an integrated information aggregation network. The latter was made possible thanks to special phone applications that enabled the gathering of the necessary knowledge and orientation in the situation of the Ukrainian command. Relying on an amorphous, dispersed command system contributed to keeping ahead of the actions of Russian troops.**

The most important thing is information, its aggregation and drawing conclusions, and therefore an efficient decision loop and the operational pace obtained thanks to it. Detection, reconnaissance, orientation, order and strike must be combined into a system in which units such as a tank or a light infantry unit are only elements of the decision loop, effectors. What is essential is the rapid pace of operations, precision and good orientation, and most importantly - the high morale of the soldier in a war. The Ukrainians managed to achieve this; They "entered the middle" of the Russian decision-making loop, ahead of Russian actions either in defence or in attack - as they showed in September 2022.

**3) The use of portable anti-tank systems and systems to combat Russian planes and drones effectively stopped the actions of Russians, often moving in mechanised columns. This increased the importance of the low signature and low detectability light infantry, nevertheless capable of destroying enemy mechanised troops. The same applied to the destruction of the Russian battlefield aviation and helicopters. This evened out the duel on the ground.**

The soft earth and rainfall between winter and spring 2022 in the Kyiv region forced the "heavy" Russians to follow good roads, which made their movements predictable, and the columns of vehicles easy to destroy by light infantry. Tanks could not slide into the fields in tactical clashes, that is, outflank the enemy and approach him, because in the marshy ground they buried themselves with caterpillars. This neutralised their natural advantages (good tactical manoeuvre thanks to the tracks, the pace of movement in combat contact and the frequency of firing along various axes changing due to the tank's movement). The soggy earth eliminated this asymmetry, and additionally caused the Ukrainians to dominate, creating asymmetry for the benefit of the Ukrainian light infantry thanks to the predictability of the behaviour of Russian troops blocked on the roads, in channelled traffic, because the roads only lead one way or the other. Russian wheeled vehicles were all the more bogged down in the mud and soggy soil of Ukraine.

The effect of the extensive use and operation of precision weapons on the organisation of troops is similar to the effect of the use of nuclear weapons — it causes dispersion instead of the principle of concentration in combat, which has been in force at least since the Napoleonic era. In such a battlefield, saturated with precision weapons, the tank becomes a very risky proposition: to transport a 120 or 125 mm gun several dozen kilometres, so that it can fire several dozen times, takes so much effort, screws, spare parts and fuel, and such technical facilities that it devours a lot of money and logistics resources, not to mention the production of this tank, the amount of armour material, etc.

This does not mean, of course, that the tank is completely dead. It only means that its use has changed. It is still needed to occupy and hold terrain, but it should hide in fortifications and buildings, both while standing and moving, it must be enclosed with sensors on the ground and in the air (drones and infantry to

be used as sensors), detecting the threat in advance. Planes fly, but if they do not have stand-off ammunition, they bomb from high and inaccurately to avoid precision anti-aircraft missiles that can reach them if they are too low.

There is also a revolution in the price of precision weapons, especially those used by an ordinary soldier, with a small, tactical range. Electronics and warheads are not so expensive anymore, the price of the missile is increasing, mainly due to the propulsion and range of the missile. This means that, on a tactical scale, precision weapons and drones will be more and more commonly, not to say massively, used. This changes the structure of the tactical battlefield. It can be expected that the proliferation of technology and its cheapness will expand the direct field of tactical combat to the unimaginable today 10-30 kilometres, because this is how much a footman with a guided missile will be able to interact with a sensor - be it a hidden special forces soldier who will guide the missile at the target, illuminate it or give GPS coordinates, or with a drone that will send information to the soldier. The revolution will accelerate when artificial intelligence and algorithms are introduced to the battlefield that will support the decision-making processes of soldiers and their commanders.

Nowadays, the decisive factor is operational pace, i.e. moving in the decision loop, and it is the algorithms and artificial intelligence that will support people that will increase the pace of operations and the quality of decisions by leaps and bounds. During the recent war simulation "Storm" the RAND Corporation used artificial intelligence to support the decision-making process of players playing the game for the first time, and against them were old hands who knew the system through and through. Artificial intelligence allowed the newcomers to play so well that they tied with seasoned veterans.

#### **4) The Ukrainian land forces operated in small and dispersed units, but well-communicated and well-connected, with precise situational awareness. This gave them an advantage over the "rigid" and hierarchically commanded Russian army with its slow decision loop.**

The will to fight and morale turned out to be crucial. In this context, the Russian action should be assessed very poorly, as it was characterised by poor command, a rigid command culture and a lack of improvisation. In the lightning-fast modern battlefield, this is a recipe for defeat. It was confirmed that the Russians did not have enough infantry to conquer cities, agglomerations and even towns. Overall the Russian side has performed poorly in terms of manoeuvring operations and coordinating the domains and activities of the armed forces.

On the other hand, Russian artillery remains professional as long as it is used in bulk, with easy access to an influx of ammunition. This made it possible to move slowly in Donbas and push back the Ukrainian troops. Massive artillery attacks caused the population to flee the towns in eastern Ukraine and the Russians did not hesitate to destroy buildings and the entire infrastructure. This forced the defending Ukrainian soldiers to leave the area, which was being turned to rubble anyway. There was also a second aspect of the massive use of artillery by the Russians. As a result, the Ukrainian army in the Donbas could not concentrate on larger actions, including counter-strikes, because such concentration was quickly covered by artillery fire. Concentration always takes a long time and even the slower Russian decision-making loop made it possible to identify and track the Ukrainian grouping and cover it with fire, causing heavy losses in the Ukrainian army. This was the case several times in Severodonetsk.

Competent use of artillery by the Russians in the Donbas meant that the Ukrainians could not get into the fight "in close combat", as was the case near Kyiv, when they stopped the Russians with a hit-and-run light infantry war and thanks to precision ammunition used in the line of sight (Javelins, NLAWs, etc.). Near Kyiv, an attempt at a very quick Russian manoeuvre to the Ukrainian capital meant that Russian artillery was not used well, not keeping up with the leading troops. Then the Russians got stuck on two main axes of attack, where the leading elements were located within range of Ukrainian artillery, and its own artillery and its ammunition were left in the rear, which itself was becoming increasingly crowded. In addition, there was the destruction of the rear Russian logistics in the harassment zone by the actions of light infantry. In the Donbas and in the south, however, the Russians coordinated their activities better, and the area of activity was larger and more dispersed.

On the front, between equal sides, there appeared an asymmetry of the advantage of tactical attack over defence. The point is that numerous sensors, both civil and military (drones, data sent by ordinary people via the internet, available thanks to Starlink satellites orbiting the Earth in low orbit around the Earth, even by mobile phones still operating thanks to numerous Broadband Telecom Service providers, not to mention space reconnaissance transmitted by the Americans) mean that the enemy's manoeuvre is quickly recognised and movement in general with greater mass. Considering the fact that the battlefield is saturated with anti-tank guided missiles, such as the famous Javelin or NLAW, and sensors that target artillery from a long range, tanks suffer huge losses. This means that when both sides see each other well, there are no daring manoeuvres, flanks and raids, and if there are then they are slow, systematic, preceded by artillery fire, careful approach recognition with drone cover and a mass of infantry in front of armoured units and at their sides. Logistically, this consumes huge amounts of war materials and neutralises the manoeuvre in the war. It becomes a war of destruction, quite static. This also affects the psyche of the military, which does not want to be locked under armour and prefers to fight in the city as light infantry with accurate reconnaissance and drones.

Terrain control changes are slow because tanks are necessary for this, but they are difficult to move and cost a lot of war effort in joint operations. The fights take place mainly in cities. Only special forces appear between cities, mining or directing artillery fire. Operating in such a way, the Ukrainians often travelled in civilian cars at high speeds.

Saturation of the battlefield with precision weapons by both sides causes a stalemate, broken only by effective artillery fire, but not by manoeuvre, unless one of the sides does not have a sufficient level of situational awareness. Soon things can get even worse, precision missiles can be launched even from civilian containers, which can be literally anywhere. Manoeuvre as the dominant form of combat between equally competent opponents will probably only be restored when an energy-guided weapon system, such as laser and microwaves, is developed, the users of which will have the task of defending vehicles against precision missiles. Then the defence against precision missiles will be effective again. This will restore the relative freedom of manoeuvre and will give an advantage in this manoeuvre, especially as the defence systems will be controlled by artificial intelligence, creating combat teams consisting of people, drones and robots at high speeds.

The positional war for destruction must somehow be overcome with a manoeuvre on the ground, otherwise there is no control of the course of the conflict, unless you control wider geopolitical and strategic levers that shape the kinetic conflict environment, i.e. energy and water sources, access to currency, oil or gas, such as Russia partially controls over Europe. The winter of 2022/2023 will test how important this relationship is. We are therefore entering an important moment in this war and for the future of Europe.

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