

# Russian Future Combat on a Fragmented Battlefield

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Battles used to be compact events fought within the visual range of the contending commanders. Units used to march into battle in formation and fight shoulder to shoulder. Battlefields were chosen where terrain would not interfere with positioning of forces. Arrows flew while infantry advanced in close order with shield, spear, and sword at the ready. Combat was close and frequently highly lethal. Then technology intervened. Gunpowder and the bayonet allowed the infantryman to fight both the mid-range and close battle. Still, muskets were inaccurate, so marching columns still moved close to each other and fought standing up and shoulder to shoulder. Rifled muskets appeared during the Crimean War with devastating results. The rifle-armed British infantry decimated the musket-armed Russians during the Battle of Inkerman (5 November 1854).<sup>1</sup> Unfortunately, this vital lesson of Crimea had to be relearned in the carnage of the initial period of the American Civil War.

Both sides of the American Civil War initially trained using Napoleonic tactics based on the smooth-bore musket and more lethal bayonet. But the rifled musket was far more lethal at a much greater range. Soldiers learned the value of firing from a rifle pit, trench, or behind a barricade. It was dig or die. Battlefields expanded and commanders seldom saw the entire battlefield. Semaphore and the telegraph extended the ability of commanders to command. Battles lasted over days and weeks instead of hours. Rail transport proved vital to the logistics of war. In 1873, Major Wilhelm von Scherff published *Studien zur neuen Infanterie-Taktik [The New Tactics of Infantry]* while teaching tactics at the Prussian Military Academy. He based his book on his observations of the 1870-1871 Franco-Prussian War, which saw the wide use of cartridge ammunition, accurate rifles, machine guns, and artillery. This resulted in "the void of the battlefield." With the combatants widely dispersed, the distance between the front lines expanded. Further, while weapons were far more lethal, casualty rates lessened and many more bullets were expended per casualty induced.<sup>2</sup>

The increased lethality of weapons was not the sole reason for dispersion of forces on the battlefield. The telegraph and the radio allowed commanders to control forces over a greatly expanded area. The steam engine, internal combustion engine, and the airplane allowed forces to move quicker over that expanded area. Armored vehicles provided a degree of protection as a sort of a mobile firing pit. The density of combat formations fell from 3,883 men per square kilometer to 404 in World War I and 36 in World War II.<sup>3</sup> Of course, this varied by theater, geography, terrain, and force, but the battlefield was becoming increasingly empty. One of the U.S. Army's nine principles of war was that of mass.

*"Mass: Concentrate the effects of combat power at the decisive place and time. Commanders mass the effects of combat power in time and space to achieve both destructive and constructive results. Massing in time applies the elements of combat power against multiple decisive points simultaneously. Massing in space concentrates the effects of combat power against a single decisive point. Both can overwhelm opponents or dominate a situation. Commanders select the method that best fits the circumstances. Massed effects overwhelm the entire enemy or adversary force before it can react effectively."*<sup>4</sup>

Thanks to technology, massing in space is getting more hazardous on the modern battlefield against near-peer competitors. This was a Soviet concern and is now a Russian concern.

Operation Desert Storm (17 January 1991 - 28 February 1991) had a major impact on military affairs. The U.S.-led coalition thoroughly defeated Iraq, although Iraq had a larger, modern armed force. Iraq lost 8,000-10,000 combatants compared to the 300 casualties of the coalition. The coalition, particularly the United States, had a distinct advantage in satellite technology, communications technology, and computer technology; plus, there

were not too many places to hide large weapons and facilities in the open spaces of Kuwait and Iraq. Technology, training, and getting everything in place before initiating combat played major roles in the coalition victory. The lesson learned by smaller, less powerful militaries was not to fight powerful, technologically advanced forces in terrain that was optimum for modern maneuver war, but to move the fight to those areas where technology and maneuver is hampered or negated — mountains, jungles, deep forests, swamps, and urban areas. This works well for countries that have an abundance of difficult terrain, but countries are stuck with the terrain they own or occupy.

### **Fragmented Combat**

Much of Russian terrain is wide plains, interrupted by large, slow-moving rivers, forests, and swamps. The road system is underdeveloped, and trafficability in European Russia is hampered by the very muddy roads of the fall and spring *razputitsa*. Although the Soviets fought the “Great Patriotic War” [World War II against the Germans] with thousands of kilometers of tied-in trenches and fairly linear lines of combat, the wars of the future would change, and the Soviet Union prepared itself for nonlinear or fragmented (*ochagovyy*) combat.<sup>5</sup> The Soviet General Staff envisioned future war as dynamic, high-tempo, high-intensity land-air operations which would extend over vast expanses and include new areas such as space. Tactical combat would be even more destructive than in the past and would be characterized by fragmented or nonlinear combat. The front line would disappear, and no safe havens or “deep rear” would exist. Nuclear war would be avoided at all costs, as it could escalate to strategic exchange and the “destruction of all the world’s people.”<sup>6</sup>

In the 1950s-1960s, the Soviets envisioned future war as a nonlinear, nuclear battlefield where atomic weapons created maneuver corridors through which Soviet ground forces advanced to conduct meeting battles. The tempo of the offensive provided flank security to the attacker who maintained the initiative by advancing deep into the communications zone of the enemy. Due to the expected widespread use of nuclear weapons:

*Combat would be exceptionally dynamic and highly maneuverable, forcing subunits to change rapidly from attack to defense and back again, and to change its combat formations frequently. Attacks would develop irregularly with the absence of a continuous front line and would be conducted in wider zones along axes. Under these conditions, combat would have a fragmented [ochagovyy, nonlinear] nature at the various troop echelons.<sup>7</sup>*

Indeed, “the broken nature of the front line, the presence of intervals and gaps formed in the enemy’s combat formation by nuclear strikes, and the conduct of the attack along axes create favorable opportunities for the employment of maneuver.”<sup>8</sup>

The U.S. Vietnam War and the later Soviet and U.S. wars in Afghanistan were clearly non-nuclear but also nonlinear. In the 1970s and 1980s, the Soviets re-envisioned future large-scale war as being fought conventionally under nuclear-threatened conditions and adapted tactics and reemphasized operational art in order to meet this new vision. The Soviets conceptualized nonlinear battle as separate “tactically independent” battalions and regiments/brigades fighting meeting battles and securing their flanks by obstacles, long-range fires, and tempo. There would be no safe areas, and combatants would suffer heavy attrition. Large units, such as divisions and armies, might influence the battle through employment of their reserves and long-range attack systems, but the outcome would be decided by the actions of combined arms battalions and regiments/brigades fighting separately on multiple axes in support of a common plan and objective. Attacks against prepared defenses would be a rarity, as neither side would be able to tie in their flanks or prepare defenses in depth.<sup>9</sup>

*The fragmented defense is usually constituted on a wide front with significant gaps between defensive concentrations, strong points, lines, and positions. This creates the possibility that an attack will quickly breakthrough into the depths, conduct flank attacks or envelopments, and break the defense into pieces. Consequently, the brigade or division in the greater depths of the defense supplements its routes of maneuver while securing communications with airborne, air assault, and diversionary reconnaissance groups. They rapidly emplace mine and demolition obstacles, and [conduct artillery] fires at the rear of the penetrated unit to their front in order to counter enemy maneuver and cause the enemy to regroup and resupply... When conducting a fragmented defense, it is necessary to consider the possibility that subunits and units may be surrounded and separated from the main body. It is absolutely necessary to constitute a 360-degree defense in which every element is tactically self-sufficient. It is also necessary to constitute a reserve.<sup>10</sup>*

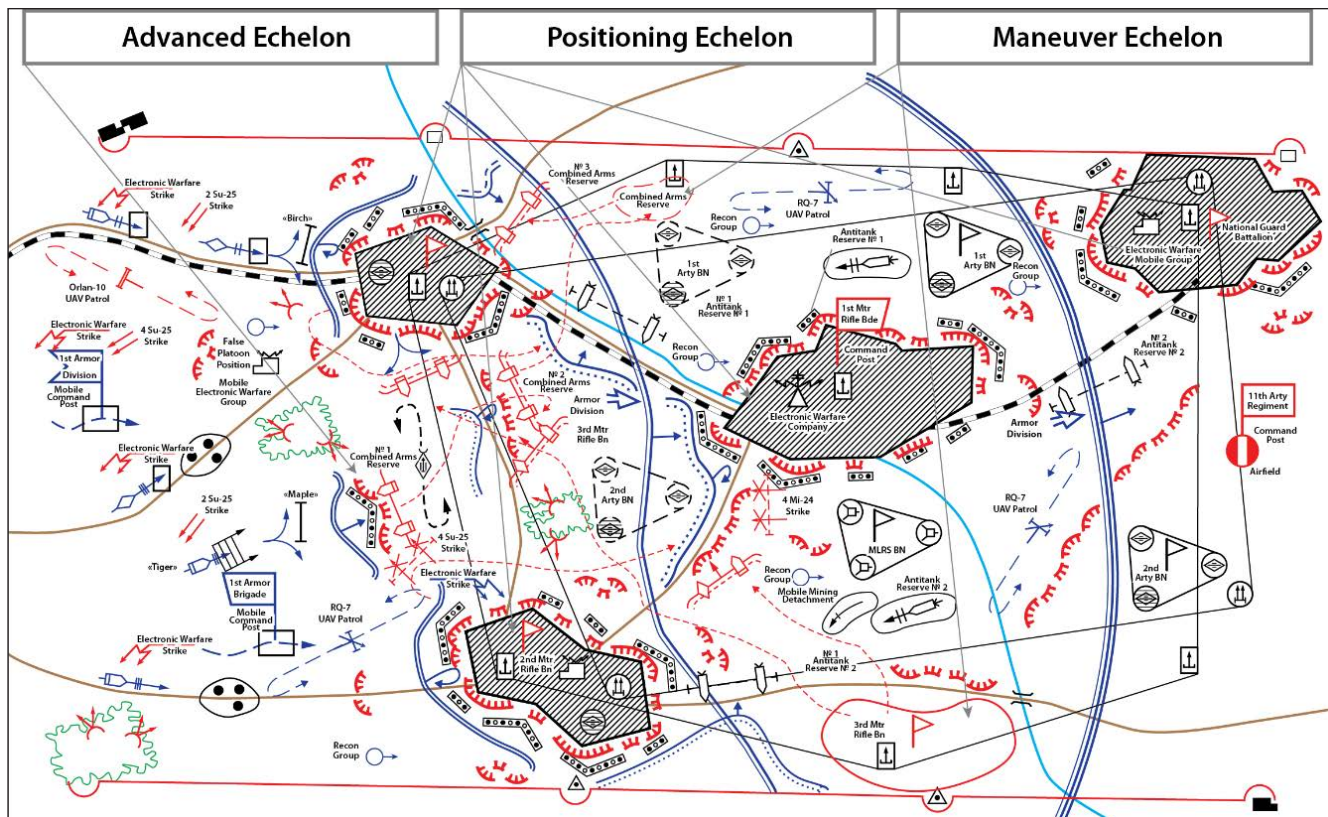


Figure 1 — A Russian Brigade Defends Against a U.S. Armor Division<sup>13</sup>

*In the event that the enemy penetrates into a city, the fight may become fragmented. Subunits must conduct a determined fight to retain every building. Firing positions located in the upper floors may destroy the enemy located next to the defended building but also fire on distant targets in order to prevent the approach of the enemy reserve. Special attention must be paid to establishing flanking fires and interlocking fields of fire.<sup>11</sup>*

### 21st Century Tactical Combat Brigade Defense

Since the collapse of the Soviet Union, Russia has fought two wars in breakaway Chechnya, fought a brief engagement in Georgia, re-annexed Crimea, supported a Russian separatist movement in Ukraine, and provided direct aid and support to the government of Syria in its war of survival. Russia has changed its ground force structure to primarily a military district-combined arms army-brigade structure and revamped its approach to conventional maneuver war fought under nuclear-threatened conditions.<sup>12</sup> Improvements in technology have made the potential future battlefield more deadly and fragmented. Russia is currently looking at adjusting tactics to fight effectively and survive on the future battlefield.

This conceptual layout (Figure 1) postulates how a Russian independent motorized rifle brigade might conduct a fragmented defense against an enemy tank division using U.S. equipment. The defense is divided into an advanced echelon, a positioning echelon, and a maneuver echelon. The advanced echelon is constituted for maneuver combat and ambushes, disruption of the enemy's organized attack, and the creation of conditions to turn or draw the enemy attack in a predetermined direction with the goal of destroying him. The positioning echelon is constituted to repulse the enemy advance by inflicting casualties, retain important areas or facilities in the defensive area, and create the necessary conditions for the actions of the maneuver component. The maneuver echelon is constituted to cover intervals between defensive concentrations and open flanks, destroy penetrating enemy with fire from occupied positions (firing lines) and counterattacks, prevent enemy encirclement of defensive concentrations, and combat enemy diversionary forces.

The map scale is not indicated, but it is clearly wider than five kilometers and much deeper. The defense sits astride two east-west axes. The northern is a road and single-track rail axis passing through three villages. The southern is a road passing through a village. A motorized rifle battalion each defends the eastern-most villages. The third

motorized rifle battalion is split into a northern and southern assembly area ready to maneuver where needed. The tank battalion has attached a company to each of the motorized rifle battalions. The two howitzer battalions are forward in temporary firing positions while the multiple launcher battalion occupies its primary firing positions.

In the north, the enemy attacks along the road and rail line with a tank and mechanized infantry company where it is met with electronic jamming, two SU-25 ground attack aircraft, two howitzer concentrations, an ambush, and standing artillery barrage "Birch." An Orlan-10 unmanned aerial vehicle (UAV) monitors this enemy attack. The town is defended by the 1st Motorized Rifle Battalion, a tank company, and air defense assets. The attack is thwarted. In the center, the enemy tank division mobile headquarters is attacked by electronic jamming, a Multiple Launch Rocket System (MLRS) artillery concentration, and four SU-25 ground attack aircraft.

An enemy tank battalion attacks on a northeast feeder road to the northern town where it is met with a howitzer fire concentration, a MLRS-delivered Family of Scatterable Mines (FASCAM) minefield, and an ambush. South of this, an attacking mechanized infantry battalion is met with an air strike by two SU-25 ground attack aircraft, a double moving barrage "Tiger," and standing artillery barrage "Maple." The attacking battalion goes on line only to encounter a minefield and defenses from the combined arms reserve, flanking fire from an ambush and four Mi-24 attack helicopters, and close air defense from a 2K22 "Tunguska" gun/missile track. To the south, the attacking enemy First Mechanized Infantry Brigade, supported by a RQ-7 Shadow UAV, is met with electronic jamming, an artillery howitzer concentration, a MLRS-delivered FASCAM minefield, two ambushes, and the defenses of the 2nd Motorized Rifle Battalion in the southern town. The 2nd Battalion is augmented with multiple air defense and electronic warfare assets. The attack against the southern village also fails.

The attacking enemy in the north takes up positions outside the northern village and tries to bypass it. Its northern bypass is stopped by a combined arms reserve counterattack from the 2nd Motorized Rifle Company of the 3rd Motorized Rifle Battalion. Its southern bypass attempt makes headway and causes the withdrawal of the center reserve forces into prepared positions at the mouth of a fire sac between the northern and southern villages. The second howitzer battalion begins to displace by battery to its primary firing positions.

A counterattack by the 3rd Motorized Rifle Battalion stops the enemy advance in the center. The enemy tank division builds up its forces for a push in the center while conducting electronic jamming, UAV operations, and ground surveillance. The first howitzer battalion begins to displace by battery to its primary firing positions. When the enemy attack resumes, the combined arm reserve and 3rd Motorized Rifle Battalion withdraw from the fire sac to hold the shoulders of the sac from prepared positions and with the antitank reserve. Four Mi-24 helicopter gunships attack the enemy. The enemy attack is again stopped by the defenses surrounding the third village. The third village holds the brigade and 3rd Battalion main command posts (CPs). The MLRS battalion begins to displace by battery to alternate firing positions. The supporting aviation has displaced to another airfield. The 11th Artillery Regiment is positioned around the airfield to provide supporting fires for the defending Russian brigade. The depleted enemy tank division skirts the third village and attacks along the rail and highway line toward the fourth village, which is held by a Russian National Guard battalion and a company *bronnegruppa* from the second battalion.

**Commentary:** How successful the brigade defense has been depends on how much of the enemy division it was able to kill or disable. The defense is more lethal than the attack if the correlation of forces and means is right and sufficient supplies and ammunition are at hand. Built-up areas are easier to defend than open areas, so the brigade chose to create strongpoints in the villages and use fires and a series of prepared positions and counterattacks to weaken the enemy moving through the more open terrain. The Russians employ a fire sac where possible and did so in this example. A fire sac allows the defender to engage the point and flanks of an enemy attack simultaneously. The defense employs artillery and aviation to engage the attacking enemy. Control of own air defenses when friendly forces are flying overhead is dicey. Normally, Russian close air support is deployed on the flanks or flies a marked route over the ground force.<sup>14</sup> Widespread electronic countermeasures are employed in this example, indicating that much of the Russian defense is fiber optic or wire based. (The presence of internal security troops from the Russian National Guard indicates that this fight is in Russia or very near her borders. Fiber-optic networks are increasingly common in Russian populated areas, and the military has a system of buried-wire drop boxes installed in key areas of military interest.) The attacker is faced with the dilemma of continuing his advance, leaving

intact enemy forces on his line of communications, committing follow-on forces to deal with the villages, or reducing each of the urban strongpoints in a lengthy attrition fight.

Much has been written in Russian professional military journals about the use of the maneuver defense in conventional maneuver war under nuclear-threatened conditions. The maneuver defense also faces the fragmented battlefield but fights a long attrition battle, trading space for time and terrain advantage while leading to a culminating stationary defense from which a counteroffensive can be launched. The above alternate defense relies on the strength of the urban defense combined with fires, rapidly-laid obstacles, electronic combat, and counterattacks. It is somewhat reminiscent of the recent experience of fighting in Syria and Iraq with the forces of ISIS.

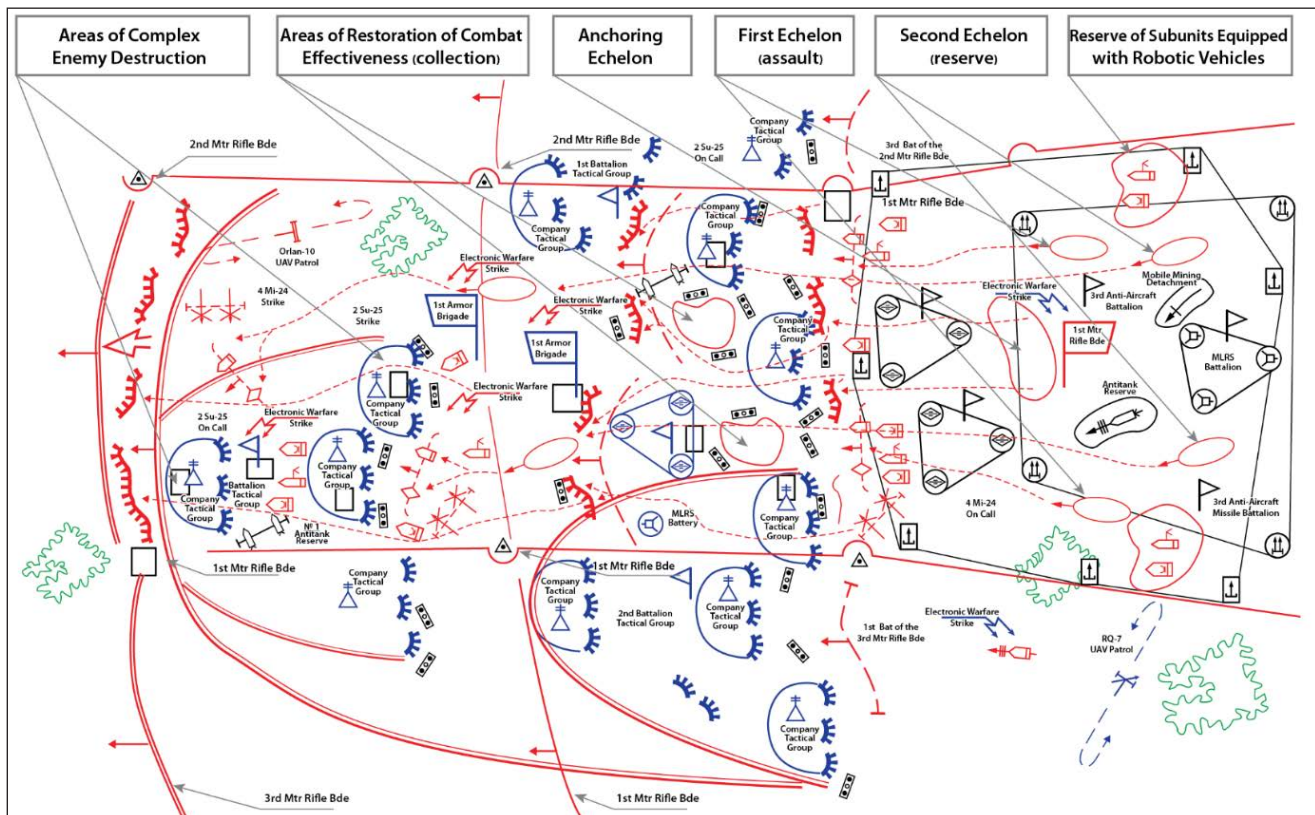
### 21st Century Tactical Combat Brigade Attack

The decisive aim of an attack is to achieve the complete destruction of the enemy throughout the entire depth of his defense, which reinforces synchronized actions in time and the missions of autonomous tactical formations.<sup>15</sup>

Figure 2 postulates how a Russian separate motorized rifle brigade might attack as part of a three-brigade combined arms army offensive in an attack from positions in close contact. It focuses on the actions of the 1st Separate Motorized Rifle Brigade as it engages part of the enemy 1st Tank-Mechanized Brigade, which is organized into battalion and company tactical groups. The second brigade attacks to its north, and the third brigade attacks to its south. The brigade will face six-plus company tactical groups, a howitzer battalion, and a MLRS battery. The attack is divided into a first (assault) echelon, an anchoring (consolidation) echelon, and a second (reserve) echelon. The first (assault) echelon attacks and captures enemy objectives forward of the line of contact and in the depths. The anchoring echelon is constituted to retain important areas, lines, and points that would deny enemy deep maneuver and counterattacks. The second (reserve) echelon is constituted to replace assault subunits that have lost their combat potential to augment strength, destroy the enemy, resolutely retain military objectives, and develop the high tempo of the advance.

Again, the map scale is not indicated. The attack has an intermediate objective at the rear of the two forward defending companies and a subsequent objective at the rear of the enemy brigade defense. The brigade attacks with two reinforced battalions on line. The tank battalion has been attached to the attacking units. The two howit-

Figure 2 — A Russian Separate Motorized Rifle Brigade Attacks Part of an Enemy Tank-Mech Brigade<sup>16</sup>



zer battalions are positioned close to the attacking battalions while the multiple rocket launcher battalion is further back. Two SU-25 ground attack aircraft are on-call to strike on the northern flank of the attack while four Mi-24 helicopter gunships are on call on the southern flank. The antitank battalion and engineer battalion follow the attack.

The assault battalions attack the northern and southern companies in sector, leaving the artillery to pound the middle company while the assaulting battalions bypass the middle company. The enemy brigade CP and artillery battalion are forced to withdraw. The 3rd Battalion (the anchoring echelon) pushes through the bypassed enemy middle company and seizes two assembly areas for disabled equipment, wounded personnel, prisoners, and personnel separated from their subunits. The northern assaulting battalion pins the defending enemy reserve company in place and bypasses it to reach and push through the immediate objective. The southern attacking battalion pushes forward to the immediate objective and continues on to attack a leading company of the enemy brigade rear. It is supported by four Mi-24 attack helicopter gunships, electronic jamming equipment, and is reinforced by the brigade reserve.

The northern battalion pushes through to bypass a defending enemy and to attack the last enemy reserve company. The battalion is supported by four Mi-24 attack helicopters, two SU-25 ground attack aircraft, an Orlan-10 UAV, and electronic jamming equipment. The southern attack battalion completes the destruction of its company and continues to push through the enemy brigade area to capture or destroy its trains.

**Commentary:** This is not the fight described in current Russian Army regulations. The brigade attack destroys four of the six-plus companies in its area of responsibility. The bypassed two companies are damaged and held in position by the consolidation echelon or have retreated. This new element, the anchoring or consolidation echelon, polices up the battlefield and helps reconstitute the force. This is very much an aviation, artillery, and electronic warfare fight with their fires enabling maneuver. The maneuver is fluid and leaves intact-but-mangled enemy behind as it pushes to the objective. The tanks are integrated as part of the first echelon and perhaps the reserve. Of particular interest is the presence of subunits equipped with robotic vehicles. The Russians have been developing robotic tanks and other systems for use in the close fight or long-range surveillance. In this example, they appear to be robotic tanks and mine-clearing robots, which initially follow the two initial attacks as well as constituting two mobile reserves. Evidently, when the attack meets stiff resistance, the robots are deployed forward to kill the enemy or absorb his fire while counter-fire pinpoints and destroys the resistance and to clear paths through minefields. The two examples were published in the *Journal of the Academy of Military Science* — a part of the General Staff that conceptualizes future war. From the technology depicted, this is near-term future war. It is not the battle described in the Russian regulations but reflects the impact of Syria and technology advances on the military thinkers. How to mass this three-brigade offensive in this era of detect-destroy technology is a puzzler. This attack is from positions in direct contact — not the favored form of attack for Russian forces but common in the fighting in Syria.

There is nothing fragmented about this attack. Presumably, this situation occurred from advancing through a fragmented battlefield involving road marches and meeting battles until an enemy encounter resulted in one or both sides going to ground in a hasty defense. The enemy force is formidable enough to require the massing of three brigades by the combined arms army to defeat it.

## **Conclusion**

Technology will continue to expand and empty the battlefield and move it into difficult terrain. The Soviets were quick to realize the value of robotics to augment manpower. The T-62 (introduced in 1961) was the last Soviet/Russian tank to have a four-man crew. The T-64 (fielded in 1964) had an autoloader and a three-man crew. The autoloader enabled the T-64 to maintain a low silhouette, 38-ton weight and employ a 120mm main gun. Current Russian tank design engineers are working on reducing the size of a tank turret and creating a future tank with a two-man crew. Autonomous robots, such as UAVs, are a fairly recent innovation in the Russian armed forces. The use of autonomous robots for conducting ambush and delivering artillery fire are being studied. Tactical directed energy weapons are being developed to protect and attack optics and optical-electronic systems as well as front-line combat, where such systems could increase the lethality of antitank weapons by 20-30 percent. Tactical directed energy weapons could also increase the lethality of artillery fire and air defense weapons. This technology

might prove effective against UAVs.<sup>17</sup> The concept of robot tanks, controlled by a master tank, has occasionally shown up in Russian writings.

Russia is preparing its forces to fight conventional maneuver war under nuclear-threatened conditions; however, it is considering different tactics for different conditions including difficult terrain and advancing technology. Russia's recent conflicts have had an impact on this consideration, especially their recent efforts in Syria.

## Notes

<sup>1</sup> Report from General Menshikov to Emperor Nicholas I cited in Mungo Melvin, *Sevastopol's Wars: Crimea from Potemkin to Putin* (NY: Osprey Publishing, 2017), 218-219.

<sup>2</sup> James J. Schneider, "The Theory of the 'Empty Battlefield,'" *The RUSI Journal*, Volume 132, Issue 3 (1987): 35.

<sup>3</sup> Trevor N. Dupuy, *The Evolution of Weapons and Warfare* (Indianapolis: Bobbs-Merrill Company, Inc, 1981), 312.

<sup>4</sup> Field Manual 3-0, *Operations*, 2008, A-2. The principles of war have varied in number over the decades, but have always been part of the U.S. Army's operations manual — until the current one.

<sup>5</sup> Lester W. Grau, "Soviet Nonlinear Combat: The Challenge of the 90s," Soviet Army Studies Office, Fort Leavenworth, KS, September 1990, accessed from <https://apps.dtic.mil/dtic/tr/fulltext/u2/a231789.pdf>.

<sup>6</sup> Ibid.

<sup>7</sup> D.F. Loza, G.I. Garbuz, and I.F. Sazonov, *Motostrelkovyy batal'on v sovremennom boyu [The Motorized Rifle Battalion in Contemporary Combat]* (Moscow: Voenizdat, 1965), 4.

<sup>8</sup> Ibid.

<sup>9</sup> V. G. Reznichenko, B. I. Vorobyev, N. F. Miroshnichenko, *Тактика [Tactics]*, (Moscow: Voenizdat, 1987), 60.

<sup>10</sup> Ivan N. Vorobyev, *Тактика – искусство боя [Tactics — the Art of War]* (Moscow: Voenizdat, 2002), 584-585.

<sup>11</sup> Ibid, 689.

<sup>12</sup> Lester W. Grau and Charles K. Bartles, *The Russian Way of War: Force Structure, Tactics and Modernization of the Ground Forces*, Foreign Military Studies Office, 2016, <https://community.apan.org/wg/tradoc-g2/fmso/p/fmso-bookshelf>.

<sup>13</sup> S.I. Pasichnik, A.S. Garvardt, and S.A. Sychev, "Перспективы развития способов боевых действий общевойсковых формирований тактического звена" [Prospect for the Development of Methods of Combat Action by the Combined Arms Tactical Formations], *Вестник Академии Военных Наук [Journal of the Academy of Military Science]*, January 2020, 39.

<sup>14</sup> Lester W. Grau and Charles K. Bartles, "Russian Aviation in Support of the Maneuver Defense," *Aviation Digest* (October-December 2018), accessed from [https://home.army.mil/rucker/application/files/5015/6026/7059/AVN\\_DIG\\_2018\\_10-12.pdf](https://home.army.mil/rucker/application/files/5015/6026/7059/AVN_DIG_2018_10-12.pdf).

<sup>15</sup> Pasichnik et al, 40.

<sup>16</sup> Ibid, 41.

<sup>17</sup> Ibid, 41-42.

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