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The Restless Bear: What Russia's New Tank Reveals

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Introduction

In 1991, the disintegration of the Soviet Union ended the Cold War after 34 years of tension. Western governments looked forward to a so-called Peace Dividend with relaxed defence spending and procurement programs. Ten years later, after the 9/11 attacks, new wars emerged and Western militaries became largely focused on lengthy counter-insurgency campaigns. In 25 years, governments and the public alike forgot much about what had been learned of the Soviet/Russian military during the Cold War era.

The most important forgotten fact was that Russia endures. Climate, geography, culture, experience and history create their grooves and Moscow has slid back into them. The government – however dislikeable – of Vladimir Putin has strategic aims and concerns that would have been familiar to Lenin, Peter the Great, Ivan the Terrible or even to old Rurik the Varangian. Russia is back and the great Russian bear has been growling.

In both real life and analogy, a growling bear demands prudence and caution. It might back off to a display of resolution; but that same display might provoke an angry charge. The same two reactions may result from a rapid retreat. Peaceful coexistence is also always possible. If one is to live around bears, it is best to carefully study them... and not poke them with sticks.

In the last few years, the Russian military posture and some of the new equipment they have showcased imply the Bear has been getting dangerous once more. When it comes to weapons design, the Russians have never lacked for innovative thinking and some new systems suggest important changes have been made. It is time to look closely again.

Lessons of Russian Military History

Russian history is long, detailed, and often traumatic. It is not easily summarized. The same is true of the history of Russia's military experiences and traditions.

Even before Moscow emerged as the centre of the Russian state, the Russian people farmed on the edge of the great Taiga forests, clustered along riverine trade-routes and faced – with due apprehension – the open steppe. When not squabbling with each other or the occasional European interloper, their greatest threats came from steppe nomads. The worst were the Mongols, who destroyed Kiev in 1240 and reduced most of the other early Russian rulers to subservient satraps.

One would do well to remember that Napoleon occupied an empty Moscow in the autumn of 1812, and Hitler's panzers sputtered to a stop outside it in December 1941.

The rulers of Moscow tiptoed carefully around the Mongols and their Tatar heirs until successfully rebelling in 1480, but were still subjected to horribly devastating raids on the city itself on several occasions in the 16th and 17th Centuries. The deepest scars on the Russian psyche may come from the centuries of war with Steppe peoples.

Russia is a land empire, not a maritime empire. Since the death of Ivan I in 1341, the Russians have been fighting on some part of what would become their territory (using the USSR's 1945-1990 borders) for 363 of 675 years. Most of this involved counterinsurgency operations, but there were plenty of major conventional wars even before the 20th Century.

With an all too cursory sweep of Russian/Soviet military history, several points suggest themselves.

The Russians appear to have always had two armies – one of mass and annihilation, and one of manoeuvre and speed. This is a point made by Basil H. Liddell Hart when considering the Soviet Army in the beginning of the Cold War.¹

The army of mass is used to overwhelm opponents once they can be brought to battle. It is characterized by levies of conscript infantry, large artillery parks, and typically by a reckless disregard for casualties. The Russians expect to take casualties – and have. For instance, Catherine Merridale pointed out that 310,000 out of 403,272 trained Russian tank crew died during WW-2 and their standard greeting was “Have you burned yet?”.² The fatalism of Russian soldiers was remarked upon many times before WW2.

The army of manoeuvre is a smaller one of quality; often but not always based on cavalry or at least incorporating cavalry traditions that would have been familiar to Genghis Khan's Mongols. Indeed, the ways a modern Russian tank regiment and a Mongol Mingghan (regiment) of 1240 transition from column of march to an attack formation are virtually identical. This is an army of feint and deception, of raiding and reconnaissance, and of using speed and manoeuvre to put the foe at a disadvantage.

The institutions of the Russian Army were fundamental to the Czarist Empire, the Soviet State, and remain important in today's Russia. These institutions didn't change much even during Lenin's and Stalin's time. Conscription is still seen as a unifying and stabilizing national influence while Russia's system of military district organizations and its concepts of mobilization have endured for a long time.

The Russian approach to weaponry also doesn't change much. Reliability and simplicity are often primary characteristics, although this does not mean that their weaponry is purposely designed to be less dangerous.

The famed AK-47 rifle is a case in point; it might not be as effective as the rifles of Western Armies, but the whole world knows it is far easier to use and requires less training. Moreover, a Russian who learned how to use an AK-47 in 1950 would be familiar with every military rifle and section/squad light machinegun the Russians have

¹ Liddell Hart, Basil H.; *Defence of the West*; Cassell and Co., London, 1950.

² Merridale, Catherine; *Ivan's War: Life and Death in the Red Army, 1939-1945*; Henry Holt, New York, 2006, pg. 215.

introduced since then.³ An American or Briton of comparable vintage would have to be trained on at least three different rifles, two submachineguns, three squad/section machineguns since then if they were to remain current.

The Russians also have usually hoarded obsolescent weapons in case they might be useful again someday, although the 1988 Treaty of Conventional Armed Forces in Europe (CFE) did require them to scrap tens of thousands of older tanks and artillery pieces. The CFE resulted in major reductions in the levels of conventional armaments in Europe and North America, but Western publics seem to have failed to notice that the Russians suspended participation in the treaty on March 9th, 2015 and might no longer feel constrained by its limitations.

By way of illustration, in 1941, some newly raised Soviet divisions received French black-powder artillery pieces built in the 1870s.⁴ These guns would have been transferred from French reserve stocks to the Czar's armies in the First World War and were retained – along with ammunition – for decades. This wasn't an unusual problem, there were some Red Army soldiers facing the Panzers that year with black-powder Berdan rifles of similar vintage. Interestingly, gun collectors (such as the author) around the world have recently noticed that 1950-vintage stocks of Soviet SKS carbines have just recently come into the market – often still coated in preservative grease.

Western students of military history often tend to overlook some of the great captains and theorists of Russia's military past. For example, there is Alexander Suvorov (1730-1800) who fought 63 battles and never lost one; Mikhail Kutuzov who enticed Napoleon's Grand Army to annihilation; or Mikhail Tukhachevsky – quite possibly the most profound military theoretician of the first half of the 20th Century. Russia's great military disasters in 1941 came when Stalin kept his generals on a tight leash, when he finally learned to let them do their jobs, they won mighty victories. There is more talent in Russia's staff schools than is generally appreciated.

The Russians have a lot of military experience, remember much of it, and have designed their forces accordingly. There is a long list of foes who underestimated Russian generalship and the qualities of its soldiers...and in the end, Russia wins almost all its wars.

³ Donnelly, Christopher; *Red Banner: The Soviet System in Peace and War*; Jane's Information Group, London, 1988, pgs. 130-131.

⁴ Dunn, Walter; *Stalin's Keys to Victory*; Stackpole Books, Mechanicsburg, PA, 2006, pg. 93

The T-14 Armata Tank

No nation has built as many tanks as the Russians have and many of their designs have been legendary.⁵ The T-34 was probably the best conceived tank of its day in terms of the balance of speed, mobility, firepower and protection -- although poor production standards and small details robbed it of much of its potential. Probably over 90,000 T-54/55 tanks were manufactured between 1947 and 1991, outnumbering the combined total of all other contemporary models.⁶ Russia's newest tank model betrays some fundamental shifts in design philosophy.

There are characteristics to most Russian/Soviet tanks since the Second World War. They have usually continued to be rugged, with a good balance of speed, mobility, firepower and protection. However, crew efficiency and survival tended not to be priorities, and part of their tanks' protection package rests with a stress on low profiles. The Russians did not accept the Western notion that a comfortable crew was a more efficient one; particularly given the normal strains of life on campaign.⁷

The difference was particularly noticeable in the 1973 Yom Kippur War in the savage tank battle on the Golan Heights in the first three days of the fighting. The Israeli British-built Centurion tanks fought continuously (and great gallantry). By contrast, the lack of ventilation in the Russian tanks of the Syrian Army caused more than a few traffic jams as exhausted Syrian drivers swooned in their seats or passed out from heat prostration. Inadequate turret ventilation also seriously limited crew effectiveness in battle -- particularly when the main tank gun was being repeatedly fired.

Soviet/Russian tanks tended to have 78 percent of the height profile of their post-war US, German and British contemporaries. The advantage in presenting a smaller target comes with a significant disadvantage. When possible -- especially when fighting defensively -- tanks last longer when shooting from cover; particularly using crest-lines to mask as much of the tank as possible from observation and fire. 'Hull down' firing positions normally mean only the mantlet of the turret is presented to the enemy. With their higher turret ceilings, most Western tanks can depress their main gun by 9-10°; Post-War Soviet tanks by only 5°; which meant much greater exposure when fighting defensively.

The diminished size of most Post-War Russian tanks also enhanced the discomfort of crew spaces; making them awkward to enter, endure, or exit in that brief interval before ammunition and fuel start to burn if the tank's armour is penetrated. Crew survivability was not stressed as much as it is in Western designs -- particularly in the Israeli Merkava tanks.

The Russian T-14 Armata tank only entered mass production in 2016 (although a pre-production run was paraded in 2015). It appears that first deliveries are earmarked for the 20th Guards Army, one of the Russians' premiere formations.

⁵ Going through old IISS *Military Balance* annual reports and material from Jane's publications, it is soon fairly clear that the Russians have built more tanks than the rest of the world... combined. The figure for the T-55 includes T-54s, T-55s, and the Chinese T-59 copy

⁶ See https://en.wikipedia.org/wiki/List_of_main_battle_tanks_by_generation

⁷ Those who require a more solid introduction to tank and their issues would do well to consult Dunnigan, James F.; *How to Make War: A Comprehensive Guide to Modern Warfare in the 21st Century*, Fourth Edition from Harper-Collins, New York, 2003.

For a start, the Armata has a greatly increased profile, being 3.3m high. From the shape of the turret, it seems the gun can probably be depressed just as much as that of a Leopard-2 or Abrams M1A2. This implies the Russians are paying more attention to crew survivability and giving them more latitude for making use of terrain features when seeking firing positions. In short, they are recognizing that tankers must be specialists and not cookie-stamped conscripts who can be easily replaced. This trend is further illustrated by the issue of 1,000 sets of “Cowboy” high-tech protective suits to Russian tankers in the North Caucasus Military District in the autumn of 2016.⁸

It would also seem that the Russians are reading books and authors that we have forgotten. If Tukhachevsky was the finest military theorist of the first half of the 20th Century, the second half might belong to John Boyd (the American creator of the OODA loop, and much else besides), and the British theorist Richard Simpkin. The latter’s book *Race to the Swift: Thoughts on Twenty-First Century Warfare* (Brassey’s, London, 1985) is his most important one, but he also gave a lot of thought to the future of tank design – and the Russians seem to have read all of his works.

Simpkin knew there was an upper limit to tank armour: The monstrous 70-ton Tiger-II of Nazi Germany was a waddling nightmare that could barely make it into battle. Modern tanks are much better protected (though the exact composition of their armour sandwiches tends to be quite classified), but the top five Western designs in service today average a weight of 59.4 tonnes fully loaded, and they are fully-encased in thick slabs of armour that approximate .6 to 1.4 metres of steel plate in terms of their resistance to anti-tank shells and missiles. There are limits to improving on this.

With a few exceptions (notably the Swedish *Stridsvagn* 103), the lay-out of tanks has changed little since the late 1930s – the driver sits in the hull, perhaps in a shared crew-compartment area, while the turret holds the crew commander, the gunner, and perhaps a loader. One of Simpkin’s ideas was to place the crew of a tank in an armoured cocoon in the hull, in a position optimized for their comfort and survivability. The turret – often the most vulnerable part of a tank – would be unmanned and operated remotely from the cocoon. This is precisely what the Russians have done with the Armata.⁹

Simpkin often argued that the main-battle tank’s days of battlefield dominance were ending, and that what was now needed was a modular vehicle system with components that could be easily replaced if damage – or a changed mission – made it necessary. Again, the Armata is part of a modular family of vehicles and that also suggests that subcomponents can be quickly replaced if damaged or defective.¹⁰

The Armata also boasts a mix of weaponry, one of which could represent a significant hazard to the modern attack helicopter, one of the deadly tank killing platforms on the modern battlefield.

The Armata has an updated (and more accurate) version of the 125mm smoothbore gun used on the T-64/T-72/T-80/T-90 tanks over the last 40 years. The gun can fire sabot ammunition, capable of kinetically knocking out most Western tanks at 2 km, a high-

⁸ <https://sputniknews.com/military/201610021045931321-russian-tank-crew-kit-delivered>

⁹ For a Russian video with the Armata: <https://www.youtube.com/watch?v=ZzcIEsG6QVc>

¹⁰ http://interpolit.ru/blog/cto_iz_sebja_predstavljaet_t_14_armata/2015-05-07-5030

explosive round and the Sprinter anti-tank guided munition (a derivation of the Kornet missile). With no crew in the gun turret, there was no need for a fume-extractor on the barrel and ventilation systems in the turret. The gun can fire 10-12 rounds a minute.¹¹

There are also two machineguns, one a 7.62mm general purpose machinegun and a heavy 12.7mm machinegun. Both are remote-controlled and the mix offers a versatile set of solutions to any number of targets. Machineguns mounted in tanks can take advantage of a rock-solid firing platform and the tank's sensors and sighting systems... this often results in spectacular accuracy.

Optics and sensor systems are also essential and the Russian are keenly aware of what American and British tanks did to Soviet-built ones in the 1991 Gulf War (and again in 2003 in Iraq). In dim light, smoke and dust, Saddam Hussein's Soviet-built tanks could just about see targets about 1.5 km away, Abrams and Challenger tanks could see over twice as far in the same conditions and many accounts and after-action reports of the war recount how many Iraqi tanks were picked off at long distance without ever seeing their opponents.

The Armata is not so blind.

The Russians have lost none of the old Soviet talent for industrial/technological espionage, or for blending their results of 'burrowing' technology with their own considerable scientific talents. The Armata has sensor systems and electronics that closed the gap that existed between Russian/Soviet tanks and Western ones 25 years ago, and have probably kept pace with most upgrades since. The mix of thermal imagers and low-level light TV can spot targets out to 7,000m and a laser range-finder that allows engagement of targets out to 7,500m away. This considerable narrows the range advantage given to helicopters with Hellfire missiles.

The Armata is enmeshed in layers of sensors, including radar. It can detect laser illumination from weapons guidance systems and its radar can track incoming missiles. The Russians say this sensor package can be used to give firing data to the crew to rapidly engage an enemy tank or helicopter, or let the crew-commander trigger his smoke grenades, or to fire sub-munitions at some incoming projectiles.

Not only is the tank much more robust in its defences, the protection given to the crew is remarkable. In contrast to all earlier Russian/Soviet tanks, the Armata crew is isolated in their armoured cocoon from ammunition, fuel, and hydraulics – all of which have a distressing capacity for igniting when the armour is penetrated. The crew cocoon is also shock-mounted to resist the effects of large explosions.

These departures from 70 years of tank design suggest a new recognition that crewmen are valuable, highly trained assets who must be preserved. This also suggests that Russian tank crewmen are much better trained than they were in the past, and have much more tactical latitude than older generations of Russian tankers were allowed to employ.

The 20th Guards Army

¹¹ For more details on the Armata Tank:

Russian military terminology often has subtle but important distinctions from that used in North America and Western Europe. A Russian army approximates a Western corps, being a grouping of 2-4 divisions and other formations. In the West, two or more corps comprise an army, in Russia two or more armies comprise a 'Front' in wartime, or are part of a military district until mobilized. The Russians do have corps, which usually are over-sized divisions with a specific purpose in mind.

The 'Guards' distinction was usually awarded in the Second World War to units and formations that had distinguished themselves in combat. Guards would thereafter get preferment for equipment and replacements, but more was expected (and received) from them in return. Guards are more likely to be fully equipped, better supported, and better led, and its troops will be expected to fight with a greater élan.

The 20th Guards Army was assembled in 1960 from the 4th Guards Mechanized Army in the Group of Soviet Forces in Germany. This marked it as one of the premiere formations of the Soviet Army that would be expected to blaze a way forward if the invasion of Western Europe ever became desirable. At its peak strength in 1987 it contained:

- 32nd Guards Tank Division: (7 tank battalions, 5 of mechanized infantry, 6 of self-propelled artillery, plus divisional air defence, aviation, ballistic missile, engineer, and reconnaissance battalions)
- 90th Guards Tank Division (similar)
- 25th Tank Division (similar, but likely to hold 220 tanks instead of 330)
- 35th Motor Rifle Division (7 infantry battalions, 1 in BMPs, 6 in wheeled APCs, 5 tank battalions, 6 of self-propelled artillery, plus usual divisional troops)
- 6th Guards Motor Rifle Brigade (3 infantry battalions, 1 of tanks and 1 of artillery)
- Two Rocket Brigades, a SAM Brigade, an Engineer Brigade, and two helicopter regiments.

In short, the Army had 27 tank battalions, 24 infantry battalions, 25 artillery battalions. It was meant to bash through NATO's forward defences (probably the job of the two non-Guards divisions). Then it would send the Guards Tank Divisions through as an Operational Manoeuvre Group (OMG) to raise havoc deep inside West Germany – in a mechanized cavalry-type raid straight out of Tukhachevsky's playbook but with a speed and firepower he never imagined.

The end of the Cold War was as much a result of the collapse of the Soviet economy as anything else, the military posture the USSR maintained through the 1980s was ultimately unsustainable. The 1988 CFE Treaty also required the USSR to drastically slash its inventory of tanks, armoured vehicles, artillery, and other weapons systems.

The 1989 Soviet census revealed that the USSR had a combined population of 286,730,819 people as of the middle of January, 1989. The population of Russia alone was 147,400,537 people. Almost 28 years later, the population of the Russian Federation alone was estimated (as of January 1st, 2017,) to be 146,389,999 people. The Russians are also in demographic trouble, immigration – mostly from Central Asia –

keeps their population stable as deaths quite outnumber live births and only 15.2% of the population is under the age of 15.¹²

Russia has summoned swarms of conscripted soldiers on innumerable occasions in the past... it cannot afford to do so now. While Russia does continue to conscript its young men, they are running into real manpower shortages. The Russian army has been encouraging conscripts to come back on contract service, in effect trying to create a cadre of experienced NCOs – although it significantly downsized its Army in 2008.

Between the CFE Treaty and the end of the USSR, 20th Guards Army was stripped of some of its assets and then pulled out of Germany. What remained of it was assigned to the Moscow Military District, and was garrisoned around Voronezh.

The Russians made a virtue out of necessity and made some fundamental changes to the composition of the Army. Equipment stocks were plentiful, manpower was short and the Post-Cold War look of the 20th Guards Army was something like this:

- 3 separate Motor Rifle Brigades (each with three infantry battalions, 1 tank battalion, 1 artillery battalion),
- 1 Tank Brigade (4 tank battalions, 1 artillery battalion),
- 1 Artillery Brigade
- 2 Rocket Brigades
- 2 SAM Brigades
- 1 Logistics Brigade
- 1 Electronic Warfare Brigade.

With a total of 7 tank battalions, 9 infantry battalions, and 8 artillery battalions, this army had less than a third of the combat arms teeth it had boasted earlier. The important change was that the Russians cut an entire level of command out of the loop.

- 1987: Army – Division – Regiment – Battalion
- 2008: Army – Brigade – Battalion

The change meant that even though the formation was much smaller, it was also faster and much more responsive. It might have been even more effective in the OMG role than the older formation was.

The 20th Guards Army has been earmarked to receive hundreds of the new Armata Tanks and may be presumed to be getting first crack at other more modern equipment. Together with the 1st Guards Tank Army, the 20th is being revamped and re-armed.¹³ The new look will see the 20th Guards Army probably look like this:

- 4th Tank Division
- 2nd Motor Rifle Division
- 6th Tank Brigade
- 9th Motor Rifle Brigade

¹² <http://www.worldometers.info/world-population/russia-population/>

¹³ <http://www.ibtimes.com/russian-military-create-two-new-armies-west-country-hostility-toward-nato-increases-2029592>

- Artillery Brigade
- Missile Brigade
- Reconnaissance Brigade
- 1-2 SAM Brigades
- Helicopter Regiment
- Logistics Brigade
- “Attack Drones”

The Army will probably muster 15 tank battalions, 15 infantry battalions, 12 artillery battalions. Re-equipment with Armata Tanks, new mechanized infantry combat vehicles, and new self-propelled artillery is underway. The Army has been moved to the Western Military District, in western Russia, where it is in easy reach of the Baltic States, the northern Ukraine, or even Poland. Wedding aggressive doctrine to new technologies and reviving elements of its traditional “Army of Manoeuvre”, Russia is preparing a potent military formation.

What Next?

The appearance of the T-14 Armata tank and the revival of the 20th Guards Army does not imply that Moscow is building an army like the one that chased Napoleon back to Paris in 1814 or bashed its way to Berlin in 1945. Two high-tech Guards Armies do not reflect a threatening capability to surge clear across Western Europe to the English Channel, as was the case in the Cold War. Russia cannot afford to build such an instrument these days, nobody can.

Tanks, even if generously supported by artillery, surface to surface missiles, and “Attack Drones” have pronounced limitations on where they can go. They remain creatures of the open country, and a tank army surging into major urban centers represents an opportunity for the scrap metal industry.

However, the Armata betrays the fact that the Russians still think very seriously about conventional warfare, read widely, have been closely studying the conflicts of the last few years, and are drawing appropriate conclusions from them. The Russian general staff is still very professional and should not be underestimated.

The revival of 20th Guards Army does not imply aggressive intent, but it does imply aggressive capability. The Western battlefield supremacy show-cased in 1991 and 2003 should not be taken for granted anymore.

The great Russian bear is out of hibernation, lean and hungry, with freshly honed claws. This does not mean the Bear is dangerous, but rather that it needs to be treated with wary respect. It is also in our mutual self-interest to look to the sorry state of our own militaries and dust off the manuals on war-fighting conventional opponents; and to upgrade our 30-40-year-old weapons systems. There is no sense in provoking a bear, but there is no sense in tempting one either.

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