Learning from Russia
Comparing Russian and Chinese Military Reforms

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Understanding the Chinese Revolution in Military Affairs (RMA) has been a challenge for military thinkers and planners due to opacity and secrecy within the People's Liberation Army (PLA). This article delves into the traditional relationship between the erstwhile Soviet (now Russian) and Chinese militaries and draw parallels between the two RMA. It argues that in many ways the Chinese RMA has followed the Russian RMA, which was driven by the latter's experiences in modern wars in Georgia, Ukraine, Crimea, and Syria. The article concludes that the PLA has suitably modified the Russian military doctrines, reorganisation and restructuring as well as the induction of military equipment to suit the threats and challenges that confront it. Military thinkers and planners would do well to study the Russian RMA to extrapolate the future trajectory of the changes that are underway in the PLA.

Introduction

Over the course of past three decades, the Russian Army was largely committed to low-level insurgency in Chechnya and the Caucasus, especially in the decade of the 1990s. However, a gradual shift was apparent from the second half of the 2000s with President Vladimir Putin expanding Russian footprints into Georgia (2008), Ukraine/Crimea

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(2014) and Syria (2015), as part of the traditional policy of *Derzhavnost* (Great Powerness) to reassert Russian identity. Between 2004 and 2012, the Russian Army underwent a major Revolution in Military Affairs (RMA), building a capability to respond to regional and low-intensity threats as the immediate aim and, subsequently, expand its capacity to project power beyond the immediate borders.

The Chinese People's Liberation Army (PLA), was, from its birth, structured, trained and equipped by Stalin's Soviet Army. Thus, as the entire early PLA military leadership was trained in the former Soviet Union, it adopted Soviet military doctrines, concepts and thinking. Although much changed after the Mao–Khrushchev clash of egos and the subsequent withdrawal of all Soviet supervising and training staff from China[1], the PLA continued to reverse engineer and build on Soviet designs for its armament and aviation industry.

After the end of the Cold War and the dissolution of the Soviet Union in 1991, the first major treaty between the People's Republic of China (PRC) and Russia—the Sino-Russian 'Treaty of Good-Neighborliness, Friendship and Cooperation'—was signed in 2001 by Jiang Zemin and Putin. This treaty has provided the guiding framework for cooperation between Russia and China for the past two decades. Valid for 20 years, it has elevated the bilateral relationship to a strategic level. Article 9 of the treaty is particularly relevant:

> When a situation arises, in which one of the contracting parties deems that peace is being threatened and undermined or its security interests are involved or when it is confronted with the threat of aggression, the contracting parties shall immediately hold contacts and consultations in order to eliminate such threats.[2]

While some argue that the treaty has its limitations in that it falls short of an alliance, others, like Yu Bin—a Senior Fellow at Shanghai Institutes for International Studies (SIIS), a prominent think tank in China—believe that it enables both comprehensive and maximum cooperation as well as not offend any third party.[3] At various times in its 19 years of existence, the leaders have reaffirmed their special relationship. On its first anniversary in 2002, President Putin stated: 'I am convinced that the fulfillment of the treaty's potential will help to deepen and expand Russian–Chinese political, economic, *military–technical*, humanitarian and other cooperation... (emphasis mine).'[4] Former Russian President Dmitry Medvedev emphasised on the treaty's tenth anniversary: 'Our strategic partnership is based on solid foundation of 2001 Treaty of Good

Neighborliness, Friendship & Cooperation, and has been developing ever time.'[5] On the treaty's fifteenth anniversary in 2016, Chinese President Xi Jinping declared that the treaty 'sets new type of bilateral relation' and 'mutually beneficial and reciprocal economic cooperation in principle of win-win-results'.[6]

As the recent conflict in Syria has shown, Russia remains a potent military power, one that cannot be unacknowledged or underestimated. It has undertaken significant military reforms and modernisation on account of its RMA since 2008. While its domestic politics may see occasional churn, that appears to have had little effect on its RMA. According to Maxim Trudolyubov:

> On the political front, Russia feels like a China understudy. On the military front, Russia, as a country that has gone through transformative reforms and modernization, is definitely the leader and *China is more the understudy. Russia's military reforms preceded China's reforms by quite some time* [emphasis mine]. Russia's military reform and modernization on the whole have been successful in restoring the armed forces as a useful instrument of national power.[7]

The Chinese military has studied the Russian experiences and lessons learnt in Ukraine and Syria assiduously. The PLA has been regularly participating in joint exercises with the Russians in fairly large numbers, in all domains, that is, land, sea, air, cyber and electromagnetic. The Chinese have been looking to Russia for the purchase of cutting-edge technological equipment, such as the S-400 air defence system, aircraft engines and precision weapons. There has also been a robust exchange of academia and military delegations. All these suggest that there is a profound impact of Russian doctrinal thinking, restructuring and equipment induction on the ongoing Chinese RMA. This article aims at understanding and comparing a few doctrinal and organisational changes that have recently been effected in the PLA to prove this hypothesis. It does so by examining, first, recent developments in Russia-China military relations followed by a detailed analysis of the Russian and Chinese RMA.

Recent Developments in Russia–China Military Relations

In 2019, both countries released defence white papers: Russia in May and China in July of that year, respectively. The Chinese defence white paper, published on 24 July 2019, states:

> The military relationship between China and Russia continues to develop at a high level, enriching the China–Russia comprehensive strategic partnership of coordination for a new era and playing a significant role in maintaining global strategic stability. The Chinese and Russian militaries have continued the sound development of exchange mechanisms at all levels, expanded cooperation in high-level exchanges, military training, equipment, technology and counter-terrorism, and realized positive interaction and coordination on international and multilateral occasions.[8]

There is thus a visible and demonstrative acceptance of a new-found relationship between the two militaries in the most authoritative documents emanating from the Chinese military.

Two interesting events, noteworthy in defining the defence relationship between Russia and China, preceded the paper that was released on 24 July 2019. The first was the publication of an order by the Government of Russia on the official Internet portal on 22 July 2019 stating that Government of Russia has approved a proposal by the Ministry of Defence to hold negotiations with the view of signing a cooperation agreement between Russia's Ministry of Defence and the Ministry of National Defense of the PRC.[9] Second, on the morning of 23 July 2019, Russian and Chinese strategic bombers went on a joint air patrol mission over the Sea of Japan, near the Liancourt Rocks islets. These islands are under dispute between the China and South Korea and Japan, both of whom issued a statement on violation of their airspace. However, Russia and China rejected these accusations stating that the aircraft flew over neutral waters in accordance with international law.[10] The messaging was clear and the world noticed a distinct shift in the military relationship.

What is obvious is that China and Russia are being driven together by realpolitik considerations. Both are subject to American sanctions of various types. They have also found themselves in the crosshairs of Pentagon defence planners as a result of their assertive regional activities, with Russia mostly in Eastern Europe and in West Asia, and China largely in the Western Pacific. Hanlon and Twardowski argue that Russia–China cooperation may diversify into four key areas: first, a transactional cooperation where economic and other critical interests coincide, including arms sales; second, military exercises or collaborative military training; third, share intelligence, posture forces, in support of each other and conduct peaceful exercises and provocations against

mutual adversaries; and fourth, formal defence pacts that ensure unconditional military assistance with combat forces in the event either finds itself at war.[11] The last may be a more comprehensive redraft of the 2001 treaty which is due for renewal in 2021.

The Russian RMA

Organisational Changes

Top-level organisational changes in the Russian military in December 2012 appeared to be an act of consolidation of military power in the hands of the President Putin. In a dramatic shift, the President subordinated the Chief of General Staff (CGS) directly under the Commander-in-Chief, that is, himself, and gave the CGS additional powers of controlling territorial defence.[12] Earlier, the CGS was reporting to the Minister of Defence, thus concentrating all the power in the hands of the minister who filtered information to the Commander-in-Chief. The restructuring and resizing was a challenging exercise but it sent two clear signals: absolute control of the military by Putin; and the primacy of the army in matters of policy and decision making.

The Soviet military strategy 'provided the unity between military doctrine and operational art—its ultimate application'.[13] The Soviet High Command planned the deployment of forces and conduct of war by drawing instructions from the political leadership, enshrined in the military strategy and the tenants of principles regarding nature of war laid down in the military doctrine. The military technical aspect 'was a dynamic idea, constantly adjusted to changes in force posture, new political requirement, economic factors, strategic achievements, preparation of the armed forces and changes introduced by potential enemies.'[14] On the other end of the spectrum, operational art looked at orchestration of joint operations, integrating all organs of the Soviet military at front, army and corps level, to achieve objectives at strategic–operational level. The Russians believe that operations conducted below divisional level are tactical battles incorporating combined arms, joint fires and missiles in conduct of battles and counterattacks.

Meanwhile, the Russian General Staff recalled the various doctrinal precepts of their military strategists and thinkers. Reinforcing the belief that local wars and conflicts were more likely to conflagrate around the world and in Russia's periphery, the General Staff realised the need for smaller, agile combat formations and decided to undertake two major

Figure 1 Russia's Military Districts

changes: doing away with divisions and regiments, thereby reducing the channels and chain of command and control of forces in time and speed of action; and replacing them with modular brigades maintained at higher levels of readiness. When completed, the restructuring of the command and control of the armed force would be three tier: General Staff to regional commands and further onto brigades.

Joint Strategic Commands or Military Districts

The first major change carried out was to restructure the Russian military from six Military Districts (MDs) to four MDs, namely, the Western, the Southern, the Central and the Eastern Districts (see Figure 1). The Central District included the old Volga–Ural MD and the Western District subsumed the Leningrad and Moscow MD. Initially, these MDs were called Joint Strategic Commands (JSCs).[15] Also referred to as *Obyedinennye Strategicheskiye* or OSK, they were set up as a result of a study of future armed conflicts that Russia was likely to face in the 2020–30 time frame. It was an outcome of lessons learnt after the operations in Chechnya and Georgia, essentially the changing nature of war. Therefore, the need to decentralise command and delegate control. After much deliberation, the Russian Ministry of Defence decided to retain the traditional term MD during peacetime for the theatre command and the term 'JSC' was to be used only during times of military threat. In the Soviet era, there were a total of 16 MDs and the MD commander was responsible for five missions in peace: garrisoning, training, rear area logistics, protection of vital areas and civil defence.[16] In war, he had no operational responsibility over units and only assisted in mass mobilisation, transportation and logistical support, including replenishment.[17] Now, the operational control is vested with the four MDs and the newly created Arctic JSC. Each MD has a control centre directing ground, air and navy forces in its region, enabling closer coordination and a shorter command chain, in which orders no longer have to pass through Moscow with the shortening of the command links from 16 to three.[18] These OSKs control all units except nuclear and strategic assets, like the Strategic Rocket Forces (RVSN), airborne units (VDV) and the GRU (Main Intelligence Directorate) *Spetsnaz* (Special Forces) units, which are directly under the General Staff at Moscow.[19]

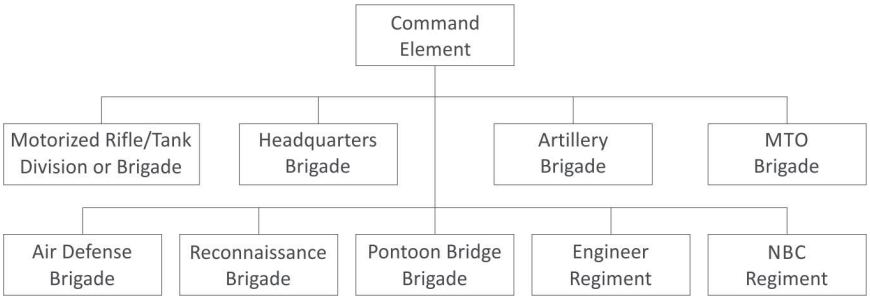

Figure 2 Organisation of the Russian Combined Arms Army

Source: Grau and Bartles, *The Russian Way of War*, n. 16.

Reorganisation of Group Army to Combined Arms Army

In 2004, in a bid to integrate at the operational level as an experiment, the 58 Group Army (GA) deployed in Crimea was converted to 58 Combined Arms Army (CAA). This army does not have a uniform set of assets but is composed of modular brigades of all arms: tank/motorised, artillery, air defence, reconnaissance, engineers, logistics and nuclear, biological, chemical (NBC) or chemical, biological, radiological, nuclear (CBRN). The CAA can attach or detach various manoeuvre units in operations.

Essentially, each motorised brigade of the GA has all arms and services components integral to its organisation, enabling it to be employed as a compact, mobile, modular force in a fast-paced, network-centric and dense electromagnetic environment. In addition, combat support and logistics brigades are available in second echelons to provide flexibility in employment so that the CAA commander can exploit any opportunity in conduct of operations. More importantly, this organisation facilitates expeditionary employment and projection of combat power overseas. Figure 2 shows the organisation of a CAA.

Command and Control

The Georgia experience highlighted two important lacunae in execution of command and control in the Russian Army. First, the orders from the General Staff were taking too long to reach the front-line forces since the orders/instructions were channelled via the MD Headquarter (HQ), then to the 58th Army HQ, further to the battalion-sized tactical groups. In the five-day war, the initial few hours the battalion commanders of the 693rd and 135th Motorised Rifle Regiments of the 19th Motorised Rifle

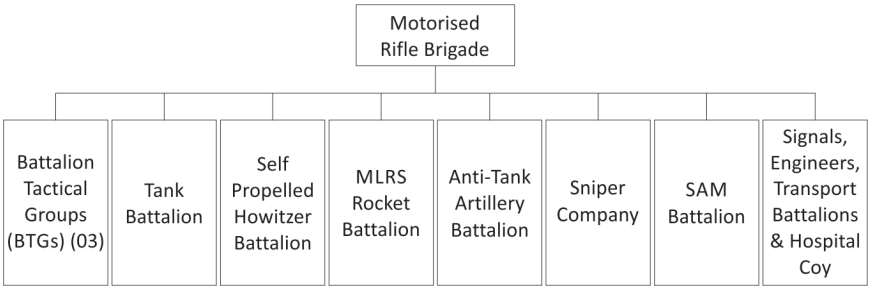

Figure 3 Organisation of the Russian Motorised Rifle Brigade

Source: Grau and Bartles, *The Russian Way of War*, n. 16.

Division were left to their own devices.[20] Importantly, in this operation, there were only three HQ—the General Staff, the MD HQ and the 58th Army HQ—who were commanding just a few motor rifle and airborne regiments. Therefore, there was a felt need to reduce the command and control hierarchical structures.[21]

Another major problem faced during the five-day war was the large time taken by the forces to reach the conflict scene due to cumbersome organisational structure of the units and formations.[22] Further, since the Russians expected only local conflicts in the near future, they decided to go back to the old idea of 'Mobile Forces' and abandon the cumbersome division and regimental structure. This, thus, led to the idea of more flexible independent brigades. These brigades were based on a standard equipment table with same number of personnel and weapons. Once the new brigades were created, the command and control structure too underwent a change. Now, they had only three tiers, that is, the General Staff, the JSC/MD, and the brigade.

The 'New Look' independent motorised rifle brigade in 2009 consisted of the elements shown in Figure 3.

However, further changes were carried out in the new look brigades and the Ministry of Defence decided to replace the motorised rifle, tank and airborne assault brigades with standardised 'heavy', 'medium' and 'light' brigades.[23] The new look brigades had the capability to detach combined arms Battalion Tactical Groups (BTGs) which were raised for conduct of operations in Crimea and Donbas in Eastern Ukraine.[24] These operations demanded force projection with speed and intensity and the BTGs, which were raised as compact, agile units, modular in structure, capable of quick deployment in expeditionary role in Russia's immediate sphere of influence, were a big success. Supported by integral artillery

and provided infantry combat vehicles (ICVs)/tanks for mobilisation, the BTGs packed a punch and could influence the battle in a multi-threat environment. Up to three integrated BTGs could be detached by a motorised brigade to conduct mobile operations independently in Crimea.[25]

To raise morale, units were renamed and granted historical names in an attempt to revisit the past glory of the Russian Army. Although symbolic and more to assuage the military's pride, it contributed to Putin's plans to restore the past glory of Russia. Interestingly, the PLA too has renumbered its GAs (now corps) from a random number to a more uniformed 71–83. This too has an historic significance to a document issued by the fledging Revolutionary Central Military Commission (CMC) on 1 November 1948 that specified numbers of corps only up to the number 70.[26]

Recent reports indicate that the present leadership has retracted some of the Serdyukov reforms, particularly the recreation of divisional-level HQs. According to some reports, the Russian General Staff has realised that large-scale conventional operations require optimal control—as a rule, an HQ should optimally control up to five subordinate units—and that large numbers of independent brigades may not be suitable in conventional operations involving large concentrations. The recent Order of Battle (ORBAT) suggests that Russia has retained divisional HQs along its borders with Ukraine but continues to have smaller, compact and agile airborne and motorised brigades opposite the Baltics. Clearly, it favours hybrid warfare in the Baltics as opposed to Ukraine and its western borders.[27]

Airborne and Special Force

The Russian military doctrine, like the erstwhile Soviet Union doctrine, is primarily based on finely choreographed operations involving employment of large-scale conventional forces. However, in recent times, particularly after Russian thinking shifted to localised wars, the role of Special Forces has gained significant traction. The Russian Ministry of Defence defines the term 'special operation' as follows:

> …special operation of troops (forces) is a complex of special actions of troops (forces), coordinated by objectives and tasks, time and place of execution, conducted according to a single concept and plan in order to achieve certain goals. Special actions of troops (forces) are activities carried out by specially designated, organized, trained

> and equipped forces, which apply methods and ways of fighting not typical for conventional forces (reconnaissance-sabotage, subversive, counter-terrorism, counter-sabotage, counterintelligence, partisan, anti-partisan and other actions).[28]

As is evident, Special Forces is the spearhead of new-generation warfare. There is acceptance of the predominance of small team, precision-led surgical operations to achieve the objectives of modern wars. The Russian Spetsnaz, an acronym for *spetsialnogo naznacheniya*, meaning 'of special purpose' or 'designation',[29] were the first Spetsnaz units to be raised by the GRU by establishing a naval Spetsnaz brigade for each of the fleets; however, in actuality, the brigades were closer to a battalion in size. In 1957, five regular Spetsnaz battalions were raised for each of the fronts.[30] The Spetsnaz were a creation of the Cold War era. They were to be used as strategic assets to be deployed deep behind North Atlantic Treaty Organization (NATO) lines to target tactical nuclear weapons and command structures and were not the Special Forces in the true sense of the term as understood world over.[31] However, after the collapse of the Soviet Union, the Russian Spetsnaz comprised the GRU's naval Spetsnaz, the Spetsnaz brigades, the Russian Airborne's 45th Spetsnaz Regiment, and select elite anti-terrorist units of the Federal Security Service (FSB; erstwhile KGB), namely, the Alfa (Alpha) and Vympel (pennant) units.[32]

The Russian Special Forces saw a major expansion in the RMA post-2008. A Special Operations Forces Command or *Kommadovaniye sil Spetsialnykh Operatsiy* (KSSO) was set up after intense study of similar forces all over the world between 2009 and 2013. In 2013, the KSSO was formally inaugurated, drawing recruits from the GRU Spetsnatz, the FSB and the airborne units (VDV).

These personnel have to serve with the existing Spetsnaz units, followed by specialised training, before being designated as Russian special operatives and gaining the nickname *podsolnukhi* (sunflowers). The training of the officer recruits is carried out in the Ryazan Higher Airborne Command School (RVVDKU) and the Novosibirsk Higher Military Command School (NVVKU). However, all 'sunflowers' learn the basic skills of skydiving, mountaineering, swimming and scuba diving, as well as storming buildings and homes, but depending on their individual strengths the soldiers are trained in specialist tasks. One interesting aspect of the command of the KSSO is that it reports directly

Figure 4 Concept of the Russian Rapid Reaction Forces

Source: Bartles and McDermott, 'Russia's Military Operation in Crimea Road', n. 36.

to the General Staff of the Russian Federation and not the GRU, as is the norm with the Spetsnaz brigades.[33]

The Russian Special Forces ORBAT consists of the following: seven regular independent special designation brigades; the 25th Independent Special Designation Regiment; and the Special Operations Command. Each brigade consists of two or more independent special designation detachment of around 500 effective personnel. The four naval fleets have an independent naval reconnaissance Spetsnaz point each, which is a brigade-strength unit of varying composition, with a maximum strength of about 1,400 operators.[34]

The KSSO has an integral helicopter squadron with Mi-8/17 assault transports and Ka-50/52 gunships, based at Torzhok airbase (home of the 344th Army Aviation Combat Training Centre), and a designated airlift squadron.[35] Thus, in actual terms, the KSSO is the only true Special Forces unit with dedicated aviation assets. Russia also toiled with the concept of raising a Rapid Reaction Force (RRF) Command and an iteration on the same was tabled during the tenure of erstwhile Defence Minister Anatoly Serdyukov for raising the RRF Command in 2014. These forces were apparently intended to have air–land–sea capability, well suited to handle current threats as well as peacekeeping duties.[36] Figure 4 illustrates the thought process and the proposed organisation of the RRF. In essence, the KSSO should have actually been developed on this architecture, but did not.

The Special Forces Operations

The Soviet Union was clearly unprepared for a guerilla war when it entered Afghanistan in 1979. A massive conventional force was faced with a hostile group of guerillas, living off the land in small groups, equipped with light weapons and small arms, who operated with impunity in a terrain conducive to small team operations. Statistics suggest that 'on any given day, 85 [per cent] of the ground force was committed to area or convoy security', with the other 15 per cent, consisting largely of airborne and air assault forces and Spetsnaz, executing operations. Thus, a majority of the tactical land operations were attributed to the agile, tactically flexible forces.[37] Even when the Russian Army entered Chechnya in 1996, it was barely a cohesive military, having been cobbled together hurriedly after the collapse of the Soviet Union. Units that had no training, command cohesion or experience failed and the Russian Army withdrew in the face of reverses in Chechnya. Although a more professionally trained and better-equipped Russian Army re-entered Chechnya in 1999, it was the Special Forces, along with the airborne and air assault forces, that were largely successful in the successful integration of Chechnya into the Russian Federation. These lessons flagged the shift in doctrinal thinking of the demise of large-scale conventional conflicts. The enhanced role of airborne forces and Special Forces became evident and these forces show a massive expansion in the post-Chechnya era.

The employment of Spetsnaz in operations in Ukraine appears to support the non-linear, non-contact, asymmetric warfare strategy being advocated by Russian military thinkers. *IHS Janes* estimates that the roles of the Special Forces have since changed, especially after the CGS Valery Gerasimov stated:

> The role of non-military means of achieving political and strategic goals have grown, and, in most cases, they have exceeded the power of force of weapons in their effectiveness…all this is supplemented by military means of a concealed character including carrying out actions of informalised conflict and the actions of special operations forces.[38]

The four roles envisaged are:

1. Deep reconnaissance behind enemy lines.
2. 'Tip of the Spear Operations', essentially facilitating the way for deployment of heavier follow-on echelons. In Ukraine, for example, the Spetsnatz deployed initially and provided the

eyes and ears for the induction of naval infantry, artillery and motorised rifle brigades.
3. Counter-insurgency operations, like in Chechnya.
4. Commitment in political warfare as a political operator essentially, intelligence, covert operations and propaganda.[39]

Mechanisation and Firepower

Two major tenets of Russian operational doctrine have been the concepts of mechanisation and overwhelming firepower. Russia shares long borders with the NATO countries of Eastern Europe, where the terrain affords employment of large-scale manoeuvres by mechanised forces. The use of motorised brigades in its Ukraine campaign successfully tested the combined arms concept. With the induction of the new Armata family of armoured fighting vehicles—tanks, ICVs, self-propelled guns, armoured recovery vehicles—the concept of manoeuvre has been further honed and tested. Further, downsizing of manpower has been successfully balanced by induction of technology, resulting in changes in tactics and warfighting.

The Russian Army is a conscript army.[40] Most recruits serve for 1–2 years, after which they get demobilised. On an average, their effective employability in the military is barely 14–18 months post a six to eight months long basic training (depending on the arm/service they join). Under such conditions, the Russian General Staff has undertaken a major shift to mechanisation and firepower to compensate for the lower skills in training. In their thinking, it is more economical to use massive firepower and pulverise the enemy, rather than use skilled and trained manpower to manoeuvre on the battlefield. The philosophy draws from the pragmatic assessment that it is cheaper to employ firepower than employ manpower, which comes with huge costs of training, housing and salaries.[41] A typical example is the automatic ammunition loader in a tank which has reduced the crew of a T-72/T-90 tank from four to three.

The other major change has been in the mechanisation of brigades and units. With foot infantry being replaced by motorised infantry and mechanised infantry, the new look brigades have given up the concept of mass and instead replaced with firepower and mobility. Physical attacks by infantry are likely to be replaced by mechanised attacks by tanks and ICVs, supported by large volumes of artillery and long-range weapons.

The Russians term artillery as the decisive 'finishing' arm.[42] Broadly, artillery is employed as a direct firing weapon, concentrated or as a

moving/fixed barrage. The Russian Army has an overwhelming reliance on firepower and classifies firepower to achieve desired effects on the target as follows:

1. Annihilation: 70–90 per cent kill probability.
2. Demolition: Physical destruction of enemy positions/ installations.
3. Suppression: 30 per cent destruction of targets.

The preference for volume of fire is evident in their philosophy of employment of firepower. Typically, a Russian artillery unit will calculate the mass of artillery required to annihilate an area of ground (usually indicated by size, for example, 1 square km or 500 m x 500 m).[43] As compared to NATO, the Russian artillery does not lay much emphasis on precision munitions. Alongside, rocket artillery has seen a phenomenal jump in capability. Their multi-barrel rocket launchers (MBRLs) fire a variety of munitions to include high explosive fragmentary, dual-purpose improved conventional munitions (DPICM; top attack armour), thermobaric, mine laying and even nuclear/chemical charges,[44] with increased ranges up to 350 km. The Russians have employed drones for adjustment and direction of artillery and missile fire in Crimea by Special Forces and in fair numbers for similar tasks in Syria.[45] In Crimea, they have demonstrated a system of drones employed in a synchronised form for Direction of Own Artillery Fire (DOOAF).

The Chinese RMA

Higher Defence Organisation or 'Above the Neck' Reforms

The Chinese Higher Defence Organisation (HDO), adopted in the 1950s, was modelled on the Soviet system and essentially comprised Services Staff HQs, the Military Regions (MRs) and the general departments at the top as the three main pillars:[46]

1. Pillar 1: Three services (PLA Army, PLA Navy, PLA Air Force) and the Second Artillery Force (SAF).
2. Pillar 2: Four general departments—General Staff Department (GSD), General Political Department (GPD), General Logistics Department (GLD) and General Armaments Department (GAD).
3. Pillar 3: Seven geographic MRs: Shenyang, Beijing, Jinan, Nanjing, Guangzhou, Chengdu and Lanzhou.

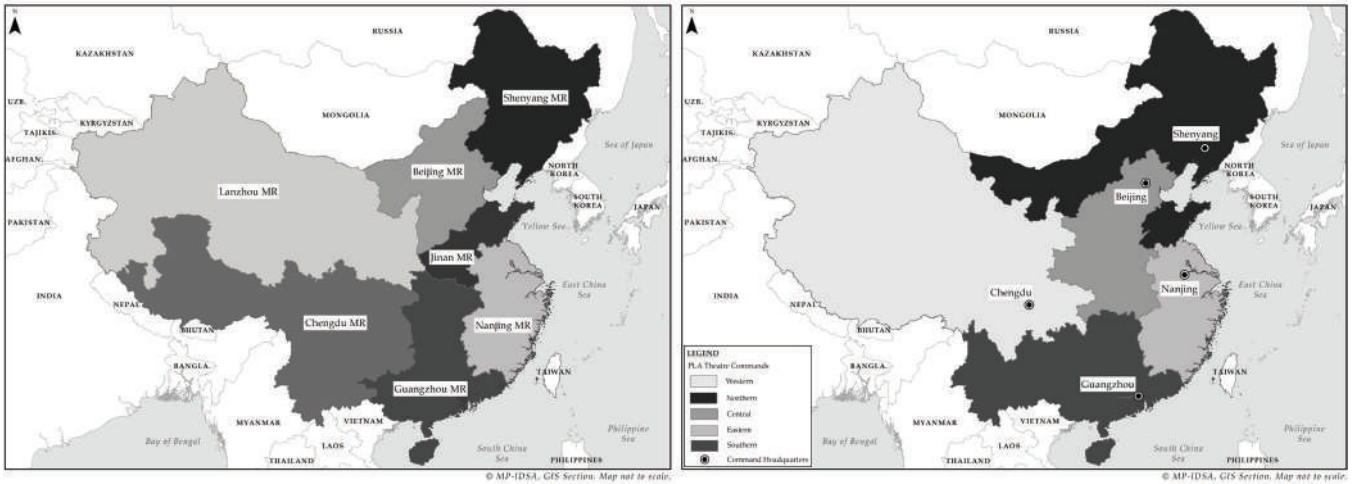

Figure 6 China's New Military Theatres

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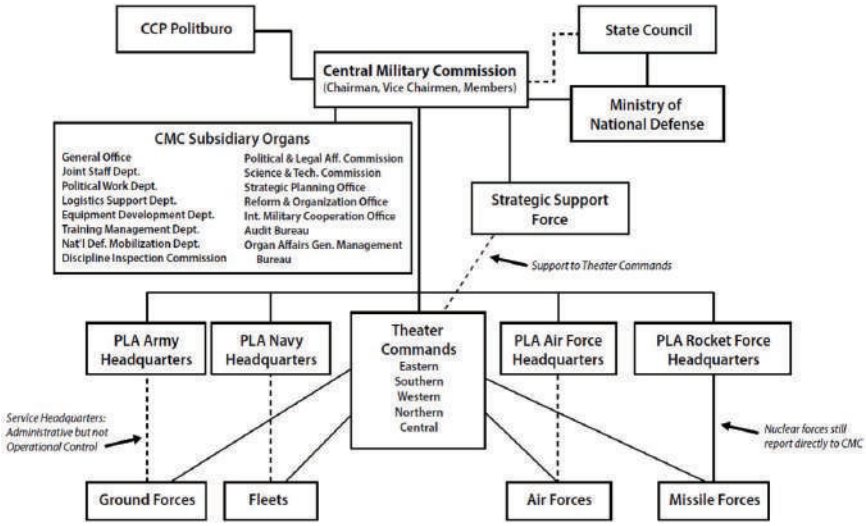

Figure 5 PLA Structure after Reforms

Source: Saunders and Wuthnow, 'China's Goldwater–Nichols?', n. 45.

In a sweeping change, starkly reminiscent of the Serdyukov reforms in Russia, Xi Jinping approved the dissolution of the three pillars on 11 January 2016. Also called 'Above the Neck' reforms, these essentially referred to changes in the higher defence organisations and structures. It appears that the resistance of the military top brass to Serdyukov's reforms made Xi's planners wary and in a swift move, Xi not only scrapped the powerful four general departments but also reconfigured the Chinese Central Military Commission (CMC) into 15 sections, that is, seven departments, three commissions and five directly affiliated offices, thereby giving the PLA HDO an entirely new look. Power was divested and spread horizontally and all these sections were made responsible to the CMC. The CMC too was trimmed, with the service chiefs being excluded from the high table and instead replaced by bosses responsible for oversight, political work and discipline to heel the PLA. The PLA, in its new avatar, looked flatter and less hierarchial (see Figure 5).

Military Theatre Commands

On 1 February 2016, the reforms replaced the system of MRs with five new Military Theatre Commands (MTCs). 'The principle of a newly implemented structure, in which the CMC takes charge of the overall military administration, theatre commands focus on combat and the

different military branches pursue their own development, must be resolutely observed,' Xi said while handing over the banners to the first set of theatre commanders at an impressive ceremony in Beijing.[47] Drawing from the reorganisation of the Russian Army, the PLA also changed the hitherto stove-piped MR structures which inhibited joint operations and needed the CMC to superimpose itself in war. Some analysts argue that the PLA may have adopted the United States (US) model of theatre commands, but it fundamentally differs in the geographical extent and responsibility: US theatre commands are global and externally oriented, while PLA MTCs are restricted to the sovereign boundaries of China.

The new system of five MTCs is designed to conduct integrated battles under conditions of informatisation (some now call it intelligentisation[48]) with components of all the services, including new domains (space, cyber and electromagnetic), under one single theatre commander. Based on geographical divisions, it is very similar in name and designation the Russian JSCs or MDs. Learning from the Russian transformation, each MTC addresses the external and internal threat in its area of responsibility. Aside from unity of command, which ensures quick decision making and deployment of forces, the reform also aligns itself with the three-tier model adopted by the Russian military, that is, CMC to MTC to brigades. In terms of strategic planning, the five MTCs are no longer positioned only for regional defence, but also 'head-on and proactive defense', according to Zhang Tao, a military commentator in the PLA, suggesting that they retain the capability to launch pre-emptive operations across the immediate frontiers opposite their respective areas of responsibility.[49]

According to Yang Yujun, the Chinese Ministry of Defense spokesperson, the goal of creation of the MTC is to 'implement the Communist Party of China's (CPC) goal of building a strong military under new circumstances', a clear indication of the Party control over the gun.[50] Delinking the CMC from operational control, the PLA spokesperson said, 'As the only top joint operational commanding institutions in their respective strategic directions, the theater commands are responsible for performing joint operational commanding functions, dealing with security threats in their strategic directions, maintaining peace, deterring wars and winning battles.'[51] It is interesting to note that the chain of command has been split into two: a three-tier operational control ensuring MTC commanders report directly to Xi Jinping as Commander-in-Chief; and a more streamlined administrative control

which is now routed through the service chiefs to the CMC's newly created departments.

PLA Strategic Support Force

Perhaps the biggest takeaway for the PLA from the Russian experience has been the raising of the PLA Strategic Support Force (PLASSF). Having studied the Russian thinking in new-generation warfare and the Gerasimov doctrine, the PLA military officers and strategists have closely followed Russia's success in Ukraine and Syria, recognising the Russian Information Warfare (IW) strategy as the key battle winning factor. To formalise the organisation and structures, the PLA has successfully put together all elements of new domains and IW under one integrated structure and one unified commander, and also created linkages down to field units by the creation of the PLASSF. Raised on 31 December 2015, various writings suggest the broad role of this force as:

1. Responsible for all military space, cyberspace and electronic warfare (EW) operations.[52]
2. Form the core of China's IW force, which is central to China's 'active defense' strategic concept.[53]
3. Run strategic research projects and be the 'cloud think tank' for the PLA.[54]

Vasily B. Kashin, a senior analyst at the Moscow-based Centre for Analysis of Strategies and Technologies, avers that PLASSF's 'unique structure' will bring together the Chinese military's whole scope of capacities in waging 'special operations and information warfare'. In his view, this force would be responsible for technical reconnaissance, human and technical intelligence, EW and psychological operations.[55]

'Below the Neck' or Corps Level and Below Reforms

'Above the Neck' reforms had started with effect from 1 January 2016, but 'Below the Neck' reforms started in April 2017, more than a year later, with the reduction of 18 GAs to 13 new GAs, referred to as 'Combined Corps' (CCs) and renumbered from 71 to 83. According to Dennis Blasko, the renumbering scheme was selected to make a break from past designations as, from 1927 till then, the PLA had assigned numbers 1–70 to its corps/armies.[56]

Combined Corps

The Chinese reform at restructuring the GAs to CCs and Combined Arms Brigades (CABs) has closely resembled mirror imaged the Russian model of the 58 CAA in Ukraine. While 18 GAs morphed into 13 CCs and about 82 CABs, the actual structure continues to remain a work in progress (see Figure 7). During a visit to the units of Beijing Garrison in October 2018 particularly, the 1st Guards Division (note division, not brigade) continued to have motorised regiments (not CABs) on its ORBAT.[57] However, elsewhere, like in the 21 GA (Chengdu) or 31 GA (Fujian), motorised divisions had been replaced by CABs. That was not all: while GAs (or CCs) were undergoing a transformation, Military Districts have continued to retain mechanised and motorised divisions. There are reasons to believe that this may be prompted by recent reports from the Russian military that there is a rethink on the conversion of divisions to brigades.

The PLA has somewhat standardised the structure of these CCs with each having six CABs and another six support brigades. There are two to three CCs, or about 12–18 combat brigades, in each MTC. The CABs themselves have undergone changes, each having units of all arms and services organic to the brigade, thereby providing them the capability to operate independently over protracted periods of time, over larger distances, using greater manoevre and firepower. It is believed that the PLA has five types of CABs, tailormade to the terrain and role envisaged for that theatre. Figure 8 illustrates the organisation of one such CAB. It is identical to the motorised rifle brigades of the Russian Army that were employed with great success in Ukraine and Donbas. Clearly, lessons from Chechnya and Georgia have been picked up by the Chinese military planners, who intend to overcome challenges of delayed and cumbersome mobilisation as well as training and integration by, ab initio, placing all components of warfighting under one commander. Like the Russian motorised brigades, CABs are capable of rapid manoevre, can operate independently for long periods of time and have their own integral firepower, air defence, reconnaisance and logistics capability.[58]

PLA Special Operations Forces and PLA Aviation

The PLA Special Forces and Aviation are two arms that have gained the maximum from the largesse of this RMA. The reason they have been clubbed together is because the changing nature of warfare has proven in the battlefields of the Russian periphery that Special Forces

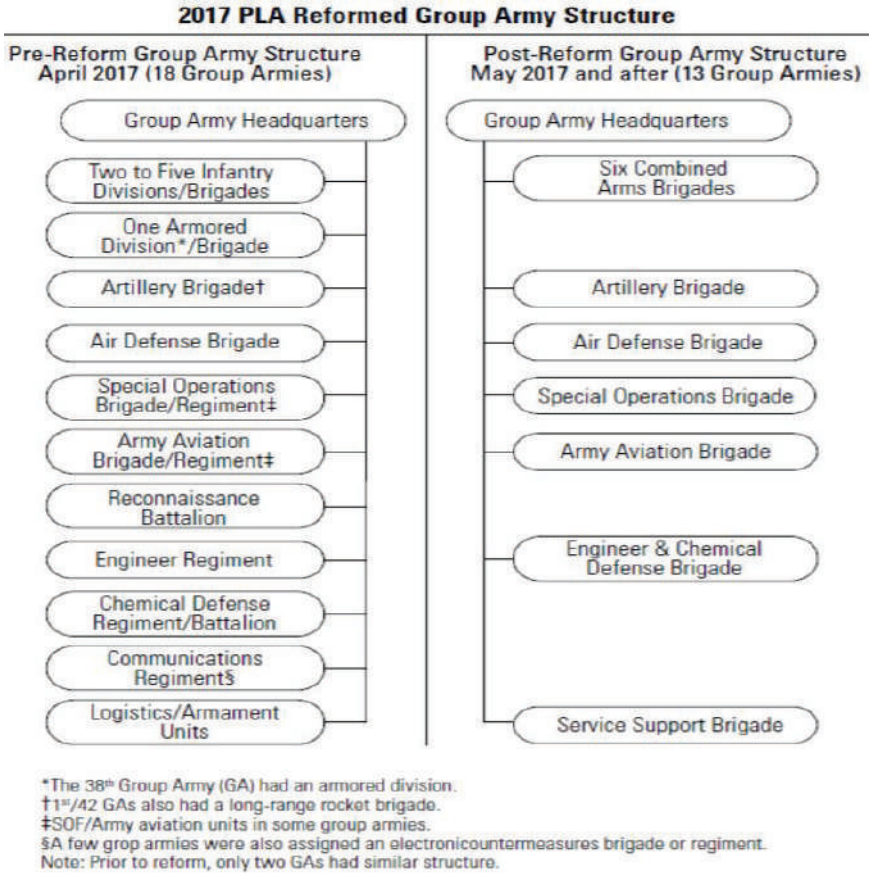

Figure 7 Organisation of PLA Combined Corps before and after Reforms

Source: Dennis Blasko, 'The Biggest Loser in Chinese Military Reforms: The PLA Army', in Phillip C. Saunders, Arthur S. Ding, Andrew Scobell, Andrew N.D. Yang and Joel Wuthnow (eds), *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Washington, DC: National Defense University Press, 2019, p. 357.

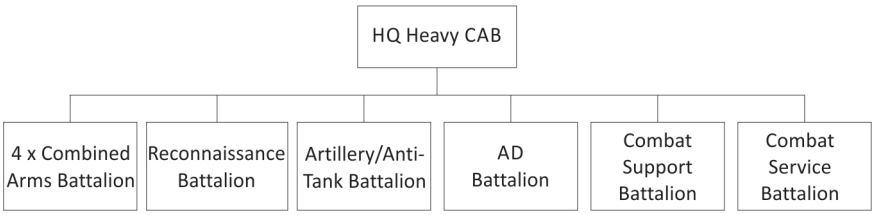

Figure 8 Organisation of PLA Combined Arms Brigade

Source: Military Balance 2019, IISS, p. 25.

and aviation, particularly helicopters, are a key component of waging non-contact warfare. The Russians were the first to change the course of early reverses in Afghanistan by replacing some fighter aircraft with helicopters as the chosen weapon of war against Afghan militias. Both then functioned together with amazing success, which appears to have been realised by the PLA. It is for this reason that both these arms have seen the maximum expansion in their numbers in the PLA, in keeping with the RMA of the Russian military. The importance of these two arms has been further cemented by the disbandment of five GAs out of erstwhile 18, which did not have army aviation and Special Operations Forces (SOF) units in their ORBAT.[59]

The PLA Special Operations Forces (PLASOF) units, unlike the modern militaries, are not under a national-level HQ. For example, Russia has a KSSO and the US has Special Operations Command at the apex level. In the PLA, the Special Forces units are under operational-level control and in some cases, tactical-level control. The PLASOF has units in the PLA Ground Forces, the PLA Navy, the PLA Air Force, the PLA Rocket Forces and the People's Armed Police Force. Under the older MR model, each MR had an SOF group or regiment totalling 1,000–2,000 personnel. That has undergone a quantum change:

1. Each group/regiment has been expanded to an SOF brigade in each CC.
2. These SOF brigades have doubled in strength to 2,000–3,000 personnel.[60]

Army SOF units are supported mainly by army aviation (helicopter) units. Amphibious ship and helicopter units in the navy support navy and marine SOF units. Air Force SOF units have greater access to the limited number of long-range transport aircraft in the PLA for parachute operations than the other services. All parachute-qualified personnel appear to receive their initial training on Y-5 biplanes, which also may be used for SOF insertion missions.[61] According to Blasko:

> SOF units are equipped with the most modern weapons and equipment in the PLA…including advanced electronics and communications, unmanned aerial vehicles, night vision and target designators as well as an array of light vehicles, including ultra-light aircraft. Many SOF units are described as 'triphibious,' capable of being inserted by air, land and sea (surface and subsurface).[62]

The PLASOF is responsible for intelligence and reconnaissance, with additional responsibility of conducting direct action, which differentiates it from the US Special Forces.[63] The PLA views the PLASOF as a key force multiplier in conduct of missions to achieve political, diplomatic and military objectives in peace and war. This resonates with the tasks and employment of the Russian Spetsnaz, as we have seen in Ukraine and Crimea.

Quoting PLA's authoritative document titled, *Special Operations Science Course of Study*, Kevin McCauley highlights, amongst others, two asymmetric missions allotted to PLASOF which are similar to the Spetsnaz employed in Ukraine and Crimea: network sabotage and psychological attacks. Network sabotage tasks 'include network interference through network intrusion to disrupt, block, or corrupt functions and information, along with jamming, network destruction and network deception by accessing an enemy network to alter information.'[64] This is similar to the role of the Russian Special Forces that employed a whole range of sabotage and subversion operations, like local proxies—local self-defence militias, mutineers, imported militants, foreign paramilitaries (Cossacks) and interjection of malware in smartphones (Agent X), to monitor movement of units, intercept communications and geotag real-time location of Ukrainian units.[65] The other is psychological attack missions, a component of the overall psychological warfare plan designed to cause chaos and lower enemy morale. Actions include dispersing propaganda leaflets in the rear area and inciting soldiers to surrender, especially those who are culturally similar to the peripheral states.[66] There are a total of 15 SOF brigades and two air assault brigades in the PLA, making a total of 17 brigades, which includes one brigade each for the 13 CCs, Tibet MD, Xinjiang MD, marine and the airborne corps.[67] This is an almost threefold increase from one SOF battalion in each GA to a brigade in each CC.

As far as the army aviation is concerned, the reforms have been both in terms of quality and quantity of this critical force that supports a number of important capabilities, including tactical mobility, special operations and logistics support. Prior to April 2017, there were seven army aviation brigades and five regiments.[68] The latest reports indicate that there are now a total of 12 aviation (helicopter) brigades, one mixed aviation brigade and four helicopter training brigades in the PLA. This is more than double the numbers prior to the RMA. Each of the CCs has

one brigade integral to it, except 75th and 83rd CCs, which, however, have an air assault brigade with three integral infantry battalions capable of being airlifted by helicopters. The airborne corps too have a regiment of helicopters.[69]

The quantum increase in SOF and aviation is a clear signal of the importance the PLA affords to its doctrine of non-contact and asymmetric warfare. Indeed, both these arms are key to implementing hybrid and asymmetric warfighting strategies.

Mechanisation and Firepower

The PLA has also undertaken a massive transformation to mechanisation. Since all their mechanised formations are equipped with derivatives from the Russians, they continue to imbue the same philosophy. Thus, the PLA's modern Type 96 (similar to T-72) or the older T-59/T-62/T-63, or even the ZBD-03/ZBD 04/WZ-551/WZ-553, series of ICVs are all of Russian design and focus on better and accurate firepower rather than manoeuvre. The 'heavy', 'medium' or 'light' CABs of the PLA appear to have adopted the doctrine of mechanisation, including reorganisation and equipping norms, akin to the Russian mechanised forces.

The phenomenal increase in the firepower component, especially light reconnaissance vehicles (LRVs)/multi-barrel rocket systems (MLRS)/ MBRLs and drones/unmanned aerial vehicles (UAVs), in the combined armies and motorised brigades seems to suggest that the PLA may be inclined to follow the Russian model of employment of artillery as a 'finishing' arm. For example, the PLA divisions were hitherto supported by an artillery brigade. Now, the CABs are supported by an integrated artillery battalion, an artillery battery in each battalion of the CAB, in addition to the artillery brigade at the corps level.

These two are major shifts in operational-level concepts that will directly drive the type of equipment, manpower recruitment scales, and training of the PLA. Avid military thinkers and operational commanders need to focus on the development of these concepts to extrapolate and predict the future trajectory of the PLA as it aims to become a modernised military by 2035.

Conclusion

There are compelling reasons for China to follow the Russian RMA. Supporting the argument is Gustav Gressel, who believes 'from the Chinese perspective, copying the Russian model is the logical way to

go ahead for the PLA.'[70] PLA Major General Wang Haiyun vehemently argues that there are several reasons for China to learn from Russia.[71]

1. *Equipment homogeneity:* Chinese modern weaponry, including indigenously produced equipment is basically the same as Russia's. As weaponry largely determines campaign tactics, it is axiomatic that these would be learnt from the Russians.
2. *Geopolitics:* China and Russia being continental countries and neighbours share a long border as well as a similar geography. Being significantly land-centric, there is a convergence of military thinking on the envisaged roles for their militaries. These are decidedly different from that of the West being essentially seafaring and expeditionary. A common political system too lends itself to common values and political culture. Thus both militaries depart from a base of similar cultures and socio-political habits.
3. *Basic military strategy and doctrine:* The fundamental military strategy adopted by both is that of strategic defense, akin to the PLAs stated military strategy of active defense. Even in the areas of internal threats, both nations are challenged by the 'three evil forces' of separatism, terrorism, and religious extremism. Since these threats are largely in urban areas, counterinsurgency operations pose a greater challenge than in remote areas. PLA thinkers have studied the Russian counter-insurgency strategy in Afghanistan and both wars in Chechnya in great detail.[72] These could be invaluable in quelling threats in Taiwan, Tibet and Xinjiang.
4. *International Military Security:* According to General Wang Haiyun, China and Russia cooperated in safeguarding the international nuclear non-proliferation regime, promoting denuclearisation on the Korean Peninsula, countering terrorism, maintaining cyber security, opposing the militarisation of space, encouraging ending of the Cold War mind-set among countries all over the world, and promoting a new concept of security.

It is no surprise that the growing military to military cooperation between Russia and China is a result common geography, political governance model, and military cooperation. Even at the height of animosity, particularly during the Ussuri River incident in 1969 when both nuclear powered nations almost came to blows, there were larger political

and national interests that overruled an all-out military confrontation. Vassily B. Kashin believes that the Russian-Chinese military cooperation has two objectives. First, to jointly prepare for 'specific scenarios of interaction in case of regional crises affecting the interests of Moscow and Beijing', implying jointly contesting challenges arising in the areas of influence of both countries like terrorism and religious extremism; and second, for both countries to have the ability to change the 'existing format of military and strategic relations if radical global geopolitical changes' were to be effected, essentially the shifting center of gravity of the international world order from US-Europe to Asia.[73]

Military strategists and keen PLA watchers would do well to delve deeper into the Russian military thinking and doctrines to extrapolate the possible trajectory of the PLA's RMA. This is not to take away from China its glorious military history, the wisdom of thinkers like Sun Tzu or Confucius, or their own indigenous doctrinal precepts. But there is no denying that historical ties and the foundational thinking of the PLA leadership is attributed largely to the former Soviet Union. To that extent, the comparative analysis undertaken here represents an attempt to bare ongoing changes and shifts in strategic and operational domains to suggest that the PLA's RMA is indeed Russian driven.

Notes

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