CCW Russia Brief

Issue 5
June 2019

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“Great Power competition” has become the leitmotif of discussion about international affairs, with much debate about growing strategic inter-state rivalry. According to the US National Security Strategy, for instance, Russia is seeking to “restore its great power status” and establish spheres of influence near its borders, weaken US international influence and NATO. If it is investing significant sums of money in Russia’s military capabilities, Moscow is also using ‘modernised forms of subversive tactics’. General Carter, the UK’s Chief of Defence Staff, has likewise pointed to Russian ambition that challenges Euro-Atlantic security, stability and prosperity. Competitors such as Russia have studied the strengths of the Euro-Atlantic community and invested carefully in new methods and capabilities designed to exploit weaknesses, he argued, and have become adept at exploiting the seams between peace and war and operating below the threshold of open conflict. This is, he has suggested, a ‘strategic challenge that requires a strategic response’.

For many, the answer to this competition is to enhance deterrence. But successful deterrence depends on a clear understanding of the adversary, and here a number of problems have emerged. If there is an understanding that this competition has geopolitical and global elements, defining the problem remains elusive. Attention remains largely focused on Russian activity that is regional or local, and on tactics, methods and capabilities, both real and assumed, rather than any broader Russian strategy or strategic thinking.

A blur of buzz words and neologisms which bear little, if any, resemblance to Russian concepts continue to dominate assessments of Russian activity, whether about Russia’s so-called hybrid warfare, or in asserting that the Russian leadership is primarily opportunistic in its outlook. This has resulted in the tracing of day-to-day events rather than longer-term trends and the bigger picture. The consequent confusion contributes to the misdiagnosis of the nature of the challenge and underpins the persistent sense of surprise at Russian activity.

The emergence of Russian Grand Strategy

There is much evidence that the Russian leadership is strategic in outlook, both in terms of planning and in activity. In terms of planning, the National Security Strategy, Foreign Policy Concept, and Military Doctrine are the most obvious documents, but there are many more that illuminate Russian strategic thinking, from strategies for the development of the Arctic to energy security. Moscow’s strategic outlook is better reflected in two other sets of documents, though: in the May Decrees of 2012, and “refreshed” in 2018, and in the Defence Plan, first iterated in 2013, and subsequently updated. Russian Chief of the General Staff Gerasimov has stated that this Defence Plan is a ‘primary consolidating element’, one which brings together as a ‘general concept’ almost all the programmatic and planning documents being elaborated by Russia’s federal executive agencies. He has also repeatedly pointed to the need for strategy and the ongoing attempts to develop military strategy in modern conditions.

Strategy is not only planning, of course, and the Russian leadership has sought to invigorate the process of implementation of the plans – and much is made of efforts to consolidate, integrate and orchestrate the various agencies of state. The role of the National Defence Management Centre is particularly noteworthy; as Gerasimov has said, for instance, it operates within a system of state situation centres and one of its tasks is to provide coordination of the activities of ministries and departments.

This is not to say that Moscow has overcome the usual problems facing all strategists – not only the “traditional” problems of fog and friction that hamper both planning and implementation, but also the common ones of ministries defending their own interests (what could be called “departmentalitis”, or “vedomstvennost” in Russian), and a somewhat dysfunctional chain of command and the perennial Russian problem of command and control. Add to this the ongoing debates and disagreements about priorities and challenges, and the complex and difficult nature of strategy is apparent.

Nevertheless, the visible effort to generate strategy both in plans and actions, particularly through enhanced orchestration of the state is a useful starting point for analysing Russian activity and thinking. The concepts used by the Russian leadership illuminate how Moscow sees the world – and thus for interpreting the nature of the challenge and so-called “great power competition”.
How Moscow conceptualises strategic competition

Moscow came to the conclusion that the international order was undergoing systemic change and that strategic, global competition, was emerging well before the Euro-Atlantic community. Concerns about strategic stability, for instance, were made explicit in the 2000s, especially relating to the US withdrawal from the ABM Treaty.

By 2012, Vladimir Putin was observing that the world faced serious systemic crisis, and was entering a zone of turbulence that would be ‘long and painful’. And in 2013, Gerasimov stated that Russia might be drawn into military conflicts as powers vied for resources, many of which are located in Russia or its neighbourhood. By 2030, he noted, the level of existing and potential threats will significantly increase as the struggle for fuel, energy and other resources, transit routes and markets intensifies.

This picture of increasing geopolitical and geoeconomic competition has remained central to Russian strategic thinking since then, and is often reiterated. References to ‘geopolitical rivals’ preparing to wage wars illustrate the ‘primary importance’ of the search for rational strategies for waging war. As part of this, military strategy, Gerasimov noted (again) in March 2019, should be engaged in predicting the nature of future wars, and preparing the state and the armed forces as a whole for war.

This provides the context for some of the concepts that feature in the Russian policy debate, such as “strategic deterrence”, strategic directions and related “unified strategic commands”, and the “strategy of limited action outside Russia”. Gerasimov has repeatedly noted the importance of a global horizon, with two implications. First, he has suggested that the majority of contemporary problems are multilateral in nature, assuming a regional, even global scale. They thus require the expansion of Russia’s cooperation with foreign countries and the strengthening of Russia’s international positions and ‘maintaining and expanding a Russian presence in regions that involve the country’s national interests’.

Second, if in 2013 he was pointing to the importance of creating a system of armed defence in the interests of the state outside its borders, by 2017, he was observing that ‘the improvement of combat capabilities of the Russian armed forces in the last five years has made it possible to extend substantially the military presence of Russia in strategically important regions of the world. He noted the significant increase not only in flights by long-range aircraft but also the increasing intensity of the Russian navy’s activities in the ‘important areas of the global waters’.

Indeed, the global dimension of the competition is at the heart of understanding Russian strategic thought. In many ways, this reflects the longer-term evolution of Russian thinking about international affairs and the changing character of war. Thus, even before the sharp increase in tension with the Euro-Atlantic community in 2014 and 2015 with the wars in Ukraine and Syria, senior Russian officials were observing and learning from the US and its allies, noting the evolution of ‘global sweep and global power’ and the so-called Single Perspective 2020 and the working out of the concepts of global strike and global missile defence. Such concepts were seen to represent the effort to defeat an enemy in a matter of hours from almost any point on the globe. Gerasimov has repeatedly returned to the theme of US “globally integrated operations” – reflecting the ability to deploy inter-service groups of capabilities globally to be able to destroy an adversary in joint operations in different operational environments. Much Russian activity appears to be guided towards address this challenge.

Globally integrated operations as Russian Grand Strategy

One of the ways to understand the nature of the challenge is by examining the language and concepts that feature in Russian public policy discourse. Gerasimov’s repeated use of the term “globally integrated operations” suggests that it is an important feature of Moscow’s strategic thinking. It illuminates how Moscow understands the links between external and domestic security, suggesting as it does the idea that the differences between ‘strategic, operational and tactical levels, as well as the differences between offensive and defensive operations are being erased’, as Gerasimov stated in 2013.

The Russian concept of globally integrated operations also suggests an interesting similarity in how operations are understood, with international echoes. If the Russian leadership was referring in 2013 to globally integrated operations in the context of the US concept of global strike, it reflects how Moscow interprets US and other Euro-Atlantic thinking and offers a Russian echo in both concept and activity. It also should be seen in the light of the US Joint Concept for Integrated Campaigning (2018), and, in the UK, the need for strategic capabilities and
integration across domains and the preparation of a unified integrated operating concept, one that sets the framework for British armed forces across the five domains of space, cyber, maritime, air and land, with information at its heart.

Questions remain, not least about consensus behind the term and the ability to generate real integration. But importantly it serves as a reminder of the importance of defence and security thinking in overall Russian strategy, that the Russian state has during this decade been moving to a war footing. Equally, the concept appears to relate also to other sectors in Russian strategy making, such as the energy sector as shown in the following contributions. As Russian activity takes on a more global hue, a better understanding of Moscow’s strategy becomes ever more necessary, including to assess the balance of advantages. “Globally integrated operations” is a useful lens through which to interpret Russian grand strategy.
Energy Companies in Russia’s Global Integrated Operations

NAZRIN MEHDIYEVA

The importance of the energy sector to the federal budget – and thus to Russian national security – means that the activities of Russian energy companies are at the heart of Russian strategy making. While the energy sector offers Moscow a number of strengths, three main challenges are prominent in Russian energy-related strategic thinking. The first is the use of sanctions as a means of economic warfare, including attempts to separate Russia from its traditional markets. Second, the Russian leadership faces numerous problems within the energy sector, primarily inefficiency and the growing maturity of fields which means that huge investments are necessary. The third is the US shale technology revolution: the US has become a major competitor for Russian markets, and, in so doing, poses a long-term challenge to Russian national security by threatening the Russian budget. This is understood as part of a wider international competition for resources, transit routes and markets that senior Russian officials, including Chief of General Staff Valeriy Gerasimov, have suggested could in due course lead to conflict and war.

These challenges pose strategic questions: Putin himself has stated, for instance, that Russia’s political and economic welfare depends ‘directly on the place we take in the global energy context’. And Igor Sechin, CEO of Rosneft, remarked in 2011 that the Russian oil and gas industry formed ‘an inseparable part of the unified global energy market’ and ‘as such national energy champions had to strengthen their international positions’. This view is also consistently enshrined in Russia’s strategic documents, including the Energy Strategy to 2030, the draft Energy Strategy to 2035 and the new Energy Security Doctrine, adopted in May 2019. These terms offer the keys to understanding how Moscow seeks to address the challenges it faces: by developing its major energy companies as globally integrated corporations (GICs) to achieve sustainable international influence and security.

What makes a successful “globally integrated corporation”? This means actively combining both enhanced vertical capabilities up and downstream with a broader horizontal, geographical presence, effectively increasing Russia’s global footprint. This means both retaining positions in Western markets, and increasing Russia’s presence in non-Western markets. If the former is complicated by the sanctions and ongoing political disagreements, these latter markets are both politically expedient and offer high potential growth.

In this context, these GICs, which include Rosneft, Rosatom, Gazprom, and Novatek, are required to perform two key functions: generate income for the federal budget and promote the interests of the Kremlin abroad. In effect, this means straddling business and government, and aiming to achieve the near-impossible dual goals of making energy decisions that would be at the same time politically expedient and commercially sound. The balance between the two functions is precarious and complicated by the fact that this is a relatively new task for Russian energy companies. Until recently, Russian energy companies were either predominantly domestically orientated or had significant access to state funds with little consideration for profitability. Until 2017, for instance, Rosneft’s foreign assets accounted for only 1.1% of its total assets and less than 2% of its employees were based abroad. Yet in December 2017, the company unveiled its five-year strategy in which it set the goal of growing annual production by 30 million tonnes of oil equivalent, net of acquisitions, by 2022. International projects have thus featured prominently in Rosneft’s planning.

For Rosatom, too, advancing the goals of the state through expansion while ensuring the profitability of its projects has proved a difficult balance to strike. Political access to state funding has been a critical asset underpinning many of its projects and driving its rapid international growth since the industry was reformed in 2007. Government subsidies undoubtedly played a role in Rosatom’s colossal success as the company underbid its Western competitors by between 20% and 50% in most tenders. Despite this financial backing, it has long been understood that state support for nuclear plant construction will cease from 2020 and, in the words of its Director General Alexey Likhachev, the company has been actively learning ‘how to earn money independently’. To this effect, Rosatom has focused on reducing power plant construction time, increasing labour productivity and reducing costs so as to make nuclear power more competitive against other sources of energy.

By 2016, the company had scored some notable successes. It emerged as Russia’s eighth largest taxpayer and remained in the top 10 in the following years. In the same year, foreign projects had grown to make up 47% of Rosatom’s revenue (this share is expected to grow to over two-thirds by 2030), in a clear sign that foreign business had emerged as a lucrative direction for the company. Importantly, Rosatom has delayed, cancelled or downscaled...
its Middle Eastern projects, which are unlikely to pay off, focusing instead on high-growth, high-potential markets in Asia with solvent customers.

Russian GICs share several characteristics. They comprise not only national champions, as suggested by Sechin in 2011, but also the private company Novatek, which has shown remarkable ability to deliver results in extremely challenging circumstances. The type of leaders at the helm is a distinguishing characteristic of GICs. Loyalty is a valuable but by no means a sufficient criterion for holding a top position. Ability to set objectives, most of which carry significant risks, and achieve them on time and on budget have been the key distinguishing characteristics of the GIC leaders – both those who have chosen to remain in the public eye and those who have tended to assume a low public profile.

Novatek is a prime example of a company which, thanks to its capable and visionary CEO and chairman Leonid Mikhelson, has expanded its sphere of activity far beyond Russian borders. Mikhelson’s vision of developing LNG and selling it internationally (but with a focus on Asian customers) corresponds fully with the Kremlin’s understanding of what was required to advance Russia’s positions in the globally intensifying competition for energy markets. Mikhelson’s stamina and skill in overcoming Western sanctions and completing the $27 billion Yamal LNG on time and on budget earned his company the status of LNG exporter (previously, all exports of Russian gas had to be conducted by Gazprom) [see CCWRB1 for more discussion of this]. The Kremlin showed willingness to amend legislation to accommodate Novatek’s ambitions because they coincided with its own political objectives.

While different in character and style to Mikhelson, Sechin is also a results-driven leader, widely recognised for his ability to get the job done, whatever the complexity and cost. Gazprom Chairman Alexey Miller has kept a comparatively low public profile. Nonetheless, under his tenure, Gazprom has completed dozens of key upstream projects, including the launch of several Arctic fields. In transportation, three paramount international pipelines are expected to be launched by the end of this year: Nord Stream 2 to Germany, TurkStream to Turkey and onwards to Europe, and the Power of Siberia to China. The combined estimated cost of these projects alone is $80 billion.

A second distinguishing characteristic of GICs is the persistency with which they move up the value chain in their international activities. Such efforts are obvious in the case of Rosneft, which has been rapidly expanding its downstream business [as examined in CCWRB2 and 3], as well as with Novatek, which has worked with Asian partners to procure Arctic LNG technology, including Arc7 LNG tankers. For its part, Rosatom in its foreign contracts has focused not only on building nuclear plants but also providing services post-construction, which are intended to increase the value of the projects, providing additional revenue after the construction phase has been completed, and help the Russian state retain political influence over the hosting country.

The third distinguishing characteristic is the alignment of the GICs’ economic interests with the political interests of the state. But a distinction should be drawn between aligning interests and merely doing the Kremlin’s bidding. Rosneft’s acquisitions in Venezuela is good example: while politically valuable, Rosneft’s Venezuelan assets are geologically promising and were meant to boost the company’s future growth. As the crisis in Venezuela has developed, Rosneft has sought to reduce risks by, among other things, recouping its loans and reducing exposure to pre-payment arrangements in which Rosneft paid in advance for oil to be supplied by PDVSA in the future. It is precisely this arrangement that is most often touted as evidence that Rosneft’s actions in Venezuela are Kremlin-dictated. According to Rosneft’s report released in February, the debt owed by PDVSA to Rosneft on the pre-payment deals fell from $4.6 billion in November 2016 to $1.8 billion by the end of the first quarter 2019, PDVSA’s total debt to the company fell from $6.5 billion to $2.3 billion.

Overall, Rosneft’s focus on its financial health led to the reduction of debt by $14 billion (according to its 2018 financial results) and was reflected in its improved rating by Standard & Poor’s as the company was upgraded to BBB-from (BB+) with a stable outlook. This is indeed in the Kremlin’s interests. Moreover, in a clear sign of convergence between political and economic interests, Putin approved in mid-June the government’s proposal to support Rosneft’s shale gas project in Venezuela and signed an order to add the project to the agreement between Moscow and Caracas, amending the agreement on strategic projects from 10 September 2009. According to the amendment, Venezuela will not tax Rosneft or its contractors and suppliers.
An alignment of interests is also apparent in the case of Rosatom, which shares and promotes the Kremlin’s objective of turning nuclear power into Russia’s major export industry. Growing exports of Russian nuclear technologies bring a sizable high-tech element into the country’s overall export structure. Modernising the Russian economy and increasing the value-added of its exports is in line with the Kremlin’s stated interests. The export of nuclear technologies and associated services provides the country with a new source of tax income, which is less prone to boom-and-bust price cycles than hydrocarbons. Similarly, Novatek is interested in expanding its exports of LNG because it wants to avoid being constrained to Russia’s internal market. With the Arctic LNG-2 making steady progress and Yamal LNG slated for expansion by the year-end, the political leadership will gladly accommodate Novatek’s ambitions (at the expense of Gazprom’s monopoly) because these ambitions enable Russia to defy Western sanctions, diversify its customer base to Asia, and establish itself as a significant global LNG player.

The GIC’s international projects have required high levels of coordination with the political leadership in the Kremlin. High-level attention is plentiful, with all of the GICs’ important projects featuring regularly on the presidential agenda and receiving a considerable amount of political attention and backing. This trend will continue, as will the requirement for the GICs to meet the dual goals of economic profitability and political expediency. The number of instances in which the GICs are able to do so – as well as the nature of compromises that they will have to make in the process – remain to be seen, but examination of the roles that they are playing sheds considerable light on understanding Russian grand strategy. The activities highlight not only Moscow’s global horizon, but illuminate what “whole of government” means, and the range of tools at Moscow’s disposal.
Mapping the World: Russian Military Mapping and Geographic Information Science
ALEXANDER J. KENT

Moscow places considerable emphasis on mapping to pursue its national interests and geostrategic advantage, and particularly as a foundation for conducting globally integrated operations. While Marshal Vasiliyevsky (1895–1977) claimed that not one battle could have been managed without accurate topographic maps, President Putin reiterated the importance of mapping to the Russian Defence Ministry leadership on 16th May 2019, noting that access to up-to-the-minute reliable information on the aerospace, meteorological and cartographic situation, as well as on the status and activity of foreign armed forces, should be taken as given.

Russia has inherited the immense cartographic legacy of the USSR, whose secret military global mapping programme yielded the world’s most comprehensive topographic mapping to date. Russian maps still adopt the gridlines and nomenclature of the International Map of the World (IMW), a collaborative pre-war project to create a 1:1,000,000 scale map that divided the world into zones of six degrees longitude by four degrees latitude. But whereas the IMW project ground to a halt in the 1960s and resulted in less than 400 sheets, Soviet military maps covered the globe at the scales of 1:1,000,000 and 1:500,000; most of the five continents at 1:200,000; the Middle East, North and Central America, large areas of South America, the Indian subcontinent, south-east Asia, China, and the populated areas of Africa at 1:100,000; Europe at 1:50,000; and the whole of the USSR at 1:25,000 (which was completed in 1988). Given that the latter required some 300,000 sheets, the best estimates suggest that well over one million topographic maps were produced by the Soviet Union during the Cold War.

Soviet topographic maps therefore constituted what was the world’s first truly global, multi-scale topographic database. Key to this achievement was the adoption of standard cartographic specifications, which incorporated symbology (comprising over 400 graphical symbols), projection (Gauss-Krüger), datum (Pulkovo), ellipsoid (Krassovskiy), and coordinate system (SK-42). No other national topographic map series offers as much detail in its depiction of terrain. The most comprehensive symbologies of European national mapping agencies adopt around 200 different cartographic symbols; under half as many as those developed by the USSR to cover the diverse environments of the world. Officers were expected to memorise this vast vocabulary for interpreting the landscape (there is no comprehensive legend on Soviet topographic maps), together with a range of annotations that indicated (for example) the type of tree species and the density of woodland, the width of dams, and the height of railway embankments. More importantly, Soviet topographic map sheets include detailed hydrographic information – usually omitted from national topographic mapping series – and therefore represent an integrated approach to storing and presenting a wide range of geospatial data.

The selection of information in Soviet topographic mapping also reflects wider military strategy. In particular, the high level of detail given to the portrayal of terrain demonstrates a bias towards the requirements of ground forces as opposed to air power. This lies in contrast to NATO’s cartographic approach, which focused on the creation of Tactical Pilot Charts and Joint Operations Graphics (JOG) at the much smaller scales of 1:500,000 and 1:250,000 respectively. Maps are superior to imagery in facilitating decision-making through their graphic interpretation of detail. Indeed, when the Baltic States adopted NATO standardisation agreements (STANAGs) to create new mapping, their cartographers were surprised at how a military commander could be expected to fight over terrain without knowing, for example, the dimensions of bridges and the density of tree cover. Being used to gathering this level of information, they included it in their topographic databases anyway.

In addition to the systematic coverage offered by topographic mapping, military plans (at 1:25,000 and 1:10,000) were produced for over two thousand foreign towns and cities, including London, Paris, New York, Sydney and Tokyo. Providing street-level detail, the plans include annotations that indicate the carrying capacity of bridges and their height above water, the direction and speed of flow of rivers, and, for woodland, the species of trees along with their height, girth and spacing. Crucially, the plans also incorporate a classification of strategically important buildings that are colour-coded according to their function (i.e. military industry in black, military communications in green, governmental and administrative in purple and others in brown). A numbered alphabetical list of these buildings is accompanied by a street index and descriptive notes that provide information about the city’s population and its main industries and characteristics. Recent examples of plans that have become publicly available include Falmouth, UK (1997) and Vancouver (2003), which indicate the continuation of this
enormous project after the Soviet era and its dependence upon specialist topographic satellites to capture stereographic imagery for the creation of contours.

Russian military cartography is founded on a long tradition of accurate geodesy (terrestrial geometry) that supports the characteristically detailed depiction of terrain. The geodetic framework used for Soviet-era maps (coordinate system SK-42) was established using classical methods of triangulation and was adopted in 1946. To achieve greater accuracy across Russian territory, new state geodetic reference systems using satellite-based geodesy were introduced in 2002 (SK-95) and in 2012 (GRS-2011). More recently, a new global geodetic reference system was launched in 2014 (PZ-90.11), ahead of the UN’s (2016) call for a Global Geodetic Reference Frame. Designed to conform to the accuracy requirements of the Russian GLONASS constellation and other global navigation satellite systems (GNSS), the operational framework of PZ-90.11 defines geodetic parameters and constants relating to the ellipsoid, gravimetric coordinate system and the Earth’s gravitational field. The ongoing development of PZ-90.11 and its relation to the aspirations of the UN bears some resemblance to the genesis of the Soviet global mapping project after the inauguration of the IMW.

The Soviet era saw a fundamental shift in the methods of storage, dissemination and display of geospatial intelligence from analogue to digital formats. Whereas the production of paper sheets forces the simultaneous presentation of all types of information on a limited physical space, digital mapping organises data by layers and allows the seamless display of a selection of stored information by theme (e.g. land use, hydrology, vegetation). This is especially useful for the creation of maps for different purposes and customers. Maps of Russian territory were updated in the 2000s (using the SK-95 coordinate system) and have been produced at a range of scales (e.g. 1:25,000, 1:50,000, 1:100,000 and 1:200,000) for the Federal Service for State Registration, Cadastre and Cartography (Rosreestr) by aerogeodetic enterprises such as Meridian+ (Moscow), North Caucasus (Pyatigorsk) and Uralmarkshyderiya (Chelyabinsk). As maps for civil administration and planning purposes, they use a selection of layers derived from a more comprehensive topographic database and as such they not include information such as industrial buildings or geodetic points.

The advent of geographical information systems (GIS) has dramatically increased the capability to integrate, harmonise and analyse topographic datasets, including imagery. The GIS software ‘Operator’, which was designed by Panorama KB for military purposes, has been in use by the Russian armed forces since 2011. This allows a wide range of tasks to be performed such as 3D terrain modelling and accessibility evaluation, as well as the production of print-on-demand mapping by field units. The use of GIS software facilitates the creation, management and availability of integrated datasets that draws on the legacy of Soviet topographic mapping and presents a truly formidable and unparalleled geospatial toolkit.

The Military Topographic Directorate (MTD) of the General Staff, currently headed by Major-General Aleksandr Zaliznyuk, aims to provide topographic, geodetic and navigational support to the army and navy. The MTD is charged with the responsibility of creating a single geospatial information database for the Russian armed forces – an essential tool for conducting globally integrated operations. The accuracy of geodetic control points and topographic data (and its provision) are regularly evaluated, for example, during the recent Vostok-18 military exercise in the Central and Eastern military districts. At the beginning of February, Major-General Zaliznyuk announced that 20 e-mapping centres had been established by equipping topographic and geodetic military units with high-performance software, hardware and printing facilities. It is hoped that the resulting creation of a unified system of maps will enable continuous, high-precision 3D spatial models over large areas, leading to the provision of troops with geospatial data that ‘will significantly increase the effectiveness of the use of weapons and military equipment, automated control systems, high-precision weapons and robotic systems’.

The production and availability of good cartography is central to Russian military doctrine and globally integrated operations. If the Soviet cartographic vision – to map the world in as much topographic detail as possible – has been re-ignited, the Russian MTD is drawing on more advanced technology than their Soviet predecessors to ensure that up-to-the-minute reliable geospatial data are provided on demand. The establishment of global geodetic standards and the integration of geospatial datasets does not, however, signify full coherence for a single purpose. As in the Soviet era, respecting the versatility of geospatial data is the key to retaining the relevance of mapping. The legacy of this cartographic strategy is proving useful for the Russian military in building its formidable arsenal of geospatial information. In this new era of Russian globally integrated operations, the benefits of this cartographic strategy have already been seen in Ukraine and Syria.
The Ogarkov Reforms: The Soviet Inheritance Behind Russia’s Military Transformation

MICHAEL KOFMAN

Since late 2008, the Russian military has undergone a period of sustained reform, and modernization to compensate for almost twenty years of divestment which took place after the dissolution of the Soviet Union. Much has changed during the initial reform period under the then combination of Minister of Defense Anatoly Serdyukov and Chief of General Staff from 2008 to 2012, and again subsequently under the new tandem of Sergei Shoigu and Valery Gerasimov since 2013. Implementing reforms to previous reforms is a Russian tradition, but the vision being executed is born of a deeper intellectual pedigree. The modern Russian armed forces owe a great deal to the current generation of military leadership, which disbanded the remnants of the Soviet mass mobilization army. But, in truth, it owes far more to the intellectual heritage inherited from the late 1970s through to the mid 1980s when Marshal Nikolai Vassilievich Ogarkov served as Chief of the Soviet General Staff.

The most recent decade of military transformation would be better known as the “Ogarkov reform inheritance”, since it represents the successful implementation of a vision he had for the Soviet armed forces in the early 1980s, which was only partly realized during his tenure. Looking across the changes implemented in the Russian armed forces, from the flattening of the command and control structure, to the execution of complex exercises with combined or inter-service groupings from different military districts, the deployment of recon-strike and recon-fire loops, the integration of combat branches and arms around strategic operations in the theater of military operations, and the increasing emphasis on non-nuclear strategic deterrence, we can see that Ogarkov’s intellectual children have come home. This is not to dismiss the lasting influence of Mikhail Tukhachevsky, Alexander Svechin or Georgii Isserson, whose writing is also used to underpin modern military thought. But none of those men lived through the Cold War, and many of the current ideas or concepts take their heritage from the Ogarkov period.

Ogarkov was a technologist at heart, arguing for a revolution in military affairs in 1982, to reshape the Soviet armed forces with a new generation of technology. Many of the latest weapon systems deployed in the Russian military date back to the 1980s in terms of design, and were conceived as answers to the capabilities then being deployed by NATO. More important, though, is the doctrinal thought that the Russian General Staff has visibly inherited from him, which drives the development of capabilities and concepts of operations for their employment, i.e. the Russian way of war. The goal is to establish a balanced force, consisting of general purpose forces for warfighting, a non-nuclear conventional deterrent, a capable non-strategic nuclear force for escalation management, and a credible strategic nuclear deterrent.

It was Ogarkov’s vision to establish high readiness combat groupings of mixed forces, able to conduct defensive and offensive strategic operations in a theatre divided along strategic directions. This was the model for large-scale combat operations that has so heavily influenced latter day Russian planning for Joint Strategic Commands (OSK), combined arms armies as operational level headquarters, and the formation of high readiness combat groupings along said strategic vectors.

In his time, Ogarkov sought to reform how the military approached war at the operational and strategic level, unifying the work of the service headquarters and the general staff. His goal was to integrate services that they could create operational level groupings composed of combined arms units, which today is realized best at the level of the combined arms army. According to Makhmut Gareev, Deputy Chief of General Staff at that time, Ogarkov centered the General Staff as the ‘brains’ of the Soviet military. He sought the integration of air defense and the air force, seeing air power as decisive in the initial period of war, without which ground forces cannot effectively advance. Seeing the U.S. way of war as aerospace blitzkrieg, the Russian military has made air defense a strategic operation, unifying air defense, missile defense, and tactical aviation under the Aerospace Forces (VKS). In his own time, Ogarkov lost the fight internally to combine air defence and the air force as institutions, but, in the end, he served as progenitor for a reorganization of Russian air power and air defense around strategic operations to deflect U.S. aerospace attack (the Russian air force and aerospace defence forces were merged in 2015 to create the Aerospace forces).

It was Ogarkov who, together with other notable Soviet military leaders, such as Viktor Kulikov, Sergei Akhromeev, and Valentin Varennikov, restored operational-strategic and operational level training at the General Staff, with large scale command-staff exercises designed to explore operational art, and develop military strategy.
Of particular note were Zapad-81, Vostok-84, Dozor-86, and Osen-88, testing concepts such as the Operational Manoeuvre Groups, reconnaissance at the tactical-operational level, destruction of enemy formations with fires and electronic attack through the depth of their lines.

Under recent Russian Chiefs of General Staff, including Yuri Baluyevsky, Makarov, and Gerasimov, there has been a resurrection of the influence of annual strategic exercises, together with a robust annual training cycle, to work out questions of operational art, mobility, mobilization, service integration, and so on. Consequently, today the Russian armed forces, while not the largest they have ever been, are at their highest state of readiness in decades, beyond that of the Soviet military in the 1980s.

Ogarkov is equally notable for what he opposed. For example, he argued against the USSR's habit of spending large sums of money on civil defence. In his view, the USSR was burying its money in the ground by arming civil defense units with vast quantities of obsolete equipment. Instead, he wanted to rearm the Soviet military with the next generation of conventional weapons, thus restoring its conventional military power after Khrushev had invested heavily in nuclear weapons in a bid to reach parity with the United States.

Like any good land force officer, Ogarkov was critical of the Soviet Navy’s megalomania, especially its desire to build a vast surface combatant force without the infrastructure to support operations. He singled out the Navy’s desire to waste money on aircraft carriers in an effort to match the United States. Although the Russian Navy may never be cured of such aspirations, in practice it is transitioning to a capable green water force with a more practical set of missions and a host of new capabilities to implement them. Still, if Ogarkov had had his way, the Admiral Kuznetsov heavy aircraft cruiser, perhaps the unluckiest ship in the Russian Navy and notorious killer of naval aviation, would never have been built.

Perhaps most importantly, Ogarkov understood the chief problems of the Soviet military, which in the 1980s had fallen behind in communications, reconnaissance, battle space management, targeting, automated systems of command and control. These problems were demonstrated repeatedly in Chechnya, and finally in the Russia-Georgia War of 2008. The modern Russian military has worked to solve the hereditary blindness of the Soviet Union, and is increasingly able to find, fix, and finish targets at tactical and operational depths, while implementing new systems of command and control across all echelons.

Although Russia retains its traditional military strengths in firepower, mass, and warfighting at the operational level, the Russian General Staff has now come a long way towards implementing Ogarkov’s vision of conventional warfare driven by information, real-time integration of fires and strike systems with intelligence and reconnaissance assets. From this, one can see the evolution of Russian combined arms maneuver enabled by non-contact strikes, fires, and a growing share of precision guided weapons added to the legacy heavy firepower mix.

Ogarkov’s view held that the military should not be employed to resolve cases that were principally political crises, demanding political solutions. He was publicly opposed to the Soviet intervention in Afghanistan. This characteristic hesitancy to employ conventional military power has to some extent stayed in the Russian political and military leadership, typically exhausting other instruments of national power to achieve political objectives, and methods that fall short of war, prior to the introduction of high end conventional military power.

Nikolai Vassilievich was also one of the first senior Soviet leaders to conclude publicly that political victory in a nuclear war was impossible, instead seeking answers to what Soviet leadership at the time called the ‘independent conventional war option’. Under his leadership, the USSR began to develop concepts for a high intensity conventional war without depending on nuclear weapons, as a riposte to similar developments taking place in the U.S. establishment that culminated in the development of the AirLand Battle concept. As Ogarkov pursued this military transformation, however, his vision proved to be a costly strategy at a time when the USSR was in economic crisis instead seeking to reduce the unsustainable costs of military competition.

The present day Russian General Staff envisions a capable general purpose force, together with a non-nuclear deterrent that is able to deliver tailored or prescribed damage against critical objects of political, economic, or military significance. Rather than compete with NATO in long-range conventional weapons, an unwinnable contest not only for Ogarkov’s Soviet Union but also today’s Russia, the military has chosen an approach based more on reasonable sufficiency. Where Ogarkov had the right idea but wrong scope and execution plan, was in seeking to match U.S. technological might in a large-scale conventional war. It was overly symmetric, and
economically ruinous. It also made less sense given that the USSR never believed that a war between nuclear powers could be kept conventional.

Given an asymmetry of interests at stake, in most crises the Russian military thinks it can meet the requirements of strategic operations with a much cheaper ‘strategic’ conventional deterrent, because its coercive impact would be greatly magnified by the presence of a capable non-strategic nuclear force. The latter can be employed as part of scalable nuclear operations in theatre, from demonstration employment to escalation management, or warfighting. This vision evolved from the early 1980s debates of Ogarkov’s General Staff, with an important caveat: while Ogarkov did not believe that nuclear weapons could be used as an instrument of policy in practice, it is unclear that the current Russian military leadership shares such views given the somewhat different nature of the stakes in the contest.

The Russian General Staff has made considerable progress in building a military to answer the technological advancements and the concepts of operations developed by the United States in the 1980s and 1990s, i.e. what they perceive to be the modern character of war. It was largely Ogarkov’s answer – a military transformation envisioned by the USSR General Staff in the 1980s, even as the Soviet Union itself hurtled towards state collapse. Albeit fitful and perhaps incomplete, the restoration of Russian military power was decades in coming, and now it is here. Whether the United States will be able to successfully adapt to these developments, innovate, invent, and evolve where necessary, remains the open-ended question for our generation of analysts and strategists.
The Russian Economy: From Unexpected Growth to Predictable Slowdown

RICHARD CONNOLLY

The year began with good news for the Russian economy. Following a brisk expansion in the final quarter of 2018, GDP grew by 2.3% in 2018. This was far in excess of consensus forecasts made before the announcement. Most had expected growth of closer to 1.5%. This represented the fastest rate of growth recorded since 2012, and followed growth of 1.6% in 2017. The economy, it seemed, was finally gathering momentum after the protracted recession of 2015-16.

However, this strong performance turned out to be a false dawn. Growth slowed sharply in the first quarter of 2019, with a number of important indicators revealing persistent weakness across large swathes of the Russian economy. Economic activity is not expected to accelerate very much in the remainder of 2019, and a number of downside risks, emanating from beyond Russia, have the potential to cause hamper growth even further.

The Russian leadership is placing much of its hope in the successful implementation of the 13 national projects that will dominate economic policy over the next six years. The national projects, which are focused on developing Russia’s socio-economic capabilities, are expected to result in spending of Rb. 25.7 trillion (c.USD 390 billion) on 13 projects between 2019 and 2024. Largely funded by the federal and local governments, the national projects will focus on promoting development in three broad areas: human capital (Rb. 5.7 trillion, c. USD 86 billion), quality of life (Rb. 9.9 trillion, c. USD 150 billion), and economic growth (Rb. 10.1 trillion, c. USD 153 billion). It is hoped that the successful execution of these projects will boost the rate of growth to over 3% by the early-mid 2020s.

Explaining the strong performance in 2018

The strong performance in 2018 was unexpected. The Ministry for Economic Development had previously forecast an annual growth rate of 1.8%. No other reputable forecaster, inside or outside Russia, anticipated growth of over 2%. Much of the explanation for this lies in the economic activity recorded in the final quarter of the year. In the first three quarters of the year, Russia’s state statistics agency, Rosstat, recorded growth of 1.6%, which meant that growth had to accelerate considerably in the final quarter to reach the annual rate of growth of 2.3%.

The most important contribution to the growth spurt in the final quarter came from the construction sector. Output grew at an annual rate of 5.3%, the fastest rate in a decade. Indeed, the construction sector alone contributed 0.4 percentage point to annual growth. This expansion was particularly unexpected as the construction sector had performed poorly in recent years. Indeed, Rosstat had previously estimated that construction output had grown by a mere 0.5% (year-on-year) between January and November after shrinking by nearly 1.5% in 2017.

The explanation for the surge in activity is explained by the decision of Rossstat to include construction activity connected to Novatek’s enormous Yamal LNG facility in the data for December. Previously, Rosstat had only included the installation of equipment at the LNG facility in its investment data, and had not recorded the extensive construction activity that took place afterwards.

The inclusion of previously unrecorded data in the calculations for the final quarter caused a statistical surge in construction activity. But, in practice, the construction activity was carried out over the course of the year. It is likely that subsequent recalculations will redistribute this construction growth across the year. Official data also show that the final quarter expansion was caused by increased activity in extractive industries (oil and metallurgy), rising net exports, strong financial sector performance fueled by rising consumer borrowing, and an unexpected surge in construction activity.

The financial sector was the fastest growing branch of the economy, growing by 6.3% in 2018 (compared with 2.8% in 2017). But this was largely due to an increase in household borrowing, reflecting the squeeze on incomes experienced by many households across Russia. Consequently, growth in consumer borrowing is not considered to be a sustainable or desirable source of economic growth.
The extraction of minerals, which accounted for 10.7% of GDP in 2018, grew by 3.8%, an increase in growth of 2.4% in 2017. This was facilitated by the rising production of both oil and natural gas. Oil production was helped as production limits agreed with Saudi Arabia were lifted towards the end of 2018. Natural gas output grew by 7.9%, surpassing the previous record for gas production set in 2011. This was caused by rising domestic demand and exports to Europe (including Turkey), with the latter reaching a post-Soviet record high of 200.8 bcm in 2018.

Strong performance in oil and gas production helped boost net exports, which rose by 6.3% after growing at a rate of 5% in 2017. Increased exports of oil and gas were supported by a sharp decline in import growth, which fell from 17.4% in 2017 to 3.8% in 2018. This slowdown in import growth was partially caused by ruble depreciation, and by a weakening in consumer sentiment and fixed investment growth.

While these figures gave the Russian leadership an unexpected boost, the distribution of sources of growth in 2018 suggests that the unexpectedly fast expansion was not felt by the majority of ordinary citizens. Real wage growth slowed down throughout the year, with real disposable incomes also declining. The benefits of aggregate growth were clearly not equally shared.

Perhaps most worryingly from the perspective of the Russian leadership was the fact that investment growth slowed from 5.2% in 2017 to 2.9% in 2018. That this slowdown took place when several major projects (e.g. Yamal, Kerch bridge, Power of Siberia) were still underway suggests that private investment is very weak. This slowdown in investment growth means that sustaining growth rates of over 2% will prove very difficult.

Explaining the poor performance so far in 2019

After the end-of-year surge, the pace of economic growth was widely expected to slow down in the first half of this year. This is primarily due to the impact of rising taxes, most notably the two-percentage point increase in VAT in January. The government plans to use these additional tax receipts to fund the spending on the 13 national projects. As well as improving Russia’s socio-economic infrastructure, government officials hope that these projects will generate a rise in investment across the economy.

First quarter growth of 0.5% (y/y) was even slower than most forecasts had predicted. Although the data for April suggest some improvement in fortunes, nearly all official forecasts from Russia (Central Bank, Ministry for Economic Development) and external organisations (IMF, World Bank, Bank of Finland) have now adjusted their forecasts for annual 2019 growth down from around 1.2-1.5% to between 0.7-1.3%. For the first four months of 2019, investment expanded by only 0.5% (y/y), continuing the downward trend observed throughout 2018. Meanwhile, inward flows of foreign direct investment (FDI) have also declined, dropping from USD 28.6 billion in 2017 to USD 8.8 billion in 2018. However, this reflects a wider global tendency: aggregate international FDI flows are now at their lowest level since the 2008-9 financial crisis. This is at least partially caused by weaker economic activity in Russia’s largest trade partners: the EU and China.

Hope for the national projects

While much of the news to date in 2019 is poor, there is some room for optimism. As the national projects are implemented, investment and consumption should begin to rise. While real wage growth has slowed, it remains positive. Unemployment is at a low 4.8%, while inflation, which spiked after the tax rises in January, is declining again and should come in below the Central Bank’s target of 4% annual inflation. And, if implemented successfully, the national projects could put in place firmer foundations for faster economic growth and higher living standards in the future.

Nevertheless, there is a sense that the margin for error is very small. The external environment is as unpredictable as it has been for a long time. Rising trade tensions, more US sanctions, the threat of conflict in the Middle East, and political turmoil in several major oil producers all threaten to unleash forces with unpredictable consequences. These forces could send the world into recession and scupper any plans the Russian leadership has for socio-economic renewal. This would not be the first time: a similar story unfolded in 2008 and again in 2013 when plans to pursue a domestic development agenda were derailed by external shocks. It is perhaps for this reason that Russia’s ‘safety first’ fiscal policy will remain in place. Adherence to a cautious fiscal policy framework, low state debt, and the accumulation of nearly USD 500 billion in foreign exchange reserves mean that Russia continues to enjoy significant macroeconomic stability.
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