

vailed qualitatively over the West in the conceptualization of the emerging military-technological realities, but never implemented them.

PART ONE: SOVIET MILITARY-TECHNICAL REVOLUTION

Soviet Echelonment Doctrine and Origination

of ALB and FOFA

Soviet force development policy addressed two basic issues during the 1960s. First, because the mobility of the enemy's nuclear weapons allowed the massing of firepower over great distances, friendly forces had to be dispersed to avoid an enemy nuclear attack. Second, the same maneuver forces had to mass to break through the breaches in the enemy's defense. The Soviets found the solution to the problem of these mutually conflicting requirements to *disperse* and to *mass* at once. To decrease vulnerability to nuclear attack, forces would be deployed in several echelons in the Soviet rear. When the offensive got under way, they would all concentrate at the line of contact with the enemy, too close to enable NATO forces to use tactical nuclear weapons. Where enemy defenses had been destroyed by Soviet nuclear strikes, the first-echelon forces would open breaches through which the echelons that followed could move rapidly, maneuvering and striking in depth. This strategy was expected to collapse the NATO defensive front.¹

In the mid-1970s NATO and the US Army became cognizant of the Soviet technique of echelonment and realized that in their current state, their defenses could not stand up to Soviet conventional superiority. The West found a remedy in emerging technologies. Since the mid-1970s, highly advanced technological achievements, particularly in the field of microprocessors, computers, lasers, and electronics, had enabled the production of so-called smart weapons—an assortment of conventional munitions that were precision-guided to targets—even in stand-off ranges. Developments in weapons technology and evolution of thought about future war in Europe led to similar warfare missions in the US and NATO: to *strike deep* against enemy offensive follow-on forces.

The US response was a *deep attack* doctrine known as *US Field Manual 100-5* or Air-Land Battle (ALB). It rested on the premise that follow-on Soviet echelons had to be neutralized before engaging with the NATO forces. Attacking the second echelons and destroying them determined the US tactics and weapons development. The ALB envisioned attacking the Soviet second echelons with both stand-off precision fire and ground offensive operations.

Deep attack required improved air support and more accurate long-range-fire capabilities.² The “father” of the ALB, Gen. Donn Starry, believed that deployed conventional forces could continue to fight the advancing Soviet first echelon, and in the meantime, before the second echelon had time to regroup after its initial deep-strike bombardment, release authority for battlefield nuclear weapons could be obtained from US political leaders.³ Similarly, the impetus for NATO’s Follow-on Forces Attack (FOFA) evolved from the same concern and was fueled by the development of emerging technologies. During the 1970s, steps were taken to reduce the ratio of enemy forces arriving at NATO’s defensive positions by using conventional munitions only. FOFA, like its US counterpart, was designed to attack the enemy as far into the rear as the target acquisition and conventional weapons systems permitted. Final FOFA proposals were submitted to NATO’s Military Committee in October 1981. The ALB doctrine was formally released a year later.⁴

Although differences existed between the two doctrines, the Soviets never placed much emphasis on the distinctions between the offensive posture of the ALB and the defensive one of FOFA.⁵ The Soviet General Staff (GS) anticipated that the combat outcome of both would be essentially the same—attacks on Warsaw Pact (WP) “operational” depths that would result in disorganization and distraction of its second echelons.⁶ Warsaw Pact defense ministers saw developments in conventional armaments in the early 1980s as even more ominous than the strategic change wrought by nuclear weapons developments.⁷ ALB and FOFA that encapsulated these capabilities would have been extremely threatening to Soviet defensive and counteroffensive operations.⁸ Between the late 1970s and early 1980s, the conceptual task of Soviet military operations crystallized, focusing on how to neutralize the ALB and FOFA without using nuclear weapons that would escalate the conflict into global war.

The Roots of the Soviet Military-Technical Revolution

MacGregor Knox and Williamson Murray trace the conceptual roots of the current Western notion of the RMA to the Soviet writings on the Military-Technical Revolution.⁹ Indeed, Soviet theoretical variations on the MTR originated during the mid-1970s and early 1980s. They were an outgrowth of two interrelated professional discussions that took place in Soviet military circles. The first of these discussions was disconnected from the debate over Western military doctrines and started around the mid-1970s, before the seeds of Western military innovations emerged. In keeping with Soviet military theory, it

diagnosed a new Military-Technical Revolution and concentrated on the fundamental, futuristic inquiry into the impact of scientific progress on the methods of future military operations. The second discussion focused on military-technological remedies for recent Western doctrinal innovations. It generated an enormous amount of insight that greatly influenced the formulation of the MTR.

Official Russian military history treats this period as a doctrinal competition between NATO and the Warsaw Pact, with an enormous degree of mutual emulation in developing new types of concepts. However, it would be an oversimplification to assert that the MTR concept merely constituted a Soviet response to threatening Western doctrines.¹⁰ While posing the doctrinal antipode to Western “deep striking” capabilities, it went far beyond any particular doctrinal countermeasure and offered a new, coherent theory regarding the future battlefield under the impact of scientific-technological progress. Each of the Soviet discussions constituted a necessary but insufficient condition for formulation of the final version of the MTR concept. Both discussions were symbiotic and complementary. Only the merging of the two succeeded in producing a coherent military theory, which, while relying in part on US and NATO military-technological achievements, was nonetheless highly original.

Soviet MTR ideas diverged from Western Active Defense doctrines, which at that time were far from their final formulation.¹¹ From the mid-1970s, the Soviets began to engage in theorizing about the third Revolution in Military Affairs—fundamental changes taking place in the nature of warfare under the impact of the new technologies.¹² By the early 1970s, Soviet military theoreticians and forecasters had identified two periods of fundamental change during the twentieth century. The first Revolution in Military Affairs was prompted by mechanization of air and ground warfare and culminated in the appearance of deep operations in the 1920s and strategic bombing in World War II. A second Military-Technical Revolution of the early 1950s was stimulated by the development of nuclear weapons and missile technology.¹³

In the mid-1970s, Soviet military forecasters declared that the highlight of the current phase of military development was the unprecedented emergence of qualitatively new technologies and equipment. Military applications of microelectronics, laser, kinetic energy, radio frequencies, electro-optic, electromagnetic pulse, remote control, and particle beam technologies figured prominently in Soviet professional discussions. Particular attention was devoted to automated decision support systems, telecommunications, and enhancing

accuracy, range, and lethality of stand-off and direct-attack precision-guided munitions. The Soviets believed that the emerging technologies would potentially extend the depths to which future systems—both sensor technologies and means of fire—would operate.¹⁴ They believed that the current stage was similar to the early 1920s and early 1950s, when the impact of qualitatively new weapons on operational concepts and force structures transformed the nature of war. Once the consensus about the arrival of the third MTR was announced, military theoreticians were expected to conceptualize the consequences of the change in military regime. The Soviet theoreticians stressed that the future introduction of these new means of combat into the tactical, operational, and strategic levels had to be accompanied by the development of a new concept of operations.¹⁵

These initial insights were transformed into unprecedented conceptual activity, which gathered momentum under Marshal Ogarkov, chief of the GS since 1977. Following his promotion, a number of senior officers, noted for their writings about technologies and future warfare, were also placed in key positions.¹⁶ In Ogarkov's view, a revolutionary change was under way, due to the qualitative improvement of conventional weaponry. In several professional periodicals and books, Ogarkov continuously utilized the term *Military-Technical Revolution*, indicating that the latest technologies, which made it possible to “see and to strike deep” in the future battlefield, and the organizational changes that would accommodate these capabilities, would not constitute a phase in a process of evolutionary adaptation, but a genuine discontinuity in military affairs. The impact of the “scientific-technical revolution” required exploitation of emerging technologies to invent innovative means of conducting operations and to adjust force buildup and structure in each military service.¹⁷

Other leading Soviet military theoreticians echoed Ogarkov's premises of the emerging MTR. They attributed the change to a “qualitative leap” in the modernization of the means of armed conflict, resulting from the latest developments in science and technology, and first and foremost as applied to conventional “high-precision” means of warfare. They considered the appearance of these new weapons a turning point in the development of military art.¹⁸ Particularly, the MTR was expected to enable a greater degree of control from the center, and to increase the likelihood of the potential attacks on troops' command and control facilities. Equal importance was attributed to future automated information processing, which would potentially compress the “planning to decision” and “detection to destruction” cycles.¹⁹ Long-range and highly

accurate fire systems in tandem with expanded sensor and target acquisition capabilities would increase attrition rates against fixed and mobile targets.²⁰ Explosive substances of enhanced power would expand the zone of destruction.²¹ Surprise, coordination of high-tempo operations, and intensive fire support were emphasized as well. The future battlefield was seen as increasingly complex, with different kinds of forces participating simultaneously in combined arms theater operation.²²

The M TR d iscussion c oevolved w ith t he S oviet r eassessment o f t he nuclear–conventional balance. H istorically, Soviet v iews u nderwent a t riple transformation during the Cold War. In the 1950s–1960s, the “next war” was envisioned as an unrestrained missile confrontation—nuclear from the outset. The views of the early 1970s anticipated a gradual passage from an initially conventional conflict to total nuclear war. In the late 1970s, the Soviets were reckoning the probability of a dual nuclear and conventional conflict.²³ Beginning in the 1980s, though, they became skeptical about the potential for an outbreak of the former. Moscow argued that within the context of the emerging revolution in military technology, nuclear weapons would continue to play an important but diminishing role in future war, which could well maintain its conventional character throughout.²⁴ By the early 1980s, the Soviet military recognized the inability of either side to “decapitate” its enemy’s nuclear potential from the first strike. The catastrophic consequences of a nuclear conflict, combined with the development of high-accuracy conventional weapons, increased the probability that the next war would be an all-out non-nuclear one. This in turn boosted the development of the new theory of conventional war.²⁵

The Soviets vigorously discussed the application of innovative technologies in producing a new generation of conventional armaments that would exceed their predecessors in range, destructiveness, reliability, speed of delivery, and accuracy.²⁶ The operational effects that could be produced by emerging conventional systems were on a par with nuclear measures. Precision-guided strikes in combination with timely detection of targets approached the effectiveness of tactical nuclear weapons. The tempo and the scale of the conventional operations started to resemble those of the nuclear warfare scenarios. More and more missions and tasks formerly perceived as solely nuclear were expected to become conventional.²⁷ Marshal Ogarkov called for greater attention to preparing for a war that would employ solely conventional means of destruction.²⁸ During the 1978 Warsaw Pact exercise, the Soviet counter-attack was initially waged with conventional weapons.²⁹ The possibility of a

large-scale conventional war was raised for the first time during the “Iug” exercise in 1980 and during the “Zapad” strategic maneuvers in 1981. The 1982 Warsaw Pact exercise held in Czechoslovakia responded to the US strategy to win a war in Europe by conventional means only. In 1983 the GS formulated its first vision of waging future war through conventional weapons alone.³⁰ Thus, at the level of grand strategy, the MTR made nuclear war a less desirable option in the eyes of Soviet strategists and shifted the equilibrium toward conventional confrontation. The once-nuclear arms race was transformed into one of technological conventional force multipliers.³¹

The vision of strategic offensive changed gradually in the early 1980s, under the influence of the MTR discussions, which rediscovered strategic defense in Soviet doctrine.³² Analyzing the depths to which the high-accuracy systems were capable of operating, the Soviets declared that the border that had divided combat into offensive and defensive was increasingly being erased, since these two forms of conducting war were using the same weapons to achieve their operational goals. The MTR made it almost impossible to distinguish between the *defensive counteroffensive* and *pure offensive attack*.³³ The Soviets realized that the choice of the timing of the encounter had ceased to be exclusively in the hands of the attacker, thus rendering the defense far more “active.” The defender’s ability to reach the enemy at distant pre-battle positions or on march routes meant that he no longer had to wait for the attacker to strike and could make decisions about initiating battle. It was more effective under these circumstances for the defender, rather than retaining territory, to defeat enemy forces by means of stand-off deep strikes. Equipped with a deep-striking precision-guided arsenal, a defender’s strikes would not be limited to the traditional tactical zone but would achieve a range across the operational depth of the enemy’s deployment.³⁴ With these new capabilities, the Soviets believed, a defender seemed capable of successfully thwarting an attacker’s preparations and launching a counteroffensive under favorable conditions.³⁵ The MTR made it possible to inflict heavy losses on the enemy whether fighting from an offensive or a defensive posture.

During the same period, the Soviets turned to their past experience for developing new conventional doctrines.³⁶ Elaborating on the lessons of the Great Patriotic War, Soviet theoreticians were concerned that Soviet military art had become preoccupied with offensive operations at the expense of a more balanced offense–defense mix.³⁷ The availability of “deep” defensive strikes through the entire depth of the enemy’s deployment could buy time for com-

pleting mobilization and improving the conditions for an imminent counter-offensive.³⁸ From 1984 onward, massive theater maneuvers that exercised full-scale strategic defensive operations took place in various military districts of the USSR. The buildup of forces reflected the defensive climate of Soviet strategic thinking.³⁹ Even before Gorbachev's defensive civilian reforms, and purely out of MTR considerations, the defensive posture of operations began to gather momentum.⁴⁰

Reflections of Western Doctrines in Soviet Professional Literature

Although Soviet military forecasters had developed a significant range of their own vision even before the introduction of deep-striking concepts in the West, beginning in the late 1970s, they inquired intensively into Western doctrinal innovations. The professional military periodicals indicate that the Soviets had identified Western technological developments in the field of conventional warfare almost immediately after the first discussions were held in the US in the mid-1970s on deep-strike capabilities. It happened before the official US and NATO shifts had been made in favor of ALB and FOFA in the early 1980s.⁴¹ The trend in the West towards an emphasis on new conventional weapons was carefully monitored. In 1978, the military intelligence warned that NATO's technological surprise moment might be coming. A special emphasis was given to the use of innovative deep-strike features against the second echelon of the advancing adversary.⁴² The Soviets saw Western development of the conventional technologies as a confirmation of their initial assumptions about the MTR and exploited them as an auxiliary frame of reference to consider how emerging technologies might be used in future war.

From 1978 onward, *Zarubezhnoe voennoe obozrenie* (ZVO) and *Voennyi vestnik* (VV) published an unprecedented number of articles that recognized that emerging technologies were combining precision target-location capability⁴³ with increased distance striking capacity from the land⁴⁴ and air,⁴⁵ and linking them via automatic command and control equipment.⁴⁶ For the next three years, ZVO focused intensively on emerging Western capabilities and by early 1980 reflected a clear realization that such a combination would allow a *deep stand-off striking* capability, either offensive or defensive, enabling adversary formations to hit with forces located far behind the zone of immediate contact.⁴⁷ By 1980 and onward, in the classified issues of the Soviet General Staff's *Voennaia Mysl'* (VM), the flood of articles on Western military-

technological innovations was accompanied by profound discussions of US and NATO military doctrines based on the new *stand-off precision-guided munitions*. Analyses concentrated on the emerging ALB and on the possible adaptations of such deep-fighting concepts by NATO forces.⁴⁸ Ogarikov and other senior military figures expressed their concerns that Western advances in military technologies could offset Soviet advantages in the conventional balance.⁴⁹

By debating these conceptual innovations and by analyzing NATO exercises, the Soviets reconstructed the operational logic of Western doctrine. Among the conclusions, three were especially stressed by the Soviets: deep-strike precision-guided and reconnaissance capabilities were deemed capable of destroying the second echelons of the potential enemy; the previously limited non-nuclear stage in any given conflict had increased considerably; and an increase had occurred in the volume of tasks resolved by troops utilizing only conventional weapons.⁵⁰ The Soviets argued that the emerging ability to conduct massive and precise conventional strikes into the entire depth of the operational rear could, at the very least, disrupt the successful implementation of assigned missions and, at worst, have profound strategic implications for the entire front of operations.⁵¹

An analysis of Soviet military publications indicates an exceptionally sophisticated level of professional understanding by the Warsaw Pact officers of Western military-technological innovations. What is even more striking is that the Soviets were able to place these innovations in a much deeper and broader context, reflecting a far more profound grasp of these developments' implications than the West itself possessed. For Western military leadership, the massive equipping of forces with new means of combat in the framework of ALB and FOFA represented little more than the development of a new form of combat action against the enemy's second echelons on the Central Front. However, in Soviet eyes, the ability "to see and to strike" through the entire depth, precisely and simultaneously, was treated as a yawning discontinuity that had significant ramifications in terms of the methods of employing corps and armies, and that shaped the nature of war in a revolutionary way. The Soviets saw ALB and FOFA as much more than simply a doctrinal update or an operational threat and sought broader theoretical frames of analysis in order to describe these developments.⁵² The insights acquired through inquiring into the operational concepts of the West and seeking a countermeasure provided the Soviets with a frame of reference and intellectual fuel for the MTR concepts.

Learning from Western innovation constituted the multiplier for previous and subsequent Soviet variations on the topic.

The Implications of the MTR for Soviet Military Power

Describing the dialectical relationship between the scientific-technical revolution and military science, the Soviets emphasized the primacy of the latter over the former.⁵³ Soviet sources assumed that equipping the military with PGMs and new means of reconnaissance and control would occur at an equal rate on both sides; thus, superiority would be gained by whichever side realized the concept more rapidly and broadly.⁵⁴

The Soviets argued that the emerging forms of weapons made war in the MTR era extremely dynamic: forces could now attack with a smaller density of personnel and equipment, yet at considerably greater depth and with greater momentum.⁵⁵ They deduced that given the expanded scope and unprecedented tempo of the modern battlefield, and especially in light of the shifts in nuclear-conventional and offense-defense balances, previous forms of employment of military forces had ceased to correspond to existing conditions. Ogarkov argued that mere modifications and adjustments could no longer produce the desired results, and that an elaboration of new forms of combat operations was urgently needed.⁵⁶ The theoretical debate about the impact of the MTR on the vision of the future battlefield resulted in the development of three interrelated concepts: reviving of the “deep operations battle”; the reconnaissance-strike (RUK) and fire (ROK) complexes; and the concept of operational maneuvering groups (OMG).

Soviet military science was the science of future war that operated, however, within strict confines of the past. Traditionally, the assessment of the current generation of new doctrinal models leaned heavily on historical operational analyses. Analytical study of military history was considered essential for predicting future developments in warfare.⁵⁷ Thus, the fresh vision posited by the GS led many to turn to the experiences of WWII and to the old doctrines in search of new operational forms. Since the MTR elaborated on the notion of applying the new technology in conducting operations in “depth,” the Soviets had no need to reinvent the wheel; they had merely to revive the Deep Operations theory of the 1930s. When the new technologies arrived in the mid-1970s, the Soviets already possessed the conceptual consciousness, the scientific framework, and the advanced system of military terminology for bridging the gap between the abstract (operational concepts) and the

mechanical (high technology) in the extended battlefield. Professional military publications clearly indicate that Soviet theoreticians turned to Tukhachevsky's theory of *deep battle* of the early 1930s, applying its essence to contemporary and future operations. The authors pointed out the relevance and the importance of emulating this early concept for modern operations.⁵⁸ In 1976 Marshal Ogarov himself contributed a historical article to the Soviet military encyclopedia on the concept of operations in depth. He maintained that the general principles of the original Deep Operations theory had not lost their significance.⁵⁹

Combining this early concept with the new, more advanced technology potentially meant significantly increasing the intensity of the strike to the entire depth of the enemy, penetrating its defense, and establishing a rapid pace for developing swift "operational success." The Soviets stressed the need for better command, control, and methods of targeting, and they noted the increasing importance of the deep rapid maneuver under long-range precision fire.⁶⁰ In Ogarov's view, the "theater-strategic operation," that is, orchestrating a number of armies and fronts in a simultaneous single action, had to be instituted as the principal method of waging a campaign. To execute such an operation successfully, the military had to be able to achieve *deep targeting* within the theater, so that ground forces would be able to rely on theater fire support to the full depth of their deployment.⁶¹ The Soviets argued that the modern air-land operation would be three-dimensional combined arms battles fought simultaneously on the forward edge of contact and in the depth, on the ground and in the air.⁶² In theory, the concept of the modern MTR era operations coalesced into the notion of simultaneous strike against the entire depth of the enemy's operational structure by stand-off precision weapons.⁶³ The innovative means for implementing this concept were primarily twofold: reconnaissance-strike/fire complexes and the operational maneuvering group.

The chain of developments that led to the birth of RUK and ROK was as follows. The *deep-strike* PGMs incorporated in ALB and FOFA stimulated the Soviet military to create its own concepts and combat architecture to invalidate Western deep-strike measures and to improve capabilities against the enemy's depth.⁶⁴ Soviet theorists realized that given the tendency toward greater mobility and deception, the time available between acquisition of the target and the ability to destroy it would be limited. This demanded the establishment of a complex combat architecture that would consolidate the means of reconnaissance with high-precision, fire-destruction elements,

linked through command and control channels. The quintessence of that ability was labeled *reconnaissance-strike* and *reconnaissance fire complexes*, which constituted an all-encompassing implementation of the Soviet MTR. This “system of systems,” which was to consist of an integrated triad of ground, air, and space reconnaissance, surveillance, and target acquisition assets; deep-strike weaponry; and advanced command and control, was designed to conduct the war over much greater distances and with greater precision, coordination, and tempo than ever before.⁶⁵ The first, although somewhat obscure, mention of the *reconnaissance fire complex* appeared as early as 1979,⁶⁶ and by 1982 the WP officers were already acquainted with ROK fire coordination.⁶⁷ Laborious discussions on the definition of RUK and ROK emerged in ZVO and VV from 1983, where the concept was attributed to the US military,⁶⁸ not unlike the Soviet military dictionary, which defines it as a “foreign term.”⁶⁹

Though the West was the first to develop all the military capabilities attributed to this concept, US defense specialists who analyzed the MTR referred to RUK and ROK as an exclusively Soviet innovation with no analogies in the Western military vocabulary.⁷⁰ According to American sources, the Soviets, while analyzing the tests of systems such as *Assault-Breaker* in the late 1970s, gave the US military far more credit than it deserved for developing the *reconnaissance-strike complex*.⁷¹ The technologically inferior Soviets relied successfully on the Western scientific advantage and exploited it as a starting point for their conceptualizations. The Americans treated the Soviet RUK and ROK concept as revolutionary, studied it intensively, and later emulated parts of its rationale.⁷² Though the US planners devoted greater resources than did the Soviets to the conventional weaponry, the latter paid greater attention to the ideas of the “integrated battlefield.” Soviet observers actually provided the initial historical argument in the 1980s that US forces were exhibiting revolutionary capabilities.⁷³

The concept of the operational maneuvering group was, at least in theory, a maneuvering component of the MTR that “leaned into” long-range supporting fire and intelligence of ROK and RUK.⁷⁴ OMG was a reworked version of the mobile group concept from the Great Patriotic War, when autonomous armor formations, using stealth and mobility, infiltrated the enemy’s operational rear and, using shock and firepower, created command and control chaos from within. Modified in light of the deep precision strike and enhanced intelligence capabilities, the essence of the OMG adhered to the principles laid

down in Tukhachevsky's original theory. The OMG concept committed part of the force across the front much earlier and deeper, to avoid an ALB and FOFA attack, thus carrying out a Soviet preventive blow into NATO's rear. Swift infiltration of a group of armored divisions along several axes would create a deep and dynamic center of gravity in NATO's rear. It would turn over the defense, create operational shock, paralyze the enemy's ability to react, and result in operational disorganization.⁷⁵

In theory, the OMG consisted of a reinforced combined-arms armor division that operated in conjunction with fixed- and rotary-wing air support. At least two OMGs would operate autonomously on different axes on the fragmented and nonlinear deep battlefield in the mode of encounter engagements intended against PGMs, command and control, intelligence capabilities, or the tactical nuclear weapons of the enemy.⁷⁶ The OMG concept was inaugurated during the *Zapad- 8* exercise. The maneuvers practiced deep conventional thrusts of the Pact armor groups into NATO territory to disrupt its military infrastructure. The WP *Soiuz- 8* exercise practiced extensively the deployment of the OMGs in the Western Theater of Military Operations.⁷⁷ At the later stage of concept development, the coordination between ROK/RUK and OMG resulted in their eventual organic unification under the term the Reconnaissance-Fire Group. In theory, intelligence assets, stand-off fire capabilities, and maneuvering elements of the extended battlefield were to be orchestrated as one integrated whole.⁷⁸

In the late 1970s and early 1980s, the GS worked on the seminal classified publication *The Fundamentals of Preparation and Execution of Operation in the Soviet Military Forces*. This five-volume work was drafted by Gen. A. D. Danilevitch, the deputy of the GS Operational Directorate for military theory and a close associate of Ogarkov. The publication incorporated insights and remarks from most of the Soviet senior leadership and constituted the general guidance for waging all spectrums of operations under the MTR. From 1980, when the critical mass of concepts was developed, Ogarkov initiated several war games, exercises, and maneuvers to test and to experiment with the innovative visions presented in the volumes.⁷⁹ The MTR visions were tested during the exercises *Iug- 8* and *Zapad- 8*, and after learning the initial lessons, its quintessence was embodied in *Zapad- 8* maneuvers. The goal of the maneuvers was to train forces to operate in war waged by PGMs from both sides. The specific tasks included the defense against the enemy's PGMs, counterattacks of the enemy's ROKs and RUKs, and training command and control of the

Soviet ROKs and RUKs. Special attention was paid to the use of ROKs and RUKs in the forward engagement and their interoperability with the OMGs. The *Zapad-8* maneuvers were a variation on the previous year's theme. They carried out training in combat concepts for reconnaissance-strike systems on the operational-tactical and the strategic levels. According to Gen. V. I. Varennikov, then chief of the GS Operations Directorate, the maneuvers confirmed basic Soviet assumptions about the nature of MTR era warfare and produced enormous insights for improving operational concepts and force organization. On the operational-tactical level, MTR provided the ability to conduct simultaneous action, by fire and maneuver, against the enemy to the entire depth of their operational formation.⁸⁰

Why Did the Soviets Fail in the Implementation of the MTR?

The Soviet military championed the conceptual breakthrough in military affairs but never fully implemented it. The operational execution of MTR ideas and massive fielding of MTR weaponry was beyond the political, economic, and cultural capacity of the Soviet state.

The Soviet version of the MTR, which became associated with an unpopular chief of GS, had not accelerated, lacking bureaucratic support. Soon after his nomination, Marshal Ogarkov, the intellectual engine of the Soviet MTR, fell into professional disfavor. Although serving under Minister of Defense Dmitry Ustinov, Ogarkov overcame his superior professionally and intellectually and often outmaneuvered the minister in his contacts with senior Soviet bureaucracy. Ustinov, however, tried to subordinate the GS to the Ministry of Defense by any means. Ogarkov's relationship with Ustinov deteriorated following his opposition as a chief of GS to intervention in Afghanistan. The split grew deeper with additional disagreements over questions on military and procurement policies and on the nature of the Soviet military presence in the Third World. In this atmosphere Ogarkov's proposals to reform the military in accordance with MTR principles fell on deaf ears and could not muster necessary support from the Kremlin, the Foreign Ministry, or the KGB. The rift between Ustinov and Ogarkov was probably the deepest between a defense minister and a GS chief in the history of the Soviet Union. This dynamic surrounding Ogarkov ultimately led to his ouster as chief of the GS. Ogarkov was demoted in September 1984 and moved to the position of CINC Western Theater of Operations, stationed in Poland.⁸¹ Ogarkov was held in high professional esteem in the WP. He continued to implement his ideas; however, his

authority and influence were extremely limited. He was removed from his post in 1988.⁸²

In a broader sense, from 1985 the general political climate of perestroika in the USSR was not suited to military innovation. Although Ogarkov's MTR concepts were still afloat, the massive defensive reform overshadowed all previous ideas and innovations. By the end of the Brezhnev era, the GS suggested that the US might surpass the Soviet Union, thanks to the American Military-Technical Revolution. It argued for the necessity of increasing the Soviet military budget, shifting decision making on industrial priorities back to military control, and reorienting procurement toward the kind of investments to which the West had shown its commitment. This advocacy for major budget increases was unthinkable during perestroika; the political leadership was reluctant to allocate the necessary resources for implementation of the MTR, and civilian experts, who began to take a leading role, advanced the argument of "defensive sufficiency." A political course contradicted the MTR vision and hindered support for building and fielding MTR-type weaponry.⁸³

In addition to political obstacles, implementation of the MTR was hampered by economic factors. The USSR and, later, the Russian Federation never possessed the necessary economic capacity to embark on such an ambitious military transformation. In one of his publications of the mid-1980s, Ogarkov stated that the new weapons and military technologies were not yet available in sufficient quantities to initiate a new stage of Soviet force development. He expressed his concern that, given these limitations, the existing methods would be preserved with no revolutionary changes in the force structure and concept of operations.⁸⁴ Ogarkov's pessimistic assessment proved prophetic. The Soviet Union never succeeded in creating the economic preconditions for implementing the MTR. Before the era of Gorbachev, it had been possible to manage the economy authoritatively and to reorient production and acquisition through a decision dictated from above. But back in the Brezhnev and Andropov eras, there was no bureaucratic willingness to do so, while under Gorbachev, major economic collapse made such a reorientation infeasible and undesirable for political reasons. Even in post-Gorbachev Russia, a deteriorating and outdated Russian military that undertook several defense reforms did not enjoy the economic and material preconditions for a genuine military transformation. Its military science and theory, however, are advanced, futuristic, creative, and sophisticated as usual.⁸⁵

The Soviet campaign in Afghanistan reflects considerable Soviet technological inferiority and a fundamental inability to implement the MTR vision for material reasons. Although the Soviet military realized the potential embodied in reconnaissance, command and control, and fire, it was not able to link these elements together across the Afghan battlefields. Some operations were designed and executed along these principles, but they were marginal and localized.⁸⁶ The Soviets started to formulate new concepts for waging nonlinear warfare suited to operating in battlefields dominated by PGMs, to turn a way from traditional formations, to redefine echelonment concepts, and to reorganize its forces in a more flexible way. However, on balance, during the campaign in Afghanistan the Soviet military was increasingly unable to cope with the military-technological realities brought about by the MTR.⁸⁷ The MTR vision of war was oriented toward large-scale, conventional, air-land, combined arms battle. Afghanistan, however, obliged the Soviets to wage a counterinsurgency campaign.⁸⁸ Moreover, innovative concepts such as ROK/RUK and OMGs were massively exercised for the first time only in 1983. They had just begun to emerge and to mature when the Afghan war was approaching its end. Ogarkov, as an opponent of the Afghan campaign in general, was probably not overly enthusiastic about using Afghanistan as a testing ground for innovative concepts.⁸⁹

PART TWO: RUSSIAN-SOVIET STRATEGIC CULTURE

Cultural Characteristics and Cognitive Style

The normative image of Russian culture is collectivistic.⁹⁰ The sense of commonness with *narod* (the people) is a powerful and necessary concept in Russian culture. Communalism was not an invention of the Soviet era, but an innate characteristic of Russian society. For generations collective will took priority over individual needs and rights in Russia, and mutual dependence was a unifying factor. Russian-Soviet collectivistic society was organized hierarchically, and the collective mentality emphasized group-centered relations.⁹¹ Individuals in collectivistic Russian and Soviet cultures lived in a complex and interdependent social world with prescribed roles. The scholars who observed Russian and Soviet social interaction and communication styles defined it as a high-context culture. The products of this cultural environment predominantly express themselves in indirect, cyclical, understated, and vague language in text and speech, relying on the listener's or reader's ability to grasp the meaning from the context. Form, ceremony, and the expression of