

The Future Russian Navy: Interests of the Military

**Mary C. FitzGerald
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CENTER FOR NAVAL ANALYSES

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2. This research memorandum is one of several products of CNA's Future Russian Navy study, which was requested by the Director of Naval Intelligence. The overall study examined the individual interests and constraints that together will influence the form and functions of a future Russian Navy. This paper examines the interests of the Russian military by exploring current implementation of the "reasonable sufficiency" concept, the military's image of future war, and the evolving Russian military doctrine. It concludes that the relative emphasis placed by the Russian military leadership on the navy is increasing at the expense of the ground forces and at least at the same rate as the air forces.
3. The overall project was directed by Floyd D. Kennedy as part of CNA's Regional Studies Program, with contributions from the Hudson Institute.

A handwritten signature in black ink, appearing to read "R. B. Pirie, Jr.", with a stylized flourish at the end.

Robert B. Pirie, Jr.
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ABSTRACT

Despite current political and socioeconomic uncertainties, the Russian leaders continue to develop new concepts regarding the role and capabilities of the future Russian Navy. This study examines three likely parameters of future Russian naval development: current implementation of the "reasonable sufficiency" concept, the Russian image of future war, and Russia's new military doctrine.

On both the nuclear and conventional levels, the application of "reasonable sufficiency" to future naval development continues to generate a significant degree of civil-military divergence. On the other hand, a strong civil-military consensus underlies Russian views on the role of naval forces in future war. Like their Soviet predecessors, Russian military and civilian experts view Operation Desert Storm as the paradigm of future war in strategy, operational art, and tactics. Finally, Russia's new military doctrine and surrounding discussions provide evidence regarding Russia's "vital" national interests, threats to these interests, and the role of the Russian Navy in Russian national security policy.

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EXECUTIVE SUMMARY

This research memorandum is one of several products of CNA's Future Russian Navy study, which was requested by the Director of Naval Intelligence. The overall study examined the individual interests and constraints that together will influence the form and functions of a future Russian Navy. This paper examines the interests of the Russian military by exploring current implementation of the "reasonable sufficiency" concept, the military's image of future war, and the evolving Russian military doctrine. It concludes that the relative emphasis placed by the Russian military leadership on the navy is increasing at the expense of the ground forces and at least at the same rate as the air forces.

REASONABLE SUFFICIENCY

Current calls for implementation of the "reasonable sufficiency" concept portend an increased emphasis on Russian naval development and deployment. For example, the concept of reasonable sufficiency on the conventional level may have become obsolete. Both civilian and military leaders have sounded the death knell for the 1987 "defensive doctrine," which represented the essence of reasonable sufficiency on the conventional level. These spokesmen support an expanded naval mission structure over reformist calls for exclusively defensive naval missions.

Moreover, the latest START agreement on strategic offensive weapons may represent the first concrete implementation of reasonable sufficiency on the nuclear level. Many Russian commentators have correctly noted that implementation of this agreement will mean the movement of the bulk of Russian strategic nuclear warheads to sea. The treaty-mandated elimination of SS-18s and incorporation of single-warhead missiles signals a shift from counterforce to countervalue targeting, further implying an enhanced role for sea-based strategic forces.

IMAGE OF WAR

The Russian image of future war also portends an expansion of Russian naval development and deployment. Russian commentators assert that the scientific-technical revolution in military affairs is elevating the role of naval forces in a modern "aerospace war." Emerging technologies dictate the dominance of strategy and weapons that achieve strategic effect (especially new conventional weapons) at the expense of theater-level operations—a trend that favors naval forces.

For the foreseeable future, Operation Desert Storm will serve as the Russian paradigm of future war in strategy, operational art, and tactics. This is most evident in Russian discussions of both systems and operations employed in the Gulf.

Systems

Russia's new military leadership has assigned developmental priority to new types of systems demonstrated in the Gulf:

- Advanced conventional munitions (ACMs)
- Electronic warfare (EW)
- Command, control, communications, and intelligence (C3I)

Russian military scientists have argued, for example, that such ACMs as Tomahawk accomplished nuclear missions during the war. They say that EW is a weapon equal to "fire strikes" in its combat effectiveness. They also contend that advanced C3I systems are just as important as the entire "correlation of forces and means." In fact, Russian analysts assert that superiority in EW and C3I will ensure victory in future war. Most of the systems the Russians openly admire were sea-based.

Operations

Russian military scientists now argue that the Gulf War generated a new type of combat action—"the electronic fire operation"—which consists of surprise, massed, and prolonged missile, aerospace, electronic, and naval strikes that will decide the outcome of war within several days or weeks. The objectives of the new operation will be achieved without seizing and occupying enemy territory. Instead, the new objectives consist of "suppressing the opponent's political or military-economic potential" and "ensuring the victor's supremacy in political or economic arenas."

As a result, Russian experts argue that the Gulf War is the prototype of the new "technological war," wherein the surprise use of new systems is decisive and the initial period is essentially the *only* period in warfare. The new systems have also generated:

- A shift from positional to maneuver actions
- A shift from unidimensional to multidimensional warfare
- The demise of linear actions, close-in combat, and stable fronts.

These analysts contend that the lines between strategy, operational art, and tactics are disappearing, because strategic objectives can be achieved with a first, deep strike.

MILITARY DOCTRINE

Evolving Russian military doctrine likewise promises an expanded mission structure for the future Russian Navy. Colonel-General Rodionov, chief of the Russian General Staff Academy, and others have asserted that Russia's vital interests extend from the Atlantic to the Pacific and require free access to the Baltic seaports, "free exits" to the Baltic and Black seas, and free navigation of the World Ocean. The published draft doctrine contends that a buildup of naval forces near Russia's borders will be viewed as a "direct threat." Rodionov enlarged upon that statement by declaring that American retention of superiority on the seas constituted another threat.

The draft doctrine also states that naval and air strikes constitute the *initial* period of war, which in turn is of *decisive* importance to the war's outcome. These strikes are aimed

at disrupting strategic deployments, disorganizing civilian and military command and control, and removing individual states of the CIS from the war. The doctrine further notes that in *subsequent* periods of the war, the opponent *may* deploy ground troops under strong air cover.

Evolving doctrinal requirements are generating Russia's new research and development (R&D) priorities: high-tech systems whose *quality* permits a reduced *quantity* of manpower and arms. And since the advent of the military-technical revolution in the early 1980s, the General Staff has argued that these systems enhance the role of naval and air forces at the expense of ground forces. According to Russian military scientists, the incorporation of these systems will also compensate for Russia's loss of superiority in standing forces and manpower reserves. The doctrine thus calls for the maintenance of R&D at the expense of procurement as the defense budget declines. These budgetary allocations reflect a dramatic shift away from the era of *quantitative* superiority in manpower and armor and toward the era of *qualitative*, technological indices of combat potential.

THE FUTURE

A striking civil-military consensus on current requirements for Russia's military security exists among those who write on the subject. This consensus reflects a continuing, disproportionate emphasis on military power as a prerequisite for establishing Russia's place in the international system. If this consensus prevails in the government's decision-making process, the military ranking to which Russia aspires, is not commensurate with its global economic ranking. For example, the current consensus includes an insistence on the maintenance of military-strategic parity and superpower status--if at a lower level of effort. This stance indicates that the absolute, but not relative, burden of defense expenditures will drop.

To achieve its political objectives, the Soviet leadership created and maintained a vast military force *that served as a substitute for war*. Today, Russian civil and military leaders are calling not for serial production of weaponry, but for an infrastructure that ensures the development and rapid surge production of emerging combat technologies. Many of those combat technologies are sea based. Therefore, the relative importance of the future Russian Navy within Russia's defense thinking is increasing. Consequently, Russia's naval potential will likely increase relative to all the other services. And it is such military-technical potential that may represent *Russia's future substitute for war*.

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THE SOVIET CONCEPT OF "REASONABLE SUFFICIENCY"

Within a year of his accession to power, General Secretary Mikhail Gorbachev articulated the concept of "reasonable sufficiency" for national defense. Characterized by both conventional and nuclear components, the concept ultimately generated the most dramatic shift in the politico-military landscape of the post-war world.

By the late 1970s, the Soviet Union was confident that it had achieved superiority in the "quantitative" arms race with the West in weapons of all kinds. With the advent of the information age and its new technologies, however, Soviet military leaders perceived another technical revolution in military affairs. One of its clearest manifestations was the development of the U.S./NATO "Air-Land Battle"/FOFA concepts, which incorporated the combat employment of advanced conventional munitions (ACMs). Now the Soviet Union perceived that the West was gaining an edge in the "qualitative" arms race.

Gorbachev himself was quite eloquent on the dawning of the "information age" and its broader implications for the Soviet Union as a whole. While extolling the Soviet achievement of military parity in past decades, he noted that

...the inability of the command administrative system to ensure present-day scientific, technical, social, and economic progress was increasingly revealing itself as time went by. But it was precisely in those years that a new stage of scientific and technical revolution started in the development of capitalist countries and a breakthrough towards new technologies occurred.

A powerful change in the development of micro-electronics, information science and biotechnology resulted, in the full meaning of the word, in qualitative transformations in the progress of current civilization.... Labor productivity literally grew by an order of magnitude in many industries, and this brought colossal changes in people's entire way of life.

These revolutionary changes, though, touched us only tangentially, as it were. By and large, they involved the mastering of space and the military sphere. The underrating of the significance of the revolution which had taken place in science and technology seems to be the greatest mistake made at that time. As a result, we have remained as if we were still in the past technological epoch...¹

Many factors prompted Gorbachev's decision to pursue major reforms and articulate concepts such as "reasonable sufficiency," but the qualitative arms race and the inadequacy of the Soviet economy to meet the changing military requirements must have weighed heavily in his decision. The Soviet military leadership had long warned that the Soviets

1. M.S. Gorbachev, Speech, *Pravda* (hereafter cited as PR), 16 November 1989.

must not let the United States lure them into arms races of this kind; thus, they openly admitted the impact of the qualitative arms race.

It should be noted that even before Gorbachev became general secretary, he was articulating the essence of reasonable sufficiency. In April 1983 he called for arms reductions "in which, as a first step, the overall balance would be preserved, but at the lowest possible levels."¹ One month later he asserted that "we are convinced of the erroneousness of the concept of equating the stockpiling of weapons with the strengthening of security."² Finally, at the Twenty-Seventh Party Congress in 1986, Gorbachev announced that the Soviet Union was seeking to reduce its military potential to the limits of reasonable sufficiency.³

After the 1986 Congress, Gorbachev and others sought to clarify this ground-breaking concept. According to Gorbachev, reasonable sufficiency is the level of military potentials required to accomplish only "defensive tasks."⁴ He stated further that the armed forces must be structured "to be sufficient to repel possible aggression, but not sufficient to conduct offensive operations."⁵ Writing in January 1987, then Deputy Foreign Minister V. Petrovskiy explained that limiting military potential to the level of reasonable sufficiency means "ruling out the possibility of using it as an offensive potential, as a potential for aggression." Although the military in general soon redubbed the concept "defense sufficiency," then Defense Minister Yazov used the original term when providing his definition:

When we speak of supporting the armed forces and our military potential within the limits of reasonable sufficiency, then we have in mind that at the present stage for the strategic forces of the Soviet Union the essence of sufficiency is the necessity of not permitting an attack in any, even the most unfavorable circumstances. For conventional weapons sufficiency provides for the quantity and quality of armed forces and weapons capable of reliably ensuring the collective defense of the socialist community. The limits of sufficiency are set not by us but by the actions of the U.S. and NATO.⁶

REASONABLE SUFFICIENCY ON THE CONVENTIONAL LEVEL

Until Gorbachev came to power, an offensive military doctrine had long been virtually an article of Marxist-Leninist faith in both party and military circles. Leaders and theorists had insisted that the offensive form of warfare was the only scientifically appropriate basis for the military doctrine of the socialist state. All force development and all doctrine on tactics, operational art, and strategy—including doctrine for the nuclear age—had been

1. M.S. Gorbachev, Speech, *PR*, 23 April 1983.

2. *Ibid.*, Speech, *PR*, 19 May 1983.

3. *Ibid.*, *Politicheskiy doklad Tsentral'noy Komiteta KPSS XXVII S'ezdu Kommunisticheskoy Partii Sovetskogo Soyuza* (Moscow: Politizdat, 1986), p. 85.

4. *Ibid.*, Speech, *PR*, 1 April 1987.

5. *Ibid.*, "The Reality and Guarantees of a Secure World," *PR*, 17 September 1987.

6. General of the Army D.T. Yazov, *Krasnaya zvezda* (hereafter cited as *KZ*), 28 July 1987.

based on the primacy of the offensive. This doctrinal orientation was not challenged until the advent of "reasonable sufficiency."

In May 1987, the Warsaw Pact formally incorporated Gorbachev's concept of reasonable sufficiency into its military doctrine. The new "defensive doctrine" envisioned maintaining an equilibrium of conventional military forces at the lowest possible level, and reducing military potentials to the limits of "sufficiency" necessary for defense.¹ The Warsaw Pact proposed reducing troops on the order of half a million men on both sides. It also proposed reducing conventional armed forces and armaments to the level at which neither side could launch a surprise attack or mount "offensive operations in general."² Then Defense Minister Yazov went so far as to urge that arms reductions be aimed ultimately at eliminating "the very military-technical capability for attacking each other."³ Indeed, the politico-military leadership explained repeatedly that the new defensive doctrine required a radical restructuring of every facet of the Soviet armed forces. The unilateral reductions outlined in Gorbachev's December 1988 UN speech constituted a startling first step in the direction of implementing such a restructuring, and the Conventional Forces in Europe (CFE) Treaty ultimately followed.

The Military Response

While the Soviet military paid omnipresent lip-service to the new defensive doctrine, however, prominent spokesmen soon began to express their dissatisfaction. In October 1989, for example, Fleet Admiral V.N. Chernavin, Commander in Chief (CINC) of the Soviet Navy, stated,

But what does defensive mean? Certain people have a simplistic and primitive understanding of this. They think that since we have adopted this doctrine, we should be purely passive, defend ourselves, and in the event of conflict, retreat deep into our territory. Yet modern warfare—be it on land, sea, or in the air—is above all, fluid. How can a warship fight today if it "sits in the trenches?" Submarines should find the enemy and sink them. A surface ship's mission is, if necessary, to inflict missile strikes on the enemy without waiting for them to enter our territorial waters.⁴

In April 1990, Colonel (Retired) Yuriy Katsanov described the 1987 doctrine as follows:

It is based not on realities, but on good wishes. Thus, a fundamental premise of the doctrine is the assertion that under modern conditions war and military force have supposedly ceased to be a means

1. "On the Military Doctrine of the Warsaw Pact States," KZ, 30 May 1987.

2. *Ibid.*

3. General of the Army D.T. Yazov, "The Military Doctrine of the Warsaw Pact: A Doctrine of Defending Peace and Socialism," PR, 27 July 1987.

4. Interview with Fleet Admiral V.N. Chernavin, "Commentary by Fleet Admiral V.N. Chernavin, Commander in Chief of the Navy," PR, 19 October 1989, p. 3.

of policy. In other words, our military doctrine (and this means our military policy) is based on a dangerous ostrich-like position.¹

Katsanov also charged that "It is characteristic that all of the innovations set down in law in the 1987 military doctrine were first advanced by representatives of an exclusively civilian group of 'military theoreticians,' were extensively propagandized by them, and were foisted upon the country's political and military leadership behind the scenes, in secret from the people and their elected government."²

From the beginning, the Soviet military called for decisive counteroffensive capabilities within the defensive doctrine, and maintained that an ultimate transition to the offense is mandatory for the total defeat of the opponent. In clarifying the defensive doctrine, Soviet military spokesmen asserted that the Soviet Union would conduct defensive operations for about 20 days before transitioning to a counteroffensive.³ As Yazov explained in his 1987 book, it is impossible to defeat an aggressor by defense alone. After rebuffing an attack, troops and naval forces must therefore be capable of conducting a decisive offense in the form of a counteroffensive against a well-armed opponent. This in no way contradicts the defensive nature of Moscow's military doctrine, he insisted, because the offensive actions in question are directed against an aggressor who has attacked the Soviet bloc.⁴ Leading military officials such as General of the Army Gribkov agreed that, far from contradicting a defensive strategy, counteroffensive actions are not only possible but also necessary "within the framework of defensive operations and engagements on individual axes."⁵

As already noted, Soviet military thought had perennially maintained that the offense is "the *basic* type of combat action," with decisive importance for achieving victory over the opponent.⁶ But in 1987, having been introduced to speak at a press conference on "the military-technical side of military doctrine," Colonel-General M. A. Gareyev, deputy chief of the General Staff, asserted that *defensive* operations and combat action will be "the *basic* method of action" of the Soviet armed forces for repelling aggression.⁷

Then Defense Minister Yazov, among others, echoed the new formulation. In his 1987 book, he wrote that Soviet military doctrine views the defense as "the basic type of military action" for repelling aggression. The defense must halt the opponent's offensive, "bleed him dry," prevent the loss of territory, and defeat enemy groupings that have breached the defense.⁸ It should be noted, however, that by consistently setting the new "basic type of military action" in the context of "repelling aggression," the Soviets could have been presenting only a bit of theoretical legerdemain. In addition, military figures such as then

1. Colonel (retired) Yuriy Katsanov, "The Army and Demagogy—On the Question of Reasonable Sufficiency," *Literaturnaya Rossiya* 17 (27 April 1990): 8–9.

2. *Ibid.*

3. For example, see General of the Army M. Moiseyev, "Soviet Military Doctrine: The Realization of Its Defensive Direction," *PR*, 13 March 1989, p. 5.

4. General of the Army D.T. Yazov, *Na strazhe sotsializma i mira* (Moscow: Voenizdat, 1987), p. 33.

5. General of the Army A.I. Gribkov, "A Doctrine for Preserving Peace," *KZ*, 25 September 1987, p. 3.

6. Colonel P.I. Skuibeda, *Tolkovyi slovar' voyennykh terminov* (Moscow: Voenizdat, 1966), p. 259.

7. "A Doctrine of Prevention," *KZ*, 23 June 1987, p. 3.

8. General of the Army D.T. Yazov, *Na strazhe sotsializma i mira* (Moscow: Voenizdat, 1987), pp. 32–33.

Chief of the General Staff Moiseyev added the phrase “at the beginning of the war” to the new formula, which further constricted its potential significance.¹ Finally, the 1989 edition of the Soviet *Dictionary of Military Terms* still maintained that the offense is “the basic form of military action” for defeating an opponent.²

The Civilian Response

On the other hand, Gorbachev’s defensive blueprint enjoyed the widespread support of civilian analysts and several retired military figures who articulated a “non-offensive” defensive posture based largely on the ideas of the West European left and the Palme Commission report on mutual security in Europe. According to V. Avakov and V. Baranovskiy, the objective was to reorganize the armed forces of both sides so that “defensive action would be guaranteed greater success than offensive operations.”³ In June 1987, one of the participants in a Defense Ministry press conference went so far as to announce that the Soviet Union proposed reducing military potentials “so that the armed forces are *structurally* capable of conducting only defensive operations.”⁴ If the Warsaw Pact proposals were implemented, the civilians declared, every facet of their military establishment would be restructured to this end, including the size and structure of the armed forces, the nature of armaments, military planning and training, and military doctrine itself.⁵

In June 1988, A.A. Kokoshin and General-Major V.V. Larionov outlined the following four ways of modeling conventional force postures:

- Model 1: Each side is oriented toward immediate counteraction—strategic offensive operations—if a war should begin.
- Model 2: Each side orients its strategy and operational art to reject an offensive at the initial stage of the conflict and to conduct only defensive actions. After repelling an offensive in the course of a defensive battle, the ability to conduct a decisive counteroffensive (and a general offensive if necessary) is maintained—right up to the defeat of the opponent on his own territory. Counteroffensive actions can be conducted both at the operational and strategic levels.
- Model 3: Each side possesses the capability to dislodge the opponent from occupied territory without conducting a counteroffensive beyond the limits of the border. Combat actions to restore the status quo antebellum are therefore conducted only on the defender’s own territory. These combat actions are limited to the operational level: the ability to conduct a counterstrike. The concept of victory is thus allowed only at the operational and tactical levels, but is excluded at the strategic level.

1. Moiseyev, “Soviet Military Doctrine,” p. 5.

2. “Offense,” in S.G. Shapkin (ed.), *Slovar’ voennykh terminov* (Moscow: Voenizdat, 1989), p. 173.

3. V. Avakov and V. Baranovskiy, “In the Interests of Preserving Civilization,” *Mirovaya ekonomika i mezhdunarodnyye otnosheniya* (hereafter cited as *MEMO*) 4 (1987): 30.

4. “Doctrine of Prevention,” p. 3.

5. A. Kokoshin and V. Larionov, “The Battle of Kursk in Light of the Modern Defensive Doctrine,” *MEMO* 8 (1987).

- Model 4: Each side chooses, on an agreed basis or on the basis of mutual example, a purely defensive option on a strategic and an operational scale, without the material potential for conducting offensive or counteroffensive operations (“non-offensive defense”). Implementation of the fourth model would limit high mobility to tactical-level formations, and would require that both sides forswear the maintenance of attack aviation, reconnaissance-strike complexes, large mobile formations, and strike forces, including tank and air-assault divisions. The remaining forces would not possess the ability to mount deep operations, and victory would be achieved only at the tactical level.¹ (Note: All of the models referred only to initial force postures—i.e., forces-in-being and not forces available to be mobilized.)

In their call for the implementation of “reasonable sufficiency” on the conventional level, civilian analysts rejected model 1 and briefly propagated model 2. By late 1988, they were generally accepting model 3; this model was confirmed in 1990 by the draft Soviet military doctrine. By that time, however, such events as the loss of Eastern Europe and dissolution of the Warsaw Pact had rendered it obsolete. Some civilian analysts still argue that the ultimate objective should be model 4, to be achieved through negotiated reductions on both sides.

THE PVO DEBATE

Besides generating discussions on its definition, parameters, and criteria, Gorbachev’s concept of reasonable sufficiency also stimulated a series of animated debates on its implications for Soviet Air Defense (PVO) Troops and the Soviet Navy. The essence of these debates proceeded largely from the civilian rejection of *protracted* nuclear and conventional wars, which in turn implied the rejection of (1) the pro-SSBN mission, and (2) the requirement for aircraft carriers and an anti-SLOC (sea lines of communication) mission. Both sides generally agreed, however, that PVO systems were of little use in a nuclear war.

Aleksei Arbatov kicked off the PVO debate in March 1989 when he argued that, first, the USSR’s air defense system is unjustifiably developed, is costly, and surpasses the air defense system of the United States and presumably of NATO countries in the number of weapons. Second, such air defense is unnecessary in a nuclear war because of its limited effectiveness and vulnerability. Third, a powerful air defense also is unnecessary in fighting a large-scale conventional war, since it soon will be stopped by both sides’ efforts or (most likely) will develop into a world nuclear war. Finally, what is needed is a modest air defense system for early warning of attack, security of national air space in peacetime, and protection against terrorists—as well as an effective air defense of the ground troops, air force, and navy.²

Needless to say, PVO officials reacted quickly and prolifically, focusing their response on three basic themes: (1) Arbatov’s incompetence, naivete, and oversimplification; (2) the need for substantial PVO forces to counter a growing U.S. aerospace threat;

1. A. Kokoshin and V. Larionov, “The Confrontation of General-Purpose Forces in the Context of Ensuring Strategic Stability,” *MEMO* 6 (1988): 23–31.

2. A. Arbatov, “How Much Defense Is Sufficient?” *MZh* 3 (1989): 41–43.

and (3) development of criteria and methodologies that linked the required level of PVO forces to the quantity and quality of the opponent's offensive and defensive systems.

Writing in *Military Thought* in September 1989, for example, Colonels A.P. Vasil'yev and V.K. Rudyuk countered some of Arbatov's "mistaken conclusions." First, they contended that powerful U.S./NATO strike aviation groupings were continually being improved—to include a reorientation toward deployment with conventional weapons—and were increasing their readiness for a surprise attack. Second, they noted that the PVO had never been assigned the unrealistic mission of destroying 100 percent of cruise missiles. Instead, their mission is to preserve in the war's initial period that portion of the Soviet military potential that guarantees retaliation against the aggressor—that is, 20 or even 10 percent of the remaining nuclear means. In addition, they are tasked with defending the highest state and military command-and-control (C²) points.

Third, Vasil'yev and Rudyuk stated that, contrary to Arbatov's assertion, the probability of a conventional air war between the U.S. and USSR is growing. The "aggressor" is acquiring a real capability to knock out Soviet early-warning systems, destroy a significant portion of nuclear-missile means and defending troops, paralyze the economy, and quickly upset nuclear parity with massed strikes by conventionally armed aviation and cruise missiles. Finally, it is impossible to compare the Soviet and U.S. PVO systems because of glaring differences in respective geostrategic situations.¹ According to the authors, PVO requirements should be defined on the basis of ensuring a stable equilibrium—taking into account the totality of defended military and economic targets of the opposing sides, the correlation of their strike forces, and the effectiveness of PVO systems. For PVO forces, defense sufficiency thus is "that quantitative-qualitative composition of forces and means that ensures the protection of defended targets against air attack at a damage level that does not exceed the equivalent damage to the opponent's targets." "Equivalent damage" is damage that causes a mutually proportional weakening of military and economic potentials.²

According to the authors, "reasonable defense sufficiency" will be achieved not by a reduction in PVO forces, but by the qualitative improvement of the PVO forces and by a mutual reduction in aerospace attack forces to a level that prohibits their delivering a surprise strike, seizing the strategic initiative, and sharply changing the correlation of forces. In summarizing our conclusions, we thus state that reasonable sufficiency in PVO forces is "that quantitative-qualitative composition of forces and means that ensures the protection of defended targets at the level of acceptable damage under conditions of an equilibrium in offensive aerospace forces that are incapable of delivering surprise strikes".³

Joining the debate in a June 1990 *Military Thought* article, Colonel-General Yu. A. Gor'kov asked why the West was developing new conventional weapons systems capable of accomplishing missions previously reserved to the strategic nuclear forces. He noted that, although the threat of nuclear war is constant, countries are much less likely to initiate a nuclear war than a conventional war because victory in an all-out nuclear war

1. Colonel A.P. Vasil'yev and Colonel V.K. Rudyuk, "Is Air Defense Sufficient?" *Voennaya mysl'* (hereafter cited as *VM*) 9 (1989).

2. *Ibid.*, p. 67.

3. *Ibid.*, p. 68.

is unattainable. To reduce the nuclear potential, the opponent will attempt to knock out the means of its employment using conventional weapons. He will begin by destroying SAM systems, radars, and airfields, but with aircraft and cruise missiles armed with conventional explosives. An air defense system, therefore, is needed not against the "Rusts" but for repelling strikes and disrupting enemy offensive air operations. Also, not just any kind of system would be of use. The system must be reliable and capable of protecting key installations on which the organization and delivery of a retaliatory strike depend.¹

According to Gor'kov, some authors call for creating a strong air and missile-space defense so that Leningrad, Kiev, Tbilisi, Sverdlovsk, Novosibirsk, and other cities do not become hostages. Others call for eliminating such a defense or for lowering it to a counter-terrorist level (which virtually means eliminating it). Still others call for harmoniously developing and improving the air defense system to a level of reasonable sufficiency. Gor'kov asserts that the first opinion obviously is unacceptable, since it is impossible to be omnipotent, especially under present-day conditions, and the second opinion contradicts laws of warfare. He states that the third option, which was expressed in the article by A. Vasilyev and V. Rudyuk, is the most sensible. But Gor'kov suggests that the words "under conditions of equilibrium of the sides' offensive aerospace forces incapable of delivering surprise attacks" be omitted from the definition of reasonable sufficiency that they give. An air defense system always must be able to protect the defended installations at the level of permissible damage under all conditions, including in a surprise attack.²

For an air defense system to meet the requirements of reasonable sufficiency, Gor'kov continues, it is advisable first of all to determine which key installations and regions must be preserved for normal functioning of the economy and for supporting both reconstitution as well as maintenance of the armed forces at the proper level; second, to determine how effectively these installations will be defended; and third, to establish an air defense grouping, taking into account the prospects of the enemy's developing offensive air weapons and the forms of their combat use, as well as the capabilities of air defense weapons in the inventory.³

Also writing in *Military Thought* in mid-1990, a group of colonels and lieutenant colonels took issue with the earlier Vasil'yev/Rudyuk article. They argued that a new approach to substantiating air defense requirements has been drawn up that responds more to the principle of defense sufficiency, which presumes a steady decrease in levels of military confrontation. These authors believe that equilibrium is a necessary and leading component of sufficiency and is the criterion by which the scale of personnel and equipment necessary for preventing war and ensuring the state's security must be determined at each stage of the military-political situation's development.⁴

As equilibrium applies to forming air defense requirements, it should be viewed as a state in which neither side is capable of changing the ratio of military and economic potentials created in peacetime by using aerial offensive forces. This condition can be fulfilled

1. Colonel-General Yu. A. Gor'kov, "Once More About Sufficiency of Air Defense," *VM* 5 (1990): 54-58.

2. *Ibid.*

3. *Ibid.*

4. Colonel A.S. Sumin, "On Air Defense Sufficiency," *VM* 5 (1990): 63-68.

if the sides have to expend equal portions of attack resources to destroy equal portions of potentials.

Based on this, the scale of air defense personnel and equipment necessary for ensuring a balance and consequently responding to the principle of defense sufficiency is to be determined based on the following criteria: air defense must force the opponent to expend the very same relative amount of attack weapons for destroying the installations it is covering, as the other side's attack forces expend in accomplishing similar missions on his territory; and it must restrict damage (relative losses) to friendly installations from strikes by enemy offensive air weapons to a level not exceeding the damage inflicted on enemy installations by attack forces under similar retaliatory operations.¹

In the opinion of the authors, substantiation of requirements based on simulation of independent operations does not contradict the defensive direction of Soviet military doctrine, since it is aimed at achieving equilibrium and not superiority. The approach presented permits substantiating requirements for air defense weapons to ensure equilibrium of the opponents without using the acceptable damage criterion. If reasonable sufficiency is taken to mean the minimum level of air defense that can exist in the future—when the opponents' aerospace forces have been reduced to the point where they can no longer conduct broad-scale operations and deliver surprise attacks—then air defense oriented toward protection of air boundaries, as suggested by A. Arbatov, can be sufficient. The capabilities of the other side's air defense must be limited to accomplishing a similar mission here.²

Writing in *Military Thought* in July 1990, Colonels Yu. I. Mushkov and A.T. Silkin offered their own wording of the concept of "air defense sufficiency." Air defense sufficiency should be understood to be the requirement to protect defended objects against air strikes at a level of acceptable damage. The authors term "acceptable" that level of damage at which the defended target (or group of targets) preserves its essential properties. If troops are the defended targets, then acceptable damage is determined by the level of material and human losses a unit or subunit can sustain and still perform its missions. To determine whether air defense is sufficient at any level—strategic, operational, or tactical—it is necessary to follow these steps:

- First, specify the targets that should be defended against strikes by the air adversary (i.e., what are we to defend?), the levels of acceptable damage (i.e., to what degree do we defend?)
- Then, assess the opponent's options for these objects (i.e., against what weapons are we to defend?),
- Finally, assign air defense equipment and personnel for defending the targets and choose the most reasonable ways to use them (i.e., who is to defend and how are they to do it?)³

1. *Ibid.*

2. *Ibid.*

3. Colonels Yu. I. Mushkov and A.T. Silkin, "On One Approach to an Estimate of the Sufficiency of Air Defense," *VM* 7 (1990): 28–32.

At the end of 1990, the CINC of the PVO, General I.M. Tret'yak, summarized the PVO debate. Writing in *Military Thought*, Tret'yak began by stressing the Western threat from offensive aerospace forces. Because of this threat, he argued, the Soviets must have an air defense capable of accomplishing missions in a conventional war. It stands to reason that these missions must be defined precisely, in order to know what air defense forces to have. Two circumstances must be taken into account: First, the air defense system must constrain the enemy, limit him in the forms and methods of air attack he can use, and thereby contribute to the overall mission of deterring the aggressor.¹

Second, it is necessary to determine the enemy's key targets from the standpoint of air defense and, in a conventional war, ensure that they can be protected by the Air Defense Troops. Such targets include the following: the most important state and military C² facilities, the missile-attack warning system, the strategic nuclear forces, the main airfields and naval bases, the principal troop groupings, and certain economic installations of decisive importance for the country's defense capability. Loss of these features would permit the enemy to gain superiority from the very beginning of combat operations.²

Reasonable defense sufficiency, in turn, can be achieved by mutual, phased reductions of offensive arms based on bilateral and multilateral agreements. Then both sides' defensive forces will begin to predominate in military potentials and to ensure a stable military-strategic parity. In this balance of forces, a concrete role in achieving defensive sufficiency is envisaged for the Air Defense Troops. But Tret'yak argues against using the term "reasonable sufficiency" with respect to air defense. It is more suitable for defining overall defensive potential, which comprises strictly defensive air defense forces, general-purpose forces, and the second-strike assets needed to protect the country from aggression.³

Tret'yak also provided a new definition of the PVO's nuclear mission:

The PVO makes a definite contribution to deterring the opponent from unleashing war by providing the military-political leadership of the state with timely and accurate information about the threat of space-missile [*raketonokosmichesky*] and air attack necessary to assess the situation and make decisions on retaliatory actions.⁴

To fulfill this mission, the PVO fields ballistic-missile early-warning satellites, long-range early-warning radar systems, and the Moscow ABM system—the purpose of which is to “repel missile strikes of limited scale on the organs of the higher state and military leadership.” Thus, Tret'yak argued that the PVO's main nuclear mission was to provide the early warning and the information needed for retaliatory decisions, rather than to heavily defend the nation against a missile attack.⁵

1. Interview with General of the Army I.M. Tret'yak, “Defense Sufficiency and Air Defense,” *VM* 12 (1990): 2–11.

2. *Ibid.*

3. *Ibid.*

4. *Ibid.*

5. *Ibid.*

THE NAVAL DEBATE

Gorbachev's concept of reasonable sufficiency also generated public debates over the Soviet Navy's missions and force structure. Civilian defense experts at institutes of the Academy of Sciences were in the forefront in calling for significant changes in naval missions.

Naval Missions

One area that both civilian and military experts challenged was the "global" function of the Soviet Navy, which Gorshkov had fought so hard to justify. Sergei Blagovolin, a department head at IMEIMO (the Institute of World Economy and International Relations), gave several reasons why the Soviet Navy should not have a "global presence" mission. First, he argued, such a mission is not required. He stated that "we have remained a primarily continental power and have not acquired such transoceanic political and economic interests that would require the globalization of our military presence." To further support his argument, Blagovolin contended that the greatest Soviet military figures (A.A. Svechin, M.V. Frunze, and M.N. Tukhachevskiy) emphasized that "we need a fleet that is oriented toward defense, which takes the specifics of the country's geographical location and its economic situation into account." He also argued that the building of a "global presence" navy has not added anything to Soviet national security, and in fact has subtracted from it "on a long-term, strategic basis."¹

In his scathing 1989 attack on the Soviet military establishment in general, Aleksei Arbatov pointedly rejected the new mission structure of the navy. He charged that the concepts of "repelling an opponent's aerospace attack" and destroying the opponent's armed forces and military potential exemplify pre-nuclear military thinking, and therefore are hopelessly outdated. Action against SSBNs, he argues, is an even more doubtful mission because to chase U.S. SSBNs around the coasts of Uruguay and New Guinea would be "as absurd as sowing choice seeds in the Kara Kum desert"; it would divert resources from important tasks to unattainable goals.²

Arbatov contended that under the new doctrine of "defense sufficiency," the Navy should be restricted to two main missions:

- Defending the Soviet coast against strikes from the sea by carrier task forces and amphibious landings of the West
- Defending strategic submarines with long-range missiles in coastal seas against antisubmarine enemy forces.

He went on to argue that the following current missions are not consonant with the doctrine of defense sufficiency:

- Interdicting Atlantic and Pacific Ocean lines of communication

1. S. Blagovolin, "The How and Why of Military Power," *MEMO* 8 (1989): 5-19.

2. A. Arbatov, "How Much Defense is Sufficient?" *International Affairs* 4 (1989): 31-34.

- Searching for and destroying strategic submarines of the United States, Britain, and France on the high seas.

In addition to stressing the incompatibility of these missions with the new defensive doctrine, Arbatov also gave other reasons to eliminate them. Competing with the U.S. Navy in distant parts of the globe is unwise, he claimed, because the Soviet Navy is at too much of a disadvantage in terms of ship availability and port access. More importantly, he contended, such a mission does not contribute to the security of the Soviet Union or its main allies.¹ Other civilians have agreed that, in reassessing its approaches to regional conflicts and policies in the Third World, the Soviet Union wants not to increase but to reduce its military presence—to include a reduction of “showing the flag” in remote regions of the world’s ocean.²

Naval Development

Civilian defense experts challenged not only the Soviet Navy’s missions but also its force structure. Blagovolin thus called for unilateral reductions of those elements of the Soviet Navy that are specifically oriented toward “global” functions.³ Arbatov called for a serious revision of “plans for the construction of a large surface fleet—including aircraft carriers, nuclear-powered cruisers, and landing ships.” He advocated instead a concentration on “building multi-purpose submarines in smaller numbers with fewer types—but with higher qualitative indices and armed with antiship missiles and torpedoes plus, if necessary, long-range sea-based nuclear cruise missiles.”⁴

Arbatov also argued that the Soviet Union needs only one new long-range SLBM-carrying submarine. Under the anticipated START restrictions, the *Delta-IV* SSBNs would be preferable to the *Typhoon*. Relying on the *Delta-IV*—which carries 64 warheads as opposed to the *Typhoon*, which carries 200—would allow more submarines under START and would therefore increase the overall survivability of the force.⁵

The civilian defense experts also scrutinized the new Soviet full-deck aircraft carriers. Not only did Gorbachev’s announced plan for reducing military spending conflict with the high cost of these ships, but also the defensive doctrine could undermine the rationale for aircraft carriers in the fleet. In fact, serious questions were raised about the wisdom of building aircraft carriers. Arbatov, for example, argued against the construction of a large surface fleet that includes aircraft carriers because “the forces we have are clearly sufficient for defending our littoral and protecting our sea-based strategic forces equipped with long-range missiles in coastal seas.”⁶ In addition, during budget discussions at the December 1989 session of the Congress of People’s Deputies, G. Arbatov argued that “[t]he aircraft

1. *Ibid.*

2. A. Kortunov and I. Malashenko, “‘Tbilisi,’ ‘Riga,’ and the Rest?” *New Times*, 19–25 December, 1989.

3. Blagovolin, “Military Power,” pp. 5–19.

4. Arbatov, “How Much?” pp. 31–44.

5. *Ibid.*, p. 37.

6. *Ibid.*, pp. 31–44.

cruisers alone ... demand expenditures that would be more than sufficient for solving not only the housing problem, but also many other social problems in the armed forces.”¹

Other civilian defense experts also questioned the value of the carrier program. In December 1989, for example, Andrei Kortunov and Igor Malashenko contended that “building aircraft-carrying ships is perhaps the least profitable and most ruinous direction for the Soviet Union in view of the differences in the two superpowers’ geostrategic positions, economic potentials, and historical ways of military development.”²

Writing in *Kommunist* in 1990, Blagovolin contended that aircraft carriers “are not our weapon either economically or politically.” To have only two, he continued, is equivalent to having none; but to have 10 or 15 “is simply inconceivable without definitively ruining the country.”³ It should be noted that, although the Defense Intelligence Agency testified in early 1990 that the Soviet aircraft carrier program would end when the third unit was finished, the debate on the carrier program continued in the Soviet press.

1990 DRAFT MILITARY DOCTRINE

In late 1990, *Military Thought* published a special edition that articulated the draft Soviet military doctrine for the 1990s. According to the draft doctrine, a nuclear war would be global and characterized by catastrophic consequences for all mankind. There would be no victors in such a war, and calculations on limiting it to a single region or theater of military actions (TVD) would be groundless. A conventional war, on the other hand, *might* be global and protracted. Modern conventional weapons systems—especially ACMs—would become the “basic means of warfare.”⁴ The draft doctrine added that the situation in the Third World was fraught with the possibility that local wars would develop into global war, and that the great powers would be “directly involved.”⁵

The new doctrine also codified Gorbachev’s concept of reasonable sufficiency as well as the defensive doctrine (model 3).⁶ For a variety of reasons, however, the adoption of the 1990 Ministry of Defense draft military doctrine represented a victory for conservative elements in the politico-military establishment. For example, the new doctrine clearly confirmed that a future war would be a protracted conventional conflict on a global scale. In addition, ACMs would be the “basic means” of future warfare. Finally, the first priority for (increased) military R&D would be to overcome the current Soviet lag in emerging technologies. As a result of this new doctrine, the heretofore vocal liberal critics of military doctrine and development fell silent.

1. G. Arbatov, Speech, Moscow Television Service in Russian, 16 December 1989, in FBIS-SOV-89-241, 18 December 1989, p. 69.

2. Kortunov and Malashenko, “*Tbilisi*,” p. 26.

3. S. Blagovolin, “Geopolitical Aspects of Defense Sufficiency,” *Kommunist* 4 (1990): 114–123.

4. “On the Military Doctrine of the USSR (Draft),” *VM* (Special Edition, November 1990): 24–28.

5. “The Concept of Military Reform (Draft),” *VM* (Special Edition, November 1990): 3–23.

6. “Military Doctrine (Draft).”

RESPONSE TO 1990 DOCTRINE

While agreeing in general with the 1990 draft doctrine, General-Major G.B. Kirilenko and Lt. Col. D.B. Trenin published an article in the October 1991 edition of *Military Thought* that took issue with some of its specific points. The authors began by stressing that the scientific-technical revolution in military affairs is generating significant changes in the nature of combat actions and war as a whole. It is this phenomenon, they argued—not the proposition that there will be no victors in a nuclear war—that is determining a new approach to military planning and to the formation of military-political concepts in the last years of the 20th century.¹

The authors then addressed particular statements of the draft doctrine. They began with its statement that military doctrine “proceeds from the state’s foreign policy.” According to them, the subordination of military doctrine to the state’s foreign policy is not obvious. It would be more nearly correct to say that both are integrated within the framework of a national security strategy. Second, the document prohibits using the armed forces in any military conflict not directly connected with national defense—and then immediately refers to the possibility of using them in such cases. The authors argued that it is necessary to formulate *criteria* for using the Soviet armed forces in cases other than national defense.

Third, the document holds that in current conditions, war has completely outlived itself as a means of achieving political objectives. But the authors pointed out that, based on recent events in the Persian Gulf, this idea is wishful thinking rather than reality. While nuclear world war cannot be an instrument of rational policy, there are other types of wars whose regularity, scale, and intensity show no signs of abating. The authors noted that indeed the document glosses over the most probable type of military conflict—low-intensity conflict.

Several of the authors’ comments involved what they termed the “nuclear nihilism” and “disarmament syndrome” inherent in the document. They asserted that for the foreseeable future, the nuclear component of Soviet military power will remain the basis of the country’s military security. And, although the document ignores the concept of nuclear deterrence, nuclear deterrence remains today the method of preventing world war by military means. The document reiterates the well-known Soviet pledge against first use of nuclear weapons. “But are we really certain,” asked the authors, “that no situation will ever arise wherein the USSR is compelled to launch a first nuclear strike in order to deter an opponent with numerical superiority in conventional forces?”

According to the authors, the document’s nuclear nihilism is accompanied by what they termed the “defensive syndrome.” But, they said, the situations that arise can be varied—and so can the reactions of the USSR and its armed forces. (In a later section, this research memorandum examines the attack on the document’s “defensive doctrine” that began in late 1990 and escalated as a result of the Persian Gulf War.) Indeed the authors argued that a potential opponent’s ignorance of possible Soviet retaliatory actions can serve as a

1. General-Major G.V. Kirilenko and Lieutenant-Colonel D.V. Trenin, “Thoughts on the Draft Military Doctrine,” *VM* 10 (1991): 12.

deterrent. Finally, they noted that the document fails to clarify a reference to "military equilibrium at the lowest possible level." Especially on the conventional level, this concept should entail a much more complex assessment than a simple quantitative calculation.¹

Writing in November 1991 on the naval strategy of "the renewed Union," K. Sorokin argued that the 1990 military reform plan should be replaced by an entirely new concept that would take the following factors into account: (1) the dissolution of the Warsaw Pact, (2) the withdrawal of Soviet armed forces from Eastern Europe, (3) the ongoing economic crisis, (4) the mounting problems with conscription, (5) uncertainty regarding the maintenance of a unified armed forces and military policy, and (6) the ominous lessons of the Persian Gulf War.²

In the November/December 1991 edition of *Military Thought*, General-Major I.N. Vorob'yev not only attacked the defensive doctrine embodied in the document but also listed the following requirements:

- A deeper analysis of the current and future correlation of military-political forces in the world
- A clarification of "reasonable defense sufficiency," or perhaps its replacement by "guaranteed defense sufficiency"
- A more substantive analysis of the nature of modern warfare
- A new definition of the war's initial period
- A re-evaluation and essential change in the role of surprise in modern warfare
- A greater emphasis on maintaining the combat readiness of the Soviet armed forces to repel aggression.³

Writing in the same edition of *Military Thought*, Colonel I.V. Yerokhin also offered a list of recommendations regarding the 1990 military doctrine and reform plan. First of all, he argued, the image of warfare characterized by an invasion of ground forces and the conduct of initial operations in border (coastal) areas to the depth of a front "*must be replaced by a recognition of the global character of a war with an air invasion (electronic-fire) throughout the opponent's entire territory.*"⁴

Second, Yerokhin continued, the Gulf War should be viewed as the prototype of future wars. Instead of excluding a first preemptive strike by the Soviet armed forces, he said, it is therefore necessary "*to enunciate the right to repel aggression using all types, forms, and methods of military actions.*" Warfare can begin with meeting and if necessary preemptive strikes on the opponent's concentrated offensive groupings.⁵

1. *Ibid.*, pp. 13-15.

2. K. Sorokin, "Naval Strategy in a Renewing Union," *MEMO* 11 (1991): 37.

3. General-Major I.N. Vorob'yev, "The Principles of Forming Military Doctrine," *VM* 11-12 (1991): 22-29.

4. Colonel I.V. Yerokhin, "On Formulating the Concept of Military Reform," *VM* 11-12 (1991): 43.

5. *Ibid.*, p. 41.

Third, the main objective of military doctrine and basic task of military reform vis-a-vis the development of the Soviet armed forces is not preventing war but ensuring the capability to deliver a crushing rebuff to the aggressor under any conditions. Finally, Yerokhin recommended the following structure for the Soviet armed forces: (1) combat-ready deterrent and retaliatory strike forces (the strategic nuclear forces; (2) combat-ready defensive forces for repelling a first strike (PVO troops, air defense forces of the ground troops, fighter aircraft of the air force, fleet forces, and border troops); and (3) cadre general-purpose forces.¹

POST-1990 DEBATES OVER REASONABLE SUFFICIENCY

Despite the adoption of the 1990 military doctrine, the debates over reasonable sufficiency continued. According to Chernavin in early 1991:

I think that this term, reasonable sufficiency, deserves to exist. But we must set some limits here. It is one thing from a political point of view. Here I think this term is valid. But it is another thing for us military specialists. I think we cannot be guided by this term in full or sufficient measure, because if this term is comprehensible in a general political way, it means absolutely nothing militarily.

Once more, as far as the term reasonable sufficiency is concerned, it seems to me that the question of ensuring the country's defense unconditionally is so important and is of such decisive significance that it is even difficult to say whether reasonable sufficiency or possibly "sufficient reasonableness" should be our principal attitude on this most important issue.²

Interestingly, the new defense minister, Ye. Shaposhnikov, echoed Chernavin practically verbatim in September 1991:

The principle of "*reasonable sufficiency*" is correct even at the present point in time, but a new approach corresponding to a structural change is necessary. When we advocated "reasonable sufficiency" in the course of ending the cold war, we did not necessarily have a clear-cut prospect for the development of East-West relations.

However, the West has now come to understand that we are entirely headed for democratization—including in our military policy—and that there can be no retrogression. Therefore, we can shift from the principle of "reasonable sufficiency" to one of "sufficient reasonability," under which both the East and the West aim at defense only.³

1. *Ibid.*

2. "Navy Faces Budget, Conversion Issues," translated in FBIS-SOV-91-067, 8 April 1991, pp. 55-60.

3. "Shaposhnikov on 'Reasonable Sufficiency' Arms Policy," translated in FBIS-SOV-91-191-A, 2 October 1991, pp. 1-2.

In early 1991, Rear-Admiral V. Pirumov argued that in order to define parity and defense sufficiency, it is necessary to examine the concept of "combat potential." In turn, it is necessary to examine the areas where "information systems" have been incorporated: weapons, C², reconnaissance, and electronic warfare (EW) systems. The introduction of these systems—which today define the content of armed combat—have made it possible to at least double the combat potential of the combined-arms division without increasing its size. The "formula for success" in the modern battle or operation is therefore approximately as follows: Gain superiority first on the airwaves, then in the air, and only then by troop operations. Consequently, these elements (integral parts) must be included along with means of fire destruction in the generalized system for assessing the capabilities of a troop grouping, the index of which is generalized combat potential.¹

Thus, armed conflict today can be viewed as the aggregate of two components—electronic-fire and information—each of which has only the objects, resources, and methods inherent to it. By the electronic-fire component of armed conflict, we mean the sphere that is defined by the capabilities of means of fire destruction and electronic warfare—i.e., means capable of directly affecting enemy equipment and personnel. The information component is understood to be the sphere defined by the capabilities of resources that provide for acquiring information (reconnaissance) and using it (command and control) in the interests of increasing the combat potential of the resources that directly affect the enemy (fire destruction and electronic warfare resources).²

Under conditions of parity in nuclear and conventional weapons, superiority in the areas of reconnaissance, command and control, and electronic warfare is today the main factor in raising the qualitative indices of weapons and military equipment, which can have a decisive effect on the course and outcome of combat operations.³

Under all circumstances, the side that has advantages in reconnaissance, command and control, and electronic warfare will always have greater capabilities, even if the other side has definite advantages in nuclear and conventional weapons. These circumstances require that the capabilities (contribution) of reconnaissance, command and control, and electronic warfare be taken into account in the generalized potentials of troop groupings (forces, weapons, combat equipment) and, consequently, also be taken into account at disarmament negotiations, in determining parity and defense sufficiency of the sides.⁴

General-Major V.A. Chirvin discussed the factors involved in military-strategic equilibrium in the May 1991 edition of *Military Thought*. A stable military-strategic equilibrium exists, he noted, when the opposing sides have the capability for mutual deterrence. This deterrence, however, must be "guaranteed" rather than "minimum," so it is more nearly correct to speak of nuclear deterrence based on the minimum permissible level of military-strategic equilibrium in strategic nuclear arms. This, in turn, means the capability

1. Rear-Admiral V. Pirumov, "The Role of Information Systems and Certain Methodological Approaches in Defining the Concept of Parity and Defense Sufficiency," *APN Voennyi vestnik* 4-5 (1991): 6-15.

2. *Ibid.*

3. *Ibid.*

4. *Ibid.*

of the opposing sides to mutually deliver unacceptable damage by retaliatory actions under any conditions of a war's outbreak. But a variety of factors can undermine the stability of this equilibrium, such as a significant leap by one of the sides in the development and deployment of any of the following: (1) new strategic offensive arms, (2) an effective, multitiered antiballistic missile (ABM) system, (3) strike and defensive space-based systems, (4) ACMs, (5) Stealth technologies, and (6) directed-energy weapons.¹

Chirvin went on to explain that a stable equilibrium in strategic offensive arms could survive a gap in the combat capabilities of the sides if each of them retains the capability to deliver unacceptable damage in retaliatory actions. Similarly, a stable equilibrium in general-purpose forces could survive a gap if each side retains the capability to repel aggression and destroy the opponent's invading troops in a conventional war.²

According to Chirvin, the level of defense sufficiency cannot be identical and constant in all TVDs. But the armed forces must always be capable of repelling any possible aggression, defeating the other side in the course of defensive operations, and restoring the status quo ante. This capability is precisely the deterrent that prevents conventional war.³

Writing in *Military Thought* in October 1991, General-Major V.A. Sapozhinskiy sought to further clarify the parameters of "defense sufficiency." To repel aggression, he noted, the Soviet armed forces should proceed not simply from a quantitative equality in armaments with the opponent, but from actual combat capabilities to deliver a retaliatory strike of equal might with existing forces and means. Complete parity (or absolute equality) cannot be achieved under any circumstances. The development of the Soviet armed forces has been and remains profoundly individual, based on the level of military equilibrium in each TVD. As for the level of defense sufficiency, it should be viewed as a certain percentage of the overall military power of a given state, and that only in peacetime. It is the minimum total capabilities of troop groupings in a given TVD that must be able to thwart the opponent's offense. These capabilities can be viewed both horizontally and vertically.⁴

Horizontally, they include the partial capabilities of each branch and troop-arm of the armed forces for accomplishing missions and for conducting the operation as a whole. Vertically, the total capabilities of armed forces or groupings of any scale must correspond to the concrete capabilities of the opponent's groupings. As a result, vertical defense sufficiency on all levels will be predetermined by the composition, equipment, and readiness of the opponent's troops at the given moment—i.e., by the degree of actual military threat. Although the priority in preventing war must belong to political means, it is necessary at the same time to flexibly react with purely military means to the military-strategic situation—to include raising the level of military sufficiency to be equivalent to an increased military threat. According to Sapozhinskiy, the General Staff Academy is correct in its method of

1. General-Major V.A. Chirvin, "Military-Strategic Equilibrium and Problems of Preventing War," VM 5 (1991): 6–7.

2. *Ibid.*, p. 8.

3. *Ibid.*, p. 9.

4. General-Major V.A. Sapozhinskiy, "On the Question of Defense Sufficiency," VM 10 (1991): 37–40.

assessing the qualitative condition and capabilities of troops in order to solve the problems of defense sufficiency. The basic criterion is ultimate readiness to conduct actions. This is a combined criterion that permits an assessment of combat might at a fixed period of time by analyzing partial features (such as combat potential, capabilities, and readiness).¹

Writing on Soviet military development in the October 1991 issue of *Military Thought*, then Chief of the General Staff Lobov argued that the Soviet armed forces need not strive to have resources that exceed those necessary to prevent war and ensure defense sufficiency. The criterion of the latter must be an assessment of the actual correlation of forces in both its quantitative and qualitative aspects. Consequently, the armed forces must be maintained at manpower and equipment levels that would allow it to rebuff any external attack if necessary. To accomplish this, the army and fleet must have both nuclear and conventional weapons. This corresponds to the concept of deterrence, which has the objective of maintaining a specified level of combat capability. At the same time, it does not exclude the development of conventional weapons and new methods of employing them. Here ultra-modern weapons such as ACMs and automated C³I systems are acquiring particular importance, and significantly increase firepower and destructive factors.²

As already noted, the Soviet military has continued to attack the 1987 defensive doctrine and its embodiment in the 1990 draft doctrine. Curiously, however, General-Lieutenant Ye. D. Grebish published an article in the June 1991 edition of *Military Thought* that offers a contrasting view of Soviet military art in the 1980s. With the May 1987 adoption of the Warsaw Pact doctrine, he writes, military art came to be based on “*the conduct of defensive operations in all TVDs*.” The modern defense, he asserted, is a sufficiently effective type of military action, whereas the counteroffensive is viewed as one of the necessary elements of the defense. Counteroffensive operations on any scale—from army to armed forces in a TVD—are conceived as a means of restoring the status quo ante, and not as a shift of action by ground troops to the opponent’s territory. This approach, he concludes, objectively corresponds to Western ideas of “non-offensive defense.”³

POST-1990 NAVAL DEBATES

Along with reasonable sufficiency, Soviet naval missions and forces continued to be debated following the adoption of the 1990 military doctrine and military reform plan. Writing in *Military Thought* in early 1991, however, General of the Army Lobov noted that one of the criteria for defense sufficiency must comprehensively assess the Navy’s capabilities. Before this criterion is formulated, the nature and operational methods of fleet forces in a war evidently must be determined. One specific question is, “Will fleets operate in the ocean, conduct aggressive operations to fight enemy naval forces (including his merchant fleet), and conduct warfare on LOCs, or will they operate only within limits of the economic zone and only in support of ground forces conducting an antilanding defense?” “In

1. *Ibid.*

2. General of the Army V.N. Lobov, “Military Development: On a New Foundation,” *VM* 10 (1991): 6.

3. General-Lieutenant Ye. D. Grebish, “The Evolution of Doctrinal Tenets in Soviet Military Art in the 1980s,” *VM* 6 (1991): 36–37.

my view," Lobov stated, "the criteria must be determined in all instances according to the *maximum* missions to be accomplished."¹

Under present conditions, he continued, enemy naval forces, especially carrier strike forces, may not even enter the waters of inland seas to destroy ships. But they have sufficient capabilities—for example, in the basins of the North or Mediterranean seas—to deliver strikes against ships located in the Baltic or Black seas, respectively. Consequently, as applied to the navy, "sufficiency for defense must be determined with consideration of the need for a successful struggle by ships and aircraft in ocean TVDs and must bear an *offensive* nature despite the defensive content of Soviet military doctrine."²

Naval Missions

Writing in November 1991, however, K. Sorokin agreed with earlier critics that an offensive naval strategy coincides with neither the defensive doctrine nor the criteria for maintaining stability. He then listed other factors that argue against the Soviet conduct of an active naval policy in the American style. First, such a policy does not favor the particular features of the Soviet geostrategic situation. Second, the development and maintenance of an "ocean-going potential" require enormous expenditures that clearly exceed the capabilities of the dissolving Union. Third, the modern fleet is the most technology-intensive branch of the armed forces. Because the Soviets lag significantly in cutting-edge technology, competition on ocean expanses would be highly unprofitable. Finally, Soviet naval tradition and experience offer little that is necessary for the accomplishment of global missions. In the current situation, Sorokin argued, the Soviets should renounce the existing quasi-oceanic policy for a less ambitious policy, and should concentrate defensive efforts on a regional level. In other words, they should ensure a reliable defense of sea TVDs along the perimeter of Russian territory and, relying on the Northern and Pacific "security zones," should conduct a policy of preventing war at sea. Such a policy would be politically justified and would be economically less debilitating than the existing policy. Also, to a certain degree, it would soften the consequences of the Soviets' technological lag.³

Sorokin went on to note that the focus of current Soviet naval development is a protracted non-nuclear war on a global scale. But he argued that such a scenario is too hypothetical unless the Soviets "play" by the rules being imposed on them and become more deeply immersed in a conventional arms race. So how should an optimal naval policy be developed? If one proceeds from the first-priority task of preventing war, then first it is necessary to clarify how it will be prevented.

Sorokin examined three possible variants. First, "detering" a conflict by threatening to destroy an aggressor and achieve victory over him is infeasible for a whole series of reasons. Second, "deterrence" by a threat of "punishment" ("massive retaliation") is suicidal and unrealistic, and therefore incapable of fulfilling its function. A third variant remains:

1. General of the Army V.N. Lobov, "Ways of Realizing the Concept of Defense Sufficiency," *VM* 2 (1991): 13–19.

2. *Ibid.*

3. Sorokin, "Naval Strategy," pp. 42–43.

“deterrence” by not permitting a situation wherein the attacking side could achieve its objectives at an acceptable cost to itself.¹

Second, it is necessary to specify the “object of deterrence.” Since the beginning of the 1980s, Sorokin continued, Soviet military doctrine justifiably rejected the possibility of a limited nuclear conflict because it would “more than likely” escalate into a general nuclear conflict, and a low probability similarly attaches to a protracted, non-nuclear, global conflict. For example, any kind of serious naval aggression would be accompanied by strikes on the bases of shore-based naval aviation—i.e., strategic targets on Soviet territory—which hardly permits limiting the conflict to a pre-nuclear level.²

Sorokin thus concluded that it is necessary to think seriously about the “deterrence” of a world nuclear war (which still remains a possibility) and of a limited conventional conflict at sea. “Deterrence” of a general nuclear conflict is achieved as long as a portion of the strategic offensive nuclear potential survives and is capable of inflicting unacceptable damage on the aggressor. It is clearly necessary to ensure the maximum defense of SSBNs (and consequently of nuclear-powered attack submarines armed with long-range SLCMs such as the “SS-NX-24”) in the Northern and Far Eastern coastal sea TVDs (“bastions”). The attempts to target Western SSBNs, i.e., to focus on strategic antisubmarine defense, represent a completely different type of “deterrence”—a threat of imposing defeat and achieving victory in a nuclear conflict. This threat is extremely destabilizing, politically unacceptable, and unattainable in practice.

The prevention of a *limited* non-nuclear conflict at sea, he continued, presupposes creating some kind of stable and echeloned antiship, antisubmarine, and antiair lines for reliably defending coastal sea TVDs. But here it does not pay to extend the breadth of the “security belt” to the range of Western weapons systems, especially cruise missiles and carrier-based aviation. Such an extended capability would pull the forward line of Soviet defense to distant ocean areas. Sorokin noted that “deterrence” of both general nuclear conflicts and limited non-nuclear conflicts presupposes the accomplishment of similar tasks. He noted further that even with drastic cuts in the fleet, a dense concentration of mutually reinforcing means can be achieved in the coastal sea TVDs. In addition, because the enemy can strike the TVD from outside the coastal zone, the “cementing” of such a regional defense requires the retention of carriers. And the pace of “de-nuclearizing” the fleet should not be accelerated, because nuclear weapons will not be removed from Western ships in the foreseeable future. Indeed sea-based nuclear systems are an effective deterrent to nuclear war, and nullify the gap in combat capabilities between the Soviet and U.S. navies.³

Naval Development

In early 1991, Chernavin addressed the cost of the Soviet carrier program. He noted that it is dangerous to simply judge things by their low cost and to count on cheap weapons. Ships must have cover—such as that provided by jet fighters—or they are helpless and

1. *Ibid.*, p. 47.

2. *Ibid.*, p. 48.

3. *Ibid.*, pp. 48–49.

defenseless, regardless of their firepower. The penny-pinching approach, said Chernavin, is a ruinous course that can lead the USSR and its armed forces into an impasse for which the people will have to later pay with millions and millions of lives.¹

Discussing the future of the Soviet Navy in November, 1991, Chernavin argued that military-scientific research proves that the use of carriers on certain operational axes increases the combat capabilities of groupings by 1.5 to 2 times and significantly reduces the losses of forces. At the same time, the cost of reserved forces (including strategic forces) exceeds all expenditures for a carrier such as the "Kuznetsov" by several times. Based on the "cost-effectiveness" criterion, he concluded, "no other alternative can ensure such an effect."²

Among others, Rear-Admiral V. Beznosov also sought to counter the civilian attack on carriers. "But what if there is a war after all?" he asked in early 1991. One carrier, he said, will prevent the loss of other naval forces whose value is five times greater than the expenditure on the construction of the cruiser itself. It is unrealistic to expect to be able to build such ships in wartime.³

A December 1991 *Naval Digest* article defended the need for aircraft carriers. In the article, Captain 1st Rank L. Khudyakov criticized the proposal that naval forces be oriented solely toward passive defensive operations in the immediate proximity of friendly shores under cover of land-based fighter aircraft.⁴ He explained that such proposals are based on the assumption that the opponent will enter friendly coastal maritime zones with his principal strike forces at the beginning of military actions. But since the opponent can accomplish his strike missions outside that zone, he argued, "we will have to go meet him. And heavy losses inevitably await us if we do this without air cover." He argued further that the "ideal" force would be capable of conducting fairly long combat actions with minimum resupply and minimum dependence on shore-based facilities—which inevitably will be attacked effectively by ACMs.

REASONABLE SUFFICIENCY ON THE NUCLEAR LEVEL

According to James McConnell, the essence of "reasonable sufficiency" depended on Soviet commitment to the strategic sphere.⁵ Although the Soviets tried to mislead the West about their commitment, it appeared that reasonable sufficiency made very little change in the Soviet concept of global nuclear war. Sufficiency here was a call for parity, but a parity that had (to use Soviet terminology) both "qualitative" and "quantitative" aspects. The qualitative aspect was said to deal with the ability to carry out a retaliatory strike inflicting unacceptable damage. References to quantity, as one Soviet author informed us, were a shorthand way of advocating counterforce capabilities.⁶

1. "Navy Faces Issues."

2. Admiral V. Chernavin, "The Fleet: Problems of Reduction and Development," *Morskoi sbornik* (hereafter cited as *MS*) 11 (1991): 8.

3. Interview with Rear-Admiral V. Beznosov, *SR*, 12 March 1991.

4. Captain 1st Rank D. Khudyakov, "On Concepts of the Question of Creating Our Own Aircraft-Carrying Cruisers," *MS* 12 (1991).

5. CNA Research Memorandum 89-286, "Soviet Military Strategy Towards 2010," by James M. McConnell, November 1989.

6. A. Podberezkin, "Captive to the Myth of Military Superiority," *KVS* 11 (1988): 92.

How did the new Soviet view of parity differ before and after the promulgation of reasonable sufficiency? It didn't. Since Brezhnev's speech at Tula in 1977, the Soviets had emphasized parity in assured destruction, without renouncing counterforce options.¹ Soviet capabilities for hard-target kill were almost exclusively a product of the period after Tula. At the same time that these capabilities were being introduced, Moscow adopted a new form of strategic operation—"the strategic operation for repelling an opponent's aerospace attack." Evidence at the time was persuasive that this included ICBM action against an opponent's strategic means of nuclear attack.² Speculation that it also included anti-satellite and ballistic-missile defense³ has recently been supported in the literature.⁴

NAVAL MISSION STRUCTURE

With the advent of reasonable sufficiency, the quantitative side seemed to assume even greater prominence. In a 1988 work on the Soviet Navy edited by Gorshkov (hereafter cited as *The Navy*), three distinguished theoreticians said that the Soviet Armed Forces as a whole had three "basic" tasks that were of "vital importance to the state." These were as follows, in the order repeatedly given throughout the book: "repelling an opponent's aerospace attack"; "suppressing the potential of an opponent's war economy"; and "destroying groupings of an opponent's armed forces," without which "the war's political objectives cannot, as a rule, be achieved and a victorious outcome to it cannot be concluded."⁵ Thus, two tasks out of the top three were counterforce, and the first enumerated task was not countervalue (qualitative) but counterstrategic (quantitative).

The counterstrategic mission was also expanded, from land to sea. Although Gorshkov's 1988 book on the navy did not add any new tasks to the Soviet naval mission structure, the authors articulated a drastic alteration of mission priorities. The first-priority mission was now said to be actions for "repelling an opponent's aerospace attack." This is precisely the mission that was previously declared to be "secondary"—i.e., destroying the opponent's sea-based strategic forces, including SSBNs, cruise-missile platforms, and aircraft carriers (insofar as carriers are considered to be reserves of the strategic nuclear forces).⁶ According to the authors, the opponent's SSBN fleet must be constantly tracked in peacetime and "simultaneously" hit at the very outset of the war, "regardless of the type of weapon being used" (conventional or nuclear); this is a testimonial to the "growing importance of surprise."⁷ They stressed that today, the possibility of destroying SSBNs "before their missiles are launched" is critical for both sides.⁸ In the future, they continued,

1. J.M. McConnell, "Shifts in Soviet Views on the Proper Focus of Military Development," *World Politics* (April 1985): 330-331.

2. J.M. McConnell, "A Counterforce Role for the Soviet Typhoon Nuclear-Powered Missile Submarine?" *Marine-Rundschau* (January 1983): 11-12.

3. Based on a study by J.M. McConnell at CNA in 1985.

4. N.P. V'yunenkov, B.N. Makeev, and V.D. Skugarev, *Voenno-Morskoy Flot: rol', perspektivy razvitiya, ispolzovanie* (Moscow: 1988), pp. 36-38.

5. *Ibid.*, pp. 35-41.

6. *Ibid.*, p. 221.

7. *Ibid.*, pp. 28-29, 224, and 231.

8. *Ibid.*, pp. 222-223.

this mission will include destroying ballistic and cruise missiles in flight from sea and ocean axes.

By preventing the opponent from using his sea-based strategic forces, the accomplishment of this mission would “predetermine the course and outcome of the armed struggle as a whole.”¹ Indeed, the authors argued that in the foreseeable future, action against SSBNs may be elevated “to the level of a national mission—and then one can speak of national antisubmarine defense of the nation just as we speak of national air defense.”²

The book’s second-ranked naval mission—“neutralizing the opponent’s military-economic potential”—was previously the Navy’s main mission. It includes nuclear-missile strikes against land targets (industrial, power, and administrative-political centers and C³ facilities).³ It also includes interdicting SLOCs, said to be especially important in the event of “a long war fought with the use of conventional means of destruction or the partial use of tactical nuclear weapons.”⁴

The book’s third naval mission is that of “destroying groupings of the opponent’s armed forces” in TVDs.⁵ In sea and ocean TVDs, the objective is to gain “command of the sea,” principally in support of Soviet sea-based strategic forces, by destroying the opponent’s carrier battle groups and ASW forces.⁶ The authors explained that, in continental TVDs, the third mission includes assisting the ground troops by providing cover, backup, and support. “Cover” is ensured by destroying naval strike and amphibious forces operating against friendly shores; “backup,” by one’s own action from the sea against enemy targets ashore, making amphibious landings, and interdicting troop SLOCs; and “support,” by such actions as shipping reinforcements and evacuating beachheads.⁷

The Navy is also noteworthy because it provides the first confirmation in the open literature that the Soviet Navy in general, and Soviet carrier-based fighters in particular, would have a national air defense mission. As noted, technological developments were said to permit the use of naval forces “for directly engaging ballistic and cruise missiles on their flight trajectories to the target.” Means of surveillance and missile systems would also be improved, but the advent of qualitatively new technologies such as laser and beam weapons and “the extensive use of space means for naval purposes will allow specially equipped ships to detect and destroy missiles flying in from sea axes at considerable distances from one’s own coast....”⁸

A review of Soviet naval writings since the 1988 publication of *The Navy* indicates that the latter’s reordered mission structure indeed reflected mainstream Soviet naval strategy.

1. *Ibid.*, p. 29.

2. *Ibid.*, pp. 222–223.

3. *Ibid.*, p. 236.

4. *Ibid.*, p. 244.

5. *Ibid.*, p. 41.

6. *Ibid.*, pp. 261–262 and 267–268.

7. *Ibid.*, pp. 255–256.

8. *Ibid.*, pp. 235–236.

In a 1989 article in the *Naval Digest*, for example, Admiral Chernavin referred to only one—arguably the main—mission of the Soviet Navy. First, he asserted that the Soviet Navy is capable of foiling imperialist aggression “from sea and ocean axes.” In current conditions, he continued, “combatting the opponent’s naval strike forces is becoming an *independent* mission because the latter carry nuclear-missile weapons—with whose help it is possible to achieve both tactical and operational-strategic objectives.”¹

In a 1989 Navy Day interview, Admiral Makarov similarly explained that the Soviet Union must “proceed from the need to neutralize the action of the enemy’s strike forces in ocean and sea areas from which they can threaten our territory.”² Among others, Captain 3rd Rank V. Smirnov contended that “the appearance of missile-firing submarines moved their destruction into the category of first-priority missions for all navies.”³ Addressing the future of the Soviet Navy in November, 1991, Chernavin still subscribed to the revised naval mission structure.⁴

1. Admiral V. Chernavin, “Prepare Yourself for Modern Combat,” *MS* 1 (1989): 3.

2. “Admiral Makarov says USSR Needs Strong Navy,” Moscow TASS in English, 27 July 1989, in FBIS-SOV-89-144, 28 July 1989, p. 107.

3. Captain 3rd Rank V. Smirnov, “Anti-submarine Activity by Submarines,” *MS* 4 (1988): 18.

4. Chernavin, “The Fleet,” p. 6.

SOVIET DOCTRINE ON FUTURE WAR

In May 1992, a draft of Russia's new military doctrine was published in *Military Thought*, the main theoretical journal of the Russian armed forces. The essence of the new doctrine lies in current Russian views on the nature and requirements of future war. An examination of Russian military writings reveals both the visionary nature of these views and their unbroken continuity with Soviet military art. Because Russian doctrine constitutes a logical elaboration of Soviet views, this section will first trace the roots of the doctrine in the Soviet period. As in the Soviet period, the new political leadership has not sought to impede the development of those technologies perceived to be at the heart of future military capabilities: ACMs, directed-energy weapons, and space-based systems. For both periods, Operation Desert Storm serves as the paradigm of future war in strategy, operational art, and tactics.

THE MILITARY-TECHNICAL REVOLUTION

As already noted, the Soviet military perceived the U.S./NATO "Air-Land Battle"/FOFA concepts as a signal that the West was gaining an edge in the "qualitative" arms race. In the early 1980s, Marshal Ogarkov and others thus began to stress that the emergence of advanced non-nuclear technologies was engendering a new "revolution" in military affairs.¹ Ogarkov thus argued that, in the matter of modernizing military theory and practice, "stagnation and a delayed 'perestroika' of views ... are fraught with the most severe consequences."² Throughout the 1970s and 1980s, he lobbied persistently for a timely incorporation of the new non-nuclear technologies into Soviet military art and force structure, contending that the principal weapons systems are now being replaced every 10 to 12 years.³ Moreover, a review of Soviet writings from 1977 to the present reveals no evidence of a dispute between Ogarkov and the civilian or the rest of the military leadership on this issue. Contrary to the belief of some, this was not the reason for his demotion in 1984.

During the 1980s, Soviet military theorists focused on technologies associated with automated decision-support systems, microelectronics, telecommunications, lasers, and enhanced munitions lethality. These technologies include "high-precision weapons" (advanced conventional munitions) and "weapons based on new physical principles." More specifically, the Soviets have focused on the combat potential of: (1) kinetic energy weapons (e.g., magnetic rail guns and hypervelocity projectiles); (2) particle-beam weapons; (3) laser weapons; (4) electromagnetic pulse (microwave) weapons; and (5) third-generation nuclear weapons, which include separate weapons systems as well as means for supplying power to other systems (e.g., the nuclear-pumped x-ray laser).

1. MSU N.V. Ogarkov, *Vsegda v gotovnosti k zashchite Otechestva* (Moscow: Voenizdat, 1982), p. 31.; MSU N.V. Ogarkov, *Istoriya uchit' bditel'nosti* (Moscow: Voenizdat, 1985), p. 41; Colonel-General M.A. Gareyev, "The Creative Nature of Soviet Military Science in the Great Patriotic War," *Voенно-istoricheskiy zhurnal* (hereafter cited as *VIZh*) 7 (1985): 29.

2. Ogarkov, *Istoriya*, p. 47.

3. Mary C. FitzGerald, "Marshal Ogarkov on the Modern Theater Operation," *Naval War College Review* 4 (Autumn 1986): 8.

Soviet theorists were more visionary than those in the West when assessing the potential application of these technologies to military science. They argued that under current conditions, wherein the interval between new generations of weapons systems is sharply reduced, military art must be based not only on existing military technology, but especially on a "forecasting" of its possible development.¹ These theorists were convinced that a future war *would* be waged in a high-tech environment. The basic scientific research had been completed, and the mass deployment of these systems was viewed as an eventuality.

Owing to these technological trends, the Soviet military stressed the elevation of "quality" over "quantity" in future military development. Military scientists argued that although the arms race was formerly "qualitative-quantitative," today it is a rivalry in "the qualitative improvement of military-technical systems and the creation of weapons with fundamentally new physical, chemical, biological, and geographic qualities."² If success used to mean equipping troops with weapons, it now means keeping up the tempo of developing new design concepts and prototypes. Soviet military economists thus described the current military-technological competition as follows:

In contemporary conditions, as a result of the military-technical revolution, advantage in the area of technical equipping of the armed forces accrues not only to the side that has a larger store of military materiel, but first of all to the side that is the leader in the development and introduction into the forces of qualitatively new systems.³

The Soviet military further believed that conventional weaponry would be the chief beneficiary of contemporary technological advancements. As Colonel Bondarenko wrote in 1986:

If, in the recent past, strategic nuclear-missile weapons were the main area in which the newest scientific ideas were used, then at the present time these ideas are being actively used in the development and creation of conventional types of armament, increasing to a significant degree the combat effectiveness, reliability, and other characteristics of these weapons.⁴

Another recurrent theme associated with the military-technical "revolution" was the Soviet charge that the United States and NATO seek to deprive the Soviet Union of its superpower status with the so-called "competitive strategy." Such luminaries as then Defense Minister Yazov and then Chief of the General Staff Moiseyev thus warned that the West was striving to exhaust the Soviets economically with a qualitative arms race in emerging technologies.⁵ According to military scientists, the West was developing

1. General-Lieutenant Ye. D. Grebish, "On the Dialectical Interconnections in the Development of Military Affairs," *VM* 1 (1988): 63.

2. N.A. Chaldymov et al., eds., *Novoe myshlenie i voennaya politika* (Moscow: Filosofskoe Obshchestvo, 1989).

3. Colonel S. Bartenev, *Ekonomicheskoe protivoborstvo v voine* (Moscow: Voenizdat, 1986), p. 122.

4. Colonel V. Bondarenko, "Scientific-Technical Progress and Military Affairs," *Kommunist vooruzhennykh sil* (hereafter cited as *KVS*) 21 (1986): 14.

5. For example, see General of the Army M. Moiseyev, "Soviet Military Doctrine: Realization of Its Defensive Thrust," *PR*, 13 March 1989.

more than 150 types of new military technologies (not counting radioelectronic means), 80 percent of which would enter the inventory by the year 2000.¹ Western military planners, they charged, believe that microelectronics and computer technology are becoming the key factors in the qualitative development of weaponry, and hence in the achievement of decisive superiority over the Soviet Union.² The United States plans to achieve such superiority with "non-nuclear strategic (global)" weapons systems. Superiority in airborne systems, for example, will be achieved by increasing the combat potential of strike aircraft, remotely piloted vehicles, and long-range, conventionally armed, "high-precision" missiles.³

Finally, the Soviet military argued that the military-technical revolution is occurring in the most highly developed countries, and that the technologies involved are universal rather than country-specific. According to a 1991 article by Colonel Yu. Alekseyev, military-technological modernization—just like scientific thought itself—cannot be stopped.⁴ Moiseyev and others thus stressed that military science must focus on solving problems of the *long-term* future.⁵

ROLE OF EMERGING TECHNOLOGIES

A recurrent linchpin of Soviet views on future war was the nature of the weaponry that would be employed. In the early 1980s, Ogarkov began to focus special attention on "developing methods of combat action under conditions where the opponent uses precision combat complexes, new means of reconnaissance and radioelectronic combat, and automated systems of guiding weapons and commanding troops."⁶ Indeed the central message of a decade of Soviet military writings was that ACMs possess such "order-of-magnitude" increases in depth, precision, and lethality that they are comparable to tactical, operational, and even strategic nuclear weapons. In terms of the depth of prospective systems, Ogarkov and others noted that rapid changes in the development of conventional technologies are making many weapons "global," which portends the prospect of *strategic* non-nuclear conflict. In terms of precision, ACMs were defined as guided or unguided weapons with a single-shot probability of kill of "close to 1." The enhanced lethality of ACMs was said to facilitate a new "zone of destruction" and a more economical fulfillment of damage criteria for all types of targets. General-Major Makarevskiy thus argued that instead of the "many hundreds of munitions" formerly required to accomplish battlefield missions, "just a few" ACMs would now be necessary. The result is clearly a decrease in forces required to fulfill combat missions on the future battlefield: the elevation of quality over quantity. In addition, Soviet theorists asserted that ACMs

1. Colonel Ya. V. Safonov and Lt. Colonel S.K. Kolpakov, "Military-Technical Policy in the Pentagon's Plans," *VM* 6 (1989): 79–80.

2. General-Lieutenant I. Bobrov, "The U.S. Military-Political Course and Direction of Development of the Armed Forces," *Zarubezhnoe voennoe obozrenie* (hereafter cited as *ZVO*) 12 (1989).

3. *Ibid.*

4. Colonel Yu. Alekseyev, "Air-Launched Cruise Missiles: The Search for Options Goes On," *Krasnaya zvezda* (hereafter cited as *KZ*), 8 January 1991.

5. Colonel-General M.A. Moiseyev, "From Positions of a Defensive Doctrine," *KZ*, 10 February 1989.

6. MSU N.V. Ogarkov, "A Reliable Defense to Peace," *KZ*, 23 September 1983.

can be used successfully without the political and operational complications associated with using nuclear weapons.¹

In late 1990, *Military Thought* explained that the "Air-Land Battle/Future" concept is based on: (1) highly effective ground-, air-, and space-based reconnaissance, surveillance, and target acquisition systems; (2) powerful ACMs with great precision, range, and destructiveness; and (3) automated C³ systems that ensure the delivery of strikes in real time. Especially on maritime axes, the concept was said to be closely entwined with the Maritime Strategy.² A special role is assigned to naval operations in sea and ocean TVDs, which will be conducted according to the concept of the "Air-Naval Operation." Soviet theorists also stressed that since 1987, the United States has been developing the unified concept of an "Air-Land-Naval Operation."³

Because a future war was expected to be global, the Soviets stressed that control of space will be decisive for operations aimed at controlling large sections of the earth. Indeed, the Soviets claimed that the main focus of the strategic defense initiative (SDI) is not ABM defense, but the development of fundamentally new types of weapons that are even more effective than nuclear weapons. When deployed in space, these weapons are said to replace nuclear weapons and assume a global character.

In addition to advanced non-nuclear technologies, the new Soviet vision of future war projected the emergence and combat employment of "third-generation" nuclear weapons. General-Major F. Gontar', for example, warns that the United States is developing these weapons—x-ray lasers with nuclear excitation, and nuclear microwave and kinetic weapons, and so on—within the framework of the Star Wars program.⁴ According to General of the Army V. Shabanov, Deputy Minister of Defense for Armaments, the *chief* danger of a potential arms race in the qualitative sphere may be the new varieties of third-generation nuclear weapons that the United States is developing.⁵ Other theorists explained that these weapons are being developed as a result of the destructiveness of second-generation nuclear weapons. The global pollution of third-generation weapons will be 100 to 1,000 times less than existing ones. In addition, the weapons will be effective not only against space targets but also against terrestrial targets.

According to General-Major V.I. Slipchenko, head of the Scientific Research Department of the General Staff Academy, the main reason for the decline of second-generation nuclear weapons is the so-called "nuclear impasse": because these weapons are so destructive, they are useless for achieving any military or political objectives. Because third-generation nuclear weapons are ecologically "clean," however, they could actually be used to destroy the opponent's ground-based infrastructure, thereby providing an escape from the "nuclear impasse." These weapons will be primarily sea- and space-based and will

1. Mary C. FitzGerald, "The Soviet Image of Future War: 'Through the Prism of the Persian Gulf,'" *Comparative Strategy*, Vol. 10, No. 4, Winter 1991, pp. 393-435.

2. Colonel A.A. Zhuravlev, "On the Air-Land Operation," *VM* 6 (1990): 79.

3. Colonel B. Yur'yev, "U.S. Military Doctrine," *ZVO* 9 (1990).

4. General-Major F. Gontar', "While the Negotiations are Going On," *Trud*, 6 October 1989.

5. General of the Army V. Shabanov, "Conversion and the Quality of Armaments," *Trud*, 28 September 1990.

make nuclear warfare a viable instrument of policy once again. The technologies are said to be already available, but the weapons must be accumulated in sufficient numbers.¹

According to Marshal S.F. Akhromeyev, third-generation nuclear weapons are aimed primarily at implementing the SDI program. These weapons are small in size and yield, and can be used in space to hit missiles in flight. Akhromeyev warned that with such a system, the Americans can destroy the nuclear weapons of the other side on a mass scale. "Then they will possess the same strike capacity as we do," he argued, "and at the same time will protect themselves completely—or at least with a very high level of reliability—against our strike. Then the sides will be in a completely unequal position."²

THE SOVIET IMAGE OF FUTURE WAR

Space-based reconnaissance, surveillance, and target acquisition systems linked in real time to long-range ACMs would make the Soviet vision of global, non-nuclear war a reality. When introduced at the strategic level, these so-called "reconnaissance-strike complexes" were thus viewed as the nucleus of warfare in the 21st century.³ Military scientists asserted that to understand the fundamental changes in the nature of warfare generated by the wide-scale deployment of qualitatively new weapons and the development of corresponding concepts for their combat employment, it is important to understand the expected results of such a comprehensive integration of reconnaissance, electronic warfare, weapon control, and command-and-control equipment into unified systems at the formation and large strategic formation levels.⁴

The integration of weapons, reconnaissance equipment, and automated command-and-control systems greatly increases combat capabilities, expands the range of missions to be accomplished, and shortens the time required for their accomplishment. In the opinion of "foreign military specialists," extensive combat employment of future reconnaissance-strike complexes (RUKs) will permit the destruction of a significant number of targets and enemy force groupings *even before contact with them*. The emergence and mass deployment of these combat systems are generating changes in the nature of warfare, and dictate the development of fundamentally new forms and methods of employing the armed forces for accomplishing their assigned missions.⁵

According to *Military Thought*, even more significant changes should be expected from the possible creation of operational and strategic combat systems in the not-too-distant future. When integrated with appropriate reconnaissance, unified communications, weapon control, and command-and-control equipment, the force groupings being created by such systems acquire qualitatively new properties. Warfare becomes a process in which

1. "Deputies Discuss Nuclear Weapons at 9 October Session," Moscow Television Service in Russian, 9 October 1990, translated in *Foreign Broadcast Information Service* (hereafter cited as *FBIS*), FBIS-SOV-90-196, 10 October 1990, pp. 46-47; and Slipchenko, Presentation.

2. *Ibid.*

3. Colonel V.V. Krysanov, "On Certain Trends in the Development of Ground Forces," *VM* 10 (1990): 23-30.

4. Vice-Admiral R.A. Golosov, et al., "Toward a Theory of Combat Systems," *VM* 9 (1990): 24-33.

5. *Ibid.*

complex organizational-technical systems—"combat systems"—mutually influence each other.¹

Prominent Soviet military scientists argued that the ongoing development of nuclear and non-nuclear strategic offensive forces provides a basis for predicting a near-term shift toward the waging of an "essentially new type of war—the aerospace war."² Such a war is characterized by a massive employment of cutting-edge technologies: ballistic missiles with maneuvering warheads, long-range cruise missiles, advanced conventional munitions, reconnaissance-strike complexes, orbital aircraft, Stealth technology, directed-energy weapons, space-based strike weapons, and third-generation nuclear weapons. According to General-Major Slipchenko, by the year 2000 the space-based layer alone will be capable of destroying 30 to 50 percent of the opponent's retaliatory strike means.³

Proceeding from such analyses, Soviet military theorists envisioned a future war whose politico-military objectives are achieved not by seizing and occupying territory but by destroying the opponent's military capabilities and military infrastructure. According to General-Major Slipchenko, the three criteria for achieving victory are (1) destruction of the opponent's armed forces, (2) destruction of the opponent's military-economic potential, and (3) overthrow of the opponent's political system. In the past, achieving these objectives was said to be impossible without capturing and occupying the opponent's territory. Today, however, the capture and occupation of territory are unnecessary. With the help of ACMs alone, it is possible to deliver powerful strikes against important strategic targets and to destroy the opponent's military infrastructure. As a result, the political system will not survive.⁴

According to the Soviets, past warfare had two dimensions—the longitudinal and the latitudinal. But air- and space-based systems are now giving war a new, third dimension. The Soviets asserted that although they lacked sufficient quantities, they had already developed the technologies required to wage such a war: air- and sea-launched cruise missiles, remotely piloted vehicles, and space-based means of supporting ground actions. They predicted that by the year 2000, both sides will have accumulated enough of these systems to conduct the aerospace war. During the ongoing transition period, warfare will resemble that conducted in the Persian Gulf, with a declining role for piloted aircraft and a growing role for air-, sea-, and space-based directed-energy weapons.⁵

SOVIET VIEWS ON DESERT STORM

In the Persian Gulf War, the Soviet military saw the type of warfare they had predicted—and it was successful. According to military scientists, the Gulf War was a "technological war" and therefore a prototype of future war. As a result, the development of the Soviet Armed Forces would henceforth be planned "through the prism of the Persian Gulf." The

1. *Ibid.*

2. General-Major V.G. Slipchenko, "Impending Changes from Reform Plans for Employing the Soviet Armed Forces," Presentation at National Defense University, Washington, D.C., 15 and 20 March, 1991.

3. *Ibid.*

4. *Ibid.*

5. *Ibid.*

Soviet military was quick to link the coalition's victory to the achievement of surprise and air superiority at the outset of war. Military experts thus began to argue that the Gulf War dictated significant changes in Moscow's defensive doctrine.

According to the Soviets, the operations in the Persian Gulf represented the first concrete example of "intellectualized" warfare. General-Major Slipchenko thus explained that the Persian Gulf War was a clash between two concepts of war: the past (Iraq) and the future (the U.S.-led coalition). The coalition forces won because they were fighting in the future, and the Iraqi forces lost because they were fighting in the past. Thus, the Soviets viewed the war as a "transition between old and new," the transition that has now arrived because victory was based on the action of air attack weapons. Marshal Ogarkov's prescient demands for a rapid incorporation of emerging technologies into Soviet military theory and practice had now been vindicated.

The Soviet military's assessments of its own doctrine and strategy in light of the Gulf War covered a spectrum ranging from obsolete to prophetic. Colonel A. Tsalko, for example, observed that the crushing defeat of the Iraqi army demonstrated the obsolescence of not only Soviet military doctrine but also the entire model of military development.¹ According to speakers at a conference of the Moscow City Council, the war demonstrated that Soviet doctrine and its principles of military development had "considerable drawbacks," and that prevailing Soviet views on modern war had become "outdated."² In a milder vein, Marshal V. Kulikov, former CINC of the Warsaw Pact, acknowledged that the Gulf operations "modified the ideas we had on the nature of modern military operations." He concluded that a deeper analysis is necessary but that one point was already clear: the Soviet armed forces would have to take a closer look at the quality of their weapons, their equipment, and their strategy.³

On the other hand, prominent Soviet military scientists argued that the impressive performance of high-tech weaponry in the Gulf represents the realization of the qualitative revolution in military affairs that Ogarkov forecast nearly a decade ago. In his 1984 *Red Star* interview, for example, Ogarkov noted that the emergence of automated search-and-destroy complexes, long-range high-precision terminally guided combat systems, remotely piloted vehicles, and qualitatively new electronic control systems will inevitably alter the nature of modern operations.⁴ All of the developments that Ogarkov highlighted were used in the Gulf War, including the "automated search-and-destroy complex" or reconnaissance-strike complex (JSTARS aircraft in combination with MLRS).

Soviet military experts repeatedly stressed that the coalition won so quickly and with so few losses because of its "overwhelming superiority in modern methods of warfare: in aviation, ACMs, and means of reconnaissance, communication, command and control, and

1. TASS, 1 March 1991.

2. TASS, 3 March 1991.

3. "Kulikov Defends Soviet Weaponry," *FBIS-SOV-91-042*, 4 March 1991, p. 43.

4. Interview with MSU N.V. Ogarkov, "Defense of Socialism: The Experience of History and the Present," *KZ*, 9 May 1984.

electronic warfare.”¹ Also telling was the coalition’s superiority in strategy and tactics, the skillful combination of fire and maneuver, and coordination among tank, motorized infantry, artillery, aviation, and marine units.

According to most analysts, the centerpiece lesson of the Gulf War was the allied achievement of surprise and “command of the air” at the very outset of the war. General-Lieutenant V. Gorbachev, for example, stressed that the outcome of the war was determined by the fact that the coalition forces used surprise to seize the initiative and achieve “command of the air” in the first few minutes.²

Prototype of Air War

Prominent military scientists such as General-Major Slipchenko characterized the Gulf War as prototypical of an air war. Colonel M. Ponomarev, for example, described the allied air operation as a contemporary version of Douhet’s strategy of command of the air, applied in this case to create an “aerial blitzkrieg.”³ According to General-Lieutenant A. Malyukov, the Gulf War was conceived from the outset as an air war to wear out the opponent by means of air strikes, disorganize his C² systems, destroy his air defenses, and weaken the strike power of the ground forces. In terms of choice of objectives, it was therefore more a classical air offensive than an air-land battle.⁴

According to the Soviets, the United States used the theory of the air war against Japan in World War II. But the capabilities of air attack forces and means were then insufficient. Today, however, these capabilities have grown immeasurably—to the point where the theory of the air war can be realized. The Gulf War, wrote General-Major Slipchenko, is the “original prototype of the air war.”⁵

In such a war, said the Soviets, tens of thousands of precision-guided cruise missiles capable of striking point targets at long ranges can be used simultaneously to destroy thousands of targets. The air war can include the delivery of tens and even hundreds of massed strikes by ACMs from a variety of axes. In the intervals between massed strikes, pinpoint ACM strikes can be delivered against the most important targets not destroyed by massed strikes. Remotely piloted vehicles plus ground- and air-based systems for conducting radioelectronic warfare operations can be extensively employed to blind the opponent’s air defense systems.

The objectives of such an air war can include disabling state and military C² points, interdicting lines of communications and supplies, and paralyzing the rear infrastructure and the country’s economy by delivering unpiloted air strikes against vulnerable areas of the economy, C² points, road networks, bridges, and other important targets. The destruction of

1. Major M. Pogorelyi, “From a Military Observer’s Viewpoint: What the War Showed,” *KZ*, 8 March 1991.

2. General-Lieutenant V. Gorbachev, “Tanks Will Not Save the Day,” *Izvestiya* (hereafter cited as *IZ*), 21 January 1991.

3. Colonel M. Ponomarev, “The Picture Begins to Clear,” *KZ*, 25 January 1991.

4. General-Lieutenant A. Malyukov, “Gulf War: Initial Conclusions; Air Power Predetermined Outcome,” *KZ*, 14 March 1991.

5. Slipchenko, “Impending Changes.”

up to 50 percent of such important targets can plunge even the Soviet Union or the United States into a crisis. Strikes will also be delivered against military targets during an air war, and above all against airfields, naval bases, missile launch positions, and battlefield C² points. Space-based reconnaissance, communications, and attack means can be extensively employed to support the air war, and means of destroying targets from space can be employed in the future.

Prototype of Technological War

According to military experts such as General-Major Slipchenko, the Gulf War was also the prototype of the technological war. Such a war will be conducted with massive employment of advanced technologies. Remotely piloted vehicles, robotics, and means of electronic warfare, reconnaissance, and deception will be widely employed. Long-range guided weapons systems with artificial intelligence are appearing. Space-based weapons that employ various means of destruction are being developed to a significant degree, and they will always pose a great threat to the opponent.

Soviet experts argued that all of this is radically changing the nature of future war. Large groupings of ground troops will not be used in a future war. Instead, massive strikes will be delivered by remotely piloted precision-guided weapons and reconnaissance-strike systems capable of automatically finding and destroying the target to any depth of the opponent's territory. The entire country being subjected to precision strikes will become the battlefield, and the war will proceed without borders or flanks. The terms "front" and "rear" will be replaced by the concepts of "subject to strikes" and "not subject to strikes" (targets and non-targets). First-priority targets will be state and military command-and-control points, energy sources, and military targets—especially those having the means for retaliatory strikes.

By concentrating the enormous might of strikes on the farthest depth of the opponent's territory, it is now possible to achieve not only operational-strategic but also strategic objectives. In fact in such a war, the Soviets argued, the lines between tactics, operational art, and strategy disappear. The war can begin and end with a powerful strike by precision-guided weapons—painstakingly planned and precisely executed within a designated period of time.

Soviet military scientists noted further that the Gulf War dictates essential changes in the employment of the ground forces. Warfare has shifted from reliance on ground forces to reliance on air attack weapons. The role of piloted aircraft has also changed—from accomplishing missions over enemy territory to delivering stand-off weapons. In the Gulf War, the introduction of such novel elements as ACMs—and especially cruise missiles—permitted the execution of a technological operation that was not massive but sufficient to prove its effectiveness.

The Strike Operation

By August 1991, the Soviets argued that Desert Storm had already generated a critical revision of Soviet military art: the identification of a new type of combat action. The experience of military operations in the Persian Gulf zone showed that in the very near

future, *“the delivery of a surprise first strike and numerous subsequent massive missile, aero-space, and electronic strikes in combination with strikes by naval forces may decide the outcome of war without the invasion of enemy territory by ground force groupings.”*¹ The legitimacy of that conclusion can be confirmed by the very high effectiveness of fire and electronic strikes as well as operations by assault-landing forces that has been manifested in local wars of recent years. Therefore, initial operations most likely will assume the nature of fierce fire engagements.

The combination of fire engagements as well as massed or single fire and electronic strikes conducted for a certain time and under a common concept and plan will represent a new type of military operation: the “strike operation.” The experience of the war against Iraq confirms that such an operation can be conducted for several days or even weeks. Its goals may be to disrupt state and military command and control; to destroy nuclear forces’ installations; to defeat air defense and air force groupings and force groupings of the first operational echelon; to disrupt mobilization deployment and forward movement of follow-on forces; to destroy supplies; and to demolish the most important economic areas (installations), transportation hubs, and ecologically dangerous installations such as atomic electric power stations, hydroelectric stations, dams, and water reservoirs. As shown in the Gulf War, the opponent will make special efforts to demoralize the country’s population in the course of such an operation.²

FUTURE TRENDS IN WARFARE

Writing in late 1991, Colonel A.N. Zakharov examined the major trends governing the development of warfare from the end of the 20th century to the beginning of the 21st century. After singling out such general features as “the increase in types of weapons in all spatial spheres as a result of the growing role of ‘weapons, air, seas, and space,’” he enumerated seven specific trends:

- A higher degree of mutual influence among combat actions in various spheres, and a shift from primarily ground actions to warfare on land, on sea, and in the air—with a growing emphasis on the latter.
- A capability to strike the depth of the operational zone with simultaneous combat actions.
- A striving for simultaneous destruction of targets and groupings.
- A shift on all levels and in all spheres to combat actions of a combined-arms nature, based on massed, group, and concentrated strikes by various types of troops.
- A rising level of simultaneous influence by troops and weapons in each sphere in the course of any operational task.

1. General-Major Ye. G. Korotchenko, “The Modern Military Situation and Problems of Military Art,” VM 8 (1991).

2. *Ibid.*

- A shift in the brunt of influence from military equipment and arms to support and information systems.
- A reduction of time and expansion of methods for unleashing military (combat) actions.¹

According to Zakharov, the first trend reflects the ceaseless growth in quantity of aviation and naval forces for destroying ground groupings—since the capabilities of ground troops have become clearly inadequate. This trend is confirmed by the Gulf War, wherein coalition ground troops commenced active operations only after multi-day aviation and naval strikes on Iraq's ground targets (even with total command of the air and sea by aviation and naval forces). In future wars, success in operations, especially at the outset of war, will therefore depend directly on gaining and maintaining superiority in the air and at sea. This trend presupposes a successive concentration of efforts to seize the initiative first in the air, then at sea, and only later on land.²

The seventh trend, writes Zakharov, proceeds from the constant growth in the number of forces and means capable of inflicting destruction with conventional means (B-2s, SLCMs, reconnaissance-strike complexes, and others), as well as the higher degree of their constant readiness to deliver strikes. With each year, he continues, that side which articulated a “non-aggressive” doctrine will have fewer and fewer capabilities (with respect to both time and combat means) to successfully rebuff a carefully planned attack if it begins the first defensive operation only after detecting the fact of aggression.

And even with the highest level of readiness to deliver a strike, Zakharov notes, there can be a scenario wherein the opponent's preparation for and unleashing of aggression becomes “*irreversible*.” In theory it is therefore possible “to begin a defensive operation *with preemptive strikes* to thwart aggression—without betraying the obligations of military doctrine.” Zakharov argues further that preemptive strikes can soon become “*the only means of thwarting aggression and successfully beginning the first defensive operation*.” Today it is therefore necessary to plan to begin operational-strategic defensive actions with preemptive strikes on those means of the opponent whose combat use at a certain moment assumes “*an aggressively irreversible character*.”³

CHANGING ROLES OF OFFENSE/DEFENSE

According to the Soviet military, the combat characteristics of both nuclear weapons and ACMs had long since generated a blurring of the boundary between offense and defense in modern war. In a riveting 1980 article, General-Major Vorob'yev noted that in World War I, the victor in the competition of means of attack and defense was the defense, whereas in World War II the offense proved victorious. Under the impact of both nuclear weapons and ACMs, however, the boundary dividing these means by their combat characteristics into offensive and defensive is being erased. The offense and the defense can use

1. Colonel A.N. Zakharov, “Trends in the Development of Warfare,” *VM* 11–12 (1991): 9–15.

2. *Ibid.*

3. *Ibid.*, p. 15.

both means of combat to achieve their objectives. The incorporation of new weapons increases both the offensive and defensive potentials of troops.¹

According to the Soviets, one of the particular features of the modern firepower competition between offense and defense is the expansion of combat at great ranges. If the attacker tries to achieve a simultaneous effect on the entire depth of the defender's combat deployment, so that the defender can now strike the attacker as he prepares to attack or even earlier: "*Herein lies the new quality of the defense.*" In previous wars the defender could not achieve the same decisive objectives as the offense.²

In practice, the defense uses ever more widely and fully the arsenal of offensive methods and forms of combat to achieve its objectives. As a result there appears a certain "leveling" of offensive and defensive actions.³ In modern operations, the Soviets argued, there will no longer be only offensive or only defensive operations in their "pure form."⁴ In fact the future battlefield is now described as a high-tempo, lethal arena where the meeting engagement—that form of combat action wherein both sides meet on the offensive—is a primary form of combat action.⁵ Military theorists such as General-Lieutenant N.G. Popov stressed the growing role of initial mass strikes with long-range weapons systems in the form of meeting engagements.⁶ It is noteworthy that with the development of nuclear weapons, Soviet military art similarly stressed the replacement of the strategic offense and defense by the so-called "meeting strike."⁷

According to Soviet military scientists, the convergence of offense and defense is manifested in all dimensions of warfare. The space-based elements of SDI, for example, epitomize an "offensive defense."⁸ The strategic air and antiair operations are now said to have converged into a single operation for gaining air supremacy.

Soviet military doctrine always had two aspects—the socio-political and the military-technical. Since at least the early 1980s, the *socio-political* side of doctrine was said to be defensive because the Soviet Union would never initiate aggression against any nation. But in 1987, the Warsaw Pact announced a new military doctrine for conventional armed forces in Europe. Because it called for eliminating the structural capability to launch surprise strikes and mount offensive operations in general, the *military-technical* side of doctrine was now termed "defensive" by the politico-military leadership.

1. General-Major I.N. Vorob'yev, "The Correlation and Interconnection of Offense and Defense," *VM* 4 (1980): 53.

2. *Ibid.*, pp. 54–56.

3. *Ibid.*, p. 56.

4. *Ibid.*, p. 57.

5. For example, see General-Lieutenant P.A. Zhilin (ed.), *Istoriya voyennovo iskusstva* (Moscow: Voenizdat, 1986), p. 415; and Colonel F.D. Sverdlov, *Peredovye otryady v boyu* (Moscow: Voenizdat, 1986), p. 117.

6. General-Lieutenant N.G. Popov, "Characteristic Features of the Aggressor's First Operations in the War's Initial Period," *VM* 3 (1987): 16 and 22.

7. See Mary C. FitzGerald, "The Dilemma in Moscow's Defensive Force Posture," in W. Frank and P. Gillete, eds., *Soviet Military Doctrine from Lenin to Gorbachev* (Greenwood Publishing Group, forthcoming).

8. Tret'yak, "Defensive Sufficiency," p. 5.

But according to Soviet experts, the Gulf War demonstrated that not only the nature of the offensive but also the nature of war has essentially changed. Heretofore the Soviets had long focused on stereotypes: at the outset of war—after an offensive air operation lasting three to five days—the opponent would have to invade with ground troops, and it was precisely the invasion of ground troops that was considered the main content of war. Hence the need for a strategic defensive operation in the European theater. But today it is possible to escape this stereotype. With a vast arsenal of air attack weapons, the probable opponent can initiate and conduct only an air war.¹

According to military experts, however, it would be a mistake to consider that the concepts of “offense” and “defense” as now understood have become obsolete. An offense or defense by ground forces is possible even in the future “aerospace war.” But they can occur in the course of the war—most probably in its concluding stage—and not at the outset of war as was previously believed. It is thus clear that the structure of the armed forces could change in the future. While their numbers will gradually decrease, however, their quality will rise as the result of saturation with new types of weapons.²

According to Soviet military scientists, the Gulf War thus dictated significant changes in Moscow’s 1987 defensive doctrine. In compelling the Soviet military to conduct only defensive operations to repel aggression, Gorbachev’s doctrine was said to be “extremely dangerous” for both the armed forces and the Soviet Union. Instead, the Soviet armed forces must be fully prepared to conduct all types of combat actions: “The defensive doctrine does not mean a defensive strategy.”³ Colonel-General I.N. Rodionov, head of the General Staff Academy, reiterated these views. Writing in *Military Thought* after the Gulf War, he argued that the defensive doctrine “by no means signifies a rejection of the counteroffensive and offensive.”⁴ Among others, Colonel-General A.A. Galkin explained that “we naturally do not plan to be restricted to defensive operations, because it is irrational to yield the initiative to the enemy. Having adopted a defensive doctrine, we have assumed the obligation not to attack first—that is the essence of it.”⁵

Even then Defense Minister Yazov joined the new offensive against the defensive doctrine. “What is a defensive doctrine?” he asked in March 1991. “It means that we have no intention of attacking anybody.”⁶ Such statements constitute a rejection of the 1987 doctrine—which redefined the military-technical side of doctrine—and a reversion to the earlier defensiveness of the socio-political side of doctrine.

According to military scientists, the new technological warfare dictates that the armed forces be allowed to conduct whatever forms of military action are necessary, are the most effective, and correspond to the existing military situation. After the Gulf War, Soviet statements about “strictly defensive actions” at the outset of war were thus replaced by the

1. Slipchenko, “Impending Changes.”

2. *Ibid.*

3. *Ibid.*

4. Colonel-General I.N. Rodionov, “On Several Tenets of Soviet Military Doctrine,” *VM* 3 (1991): 7.

5. Cited in “Round Table: Military Reform and the Ground Troops,” *KZ*, 18 April 1991.

6. “Yazov Answers Viewers’ Questions,” *FBIS-SOV-91-062*, 1 April 1991, pp. 26–41.

concept of "adequate response."¹ In late January, for example, General-Major Vorob'yev published an article in *Red Star* that severely criticized the "one-sidedness" and "rigidity" of the 1990 draft military doctrine. Because the document states that the defense will be the main type of military action at the start of aggression, Vorob'yev charged that "we are ordered to act passively under all circumstances. But in any war, especially a modern one, this is fraught with a loss of the strategic initiative and unpredictable consequences for the army and the nation. One has merely to recall the lessons of 1941."

Vorob'yev argued further that military doctrine "cannot and should not" assign to military art a unilateral focus regarding the employment of any one type of military action. The theory and practice of military art should be conducted instead on the basis of a strategy of "adequate response." The armed forces should select and employ "those forms and methods of conducting an operation or battle which correspond to the existing situation and ensure the achievement of decisive superiority over the opponent.... The priorities in choosing the types of combat would not be defined ahead of time."²

CHANGING ROLE OF SURPRISE

Although the Soviet military has always valued the element of surprise, ACMs were said to have generated an enhanced role for surprise in modern warfare. In discussing the impact of ACMs on combat operations, for example, General-Major Vorob'yev noted that in the past, passive methods were mainly used to achieve surprise—all types of *maskirovka*, decoy targets, demonstrative moves, and smoke screens. Today, however, active measures are more important and include surprise maneuvers on land and in the air, and unexpected battle formations and systems of fire destruction. Automated reconnaissance systems and computer-based homing ammunition are now used to disrupt the opponent's troop and weapon control systems. The idea is to "blind" the opponent before the onset of action by a massive use of EW against his reconnaissance, warning, and C² systems.³

According to Vorob'yev, ACMs facilitate the use of surprise on a much wider scale than before. Surprise ACM strikes ensure the achievement of not only the operational-tactical but also the strategic initiative on the future battlefield.⁴ Then Chief of the General Staff Lobov went so far as to argue that the incorporation of ACMs "raises the issue of achieving surprise in both the *defense* and the *offense*."⁵ If achieved, wrote General-Lieutenant N.G. Popov, surprise can exert a decisive influence on the course of the war.⁶ Long before the Gulf War, experts such as Vorob'yev asserted that the skillful application of surprise would guarantee a victory.⁷

According to *Foreign Military Review*, the coalition used the factor of surprise to suppress Iraq's air defense, disrupt its military command and control, disable nuclear and

1. Slipchenko, "Impending Changes."

2. General-Major I.N. Vorob'yev, "Has Everything Been Considered in Our Doctrine?" *KZ*, 26 January 1991.

3. General-Lieutenant N.G. Popov, "Surprise—An Important Factor of Success in Operations," *VM* 6 (1985): 18.

4. "Lobov Criticizes NATO Stand," in FBIS-SOV-89-086, May 5, 1989, p. 3.

5. Colonel-General V.N. Lobov, "On the Question of Surprise and Unexpectedness," *VM* 3 (1988): 8.

6. Popov, "Surprise," p. 18.

7. General-Major I. Vorob'yev, "New Weapons and Principles of Tactics," *Sovetskoe voennoe obozrenie* 2 (1987).

chemical centers, achieve overwhelming air supremacy and seize the initiative.¹ Among others, General-Major Zhivista of the General Staff's Center for Operational-Strategic Studies noted that the United States used the element of surprise to almost completely disable Iraq's air defense and C² systems, thereby disrupting the operations of Iraqi ground forces. In addition, the United States gained total air supremacy while sustaining minimal losses.²

Soviet experts argued that before the Gulf War, achieving surprise was not a realistic possibility because of the need to mass large ground forces and the lack of sufficient ACMs. But the Gulf War demonstrated that achieving surprise with ACMs is now a realistic possibility. For the first time in non-nuclear warfare, surprise is now said to be "decisive for the course and outcome of the war."³ The best means of deterring the temptation to launch a surprise strike, the Soviets argued, is to ensure that the armed forces of both sides are fully prepared to fight such a war—in other words, to ensure parity in non-nuclear strategic offensive forces.

CHANGING ROLE OF THE WAR'S INITIAL PERIOD

The role of the war's initial period has changed over time in Soviet military thought. Coincidentally with the U.S. adoption of the Air-Land Battle, Soviet military writers began to link the importance of a future war's initial period with the combat characteristics of ACMs. Writing in late 1985, for example, General-Lieutenant A.I. Yevseyev asserted that if a war begins with ACMs, the initial period can exert an "enormous influence on the subsequent course of military actions."⁴ By 1988, however, prominent military scientists argued that an initial period with ACMs can exert a "*decisive* influence on the course *and outcome*" of the war.⁵ Long before the Gulf War, the Soviets already viewed a high-tech initial period as the decisive factor in victory.

General-Lieutenant Yevseyev also made a statement unprecedented for Soviet military thought. In contrast to past wars, he wrote, "the main content of the initial period in present-day conditions can be the delivery by the belligerents of nuclear strikes or *strikes with conventional means of destruction* ... for achieving the war's *main objectives*."⁶ By Soviet definition, the war's main objectives consist in destroying the opponent's war-fighting potential and war economy. In the past, therefore, only an initial period with nuclear weapons was said to achieve these main objectives. But since 1985, Soviet military thought explicitly acknowledged the potential of ACMs to accomplish these nuclear tasks in a future war.⁷ For all practical purposes, the achievement of these objectives signifies victory.

1. Colonel G. Vasil'yev, "The Military Operation 'Desert Storm,'" *ZVO* 3 (1991): 11.

2. General-Major G. Zhivista, "How Professionals Wage War," *IZ*, 19 January 1991.

3. Slipchenko, "Impending Changes."

4. General-Lieutenant A.I. Yevseyev, "On Certain Trends in the Changing Content and Character of the War's Initial Period," *VIZh* 11 (1985).

5. General-Major V.A. Gidasov, "The Influence of High-Precision Weapons on the Development of the Principles of Operational Art of NATO Joint Armed Forces," *VM* 10 (1988): 80.

6. *Ibid.*, pp. 14–15.

7. Popov, "Aggressor's First Operations," p.16.

According to General-Lieutenant V. Gorbachev, the outcome of the Gulf War was determined *in its first few minutes* by the ability of allied air forces to seize the initiative in the air and win air supremacy at the outset. Having no opposition in the air, the coalition was able to compensate for Iraq's superiority in tanks.¹

According to experts, the Gulf War thus demonstrated that future warfare will involve a massive use of technology and will be over quickly. The war can begin and end with a powerful strike by ACMs—painstakingly planned and precisely executed in the initial period. In fact, the Soviets argued, the Gulf War demonstrated that the war's course and outcome are now a *single* phenomenon. According to General-Major Slipchenko, the initial period is “essentially the *only* period in future war.”²

IMPLICATIONS OF THE GULF WAR

According to Soviet military scientists, the Gulf War dictated several specific directions for the qualitative improvement of the Soviet armed forces. These included: (1) the development of a rapid deployment capability for the Ground Troops, (2) major investments in high-tech air power, (3) a review of the national air defense network and systems, (4) a higher degree of automation in C³I and weapons guidance, and (5) an overall “technical re-equipping” of the Soviet armed forces.

In addition, authoritative Soviet analyses highlighted the effect of the Gulf War on specific dimensions of future warfare. First, military experts asserted that the war portends a new type of arms race—a race in capabilities for implementing strategic mobilization and deployment in theaters remote from the homeland. Observers thus stressed the U.S. ability to move a sizeable force and conduct an impressive logistical build-up in a distant region that lacked a well-developed communications infrastructure.

Second, Soviet military experts stressed that the Gulf War is the original prototype of the so-called “technological war.” Characterized by a massive use of technology, such a war will be short. Because the advanced non-nuclear technologies are said to accomplish all of the missions previously reserved to strategic nuclear forces, these systems will achieve all of the objectives once envisioned for a nuclear war. In addition, these objectives will be achieved without the collateral damage and political complications associated with the use of nuclear weapons.

The Soviet military also highlighted several larger and more-long-term lessons of the Gulf War. First, the Gulf War was said to have confirmed Marshal Ogarkov's forecasts on the nature of future war. In the early 1980s, Ogarkov predicted that the “order-of-magnitude” improvements in emerging non-nuclear technologies were making these systems equal to nuclear weapons, and generating a revolution in the methods of conducting combat operations.

Second, the Gulf War was said to have invalidated Moscow's 1987 defensive doctrine because the latter would prove “extremely dangerous” for both the armed forces and the

1. Gorbachev, “Tanks.”

2. Slipchenko, “Impending Changes.”

country. The defensive doctrine, argued the Soviet military, does not mean a defensive *strategy* or a rejection of the offensive. Third, the Gulf War prompted the Soviet military to redefine the whole concept of deterrence. Although nuclear parity remained the linchpin of strategic stability, the performance of ACMs in Desert Storm was said to prove that the new non-nuclear technologies are threatening the old strategic equation. As a result, deterrence was said to require not only nuclear parity but also parity in high-tech non-nuclear forces.

Finally, the Gulf War generated serious Soviet concerns over the future of U.S.-Soviet arms control negotiations. The crushing weight of advanced technologies confirmed that these weapons and the systems used to integrate them could negate the more traditional measures of military power and revolutionize combined-arms concepts. The arms control process must therefore include such critical elements of future warfare as automated C³I and electronic warfare systems. In short, the Gulf War was said to have demonstrated that a qualitative future has replaced the quantitative past of warfare.

SOVIET MILITARY PROGRAMS/R&D

The Soviet vision of future war—with its focus on the growing role of ACMs, directed-energy weapons, and space-based systems—was clearly reflected in military programs and R&D. Despite galloping domestic economic difficulties, the Soviets continued to produce technologically advanced weapons systems and to fund expensive military R&D activities. A review of Soviet writings reveals that a significant degree of civil-military convergence proceeded from the perceived interdependence of the military-technical and scientific-technical “revolutions.” In early 1985, for example, the Politburo approved a statewide program to develop the production and effective use of computer technology and automated systems up to the year 2000. Not long after his accession to power in March 1985, Gorbachev stressed that:

Machine-building plays the dominant, key role in implementing the scientific and technological revolution.... Microelectronics, computer technology, instrument-making, and the entire informatics industry are the catalysts of progress. They require accelerated development.¹

Here it should be stressed that the foregoing civilian requirements for implementing the scientific-technical revolution were *identical* to the military's requirements for implementing the new military-technical revolution.² As Colonel N. Goryachev noted:

In the struggle for improving the technical equipping of the military, it is difficult to over-estimate the basic trends of scientific-technical progress: the further priority development of machine-building—especially machine-tool manufacturing, robotics, computer technology, instrument-making, and microelectronics. It is precisely these

1. M.S. Gorbachev, Speech, *PR*, 12 June 1985.

2. General-Major M. Yasyukov, “The Military Policy of the CPSU: Essence, Content,” *KVS* 20 (1989): 20.

trends which are today the basic catalysts of military-technical progress.¹

Colonel-General K. Kobets thus stressed that in the field of technology and software for automated systems, development should proceed along the lines of military robotics, artificial intelligence systems, distributed and multi-function processing, personal computers, and multi-purpose networks."²

Quality Over Quantity

Inspired by the new military-technical revolution and galvanized by Gorbachev's defense cuts, the Soviet military's vision of military restructuring was quality enhancement across the board. The stated objective was to "upgrade not only the material and technical foundation of the army and navy, but also the system of manning and training, as well as military art and science in general," in order to "boost performance *by an order of magnitude*."³ Military scientists thus stressed a more intensive exploitation of such existing technologies as microprocessors and other computers, lasers, fiber optics, robotics, radioelectronics, expert systems based on artificial intelligence technologies, and advanced sensors, imagers, and munitions.⁴ They also stressed the ability to "develop, exploit, and weaponize such cutting-edge technologies as electron-beam, plasma, pulse, membrane, biochemistry, and radiology."⁵ Soviet science had to discover and apply "as yet unknown properties of matter, natural laws, and phenomena that would generate a qualitative leap in developing new types of weapons."⁶ The stated objective of "preventing the imperialists from achieving a so-called 'technological breakthrough' in weapons development" was said to justify "the continued diversion of the required scientific resources toward fortifying the nation's defense might."⁷

According to authoritative Soviet analyses, the application of existing and cutting-edge technologies would result not only in modernization of current systems but especially in the development of "principally new weapons systems." Indeed, the main task consists in shifting from the "evolutionary path" of modernization to "a path characterized by qualitative leaps, whereby weapons acquire principally new combat characteristics."⁸ The

1. Colonel N. Goryachev, "Know and Capably Apply Entrusted Weapons and Military Equipment," *KVS* 2 (1987): 76.

2. Interview with General of the Army M. Moiseyev and Colonel-General K. Kobets, "Crucial Links in Command and Communications," *VV* 10 (1990).

3. General of the Army V.M. Shabanov, "Adequate Armaments are Vital," *Soviet Military Review* 3 (1987).

4. For example, see Colonel V. Bondarenko, "Scientific-Technical Progress and Military Affairs," *KVS* 21 (1986); Colonel-General V.N. Lobov, "High Quality—An Important Criterion of Combat Readiness," *KVS* 1 (1989): 12–8; Colonel-General I. Golushko, "The Rear: Yesterday, Today, Tomorrow," *Tyl vooruzhennykh sil* 2 (1988): 6–10; Colonel Yu. Molostov and Major A. Novikov, "High-Precision Weapons Against Tanks," *Soviet Military Review* 1 (1988): 12–13; General-Lieutenant F. Gredasov, "Reconnaissance—The Most Important Type of Combat Support," *VV* 3 (1987): 2–6.

5. "The CPSU 27th Congress on Further Strengthening the Country's Combat Capability and Improving the Combat Readiness of the Armed Forces," *VIZh* 4 (1986): 1–12.

6. *Ibid.*, p. 8.

7. *Ibid.* See also Shabanov, "Adequate Armaments"; and interview with Fleet Admiral N. Smirnov," *KZ*, 26 July 1987.

Soviets thus predicted that fewer but higher-quality systems manned by smaller but better-trained crews will enhance combat effectiveness despite quantitative reductions.¹

The 1989 edition of *Soviet Military Power* noted that, despite an impressive overall U.S. technological lead, the Soviets had already made great strides in improved conventional munitions, fuel-air explosives, enhanced blast technology, and subprojectile warheads. Moscow's investment in R&D gained the Soviet Union technological advantages in certain key areas, to include pulsed-laser power and high-power microwave systems. In addition, advances were being made in optical computing for high-speed information processing, microwave weapons that can destroy electronics components, lasers and particle beams for directed-energy weapons, and electromagnetic rail guns for antiarmor systems.

Increase in R&D Budget

In late 1990, the Soviets published the ten-year military reform plan developed by the Ministry of Defense. Perhaps the most curious aspect of the plan was the projected *increase* in defense expenditures to 612.3 billion rubles in 1991–95 and 627 billion rubles in 1996–2000. Although some of the programmed increase could be attributed to such factors as inflation, higher procurement costs, and housing for returning troops, the trend conflicted with the announced Soviet intention to continue defense cuts. In addition, the proposed budget allocated 88.6 billion rubles for military research, development, testing, and evaluation in 1991–95, increasing the appropriation to 97.8 billion rubles in 1996–2000.²

The increase apparently proceeded from the reform plan's stated objective: "to reduce the military-technical lag behind NATO forces—above all in systems such as long-range, conventionally armed precision missiles and automated weapon control and command-and-control systems—and to concentrate efforts on developing new spheres of military equipment and advanced technologies." According to the Ministry of Defense, the principal direction of Soviet military-technical policy was "a qualitative upgrading of arms and military equipment based on the latest scientific-technical achievements and cutting-edge technologies, the timely creation of a scientific-technical reserve, and the exploitation of basic and exploratory research in creating new weapons of war."³ To accomplish these objectives, the Soviets apparently planned to allocate most (up to 90 or 95 percent) of funds for R&D in the development and production of weapons and military equipment directly to the Ministry of Defense.⁴

Writing in early 1991, General of the Army V.N. Lobov, former chief of the General Staff, thus stressed that the Soviet Union must achieve "*not only equality with the probable opponent in the qualitative development of armaments and military technology, but also*

8. Interview with General of the Army A.D. Lizichev, *Kommunist* 3 (February 1989): 14–43. See also Colonel B. Makarenko, "The Material Basis of Combat Readiness," *VV* 8 (1987): 6–9.

1. Moiseyev, "Defensive Doctrine."

2. "The Concept of Military Reform (Draft)," *VM* (Special Edition, November 1990): 3–23.

3. *Ibid.*

4. General-Major V. Medvedev, "How to Assist Science?" *KZ*, 21 July 1990.

superiority over him.”¹ Addressing the Supreme Soviet in late 1990, Gorbachev himself vowed to treat militarily significant R&D “like a peasant treats seed: he himself might be dying of hunger, but he protects the seed of next year’s harvest.”²

THE U.S. AND THE SOVIET UNION: COMPETITION OR COOPERATION?

According to the Soviets, one of the most critical developments affecting the long-term future was the emergence of cutting-edge technologies in the sphere of space-based ABM systems. The initial, unequivocal Soviet rejection of Reagan’s SDI program has been well documented since 1983.³ Since 1988, however, Soviet politico-military writings have reflected a dramatic shift in views regarding not only the technical feasibility but also the military-strategic desirability of a space-based ABM system.

Soviet Views on SDI

As Deputy Foreign Minister V. Petrovskiy noted, the U.S. creation of a space-based ABM system “may be no less important for military relations of the late 20th and early 21st centuries than the stockpiling of nuclear arms was for the decades since World War II.”⁴ In a speech to the Supreme Soviet in November 1985, Gorbachev himself charged that, in undertaking an arms race in space, the West “hopes to surpass us in electronics and computers. But we will find an answer... Our country will not allow parity to be disrupted. The Soviet Union will have to restore the balance....”⁵

In late 1987, Gorbachev thus informed an American television audience that the Soviet Union was conducting research similar to that on SDI.⁶

In late 1990, M. Aleksandrov noted that military-technological development had advanced to the point where there was little probability that any fundamentally new breakthroughs will be made in the area of offensive armaments: “In the dialectical competition between defense and offense, the center of gravity is shifting in favor of defensive technologies.” The present scientific-technical potential is mature enough “to jump the gap and create fundamentally new weapons systems that are capable of accomplishing strategic defense missions.” Therefore, if the Soviet Union did not undertake “realistic responsive efforts,” the U.S. implementation of SDI would undermine the effectiveness of Soviet strategic nuclear forces to such an extent that strategic parity will cease to exist—the United States will achieve clear military superiority over the Soviet Union.⁷

1. General of the Army V.N. Lobov, “Means of Realizing the Concept of Sufficiency for Defense,” *VM* 2 (1991): 15.

2. For example, see I. Novoselov, “The Military Budget: What Form Should It Take?” *KZ*, 13 December 1990.

3. For example, see Mary C. FitzGerald, *Soviet Views on SDI* (University of Pittsburgh: The Carl Beck Papers in Russian and East European Studies, 1987).

4. V.F. Petrovskiy, *Obshchestvennye nauki* 3 (1988).

5. Quoted in V.S. Nechayev, *Reshayushchiy istochnik boevoi moshchi* (Moscow: 1987), p. 55.

6. “Excerpts from the NBC News Interview with Gorbachev,” *The Washington Post*, 1 December 1987.

7. M. Aleksandrov, “Military Doctrine in Uncertain Perspective,” *Literaturnaya Rossiya*, 5 October 1990, p. 9.

Aleksandrov argued further that an asymmetric competition would cause the Soviets to lag even farther behind regarding advanced military technology, since the main effort would be directed toward improving obsolescent and dead-end armaments, instead of developing fundamentally new and revolutionary technologies as the United States was doing in the SDI program. The asymmetric version also ignored an important threat to Soviet security: a missile attack launched by a third-world country.

Aleksandrov thus concluded that the most favorable course of action was for the Soviet Union to initiate its own program of creating a strategic defense system similar to SDI. The attendant conditions would foster considerable reductions in the numerous general-purpose forces—forces whose role will be on the wane. At the same time, management of a strategic defense system would intensify the requirement for highly skilled professional personnel. The R&D related to advanced technologies would not result in wasted funds, he added. On the contrary—it would furnish the necessary basis for a Soviet technological breakthrough into the 21st century. Aleksandrov then noted that a number of results obtained by the United States from its SDI-related experiments have already been incorporated into civilian industry to provide millions in profits.¹

Interestingly, the potential civilian applications of SDI technologies were repeatedly noted by both military and civilian experts.² For example, Dr. G.S. Khozin argued that projects with such a clear military designation as SDI and ASAT weapons development projects might turn out to be sources of valuable innovations for the civilian economy and the service sphere during an analysis of the scientific-technical potential created in the process of their implementation.³

Writing in *Military Thought* in August, 1991, General-Lieutenant N.P. Klokotov and General-Major M.M. Kasenkov announced their support for a limited ABM system. According to these experts, the immediate threat of nuclear war that may result from unsanctioned or provocative launches of nuclear missiles, as well as from nuclear terrorism, presents a constant danger to the USSR. This threat will grow as more and more states gain nuclear weapons and essentially will be preserved up to the moment of the weapons' total destruction. The presence and effective use of the following would lower this threat: first of all, a missile-attack warning system that would guarantee prompt output of a reliable signal regarding the launch of missiles from any area of the globe in the direction of the USSR; second, an automatic, high-speed system of communications among the leaders of all states having nuclear weapons, to ensure swift clarification of the situation immediately after the warning system gives the alarm; and third, a limited ABM defense system ensuring guaranteed destruction of individual missiles in the course of their flight to the most important vital centers of the USSR.

1. *Ibid.*

2. Interview with Colonel-General V. Ivanov, "Without the 'Secret' Stamp (For the First Time Colonel-General V. Ivanov Describes the USSR Ministry of Defense Space Troops)," *Izvestiya*, 12 December 1990.

3. G.S. Khozin, "Economic Aspects of Space Exploration," *SShA: ekonomika, politika, ideologiya* (hereafter cited as *SShA*) 1 (1990): 21–30.

U.S.-Soviet "Condominiums"

Besides calling for *Soviet* development of cutting-edge ABM technologies, both military and civilian spokesmen called for a U.S.-Soviet cooperative venture rather than competition in this sphere. As James McConnell points out, the first hint of Soviet movement toward a "condominium" in ABM systems appeared in an article coauthored by General-Major Yuriy Lebedev, Deputy Chief of the General Staff's Treaty and Legal Directorate, and published in the Central Committee's political journal, *Kommunist*, in September 1988. According to Lebedev, if there is no meeting of the minds over banning space defense systems, a negotiated agreement on limiting or reducing them is "inevitable."¹

The second item of evidence is a February 1989 article written by Ednan Agaev, a second secretary in the International Organizations Directorate of the Ministry of Foreign Affairs, and published in the Ministry's journal, *International Affairs*. According to Agaev, the 1972 ABM Treaty legitimized the concept of "offensive deterrence," which is "the quintessence of an offensive, i.e., an objectively aggressive, philosophy." As an "alternative to mutual assured destruction," he counterposed the concept of "defensive deterrence," founded on "powerful shields" and shortened "swords" on both sides. By "powerful shields," he meant ABM systems, without copying SDI. By "shortened swords," he meant a radical reduction in offensive warheads, mainly by replacing MIRVed² missiles with single warhead systems.³

V.S. Etkin, head of the Applied Space Physics Department of the Academy of Sciences' Space Research Institute, noted that "space research, after the thermonuclear problem, is the sphere of the most advanced science, where fundamental knowledge, technical progress, and defense come together..." He therefore urged the United States and the Soviet Union to cooperate in space—particularly in the realm of "space-based antimissile defense." While the capabilities of such a system have been questioned in the case of a global conflict between the superpowers, he suggested that it could serve as a guarantee against accidental launches or launches by terrorist groups. Indeed Etkin went so far as to assert that "a limited system—which would include both ground- and space-based systems for combatting unmassed missile launches—is within the bounds of possible technical solutions."⁴

In late 1990, Henry Trofimenko also lent his voice to the gathering ABM chorus:

I am personally convinced that in the future strategic defense (not necessarily space-based), given our geo-strategic encirclement, is *much more important for us* than, let's say, aircraft carriers, which we continue to build.... And according to current American estimates, a fully-credible strategic defense can be developed for the full

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1. Yu. Lebedev and A. Podberezkin, "Military Doctrine and International Security," *Kommunist* 13 (1988): 114.
 2. MIRV: multiple independently targeted reentry vehicles.
 3. E. Agaev, "A New Model of Strategic Stability," *MZh* 2 (1989): 107–111.
 4. V. Etkin in *PR*, 20 July 1989.

cost of two carrier groups.... The wisest thing to do is to reach agreements with the U.S. regarding the tempo and scale of such research.¹

By March 1991, the moderate Trofimenko was arguing that the future belongs to strategic defensive armaments in the context of parity—unless the world community rids itself of all nuclear weapons. Although he agreed that no ABM system (including space-based systems) could defend either the Soviet Union or the United States against a massive nuclear-missile strike by the other side, he asserted that such a system could guard both countries against terrorists: hence, the “near-inevitability” of both sides creating a new ABM system in the future. Trofimenko concluded that the problem of both sides creating ABM systems “must be resolved through cooperation, not through asymmetric initiatives or responses.”²

Writing in April 1991, the liberal S. Blagovolin noted that the war in the Gulf was compelling an entirely new look at the process of building an ABM system. He argued that such a system was “simply essential.” And for economic and political considerations, its development within the framework of intercountry cooperation would also be extremely important. The fact that dozens of countries already had missiles and/or the technology for their manufacture, Blagovolin stated, made the task of creating ABM defenses urgent. As yet, he said, things might be confined to a system with limited capabilities dictated by the types of missile weapons that “third” countries possessed. The limited ABM system would not influence strategic stability—a particularly important factor at the transitional stage of Soviet relations with the West. However, Blagovolin continued, if in time it becomes clear that the process of the “spread” of strategic arms has not been stopped and is moving continually toward the formation of “full-scale” (meaning primarily the qualitative aspect) nuclear forces, the specifications of the ABM system should also be changed appropriately, with corresponding adjustment of the provisions of the ABM Treaty. Ultimately, he said, each such treaty retains its value only under certain conditions.³

In October, 1991, the laboratory director at the Central Scientific Research Institute of the Ministry of Defense argued that the conversion of the military-industrial complex will be the least painful if efforts are made to develop a global system of strategic monitoring and defense under the aegis of the United Nations. With cooperation between the USSR and United States, less complexity is needed with respect to sophistication of delivery vehicles (decreasing active portion of trajectory, protective coverings, target decoys, etc.) In addition, the integrated efforts of the two superpowers will eliminate project duplication. For example, the USSR could assume basic expenses in the sphere of systems for effecting orbital placement, and the United States could assume such expenses in the sphere of command, control, and communications systems. A substantial share of the expenses could also be assumed by states that are fairly comfortably off, are not members of military blocs, and are in primary need of guaranteeing their security (the Arab nations, for example).⁴

1. G. Trofimenko, *Kommunist* 18 (1990): 107–108.

2. G. Trofimenko, “What Military Doctrine Do We Need?” *MZh* 3 (1991): 70–76.

3. S. Blagovolin, “The War Is Over. What Next? Thoughts on Defense Policy and More,” *Kommunist* 6 (1991): 77–87.

4. “Joint ‘Global Defense System’ Proposed,” translated in FBIS-SOV-91-221, 15 November 1991.

This kind of financing, he argued, plus the inevitable injection of sophisticated technology, will create ideal conditions for conversion of the military-industrial complex. Also, with the development of such projects, states will be able to allow the import of progressive technologies. Project development will also cause an influx of investments, and will encourage specialists to interact more freely (thereby enhancing their qualifications).¹

In addition, such prominent Soviet military experts as General-Major Slipchenko and A.N. Bazhenov (former editor of the General Staff Academy journal, *Military Thought*) called for U.S.-Soviet cooperation not only in ABM systems but also in the development and deployment of ACMs and third-generation nuclear weapons.² For the Soviets, such “condominiums” would represent a critical amelioration of the inevitable military-technological competition—and the mother of all “peredyshkas.”

Even after the August 1991 coup, the General Staff continued to call for a rapid qualitative development of the Soviet Armed Forces to cope with the high-tech nature of future warfare—much as Marshal Ogarkov did a decade ago. Then Chief of the General Staff Lobov wrote:

The Gulf War, which many military men regrettably regarded as merely an episode, demonstrated in my view that victory in modern warfare can be achieved not only by quantity, but mainly by *quality*. State-of-the-art weapons were tested in the course of combat operations—ranging from space-based to conventional systems. We must see this and learn from it. Our country must also adopt definite decisions on this.³

1. *Ibid.*

2. Slipchenko, “Impending Changes,” and A.N. Bazhenov, Presentation, The Brookings Institution, 24 March 1991.

3. Interview with General of the Army V.N. Lobov, “Appointments,” *IZ*, 2 September 1991.

RUSSIAN DOCTRINE ON FUTURE WAR

In late 1991, the Soviet General Staff began to focus primarily on the need for a revised military doctrine and force structure to cope with such stark realities as: (1) the dissolution of the Warsaw Pact and withdrawal of Soviet armed forces from Eastern Europe; (2) the ongoing economic crisis; (3) mounting problems with conscription; (4) uncertainty regarding the maintenance of a unified armed forces and military policy; (5) the ominous lessons of the Persian Gulf War; and (6) Western superiority in conventional forces and "emerging technologies." A review of pre-Russian military writings thus reflected such recommendations as the following:

- A reevaluation of the nuclear no-first-use pledge
- Replacement of "reasonable sufficiency" by "sufficient reasonableness"
- Replacement of the defensive doctrine by "preemptive strikes"
- U.S.-Soviet condominiums in ACMs, third-generation nuclear weapons, and ABM technologies
- A new strategy, operational art, and tactics based on the lessons of the Gulf War.

THE RUSSIAN IMAGE OF FUTURE WAR

A review of Russian military writings reveals such strong continuities with their predecessors as the following:

- A reevaluation of the nuclear no-first-use pledge.
- A Yazov-like redefinition of the defensive doctrine that encompasses only the socio-political (not military-technical) side of doctrine; i.e., Russia has no intention of attacking anyone.
- A call for a new military art and tactics based on the "long-distance" (remote) warfare exemplified in the Persian Gulf War.¹

In addition, the new Russian military leaders continue to articulate a spectrum of threats that varies little from that of their Soviet predecessors. First, the United States is said to be modernizing its nuclear arsenal to implement a counterforce strategy. Second, Russian military scientists argue that only two changes have occurred in NATO strategy: (1) a CFE-imposed shift in focus away from the central front and toward the northern and southern TVDs, and (2) a revitalization of the "flexible-response" strategy to counter the growing probability of low-intensity conflicts. Third, the military continues to charge the West with superiority in conventional forces and an ongoing lead in emerging technologies

1. "Several Problems of Preparing the Army and Navy in Modern Times," *Ibid.*, No. 1, 1992, pp. 3-10; and Colonel A.F. Klimenko, "On the Role and Place of Military Doctrine in the Security System of the CIS," *Ibid.*, No. 2, 1992, pp. 11-21.

(ET). Finally, these experts warn of the territorial ambitions of Islamic states and the potential of about 24 additional states to have nuclear weapons by the year 2000.

“STRATEGIC NON-NUCLEAR DETERRENCE FORCES”

Russian military scientists continue to develop a new doctrine and force structure to counter these perceived threats. For example, *Military Thought* offers a dramatic proposal by Colonel-General A.A. Danilevich, reputed to be Marshal Ogarkov’s long-time collaborator if not ghost-writer.¹ His arguments can be summarized as follows:

- In contrast to nuclear war, the aggressor in conventional war can count even now on a temporary if not final victory.
- Owing to its current difficulties and weakness, the CIS offers a vulnerable target to not only nuclear but also conventional strikes by highly developed states. This disparity must be eliminated if political stability and deterrence are to be maintained.
- As the Gulf War demonstrated, modern warfare is based on the delivery of prolonged ACM strikes throughout the opponent’s entire territory without the deployment of ground forces.
- It is therefore necessary to create “a new class of weaponry” that can destroy (or at least threaten to destroy) the opponent’s important political, economic, and strategic targets at any range with only conventional warheads.
- At the present time, such “strategic non-nuclear deterrence forces” (SNNF) can be developed most realistically on the basis of corresponding elements of the strategic nuclear forces. It is now expedient to “unilaterally convert a certain portion of the strategic nuclear forces to conduct non-nuclear actions.”
- The resulting disruption of parity in strategic nuclear means is unimportant, because the potential for deterring conventional war—the most probable form of warfare today—will be improved.

Danilevich then describes several stages in the development of the SNNF: (1) strategic aviation, whose entirety (or at least bulk) is easily converted to conventional use; (2) a strategic triad armed with conventional warheads and consisting of intercontinental ballistic missiles, strategic bombers with long-range cruise missiles, and submarines and surface ships with cruise and possibly ballistic missiles; and (3) intercontinental information (intelligence) strike systems for use in a conventional war. Since the basic delivery vehicles of conventional warheads will be long-range cruise missiles, the main problem in developing the SNNF will be modernizing Soviet cruise missiles.

According to Danilevich, the SNNF can have four basic target sets. The first group consists of the opponent’s nuclear means and related targets, whose destruction would prompt escalation and involve technical complexities. The second group consists of the opponent’s nuclear power and chemical plants, whose destruction would be simpler tech-

1. Colonel-General A.A. Danilevich and Colonel O.P. Shunin, “On the Strategic Non-Nuclear Deterrence Forces,” *Ibid.*, pp. 46–54.

nically but still escalatory. The third group consists of such general-purpose military targets as air and naval bases. But Danilevich argues that with a limited number of SNNF, it would be extremely difficult to inflict substantial damage on the opponent by destroying a relatively small number of even important military targets.

Finally, the fourth group consists of those targets that constitute the opponent's "military-economic potential." Danilevich argues that this target set is the most advantageous for the SNNF in the near future, considering the limited number and currently feasible accuracy of the new weapons. In comparison with the effect of destroying targets of the other groups, disabling key targets of the military economy would ensure a prolonged reduction of industrial potential and substantially hinder any waging of war.

According to Danilevich, the SNNF can be used to deliver selective strikes on a certain category of targets as well as simultaneous strikes on all types of targets. Under certain conditions, the actions of the SNNF will assume the form of a "special strategic operation." Of all future programs, he concludes, the development of the SNNF could be the "most economical and technically feasible."

It should be noted that throughout the 1980s, Marshal Ogarkov and other Soviet military experts alluded to the ultimate development of the SNNF but usually referred to ongoing U.S. technological developments. Although Russian military experts clearly acknowledge the crippling effects of recent events on the future of their armed forces, they continue to prepare for Ogarkov's vision of future war. In the meantime, the Russian political leadership must likewise be seeking the "most economical, technically feasible" means of both deterring and fighting such a war, if war should come.

RUSSIAN VIEWS ON DESERT STORM

Like their Soviet predecessors, Russian military scientists view Desert Storm as the paradigm of future war in strategy, operational art, and tactics. For example, General-Major I.N. Vorob'yev has recently summarized the central lessons of Desert Storm.¹ He begins with a statement unprecedented for both the Soviet and Russian press: the Iraqis lost the Gulf War because they fought with Soviet doctrine and Soviet weaponry. Indeed, the thrust of his article consists in a call for a "new military thinking" on the part of "our generals and officers who are still locked into the inertial thinking" of the World War II generation.

According to Vorob'yev, Desert Storm—like the Franco-Prussian War—represents one of those rare turning points in military affairs that stands at the juncture of two epochs in military art. It has ended the era of multi-million-man armies and begun the era of high-tech wars fought in the air, space, and "ether." Whereas new systems were employed only singly in past wars, a multitude of new systems was employed on a mass scale in Desert Storm.

1. General-Major I.N. Vorob'yev, "Lessons of the Persian Gulf War," *VM* 4/5 (1992): 67–74.

Vorob'yev argues that because it constitutes the first victory achieved without massive ground forces, Desert Storm has prompted a radical reexamination of the structure of armed forces and the roles of particular branches. The emphasis has shifted from quantity to quality because technological superiority has nullified quantitative superiority in divisions and conventional arms. As a result, the technological indices of new weapons—which are capable on the whole of predetermining the outcome of military actions—now constitute the basis for analyzing the combat potential of both sides.

Vorob'yev argues further that Desert Storm has demonstrated a shift in the balance of the spheres of military art. Whereas tactics were dominant in all past wars, strategy and operational art are decisive now. As a result, the “battle” has ceased to be the sole means of achieving victory in war. Indeed the revolutionary nature of Desert Storm lies specifically in its having generated such new forms of operational/tactical actions as the “long-distance” (remote) battle and the “electronic-fire operation.” According to Vorob'yev, the “electronic-fire operation” consisted of massed and prolonged missile, aerospace, and electronic strikes in conjunction with naval strikes. This operation predetermined the successful outcome of Desert Storm.

Vorob'yev notes that the novelty of this operation lies in the emergence of EW as a weapon equal to fire strikes in combat effectiveness. The essence of this new phenomenon lies in (1) the duration of the electronic-fire phase, (2) the large quantity of new EW means employed, (3) a simultaneous effect on Iraqi C² at all levels, and (4) the *synergism* created by precise coordination of EW and fire strikes.

According to Vorob'yev, Desert Storm has also generated a shift from positional to maneuver warfare. Both types of actions were conducted equally in past wars, but now maneuver is the dominant form. Desert Storm has generated a new method of penetrating the defense: prolonged, continuous, and massed electronic-fire strikes in conjunction with a double envelopment of troops—by land and air, and by the creation of an active front in the opponent's rear lines with air, air-mobile, and naval landing forces. This operation signals the eventual demise of linear actions, close-in combat, stable fronts, and long operational pauses. Vorob'yev notes, however, that some positional combat can still be conducted between technological equals.

Finally, Vorob'yev describes six changes in the principles of military art that have been generated by Desert Storm:

- A shift from concentration to mobility of troops.
- A shift from the massing of troops to the massing of ACMs.
- A shift from unidimensional to multidimensional warfare, which has an essence consisting of decisive superiority not only on land but also in the air and ether.
- A shift from selecting axes for the main strike to selecting “areas for concentrating efforts.” This is necessary because the epicenter of the opponent's defense consists not of positions and lines but of a fire grouping: means of nuclear attack, air defense systems, antitank systems, EW systems, reconnaissance-strike complexes, and reconnaissance-fire complexes that are widely dispersed.

- The achievement of surprise by the mass employment of technologically new systems.
- Precise coordination of land, air, and space-based systems with regard to objective, place, and time during the conduct of the air offensive.

Similarly, Rear-Admiral V.S. Pirumov argues that the effectiveness of information systems has led developed countries to acknowledge the dominant role of the “electronic-fire” concept of waging war.¹ In force structure and equipment, this concept manifests itself not in competing for numerical superiority in motorized rifle (i.e., tank) formations for conducting ground battles, but in using industrial and technological advantages to create high-precision sea- and aerospace-based weapons and global C² systems that facilitate “surprise first and subsequent massed radioelectronic and fire strikes that decide the outcome of the war without the invasion of ground forces.”

Pirumov argues further that a war’s main objective is shifting away from seizure of the opponent’s territory and toward (1) “the suppression of his political or military-economic potential,” and (2) “ensuring the victor’s supremacy in the political arena or economic markets.” The primacy of this concept has generated a new form of using armed forces: the “*electronic-fire operation*.”

This operation will typically begin with a surprise air attack rather than an invasion by deployed ground forces. The air attack will permit not only seizure of the strategic initiative but also disruption of the opponent’s strategic deployment by striking a series of his most important targets with a first strike. In addition, significantly fewer personnel are lost, because ground troops are used only after their side has gained space and air superiority; thus, their success is guaranteed. Pirumov concludes by arguing that parity and defense sufficiency thus require calculations of not only the fire component of combat but especially the “information component”—which must govern the allocation of scarce defense resources.

FUTURE TRENDS IN WARFARE

According to Colonel V.V. Krysanov, the next stage in the development of military actions is connected with those weapons that are based on new physical principles and cutting-edge technologies. Here, preference is given to “revolutionary” directions in developing the means of warfare: (1) the robotization of military technology, and (2) directed-energy weapons. Both of these developments will generate new types of military action that will reduce the participation and, hence, the losses of personnel. In the first stage, combat robots will merely supplement existing weapons; later, however, their use could lead to two-sided independent battles on particular axes. The advantages of remotely piloted vehicles are obvious, Krysanov continues: they can be used in radioactive areas, in areas saturated with air defense weapons, and under various conditions of visibility. In time, he concludes, they could become the basic means of air attack.²

1. Rear-Admiral V.S. Pirumov, “Two Aspects of Parity and Defense Sufficiency,” *Ibid.*, pp. 26–34.

2. Colonel V.V. Krysanov, “Special Features in the Development of the Forms of Military Action,” *Ibid.*, No. 2, 1992, pp. 42–45.

Krysanov argues further that the electronization of military actions is also a prospective direction in their development. Numerous foreign specialists view electronic weapons—which have a direct destructive effect—as “absolute” weapons. U.S. experts in particular discuss another new type of warfare: “electronic-beam,” which will be characterized by speed, high accuracy, instantaneous destructive effect, and the impossibility of maneuvering to escape the strikes of beam weapons. The development of such super-high-frequency, infrasonic weapons designed specifically to affect the opponent’s personnel is generating a special type of warfare with a “psychogenic” effect. Krysanov concludes that Russia urgently needs to develop systems capable of defending against these new weapons.

RUSSIAN MILITARY PROGRAMS/R&D

It is noteworthy that Russia has a strong civil-military consensus regarding the R&D priorities for the Russian armed forces. First, such leaders as Defense Minister Grachev and Deputy Defense Minister Kokoshin agree that large armored forces have become “dinosaurs” in modern warfare.¹ Second, all parties agree that the Russian armed forces must be smaller, more professional, more mobile, and equipped with emerging technologies.

Third, civilian and military leaders agree that there is no alternative to the development of ACMs—despite the current “time of troubles.” For example, both the military leadership and the leaders of the Russian Supreme Soviet view ACMs as the “basic deterrence factor” of future war. Other experts argue that ACMs are cheaper than both nuclear weapons and large armored forces, and that ACMs will permit a Russian military of even fewer than 1.5 million men.

As a result, civilian and military leaders agree that R&D must be maintained at the expense of procurement as the defense budget declines. According to Marshal Shaposhnikov, for example, the current Russian lag (e.g., in Stealth and ACMs) prohibits any cuts in the R&D budget. “Here we cannot be second best,” he has argued, “where our partners are concerned.”² Other experts note the current Russian lag of seven to ten years in ACMs, and warn that the United States can double or triple its arsenal by the year 2000.

On the other hand, such spokesmen as Deputy Defense Minister Kokoshin have announced that Russia remains “quite competitive” in at least six areas: several trends in shipbuilding; aircraft construction; rocketry construction; heavy power machine-building; composite materials; and laser and space weaponry.³ Russian military experts have even gone so far as to assert that despite the current technological lag, Russia enjoys superiority in “intellectual developments.”⁴ This proposition may well explain the warning that was recently delivered to senior Russian officers: to stop releasing to the Americans intelligence information that the Americans used to spend billions to acquire.

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1. For example, see “Kokoshin Outlines Future Military Needs,” in FBIS-SOV-92-053, 18 March 1992, p. 27.
 2. “Shaposhnikov Comments on Defense Ministry Tasks,” in FBIS-SOV-91-183, 20 September 1991, p. 35.
 3. “Kokoshin on Potential of Defense Enterprises,” in FBIS-SOV-92-069, 9 April 1992, p. 33.
 4. “Smart Weapons Potential Versus U.S. Viewed,” in FBIS-SOV-92-103, 28 May 1992, p. 4.

The striking Russian civil-military consensus is reflected in the new list of seven priorities for the Russian armed forces that was recently announced by both Vice-President Rutskoi and Defense Minister Grachev: highly mobile troops, army aviation, long-range ACMs, C³I systems, military space systems, air defense systems, and strategic arms.¹

This consensus is also reflected in the 1992 Russian defense budget, which is stated to be about 400 billion rubles. Both civilian and military spokesmen assert that current allocations represent a 71-percent cut in procurement as opposed to a 16-percent cut in R&D—a figure that apparently matches the amount of R&D conducted in *other* republics of the former Soviet Union. According to Deputy Prime Minister Gaydar, the R&D budget is being maintained “to preserve the main, most important projects at the 1991 level, as far as Russia’s share ... regarding Russian science.”²

RUSSIA’S NEW MILITARY DOCTRINE

The Russian leaders are currently focusing not only on creating the Russian armed forces but also on developing a new military doctrine for the 1990s and beyond. In May 1992, a draft of Russia’s new military doctrine was published in *Military Thought*, the main theoretical journal of the Russian armed forces. This doctrine is based on “defense documents adopted by the Russian president and Supreme Soviet, as well as by the CIS Council of Heads of State.”³ *Military Thought* states further that “in announcing its military doctrine, Russia guarantees the unconditional implementation of all of its provisions.”

Military Threats

The new doctrine describes two “direct” military threats to Russia: the introduction of foreign troops in contiguous states, and the buildup of forces near Russian borders. In addition, a violation of the rights of Russian citizens and of persons “ethnically and culturally” identified with Russia in the former Soviet republics is viewed as “a serious source of conflicts.” Finally, it is extremely interesting that Russia now views *conventional* strikes on its nuclear and other “dangerous” targets as an escalation to weapons of mass destruction—which implies that such strikes will elicit a nuclear response.

According to Russian doctrine, local wars are becoming the most probable type of warfare. But large-scale conventional wars may arise from one of two scenarios: (1) with the escalation of local wars aimed against either Russia or the CIS or unleashed in regions adjacent to their borders, or (2) after a “prolonged threat period” that involves general mobilization. The doctrine assigns priority to wars fought with existing and emerging conventional weapons.

1. See A. Rutskoi, “We Must Build an Army Worthy of Great Russia,” *KZ*, 22 May 1992, and Colonel G. Miranovich, “Russia’s Armed Forces Today and Tomorrow,” *KZ*, 2 June 1992.

2. “Gaydar Delivers Budget Message to Parliament,” in FBIS-SOV-92-062, 31 March 1992, p. 36.

3. “The Fundamentals of Russia’s Military Doctrine (Draft),” *VM* (Special Edition, May 1992): 3–9.

Force Development/R&D

The new doctrine describes three distinct components of the Russian armed forces: (1) a limited number of forces in permanent readiness in the theaters to repel local aggression, (2) mobile reserves or rapid-response forces capable of quickly maneuvering (deploying) to any region to repel mid-level aggression together with the permanent readiness forces, and (3) strategic reserves formed during the threat period and during war to conduct large-scale combat actions.

The new doctrine also describes the two priorities of Russian military-technical policy: "emerging high-precision, mobile, highly survivable, long-range, standoff weapons," and arms, equipment, and C³I systems whose *quality* will permit a reduced *quantity* of arms. The doctrine stresses that Russia must have a military-technical policy and weapons programs on a par with world standards. To achieve this objective, the doctrine calls for reducing procurement of arms and equipment in serial production, and maintaining R&D and production capacities to ensure the development *and rapid surge production* of emerging combat technologies.

COMPARISON WITH 1990 SOVIET DOCTRINE

A comparison of Russia's new doctrine with the 1990 Soviet military doctrine reveals at least five key changes.¹ First, in 1990 the main wartime objective was to "repel aggression." In 1992, the main wartime objective is to "repel aggression and defeat the opponent." Second, in 1990 the main development goal was to "repel aggression." In 1992, the main development goal is to "optimize the TO&E" for all possible wars and combat missions.

Third, the 1990 doctrine held that nuclear war *will* be catastrophic for all mankind, whereas the 1992 doctrine holds that it *might* be catastrophic for all mankind. In addition, the 1990 doctrine stated that nuclear war "will assume a global character," and that calculations on limiting it to a single region are untenable. In 1992, however, both of these provisions have been deleted—which implies that limited nuclear war-fighting is now a possibility. These changes may have come about because the Russians perceive a growing proliferation of nuclear weapons on their borders—which increases the possibility of a limited nuclear conflict.

Fourth, the 1990 doctrine held that conventional sufficiency meant that no large-scale offensive operations could be conducted. In 1992, however, conventional sufficiency means that no large-scale offensive operations can be conducted "without additional deployments." Gorbachev's 1987 prohibition against developing large-scale offensive capabilities has clearly been rejected.

Finally, the 1990 doctrine stressed that Soviet military art was based on a "defensive strategy," and that the USSR excluded the delivery of a preemptive strike. Defense was said to be the main type of military action at the outset of war. In 1992, however, these provisions are deleted. Instead, the Russian armed forces will conduct "all forms of military

1. "On the Military Doctrine of the USSR (Draft)," *VM* (Special Edition, November 1990): 24–28.

action," will conduct defense and offense equally, and will seize the strategic initiative to destroy the opponent.

One explanation for these striking divergences from the 1990 Soviet doctrine lies in the dramatic changes that have since occurred in the former Soviet Union. As a result, the new doctrine clearly rejects the long-time civilian call for forces structured solely to conduct *defensive* operations.

The Russian military's reassertion of its influence is also discernible in two broader aspects of the new doctrine. First, whereas Gorbachev's concept of "reasonable sufficiency" was stated to guide Soviet force development in 1990, the military's concept of "defense sufficiency" is stated to guide Russian force development in 1992. Second, Russia's 1992 doctrine defines "military-strategic parity" as approximate *quantitative* equality in all types of weapons—a clear rejection of the civilian call for a *qualitative* assessment of parity.

EFFECT OF DESERT STORM ON RUSSIAN MILITARY DOCTRINE

The new Russian doctrine also reflects the pervasive effect of Operation Desert Storm on Russian military thought. Since the early 1980s, such prominent military thinkers as Marshal Ogarkov have argued that emerging technologies are generating a new revolution in military affairs. Russian military scientists now argue that Desert Storm confirmed these predictions and serves as the paradigm of future war in strategy, operational art, and tactics.

First, Russia's new doctrine assigns priority to the new systems used during Desert Storm: ACMs, EW, and C³I. Russian military scientists have argued, for example, that ACMs accomplished nuclear missions during the war. Electronic warfare is said to be a weapon equal to fire strikes in its combat effectiveness. Advanced C³I systems are said to be just as important as the entire "correlation of forces and means." In fact, superiority in EW and C³I is said to ensure victory in future war.

Second, the doctrine lists a new strategic mission for the Russian armed forces: to repel a surprise "aviation-missile attack." Military scientists now argue that the Gulf War generated a new type of combat action—the "electronic-fire operation"—which consists of surprise, massed, and prolonged missile, aerospace, electronic, and naval strikes conducted for several days or weeks. The objectives of the new operation will be achieved without the seizure and occupation of enemy territory. Instead, the new objectives are "suppressing the opponent's political or military-economic potential" and "ensuring the victor's supremacy in political or economic arenas."

Third, the new doctrine stresses the decisive importance of the war's initial period, which is said to consist of air and naval strikes aimed at disrupting strategic deployments, disorganizing civilian and military C², and removing CIS states from the war. The destruction of economic and military targets by ACMs will be accompanied by simultaneous or preemptive EW. In *subsequent* periods, the opponent *may* deploy ground troops under strong air cover.

RODIONOV'S RESPONSE

From 27 to 30 May 1992, a "scientific conference" on "Russia's Military Security" was held at the General Staff Academy of the Russian armed forces. Colonel-General I. Rodionov, head of the General Staff Academy, delivered the keynote speech, entitled "Some Approaches To Developing Russia's Military Doctrine."¹ Defense Minister Grachev, among others described the speech as a "bold" one. Another commentator noted that much of what Rodionov said would not have been heard before from the lips of a military man—"even in a situation of strict secrecy." A review of his speech therefore suggests that the 1992 published doctrine resulted from a compromise between "harder" and "softer" views on the requirements for Russia's military security.

In short, Rodionov argues that Russia's new military doctrine must unambiguously specify Russia's vital national interests, current threats to these interests, and the probable nature of future wars and military actions. In achieving this objective, he warns, the doctrine must ensure "that we not deceive first of all ourselves, and that we not [subscribe to doctrinal provisions that] either justify hasty political declarations or seek to increase trust in us by the world community." Russia's new military doctrine, he stresses, must serve the Russian people "not in words but in deeds."

Russia's "National Interests"

Rodionov first describes the "*global, regional, and national interests*" of Russia—none of which are enumerated in the 1992 published doctrine. He begins by stating that any attempts at the political, economic, scientific, and cultural isolation of Russia (whether they stem from Europe, Asia, or some other part of the world)—as well as the creation of any military-political alliance directed against Russia—will "*violate Russian national interests.*"

According to Rodionov, the very expansiveness of Russia predetermines that its "vital interests" on the Eurasian continent extend from the Atlantic seas to the Pacific Ocean. For example, these "vital interests" include the East European states (former members of the Warsaw Pact) that border on the CIS. At the very least, these states must maintain their neutrality because their entry into military-political groupings aimed directly or indirectly against Russia would seriously damage Russia's strategic situation.

Rodionov notes further that Russia's "vital interests" include the Baltic states and require that these states (1) recognize Russia's right to free access to seaports, (2) unconditionally reject both the stationing of third-country military forces on their territory and entry into military blocs aimed against Russia, and (3) guarantee the civil rights of the Russian population in these states. He also contends that for many centuries, Russia has struggled to acquire an exit to the Baltic and Black seas. Therefore, "the deprivation of such free exits would contradict [Russia's] national interests."

1. Colonel-General I.N. Rodionov, "Some Approaches to Developing Russia's Military Doctrine," Presentation, 27 May 1992.

As for the CIS countries, Rodionov continues, all of the Commonwealth states are in the sphere of Russia's vital national interests. Russia must prevent these states from becoming some kind of "buffer zone" or "cordon sanitaire" separating Russia from the countries of the West, South, and East. Therefore, attempts by any state in Europe, America, or Asia to capitalize on existing disagreements among the CIS states or to strengthen its influence in these states could negatively affect its own situation. Such attempts would violate Russia's national interests and security.

Finally, Russia's national interests include (1) maintaining mutually advantageous economic relations with all countries of the Near, Middle, and Far East; and (2) using the waters of the World Ocean for free navigation and economic activity.

Military Threats

Rodionov then describes the current *threats* to Russia's vital national interests—none of which are specified in the 1992 published doctrine. First, Russia's interests in the aforementioned regions are said to conflict with the interests of other states—and above all with the vital interests of the United States in these regions. Second, the United States and NATO are said to be not only maintaining but also rapidly increasing their vast military might. The incorporation of new, more effective types of weapons is quickly compensating for some quantitative reductions in their armed forces. Rodionov claims that currently the NATO countries have about 20,000 "means of air attack," as well as a developed system for basing them near Russian borders. He contends that as a result, NATO countries possess a massive offensive power that is rapidly being further developed. In addition, one of the strategic principles of the United States is said to be the maintenance of superiority in the "aerospace" and on the seas.

According to Rodionov, many post-war military conflicts—including the Gulf War—demonstrate that the United States and NATO could use military force to achieve their military-political objectives. He concludes by stressing that a military threat to Russia's national interests "currently exists and is unlikely to disappear in the near term." Therefore, "it is impossible to agree with the view that *no one now threatens us*" simply because ideological differences are disappearing: "This is completely false."

Along with enumerating Russia's vital national interests and the current threats to these interests, Rodionov also suggests adjustments to the 1992 published doctrine in the following areas: the probable nature of future wars, possible military actions at the outset of war, and the role of nuclear weapons in future war.

Nature of Future War

As noted earlier, the published doctrine states that a large-scale conventional war could arise from one of two scenarios: (1) with the escalation of local wars either aimed against Russia or the CIS or unleashed in regions adjacent to their borders, or (2) after a "prolonged threat period" involving general mobilization. Rodionov adds a third scenario: "when military assistance is provided to one or several countries that have been subjected to aggression." The reason this will not remain a local war is unclear.

In addition, Rodionov states that local wars that violate Russia's national interests may arise not only near the borders of Russia and the other CIS countries but also *in remote areas*.

Finally, Rodionov stresses the possibility of conflicts—national, religious, civil—that undermine stability within Russia and require the intervention of armed forces. Russia's new doctrine must therefore focus much more attention on the principles of conducting "conflicts designed to restore stability within the country." He contends that "opposition forces struggling for power" reject the notion of using the Russian armed forces to accomplish domestic missions, but that once in power they begin to look differently at the role of these forces.

Nature of Military Actions

Second, in describing possible military actions at the outset of war, the published doctrine states that Russia will conduct all types of military action, will conduct the offense and defense equally, and will seize the strategic initiative to destroy the opponent. Indeed, it describes the final demise of Gorbachev's 1987 "defensive doctrine." Although Rodionov welcomes these provisions of the published doctrine, he apparently believes that they require greater elaboration.

"Our military doctrine," he begins, "recently envisaged the conduct of only defensive actions at the outset of war." After that, a counteroffensive would dislodge the opponent from captured territory. Military actions would cease upon reaching the state border and would not be conducted on the aggressor's territory: the opponent would be fought "not on foreign but on our own territory." In essence, the opponent was to be ejected beyond the state border and the mission of destroying him was not assigned.

According to Rodionov, it is impossible to agree with such doctrinal tenets regarding the conduct of military actions. They clearly reflect certain political moods and ignore the laws of armed combat. They are essentially fatal for the state and predetermine its defeat in war. History demonstrates that defense, passivity, and loss of the strategic initiative have never yet led to victory. And Gorbachev's defensive doctrine prematurely surrendered the initiative to the opponent.

Rodionov therefore stresses that Russia's new military doctrine must succinctly, clearly, and unambiguously reflect the premise that if the opponent initiates aggression, the laws of armed combat will immediately take effect. Thus, state borders will cease to exist. The armed forces should then select and implement those forms and methods of military action that are the most effective in the given situation: offense, defense, and delivering fire strikes on the opponent no matter where he is. *Above all, these methods must include the delivery of strikes on the aggressor's territory, on his most important military and economic targets.*

One explanation for this dramatic change stems from Russian perceptions that a future war will be waged with standoff, conventionally armed "aerospace" weapons. Rodionov concludes that it is therefore necessary to reject such notions as defensive doctrine, defensive strategy, and defensive armed forces.

Role of Nuclear Weapons

Finally, in describing the role of nuclear weapons in future war, the published Russian doctrine implies the growing possibility of a limited nuclear conflict, and a nuclear response to *conventional* strikes on Russia's nuclear and other "dangerous" targets. Rodionov, on the other hand, offers a much more provocative view regarding the role of nuclear weapons in Russia's military doctrine.

According to Rodionov, the United States can reach the territory of Russia *on all sides and throughout its depth* not only with nuclear weapons but also with general-purpose forces. Russia, on the other hand, cannot reach either the United States or many other potential opponents with its general-purpose forces, particularly after its economic conversion. Therefore, Russia is left with only its strategic nuclear forces, and above all the Strategic Missile Troops (SRF).

However, he continues, Russia's new military doctrine again tries to articulate the nuclear no-first-use pledge. In Rodionov's opinion, statements on "no first use of nuclear weapons, retaliatory strikes, and defensive nature" only repeat those past mistakes that stemmed from the "self-advertising of political leaders" and inflicted "irreparable damage" on the nation's defense. For the foreseeable future, nuclear weapons are the basic political weapon for deterring aggression and preventing war.

It will therefore be an "irreparable mistake," he charges, if Russia does not openly declare that in the event of aggression, it will use its entire arsenal—including nuclear weapons—to destroy the opponent and defend its interests. In fact, Rodionov goes so far as to propose that statements on the use of nuclear weapons be excluded altogether from Russia's new military doctrine. Russia's rejection of the nuclear no-first-use pledge may be due to loss of confidence in its own conventional options.

CONCLUSIONS

What can we conclude about the military-technical aspects of Russia's new doctrine? First, the doctrine assigns priority to wars fought with existing and emerging conventional weapons. Second, it views the Gulf War as the paradigm of future conventional wars. Third, it calls for the maintenance of R&D at the expense of procurement as the defense budget declines. These budgetary allocations reflect a dramatic shift away from the era of *quantitative* superiority in manpower and armor and toward the era of *qualitative*, technological indices of combat potential.

Fourth, the doctrine reflects changing views on nuclear war. It implies a limited nuclear scenario is possible, and that *conventional* strikes on Russia's nuclear and other dangerous targets will elicit a nuclear response. Finally, the doctrine reflects the demise of Gorbachev's "defensive doctrine" and a shift to the conduct of all forms of military action—including large-scale offensive operations.

Russian military doctrine thus remains highly dynamic and visionary even in the current "time of troubles." Despite much discussion about the ascendancy of civilians, the military has reasserted its dominance over the development of this doctrine.

For the near term, the new doctrine calls for rapid-response forces in order to prepare for local conflicts. For the long term, it calls for the development of emerging combat technologies in order to prepare for the new "technological war." But the future of Russia's economy and defense industries, as well as the nature of its political leadership, will serve as the final determinants of whether and when Russia will implement the future-oriented aspects of its new military doctrine.

IMPLICATIONS OF THE CHANGING DOCTRINE FOR THE FUTURE RUSSIAN NAVY

In the preceding chapters of this study, the author examined the Soviet concept of "reasonable sufficiency" in national defense, Soviet doctrine on future war, and Russian doctrine on future war. The present chapter will highlight specific implications of these developments for the role and fleet structure of the future Russian Navy.

SOVIET/RUSSIAN PERCEPTIONS OF NAVAL THREATS

To determine the probable role and fleet structure of the Russian Navy, it is necessary to first identify perceived naval threats to Russia. The identification of these threats implies how the development and deployment of the Navy will be either expanded or curtailed. Like their Soviet predecessors, Russian military scientists focus specifically on the threat posed by U.S. naval forces—especially as reflected in the Maritime Strategy.

U.S. Maritime Strategy

Captain 1st Rank V. Chertanov has described the Maritime Strategy as having a profoundly offensive character in terms of the scale of operations in TVDs. It thus represents a direct analogy to the offensive deep strikes of the Air-Land Battle/FOFA concepts. According to Chertanov, the strategy aims to prepare naval forces for waging a protracted conventional war. The basis of such a war consists in active offensive operations on such axes as NATO's northern flank in Europe (the Norwegian, Barents, and Baltic seas), the eastern Mediterranean, and the northwestern portion of the Pacific Ocean.¹

According to Chertanov, the U.S. will conduct naval actions in three stages. The first includes preparing for war during a crisis. Along with political measures for establishing control over the crisis, the operational deployment of forces in forward areas will begin. Multipurpose submarines and patrol aircraft will be deployed in forward areas for tracking the opponent's missile and multipurpose submarines. Marines will be deployed to areas stocked with weapons and military equipment. Carrier and missile strike groups will begin to reinforce the forward groupings. Conditions will thus be created for establishing naval control over shipping and over strategic deployment of troops and military cargoes to Europe.²

The objective of the second stage (which begins with the outbreak of war) is the U.S. Navy's seizure of the initiative on all major ocean axes, and the destruction or neutralization of the opponent's fleet in forward areas. This will be achieved by massed offensive naval actions in coordination with other branches of the armed forces in the initial period. Submarine operations will be aimed at the swift destruction of detected submarines. Air defense actions will be no less important, and will be conducted in depth using all means

1. Captain 1st Rank V. Chertanov, "The U.S. 'Maritime Strategy,'" *ZVO* 2 (1991): 59–64.

2. *Ibid.*

of intercepting airborne and space-based targets, to include strikes on the opponent's airfields.

Actions in ocean TVDs will be primarily aimed at destroying the opponent's forces using all of the fleet's combat means, including carrier-based aviation and antiship missiles. In the course of operations, carrier strike and ship missile groups will be deployed on the main axes to deliver strikes on ground targets, to support ground troops on NATO's northern and southern flanks and in Southeast and Southwest Asia. Air operations will include carrier-based aviation, Tomahawks launched from surface ships and submarines, strategic and tactical aircraft of the Air Force, and Marine aviation. Amphibious operations will also be conducted on various scales.

As a result of combat actions in the second stage, Chertanov continues, command of the sea could be achieved in forward ocean areas, which would ensure the security of transoceanic lines of communication and stabilize the situation on the ground. This will create preconditions for war termination under conditions favorable to the United States.¹

In the third stage (if the conflict continues), the scale of actions will expand, to deliver strikes deep in the opponent's territory, to destroy the opponent's fleet forces (including missile submarines), and to conduct amphibious operations on maritime axes of continental TVDs. As a result of decisive actions by general-purpose forces, the correlation of nuclear forces in the theaters could change in favor of the United States. Because the opponent will be unable to continue effective combat actions with conventional weapons, he will ultimately have to terminate the war.

According to Chertanov, the Western strategic axis (the European and Atlantic theaters of war) is the primary axis in the Maritime Strategy. But sufficient importance is also attached to the Eastern axis (the Pacific Ocean theater of war and the Far Eastern TVD.) In the views of U.S. strategists, writes Chertanov, the latter will directly influence the course and outcome of a war in Europe.²

Admiral I. Kapitanets has noted that the U.S. politico-military leaders still assign a key role to the Navy in implementing its strategic plans. He states:

There is no doubt that the Gulf War will give impetus to the further qualitative development of the armed forces of the U.S. and its allies—including naval forces. In the coming years we will see an attempt to establish complete U.S. naval domination in the World Ocean. Even today, in the ocean theaters, we confront a coalition of traditionally strong maritime states that regard naval forces as an all-purpose, mobile instrument of foreign policy in various regions of the world. NATO's naval weapons are capable of covering our country's entire territory from the Arctic, the Baltic and Mediterranean

1. *Ibid.*

2. *Ibid.*

Seas, and the Indian and Pacific Oceans. And NATO's antisubmarine forces ... can control 40 million square km of ocean.¹

Indeed most naval writings reflect little if any perceived diminution of the Western maritime threat.

Captain Chertanov, for example, has charged that the United States still intends to expand its superiority in ocean theaters—which are becoming the principal platforms for delivering deep strikes on ground targets. The role of naval forces is also enhanced, he continued, by the continuing deployment and improvement of long-range SLCMs, the creation of new carrier-based assault aircraft with Stealth technology, and the vertical expansion of combat actions to upper layers of the atmosphere, which erases the boundary between tactical and strategic weapons and their delivery vehicles.² *Foreign Military Review* has even described “a definite conceptual link” between the Maritime Strategy and SDI. The opponent's carriers of nuclear weapons would be destroyed before they could deliver strikes on U.S. territory, and SDI would repulse the warheads of ICBMs in space.³

Fleet Admiral K.V. Makarov has likewise stressed the Western naval threat. He charged that qualitative improvements in sea-based strategic offensive arms are continuing, the number of aircraft carriers with nuclear power plants is growing, and the number of carrier-based aircraft is increasing. By the year 2000, this kind of aircraft fleet would consist of 1,200 units; of these, about 500 would be nuclear weapons delivery vehicles.⁴

U.S./NATO Military-Strategic Superiority

General-Major Ye. G. Korotchenko has noted that a number of new factors are affecting modern military art and military development. A disturbance of the military-strategic balance in favor of NATO should be considered the most important factor. A significant unilateral reduction of the USSR armed forces (by more than 500,000 persons), the demise of Warsaw Pact military structures, and implementation in the next few years of the CFE Treaty will lead to a situation wherein “*for the first time in many decades—force groupings of NATO will have a large superiority even in general-purpose forces.*” This superiority will become even more substantial with the presence of ACMs, the latest reconnaissance and EW equipment, and automated C³I systems in NATO Allied Forces.⁵

Since this superiority probably will be preserved for a lengthy time, he notes, the problem of seeking ways to repel possible aggression and defeat the opponent with fewer or equal forces advances to one of the first places in military art. It would appear that its resolution can be ensured by promptly clarifying doctrinal provisions and elaborating new

1. Fleet Admiral I. Kapitanets, “Bringing it to Our Contemporaries and Preserving It for Our Dependents: Approaching the 300th Anniversary of the Foundation of the Navy,” KZ, 13 June 1991.

2. Chertanov, “U.S. ‘Maritime Strategy,’” p. 64.

3. *Ibid.*, ZVO 1 (1991): 61–62.

4. General-Major A. Gushev and Colonel Ye. Sergeyev, “Military-Technical Aspects of the Persian Gulf War,” ZVO 7 (1991): 3–9.

5. General-Major Ye. G. Korotchenko, “The Modern Military Situation and Problems of Military Art,” VM 8 (1991): 19–23.

conceptual provisions; by upgrading the armed forces structure, the effective combat strength of their force groupings (especially of the first operational echelon), and the system for training staffs, forces, and reserves; by operational preparation of TVDs; and by outfitting the army and navy with more effective systems of weapons and military equipment.¹ Even civilians such as K. Sorokin have charged that, judging by the nature of completed and prospective naval programs, the U.S. fleet will retain an offensive strategy in the future—albeit a less ambitious version than the “Lehman strategy.”²

According to Captain 1st Rank V. Afanas'yev, U.S. and NATO naval forces are currently capable of exerting “a significant influence on the course and outcome of combat actions in all TVDs.” With the reduction of armed forces in Europe, these capabilities will only grow. Afanas'yev charges that U.S. naval forces are designed not for defense but for offensive military actions in any region of the world. Pentagon strategists are said to have assigned the following main missions to U.S. naval forces:

- To ensure the delivery of nuclear strikes by SLBMs, cruise missiles, and carrier-based aircraft on the opponent's territory
- To combat the opponent's SSBNs
- To gain and maintain command of the sea
- To conduct amphibious operations
- To support ground troops on maritime axes
- To ensure strategic sea-lift of troops and equipment
- To exert military-political pressure on independent states. He notes further that U.S. SSBNs are an effective means of nuclear attack not only in initial but also in subsequent strikes.³

Role of U.S. Navy

General-Major Slipchenko has argued that in the near future, the U.S. Navy together with the Air Force will become the main means of delivering a massive quantity of strategic ACMs. Within 10 to 15 years, they will be able to deliver tens of thousands of precision strategic sea- and air-launched cruise missiles on targets in the opponent's territory. For this, the United States must have enough surface ships, submarines, and strategic aviation.⁴

According to Slipchenko, large groupings of ground forces will not be used in such a war. The war will begin and end with the conduct of “global strategic offensive air operations” without aviation. Aircraft will simply release the cruise missiles and return for more—and the same role will be played by the U.S. Navy. Strikes will be delivered by

1. *Ibid.*

2. Sorokin, “Naval Strategy,” p. 41.

3. Captain 1st Rank V. Afanas'yev, “Status and Prospects of the Development of NATO Naval Forces,” *ZVO* 1 (1992): 45–46.

4. General-Major V.I. Slipchenko, “What Will Happen Without the Icon?” *VIZh* 6 (1991).

strategic, intercontinental cruise missiles armed with conventional warheads, which are capable of automatically finding and destroying a target at any depth of the opponent's territory. Slipchenko argues further that the technology for creating highly effective strategic intercontinental SLCMs is already practically developed. The stockpiling of these systems continues apace, and the Gulf War demonstrated that their accuracy is "absolute."

Admiral Chernavin has noted that, although a world war is unlikely to break out today, regional and local conflicts on any scale still pose a danger. And there is always a chance that some local conflict will lead to dangerous consequences for the entire world. It thus remains critical that no armed forces of any state have either the offensive or defensive superiority that would permit the use of military force for achieving national military-political objectives. In current conditions, and even more so in the future, naval fleets and forces are thus acquiring a central role as the most universal and highly mobile branch of the armed forces, capable of operating without limitations in any conditions and regions of the world.¹

FUTURE WAR AND THE RUSSIAN NAVY

Long before the Gulf War, Soviet military thought assigned an enhanced role to naval and air forces, because of the high-tech nature of future warfare. They argued that this enhanced role proceeds especially from the nature of advanced non-nuclear technologies: the critical strike potential of conventionally armed SLCMs and shipborne directed-energy weapons, and the continuing integration of naval platforms with space-based systems. Even non-naval military spokesmen, such as the former CINC of the Warsaw Pact, General of the Army P. Lushev, asserted that the United States and NATO, counting on the surprise unleashing of war, devote special attention to the development of such powerful strike means as naval forces and aircraft—which are being maintained at a higher state of combat readiness than the ground forces.²

Admiral Chernavin has likewise stressed that the nature of prospective weaponry has elevated the role of navies in future warfare. Writing in the *Naval Digest* in early 1990, he contended that recent advances in navies and naval weapons, the existence of nuclear forces, and the emergence of cruise missiles have fundamentally changed the role and place of the navy among the other branches of the armed forces. The navy's significance is further enhanced, he noted, by military doctrines that envisage protracted conventional operations, by the great dependence of ground forces on transoceanic transport of troops and weapons, and by the dependence of economies on massive transportation of strategic raw materials and other economic cargoes.³

Shift to Maritime TVDs

According to other military experts, qualitative changes in weaponry have created a situation wherein even light, short-range naval strike forces can accomplish strategic

1. Chernavin, "The Fleet," p. 4.

2. General of the Army P.G. Lushev, "The Warsaw Pact and NATO: Two Trends in World Politics," *VM* 5 (1989): 12.

3. Admiral V. Chernavin, "Lines of Communication," *MS* 2 (1990): 30.

missions. This new situation clearly increases the prominence of the oceanic sector in future warfare.¹ Captain 1st Rank Galkovskiy has predicted that by the year 2000, the World Ocean could become the basic arena of combat between the opposing sides. He stressed that for the first time, *"strategic tasks in continental theaters of military action can be accomplished with the use of joint naval groupings in sea and ocean theaters of military action, since the scope of combat can become global in all spheres (ground, sea, air, and space)."*²

In the same article, Galkovskiy stressed the preparation of ocean TVDs for naval warfare—a warfare which, as he indicates, certainly includes space.³ Galkovskiy further argued that naval forces are the most versatile and flexible of all forces precisely because they can accomplish a wide spectrum of missions in all spheres of warfare—land, air, sea, underwater, space—and react promptly to the changes in content, scope, and means of accomplishing these missions. He clearly stressed the utility of naval forces for accomplishing both space and antispace missions:

The fact that the forces constituting a naval task force (submarines, ships, aircraft) *not only are not subject to strikes from outer space and by strategic cruise missiles, but that they themselves are capable of disrupting the functioning of space systems and disabling their craft* is considered a promising quality of such task forces.⁴

Captain 1st Rank Chertanov has likewise asserted that ocean theaters are becoming the "basic platforms" for delivering deep strikes on ground targets. The further deployment and improvement of long-range SLCMs, the development of new carrier-based fighters equipped with Stealth, and the expansion of the possible scope of combat actions to exoatmospheric altitudes erase the boundary between tactical and strategic weapons systems and their delivery vehicles, thereby greatly enhancing the role of the Navy. Although the overall structure of naval forces is subject to some reduction owing to budgetary constraints, he noted, the role and importance of the Navy remain unchanged.⁵

As already noted, the Soviet military predicted that with the advent of the new "aerospace war," warfare would become a process in which complex organizational-technical systems—"combat systems"—mutually influence each other. Captains 1st Rank E. Shevelev and A. Lugovskiy have pointed out the implications of this concept for the Navy. The authors state that, just like the achievements of fundamental scientific research, an analysis of scientific-technical progress in military shipbuilding and of naval experience in local wars and armed conflicts has led to radical changes in views on armed combat at sea. Above all, such combat is no longer characterized by the operation of "force-against-force," but has become a process of the mutual functioning of combat systems: "system-against-system."⁶

1. Admiral S.G. Gorshkov, ed., *Voennno-morskoi flot: rol', perspektivy razvitiya, ispol'zovanie* (hereafter cited as VMF) (Moscow: Voenizdat, 1988).

2. Captain 1st Rank V.A. Galkovskiy, "On the Role of Naval Forces in International Relations," VM 1 (1990).

3. *Ibid.*, p. 44.

4. *Ibid.*, p. 40.

5. Chertanov, "Maritime Strategy."

6. Captains 1st Rank E. Shevelev and A. Lugovskiy, "Warfare at Sea: Model and Reality," MS 10 (1991): 34.

Role of Russian Navy

Colonel I.V. Yerokhin has also described the role of naval forces in modern warfare. He stresses that *ocean*—and not continental—TVDs are acquiring an ever-greater role. Reliance is being placed not on the quantity of armored forces for seizing the opponent's territory but on using the advantages of industrial and technological potential to create highly effective sea-based and air-based (space-based) strike weapons (including those based on new physical principles), as well as global C² and support systems that help neutralize the opponent's military-industrial potential in any area of the world. According to Yerokhin, the essence of the new method consists of an air electronic-fire invasion—not a ground invasion, as in the past—that can be conducted before complete mobilization and deployment of the armed forces. This mission is assigned to the forces designed for combat with aerospace attack means: the PVO, the air force, and the Navy.¹ Captain 1st Rank V. Osipov has noted that naval forces will play a growing role in the so-called “information war,” wherein significant efforts will be directed toward disabling the opponent's C³I systems at the beginning of the war.²

ROLE OF NAVAL FORCES IN THE GULF WAR

Authoritative Soviet and Russian military analyses have repeatedly stressed the vital role played by naval forces in the Gulf War. Captain 1st Rank K. Kzheb has noted that the Gulf War confirmed U.S. views as to the possible nature, scale, and methods of operations by armed forces, including naval forces, in a local conflict. The conduct of an “air-land-sea campaign,” including a number of offensive air, land, and amphibious landing operations that are successive or interrelated by time, place, and objectives will be the basis for combat employment of forces (and apparently in the future until the end of the 1990s).³

Kzheb notes that during Desert Storm a very large naval force grouping was deployed in a conflict area for the first time since the Vietnam War. It consisted of up to 200 combatant ships and auxiliary vessels of 14 countries, including six U.S. multipurpose carriers (40 percent of the total complement), 20 combatant ships, and nuclear submarines carrying Tomahawk cruise missiles. This fact can indicate that in similar conflicts, “naval forces will acquire ever greater importance as the most versatile and mobile branch of the armed forces capable of accomplishing a wide range of missions both at sea and on land.”⁴

According to Captain Kzheb, the coalition's carrier strike forces operated as part of two formations (with three carrier strike groups in each). The combat tasking areas of the carrier strike forces were in the Persian Gulf and in the northern Red Sea. That operational alignment permitted the U.S. Navy to deliver strikes with carrier-based aircraft from two directions essentially against the entire southern part of Iraq. During combat operations, carrier-based aircraft flew an average of 270 missions daily (12 percent of all sorties by

1. Yerokhin, “Military Reform,” pp. 39–40.

2. Captain 1st Rank V. Osipov, “Problems of Developing American Nuclear-Powered Submarines,” *MS 2* (1992): 57.

3. Captain 1st Rank K. Kzheb, “Naval Forces in the War Against Iraq: First Results,” *MS 2* (1991): 59–63.

4. *Ibid.*

the air grouping). These missions were distributed as follows: 53 percent for weapon employment (combat sorties) and 47 percent for support (reconnaissance, fighter cover of attack aircraft, EW, air and ABM defense of ships).¹

Kzheb notes that in the first days of the war naval attack aircraft concentrated on delivering strikes against military and military-industrial targets as well as against positions of Iraqi second echelons. Subsequent targets of combat pressure by naval aviation were Iraq's antilanding defense system installations on the Kuwaiti coast, Iraqi 3rd Army Corps positions in Kuwait, Iraqi Navy ships and small combatants in the northern Persian Gulf, and mobile SCUD operational-tactical missile launchers in western Iraq (for aircraft operating from carriers in the Red Sea). In the assessment of specialists, Kzheb continued, carrier-based aircraft were employed with optimum intensity, ensuring their operations over a lengthy period. Attack aircraft losses were promptly replaced, and a certain order was established in the use of carriers for this purpose: five days of active combat operations and two days of operations at reduced intensity.²

Carrier-based aircraft used Mk 117 bombs and GBU-58 cluster bombs to destroy area targets during combat sorties and 2,000-pound (900-kg) BLU-109B guided laser bombs to destroy highly hardened targets. In addition to munitions already in the inventory, Kzheb continues, the U.S. Navy command had an opportunity to test the combat effectiveness of the latest weapon models, which had not even undergone a series of traditional tests. For example, carrier-based aircraft employed the SLAM air-to-surface guided missile with a 120-km range for the first time in the first air strikes against Iraq.³

Rear-Admiral A. Pauk has listed the following main missions for naval forces in the Gulf War:

- Gaining and retaining command of the sea in the Persian Gulf
- Participating in the offensive air operation of the multinational force, during which Tomahawks were used extensively and carrier-based aircraft operated actively
- Participating in the air-land offensive operation and action against Iraq's armed forces
- Conducting minesweeping operations.⁴

According to Pauk, the first mission posed no difficulties, mostly because Iraq's navy, which was small and weak, could offer practically no resistance to the coalition forces, which had absolute air superiority. Iraq's few attempts to strike at allied ships with air-to-ship and shore-to-ship cruise missiles were unsuccessful. Ships of the multinational force provided good illumination of the air situation, which made it possible to promptly warn coalition forces of missile launchings and to destroy the missiles or divert them to false areas with radioelectronic countermeasures.

1. Kzheb, "First Results."

2. *Ibid.*

3. *Ibid.*

4. Rear-Admiral A. Pauk, "The Gulf War: Conclusions and Lessons; The Naval Aspect," KZ, 23 April 1991.

Pauk notes that carrier-based aircraft of the U.S. Navy took an active part in the offensive air operation, performing around 20 percent of all the sorties flown by aircraft of the multinational force. In addition, they provided air support for ships in the naval groups, destroyed Iraq's ships, struck at Iraq's military-industrial facilities on the ground and its air defense system on the Kuwaiti coast, and provided combat stability for B-52 strategic bombers in the air. Carrier-based, long-range E-2C Hawkeye detection and guidance aircraft, together with E-3 AWACS aircraft provided illumination of the situation over the water and in the air in the Persian Gulf area and directed diverse aircraft within their assigned zones.¹

Pauk also stressed that the combat zone served as a sort of testing ground for testing the most modern high-technology weapons and armaments. For example, the multinational force used for the first time SLAM cruise missiles, ALARM antiradar missiles, short-range Sea Skua antiship missiles, Mk 117 and BLU-109B aerial bombs, GBU-58 cluster bombs, and certain other types of high-precision weapons, which demonstrated good combat effectiveness. The unmanned Pioneer-1 aircraft based on the battleships *Missouri* and *Wisconsin* likewise demonstrated good capabilities. They pinpointed targets, adjusted artillery fire from the battleships to shore and determined the results, and performed a number of other missions.²

Assessing the outcome of the Gulf War, Admiral Pauk emphasized that naval forces are acquiring the leading role in local conflicts as "the most universal and mobile branch of the armed forces, capable of accomplishing a wide spectrum of missions at sea, on land, and in the air."³ Elsewhere he noted, however, that in a war against an opponent with a powerful navy, the multinational force would have faced far greater difficulty and significant losses.⁴

Even non-naval military officials have praised the role of naval forces in the coalition's victory. According to these experts, Iraq's vulnerable spot was an almost total lack of naval forces. The Iraqis had only individual ships and cutters, and virtually no system of national air defense.⁵ General-Lieutenant I. Skuratov has noted that various naval groupings constantly participated to one degree or another in combat actions. Naval aviation delivered strikes on both military-industrial targets in the depth of Iraqi territory and on ground troop groupings in Kuwait. The nucleus of the operational-missile groups consisted of *Wisconsin* and *Missouri*, which destroyed important military-industrial targets on Iraqi territory during the air operation with strikes by Tomahawks to a range of up to 1,000 km. According to Skuratov, Iraq lacked modern coastal artillery and missile complexes capable of destroying moving naval targets at distances commensurate with the range of weapons used by U.S. surface ships. Skuratov advocated developing an antiship missile complex with a range commensurate to that of the Tomahawk.⁶

1. *Ibid.*

2. *Ibid.*

3. Cited in "First Lessons of the War," *VM* 5 (1991): 60–71.

4. Pauk, "Naval Aspect."

5. Interview with MSU S. Akhromeyev, "Why Baghdad Suffered Defeat—Marshal Sergei Akhromeyev on the War in the Persian Gulf," *Novoe vremya* 10 (Mar 1991): 22.

6. General-Lieutenant I. Skuratov, "'Tomahawks': Threat from the Seas," *MS* 6 (1991): 33–36.

ROLE OF TOMAHAWKS IN DESERT STORM

Virtually all Soviet and Russian military experts stress the critical role of Tomahawks in the Gulf War, but the combat potential of conventionally armed SLCMs had long been recognized by the military establishment. The Soviet military had long focused on long-range, conventionally armed cruise and ballistic missiles as the linchpins of future warfare. The military believed that strategic bombers and naval platforms would conduct strategic air and naval operations that would encompass several TVDs and aim to destroy the opponent's military, political, and economic potential by destroying vital strategic targets with conventionally armed missiles. Conventionally armed aviation, cruise missiles, and ballistic missiles were said to be able to knock out warning systems for missile attacks, destroy a significant portion of the opponent's nuclear-missile means and troops, paralyze his economy, and quickly upset nuclear parity.¹

Captain 1st Rank Ye. Nikitin has stressed that new-generation, conventionally armed SLCMs will be supersonic and use stealth technology. According to "foreign press figures," he says, range will be increased from 2,500 to 4,250 km, and the missiles will be equipped with an apparatus that can assess enemy air defense radar systems and select the optimum route to the target. The missile's terminal guidance system will also be improved considerably. In particular, he notes, specialists are analyzing the problem of equipping the missile with a system for evaluating the situation in the target area. For instance, if a target has already been put out of action by other means, the missile would be able to retarget itself automatically.²

Captain 1st Rank Galkovskiy has argued that the combat capabilities of U.S./NATO naval groupings will increase significantly if nuclear-armed cruise missiles are limited (or banned)—but their delivery vehicles are re-equipped with conventional warheads.³ The strike potential of these forces, he continued, can be "determining" in the overall system of means for destroying ground targets. In fact, Soviet analysts went so far as to maintain that cruise missiles are the "single effective component of the strategic offensive forces" capable of waging a protracted, general, conventional war.⁴

Captain 1st Rank Chertanov has argued that in achieving the objectives of the Maritime Strategy, an extremely substantial role is assigned to the Tomahawk missile. Because Tomahawks are designed to destroy surface and ground targets with either nuclear or conventional warheads and to be deployed on both surface ships and submarines, they are among the most effective means of combat. Armed with conventional warheads and delivered on ground targets to a range of up to 1,500 km, Tomahawks will be an effective supplement to carrier aviation in delivering strikes on a wide spectrum of targets: from coastal targets and naval and air bases to targets located deep in the opponent's territory. This permits a significant economy of forces and means, a reduction in the loss of personnel and aviation equipment, and improved penetration of the opponent's air defense.⁵

1. Colonel A.P. Vasil'yev and Colonel V.K. Rudyuk, "Is Air Defense Sufficient?" *VM* 9 (1989): 64.

2. Captain 1st Rank Ye. Nikitin, "Naval Component of Offensive Forces: Part II. Cruise Missiles," *KZ*, 20 May 1989.

3. Galkovskiy, "Naval Forces," pp. 77-78.

4. Colonel N. Ruzayev, "The American Military-Political Strategy of 'Competition'," *ZVO* 8 (1989): 5.

Rear-Admiral V. Beznosov has observed that equipping ships with Tomahawks has already enabled the United States to accept the reduction of medium-range missiles in Europe almost without loss. These SLCMs have essentially replaced the land-based missiles because even when armed conventionally, they represent not only a destructive power comparable to nuclear weapons but also an ecological hazard if nuclear and hydroelectric power stations or chemical industry facilities are hit.¹ Captain 2nd Rank V. Kozhevnikov thus warns that the massive equipping of submarines and surface ships with Tomahawks (the number of which could reach 4,000 by the end of the century) has allowed the Pentagon to view these missiles as a first-strike weapon.²

Authoritative military analyses have stressed that the Gulf War clearly confirmed the flexibility and "absolute accuracy" of the Tomahawks. According to Admiral Pauk, for example, the Tomahawks demonstrated good combat effectiveness. Around 100 of these missiles were launched from U.S. ships at land targets during the first 24 hours alone. The launchings were coordinated with the operations of carrier-based and tactical aircraft, and the trajectories programmed into their onboard computers were such that the missiles approached targets with powerful air defenses from various directions.

Pauk notes that the targets of the cruise missiles were command posts of the Iraqi armed forces, air observation posts and centers, administrative and industrial buildings, electric power plants, and the communication system. According to available information, more than 300 Tomahawk cruise missiles were launched from U.S. Navy ships and submarines during combat operations. This was approximately 60 percent of the supply in the crisis area.³ General-Major A. Gushev has likewise noted that the coalition used command of the sea for delivering strikes on Iraqi and Kuwaiti territory primarily with Tomahawks and carrier-based aircraft. The 316 launches of Tomahawks confirmed their "absolute" accuracy.

PVO officials have likewise praised the performance of Tomahawks in the Gulf War. In accordance with the operation plan, they note, it was decided to deliver Tomahawk strikes against a number of Iraq's well-hardened targets that had strong air defense. The following basic advantages of this weapon were taken into account here: covertness of deployment in the combat mission area; long range (up to 1,500 km) with high accuracy of delivery to targets⁴ and impressive destructive capability of the warhead; and low vulnerability to the fire of air defense weapons as a result of a low-altitude flight configuration and insignificant radar cross-section.⁵

5. Chertanov, "Maritime Strategy."

1. Interview with Rear-Admiral V. Beznosov, "Sandbanks Ahead. The Navy of the 21st Century: What It Should Be Like," *Sovetskaya Rossiya*, 12 March 1991.

2. Captain 2nd Rank V. Kozhevnikov, "The 'Tomahawk' Sea-Based Missile Complex," *ZVO* 11 (1990): 49-56.

3. Pauk, "Naval Aspect."

4. The analyses say that the circular error probable for launches against ground targets does not exceed 30 meters, and against naval surface targets is around 5 meters.

5. Lieutenant Colonels A. Manachinskiy and V. Chumak, "Echoes of 'Desert Storm': Some Results of the Persian Gulf War," *Vestnik protivovozdushnoi oborony* 8 (1991): 60-64.

Mass strikes from several directions (including from Mediterranean waters) were delivered against ground targets with strong air defense. According to these experts, 125 missiles were launched from the battleships against these targets in the first 24 hours of the operation:

- Pinpoint (so-called “surgical”) strikes against Iraq’s most important military and industrial targets such as command posts, airfields, ammunition, chemical weapons and fuel depots, oil refineries, and nuclear centers
- Individual air defense targets such as command posts, radar and SAM system positions, and fighter bases.

The percentage of targets hit by the SLCMs is said to be about 90 percent.¹

NAVAL PROGRAMS/R&D

Until political and economic conditions stabilize, determining the probable role and fleet structure of the future Russian Navy will remain a tentative business. But the factors examined in this study constitute the fundamentals of an apparent elite consensus and a relatively fixed context for any Russian naval development:

- On one hand, the scientific-technical revolution in military affairs will continue to elevate the role of future Russian naval forces in a modern “aerospace war.” Emerging technologies dictate the dominance of strategy and strategic weapons and the decline of theaters—trends that favor all naval forces.
- On the other hand, the same revolution will continue to impose debilitating resource requirements on the future Russian Navy.
- For the foreseeable future, the Persian Gulf War will remain the paradigm for modern warfare. Its course and outcome will dictate specific qualitative improvements in all branches of the Soviet Armed Forces.
- As a result of the foregoing, the 1992 draft Russian military doctrine states that the objective of Russian military-technical policy is the development of emerging technologies, particularly systems whose *quality* permits a reduced *quantity* of arms.
- For the foreseeable future, this objective will be achieved by sharply cutting procurement of systems in serial production in order to ensure the development and even *rapid surge production* of the new technologies.

On several occasions, Admiral Chernavin has described the implications of these factors for the future Russian Navy. First, he has stressed the retention of nuclear-powered strategic submarines—the sea-based component of Soviet strategic nuclear forces. But he has also noted that Russia will have significantly fewer in the future. “In the next ten years,” he announced in 1991, “no new ‘strategic missile-carriers’ will be constructed or entered into the Soviet inventory.”² Second, he has noted that priority in developing the general-purpose forces will be given to submarines, which constitute the basis of the fleet’s strike

1. *Ibid.*

2. Chernavin, “The Fleet,” p. 8.

potential and are capable of effectively combatting any naval opponent. Finally, he has stressed that the overall approach to the development of naval forces is based on *qualitative* parameters, scientific and military-technical potential, and unification of combat systems and potentials.

In a July 1992 Navy Day interview, Chernavin continued to stress that while Russia will build fewer ships, they will be of far higher quality. For example, the high quality of its latest nuclear submarines can also be applied to surface vessels and aviation. Russia will thereby preserve the Navy's structure, he affirmed, despite cuts in the number of ships and personnel.

As for overall fleet structure, Chernavin explained that in the Caspian Sea Russia will withdraw from Baku following "certain events" and will transfer the administration of the flotilla to Astrakhan. Since about 25 percent of the ships in the flotilla will be handed over to Azerbaijan, the Caspian naval base will be located there.

Chernavin then stated that Presidents Yel'tsin and Kravchuk recently agreed that two fleets will be created in the Black Sea on the basis of the Black Sea Fleet—a Ukrainian and a Russian fleet. While the Black Sea Fleet will shrink in size, however, "it will indisputably exist in this important and strategically crucial theater."

Chernavin notes further that the Baltic Fleet will somehow be preserved despite difficulties in the ongoing negotiations regarding both the fleet and troop withdrawals. Finally, the Northern and Pacific Fleets are said to be "more fortunate": they will retain their present structure without any special alterations.¹

As for the debate on aircraft carriers, Rear-Admiral V. Khar'ko argues that it should finally be considered closed—especially since it ended in military circles by the mid-1980s. In formulating military development plans for the post-1990 period, he notes, military specialists decided to shift priorities away from ground and toward air, air defense, and naval forces. This shift was prompted by the capability of these forces to accomplish missions in inter-nation regions, which are now becoming the sphere of interests and focus of efforts of all states for ensuring their security. In the new conditions, he continues, naval forces are acquiring a special significance. At the same time, naval actions are being complicated by the significant quantitative reduction in ground-based aviation dictated by the CFE treaty. Achieving air superiority in naval combat zones has therefore become a naval task, making aircraft carriers not only expedient but also essential.²

Rear-Admiral L. Belyshev has also examined the future development of the Navy. He argues that above all, it is necessary to reduce the military-technical lag behind the NATO countries in such systems as long-range, conventionally armed high-precision missiles and automated C³I systems, and to simultaneously concentrate efforts on discovering new directions for developing military equipment and technologies.³

1. Interview with Admiral V.N. Chernavin, "St. Andrew's Flag Again," *KZ*, 25 July 1992.

2. Rear-Admiral V. Khar'ko, "Is the Question of Aircraft Carriers a Subject of Disputes?" *MS* 5/6 (1992): 52.

3. Rear-Admiral L. Belyshev, "How to Develop the Fleet," *MS* 9 (1991): 60.

Similarly, K. Sorokin argues that in the long-term perspective, the most important task is to maintain scientific-technical progress in those spheres wherein there is currently no disadvantage, and to reduce the lag in other spheres. Expenditures in military-scientific research must be increased rather than reduced “if we really want to have modern weapons within ten years.”¹

WHITHER THE RUSSIAN NAVY?

Although determining the role and capabilities of the future Russian Navy remains a tentative business, the factors examined in this study provide the military parameters for such a determination. These factors include the effect of three factors on Russian naval development: the current implementation of the “reasonable sufficiency” concept, the Russian image of future war, and the evolving Russian military doctrine.

The first factor—current implementation of the “reasonable sufficiency” concept—portends an expansion of Russian naval development and deployment. For example, the concept of reasonable sufficiency on the conventional level may have become obsolete.

On one hand, many factors have conspired to significantly degrade Russia’s capability for achieving victory in ground theaters—either through superiority in standing forces or advantages in staying power for protracted warfare. This development should reduce the requirement for naval support of ground forces on maritime axes and for naval interdiction of SLOCs.

On the other hand, the Russian military perceives that at least two factors have heightened the requirement for aircraft carriers in naval combat zones: the “significant” quantitative reduction in ground-based aviation dictated by the CFE Treaty, and the need to depart coastal waters in order to combat U.S. naval forces, due to the latter’s ability to fulfill naval strike missions without proximity to Russian territory.

More importantly, both civilian and military leaders have sounded the death knell for the 1987 “defensive doctrine,” which represented the essence of “reasonable sufficiency” on the conventional level. These spokesmen support an expanded naval mission structure over reformist calls for exclusively defensive naval missions.

Significantly, Deputy Defense Minister A. Kokoshin, a civilian, has joined the military leaders in calling for naval forces that correspond to the “real interests” of Russia and the CIS in the World Ocean. Russia is committed, he notes, to ensuring safe navigation in a number of ocean areas as well as reliable SLOCs between the western and eastern parts of Russia—which account for 50 percent of maritime freight traffic within Russia. In addition, the Russian Navy needs more than coastal defense forces that collaborate with aviation and ground forces. Some proportion of SSBNs must be deployed on combat patrol in the regions of the Barents Sea and Sea of Okhotsk. Submarines and surface ships are also required to ensure security of navigation in waters of the World Ocean that are important to the pursuit of Russian national interests.

1. Sorokin, “Naval Strategy,” pp. 49–50.

The June 1992 U.S.-Soviet framework agreement on strategic offensive weapons may represent the first concrete implementation of "reasonable sufficiency" on the nuclear level. The elimination of SS-18s and incorporation of single-warhead missiles signals a shift from counterforce to countervalue options in nuclear warfare. This shift implies an enhanced role for sea-based strategic forces.

But the Russian military is currently criticizing the agreement, warning that the number of warheads for strategic offensive weapons must equal (1) the number of warheads required to conduct a retaliatory strike and (2) the possible number of warheads destroyed as a result of strikes by nuclear weapons, ACMs, or ABM systems. Some military commentators therefore make ratification of the agreement contingent upon (1) simultaneous and equally deep cuts in non-nuclear weapons and (2) a total ban on the development and deployment of ABM systems capable of destroying strategic missiles and their warheads. Other commentators reject the agreement outright because it is said to preserve the U.S. "immense superiority" in sea-based strategic offensive weapons—including long-range air- and sea-based cruise missiles.

The second factor—the Russian image of future war—also portends an expansion of Russian naval development and deployment. The scientific-technical revolution in military affairs is said to be elevating the role of future Russian naval forces in a modern "aerospace war." Emerging technologies dictate the dominance of strategy and strategic weapons and the decline of theaters—trends that favor all naval forces.

For the foreseeable future, Operation Desert Storm will serve as the paradigm of future war in strategy, operational art, and tactics. First, Russia's new military leaders assign priority to the new systems employed during Desert Storm: ACMs, EW, and C³I. Russian military scientists have argued, for example, that such ACMs as the Tomahawk accomplished nuclear missions during the war. Electronic warfare is said to be a weapon equal to "fire strikes" in its combat effectiveness. Advanced C³I systems are said to be just as important as the entire "correlation of forces and means." In fact, superiority in EW and C³I is said to ensure victory in future war.

Second, Russian military scientists now argue that the Gulf War generated a new type of combat action—the "electronic-fire operation"—which consists of surprise, massed, and prolonged missile, aerospace, electronic, and naval strikes that will decide the outcome of the war within several days or weeks. The objectives of the new operation will be achieved without the seizure and occupation of enemy territory. Instead, the new objectives consist of "suppressing the opponent's political or military-economic potential" and "ensuring the victor's supremacy in political or economic arenas."

As a result, Russian experts argue that the Gulf War is the prototype of the new "technological war," wherein the surprise use of new systems is decisive and the initial period is essentially the *only* period in warfare. The new systems have also generated a shift from positional to maneuver actions; a shift from uni-dimensional to multi-dimensional warfare; and the demise of linear actions, close-in combat, and stable fronts. The lines between strategy, operational art, and tactics are said to be disappearing because strategic objectives can be achieved with a first deep strike.

The third factor—the evolving Russian military doctrine—likewise promises an expanded mission structure for the future Russian Navy. A preliminary analysis of Russia's new draft military doctrine and surrounding discussions reveals at least four aspects of this doctrine that have implications for naval development.

First, the identification of Russia's "vital national interests" will determine whether the Russian Navy's development and employment would be either expanded or curtailed. According to Colonel-General Rodionov, for example, these vital interests extend from the Atlantic to the Pacific, and require free access to the Baltic seaports, "free exits" to the Baltic and Black Seas, and free navigation of the World Ocean.

Second, the identification of threats to these interests will determine how naval forces may or may not be developed and employed. The published doctrine states unambiguously that a buildup of naval forces near the borders will be viewed as a direct threat to Russia. According to Rodionov, another threat consists in the U.S. retention of superiority on the seas.

Another perceived threat is currently generating two wildly divergent responses. Military and civilian experts alike warn that Russia and the CIS are now vulnerable to not only nuclear but also conventional strikes throughout their depth. The United States is said to be able to reach the territory of these countries with both its nuclear and general-purpose forces, but Russia is said to be incapable of reaching the territory of the United States and "other opponents" with its own general-purpose forces. On the one hand, Colonel-General Danilevich calls for the development of the "strategic non-nuclear deterrence forces"—a strategic triad armed with conventional warheads and consisting of ICBMs, strategic bombers with long-range cruise missiles, and submarines and surface ships with cruise and possibly ballistic missiles. On the other hand, Colonel-General Rodionov calls for his own version of the "only" option left to Russia: the use of strategic nuclear forces.

Third, the new doctrine stresses the decisive importance of a future war's initial period, which is said to consist of air and naval strikes aimed at disrupting strategic deployments, disorganizing civilian and military C², and removing CIS states from the war. The destruction of economic and military targets by ACMs will be accompanied by simultaneous or preemptive EW. The doctrine notes further that in *subsequent* periods, the opponent *may* deploy ground troops under strong air cover.

Fourth, new strategic missions and operational concepts will necessarily affect the organizational development of the Russian armed forces. All parties agree, for example, that a key priority is the development of the "Russian Mobile Forces," which will be based on airborne assault troops, the naval infantry, and light ground formations.

These and other force structure requirements are in turn generating Russia's new R&D priorities: high-tech systems whose *quality* permits a reduced *quantity* of manpower and arms. And since the advent of the military-technical "revolution" in the early 1980s, the General Staff has argued that these systems enhance the role of naval and air forces at the expense of ground forces. According to Russian military scientists, the incorporation of these systems will also compensate for the loss of superiority in standing forces and manpower reserves.

We can draw several broader conclusions from an analysis of Russia's new military doctrine. First, the doctrine assigns priority to wars fought with existing and emerging conventional weapons. Second, the doctrine views the Gulf War as the paradigm of future conventional wars. Third, the doctrine calls for the maintenance of R&D at the expense of procurement as the defense budget declines. These budgetary allocations reflect a dramatic shift away from the era of *quantitative* superiority in manpower and armor and toward the era of *qualitative*, technological indices of combat potential.

Fourth, the doctrine reflects changing views on nuclear war, implying that (1) a limited nuclear scenario is possible, and (2) *conventional* strikes on Russia's nuclear and other dangerous targets will elicit a nuclear response. Finally, the doctrine reflects the demise of Gorbachev's "defensive doctrine" and a shift to the conduct of all forms of military action—including "large-scale offensive operations." All of these developments imply an enhanced role for the future Russian Navy.

CIVIL-MILITARY CONVERGENCE

Finally, it is important to note that a striking civil-military consensus exists on current requirements for Russia's military security. This consensus reflects a continuing, disproportionate emphasis on *military power* as a prerequisite for establishing Russia's place in the international system. Russians are aware that the Soviet Union over-extended in this sphere; still, they will probably not reduce military appropriations to a level commensurate with Russia's *economic* ranking in the world. For example, the current consensus insists on maintaining military-strategic parity and superpower status—if at a lower level of effort. This stance signifies that the absolute—but not the relative—burden of defense expenditures will drop.

The current civil-military consensus also includes an image of future war based on the development and deployment of ACMs, directed-energy weapons, space-based ABM and strike weapons, and third-generation nuclear weapons. Russian leaders have offered no suggestion that an arms control regime should prevent the development of these systems. On the contrary: military-technical progress is viewed as a phenomenon that "cannot be stopped." Instead, leaders have proposed a U.S.-Soviet "condominium" in the development of ABM systems. Such proposals could indicate either 1) a sincere desire to implement the new military-technical revolution in cooperation rather than confrontation with the United States, or 2) the mother of all "peredyskas."

To achieve its political objectives, the Soviet leadership created and maintained a vast military force that served as a substitute for war. Today, the Russian leadership is calling not for serial production of weaponry but for an infrastructure that ensures the development and rapid surge production of emerging combat technologies. Military-technical *potential* will thus represent the modern substitute for war.

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