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The Role of the Attack Submarines in Soviet Naval Theory

by
Milan Vego

The Soviet Navy's principal striking force since the late 1930s has been its large submarine fleet. Submarines will likewise remain the navy's "basic" force in carrying numerous and diverse missions against the targets ashore and enemy naval forces. The Soviets distinguish submarines of (1) "strategic" and (2) "operational-tactical designation," respectively. The former includes all the ballistic missile-armed submarines (SSBNs/SSBs). Submarines of the "operational-tactical designation," or attack submarines as they are known in the US/Western navies, consist of all the cruise missile, and torpedo-armed submarines. Presently the Soviets have in service some 285 attack submarines (49 SSGNs, 18 SSGs, 62 SSNs, and 156 SSs), while an additional 85 SSs are kept in reserve. Although the number of attack submarines has decreased over the last two decades, the capabilities of the force have steadily increased, as larger numbers of nuclear-powered submarines were introduced into service. Also, attack submarines were assigned by the Soviets to carry out an ever greater number and diverse type of missions. Here, the changing Soviet perceptions over the past two decades in respect to the missions and capabilities of their attack submarines will be addressed in some detail. However, it should be stressed that the Soviet views on attack submarines' missions, as expressed by their admirals and leading naval theoreticians, should not be regarded as missions which were actually assigned at a particular time. Moreover, the Soviet claims concerning their attack submarines' capabilities should be qualified by the fact that despite the large number of submarines, the Soviets could not at any one time carry out all the assigned tasks simultaneously, nor do their submarines possess all the capabilities required to conduct missions effectively, especially in respect to ASW.

The Soviets have shown since the late 1920s a steady and very strong interest, both in theory and practice, in submarines as a weapon. The Soviet prewar naval theory regarded submarine forces as the *most important fleet arm*—to be employed in cooperation with major surface combatants, torpedo boats, and land-based aviation for conducting strikes against the enemy naval

forces approaching "mine-artillery" positions established along the Soviet-controlled coast. Although many of the Soviet submarines were capable of being employed on the open ocean, they were then primarily intended for conducting tactical missions in close-in regions (coastal waters).¹

In the aftermath of the Great Patriotic War (1941-45) the Soviets perceived that the greatest potential threat to their homeland from across the sea represented the then huge US/Western amphibious lift capability and also strike carrier task forces. Therefore, a twenty-year "anti-amphibious" program was drawn up in 1945-46 which, in addition to a large number of surface combatants, envisaged the construction of about 1,200 submarines. By the early 1950s, however, the threat of a large-scale invasion of the USSR from across the sea had greatly decreased owing to the substantial decline in the capability of the US/Western amphibious forces. By then a new threat had emerged, with the introduction into service of the US carrier-based aircraft capable of carrying out strategic nuclear strikes deep into the Soviet-controlled territory.

However, because of the lack of effective platforms, it was not until the late 1950s that the Soviets were able to adopt a workable anticarrier concept. By then great advances achieved by the Soviets in missile technology, nuclear weaponry, submarine propulsion systems and electronics made it possible to introduce into service new types and classes of submarines, surface ships and aircraft capable of engaging heavily defended enemy formations on the sea from standoff ranges.

Submarines in the Soviet All-Out Nuclear War Doctrine (1960-65). As soon as the Soviet anticarrier concept had become firmly accepted and the corresponding naval construction and conversion program was underway, a new and potentially even more ominous threat to Soviet security emerged. The first US SSBN armed with the 1,200-nm-range Polaris SLBMs undertook its initial operational patrol in 1960. The Soviets' problem in countering this new and unprecedented threat was the lack of an adequate capability for carrying out open-ocean ASW, especially against a foe's fast and deep-running nuclear-powered submarines. The deployment of the US SSBNs was the primary factor behind a rather drastic change in the direction and scope of Soviet naval construction programs, which apparently took place in 1961-62. Given this situation the Soviets began to emphasize the rapid improvement of their grossly inadequate open-ocean ASW capabilities. The SSNs together with patrol aircraft were assigned the principal role in conducting open-ocean ASW. The Soviets at that time claimed that in a war on the sea "submarine battles will be one of the principal methods of defending the maritime perimeters against the penetration of enemy submarines."²

However, it was the Soviet war doctrine on the primacy of nuclear weapons, first announced in January 1960, which eventually brought about the most

profound changes in the navy's position within the mission structure of the Soviet armed forces. Soviet military doctrine in 1962 (a reflection of the army's original view) postulated that the navy's main tasks in a general war included (1) destruction of the enemy naval forces, with emphasis on anticarrier warfare (ACW), anti-SSBN and (2) interference with the enemy sea lines of communication (SLOC). A year later, the "destruction of coastal objectives" was interposed between these two missions. In contrast to the Soviet naval theoreticians, who by then already laid claim that one of the navy's primary wartime missions was to conduct strategic nuclear strikes, the army's view was that the need *might* arise for the navy's strategic forces to carry out such missions.³

Submarines and ASM-carrying aviation were assigned the principal role in carrying out all the navy's primary wartime tasks. The Soviet's military theoreticians then argued that because the main theater of naval operations in a general war will be oceans, and not "closed" (narrow) seas, submarines and naval aviation were to have enormous significance. In their view nuclear-powered submarines were to enable the Soviet Navy to accomplish the most complex tasks, specifically ACW and anti-SSBN, and to exert active influence upon the enemy SLOCs, "in the most distant regions of the oceanic theaters of military action."⁴ However, it was clear that the Soviets did not have then an adequate number of SSNs to carry out all the tasks enumerated here.

In the early 1960s the Soviet military theoreticians perceived that the most serious threat to their country from across the sea was posed by the US carrier-borne and nuclear-armed aircraft. Hence, one of the Soviet Navy's principal tasks from the very beginning of a general war was the destruction of the enemy carrier task forces poised to carry out surprise nuclear strikes against the most important coastal targets on the "socialist" countries' territory. The US/Western carrier task forces were to be attacked and destroyed before they reached their attacking positions by strikes carried out by the Soviet SSGNs/SSGs and ASM-armed bombers.⁵

In the early 1960s the Soviets postulated that in the case of a general war operations against the enemy SLOCs should be conducted on a large scale from the very outset. They also envisaged that such a conflict would be very short because of the high destructiveness of modern weapons. Consequently, the principal objectives of anti-SLOC were to be accomplished by nuclear strikes carried out by the strategic rocket forces (SRF) and ballistic missile-armed submarines (SSBNs/SSBs) against the enemy ports, naval bases, canals, narrows, straits and shipbuilding and ship-repairing industries. The destruction of convoys and high-speed transports sailing independently at sea was assigned to the Soviet attack submarines, and land-based aviation. The SSNs were considered as the most capable of carrying out anti-SLOC tasks on the open ocean, since they could concentrate rapidly on a selected part of

the enemy SLOCs. In the Soviet view the diesel-electric submarines were to be employed similarly as in World War II, that is, by forming mobile barriers or carrying out free search missions against the enemy merchant shipping.⁶

The Soviets then regarded nuclear-powered submarines as becoming the main striking force of not only their navy, but also in the navies of the "Anglo-American bloc." Thus, submarine warfare may become the principal form of naval operations in case of a general war. Admiral Sergei G. Gorshkov, despite his often repeated praise in respect to the capabilities of nuclear-powered submarines, clearly intended to build a balanced navy composed of both submarines and a large number of highly capable surface combatants. He stressed that although "modern submarines and missile-carrying aircraft comprise the principal striking force of the [Soviet] Navy and are the essence of its power" there must exist other forces both for "active defense against any enemy within the limits of the defense zone of a maritime theater and for [providing] the comprehensive support of the combat and operational activities of the main striking forces of the Navy." These forces included (1) missile-armed surface combatants, (2) mine warfare ships, (3) ASW aircraft, (4) merchant ships of "special designation," and (5) coastal (antiship cruise) missile units.⁷

Submarines in the Era of Transition (1966-70). By the mid-1960s Soviet military doctrine began to reflect an extension of hostilities for a conventional war phase in a general conflict. The cumulative effect of the strategic innovations subsequently introduced into the Soviet war doctrine was that the role and significance of the conventional forces, including the navy's general-purpose forces was greatly increased. Hence, the Soviets after more than a decade of anticarrier propaganda began to temper their criticism of large multipurpose carriers (CVs). Since the mid-1960s, in fact, they have progressively viewed CVs in an ever more positive light. But by the late 1960s changes in the Soviet war doctrine still remained rather insignificant, as far as the conventional forces were concerned. The Soviets still considered that a general war would be relatively short, although they admitted it was possible that a conflict could be drawn out and not be limited to just strategic nuclear strikes.⁸

The Soviet military theoreticians also continued to minimize the navy's role in conducting strategic strike missions. They regarded the navy's principal wartime mission to be (1) the destruction of the enemy naval forces, and (2) interference with the enemy oceanic and sea lines of communications. Within the broadly described task "destruction of the enemy naval forces," the Soviet Army still obviously regarded ACW as having greater significance than anti-SSBN.⁹

However, the Soviet Navy's view was very different, since it held that strategic nuclear strikes were one of its principal wartime missions. In the

late 1960s the Soviet naval theoreticians apparently considered anti-SSBN as the second most important naval mission. They maintained that the introduction of ballistic missile-armed submarines posed a genuinely national problem for the opponent subjected to their strikes. The Soviets argued that while in the past the principal objective in conducting ASW had been the protection of one's own SLOCs, presently "with all the importance of previous missions," the main aim is to prevent the strikes on the country's vitally important centers, and that meant ASW has assumed strategic significance.¹⁰

The SSNs then were regarded by the Soviets as the best suited weapon for neutralizing the threat posed by the enemy SSBNs. They argued that the SSNs equipped with advanced sensors would allow them to be successfully employed against enemy submarines. In an encounter between the two submarines fitted with equally capable sonars, the advantage "would lie with more quiet and vigilant submarine." The Soviets claimed that a submarine fully engaged in carrying out ASW search in an assigned patrolling area obviously had an advantage over the enemy submarine transiting to or from its operating area or conducting other than ASW tasks.¹¹

The Soviets also affirmed that their SSNs could successfully carry out ASW missions not only on the open ocean, but in the ice-covered waters as well. Since the Soviet surface ships and aviation face difficult problems in the polar areas—notably ice, frequent fogs in the summer and long polar winter nights—they could hardly be effectively employed in conducting ASW missions in these areas. Therefore, submarines capable of sailing under the ice-covered waters "should become the main force in the struggle with the enemy submarines in the Arctic region."¹²

The Soviets asserted that despite the appearance of nuclear-powered submarines, the conventionally powered submarines could still be employed in carrying out those missions for which it was "inexpedient to use the expensive nuclear-powered submarines." These tasks included the search for and destruction of the enemy submarines in coastal waters and in the regions remote from one's own [Soviet-controlled] coasts. The SSs were also regarded as useful in conducting both reconnaissance and strikes against the enemy convoys.¹³

The Soviets also argued that modern diesel-electric submarines fitted with high-capacity batteries and air regeneration plants could operate more freely and with greater success than their predecessors in World War II. Yet, they regarded the SSNs as being four times more effective than the SSs. The SSNs are especially well suited for conducting tracking missions and have an undisputed advantage over the SSs because the latter generate significant noise when sailing with snorkel. However, if an SS used electric motors only, it would be difficult for a SSN to detect it, and the "supremacy in detection will by no means always remain with the nuclear-powered submarine."¹⁴

In the late 1960s, ACW was regarded by the Soviet naval theoreticians as the navy's third most important wartime mission. They claimed that the introduction of nuclear-powered submarines armed with nuclear-tipped missiles enabled the navy to destroy enemy strike aircraft carriers. The Soviet Army's view, as expressed by the General Staff, was even stronger, since it was considered that "a most important" navy mission "right from the first minutes of a [general] war" was the destruction of the enemy aircraft carrier task forces. The Soviets apparently firmly believed that in carrying out ACW tasks, their SSGNs and ASM-carrying aircraft would be able to assume their missile-launching positions without entering the carrier task force's ASW and AAW defense zones. Then the principal objective would be to destroy the enemy aircraft carriers before they launched their strikes against the targets on the Soviet-controlled territory. The Soviets maintained that the carrier task forces were highly vulnerable to submarine and bomber attack during their ocean transit refueling on the high seas and when launching or recovering aircraft. In their view, not only aircraft carriers, but the ships in protective screen, underway replenishment groups, and the carriers' basing areas were to be destroyed too.¹⁵

The Soviets asserted that the SSGNs are less vulnerable than torpedo-armed submarines because of their high-speed underwater, deep-running capabilities and their ability to carry out strikes from standoff ranges, even while submerged; hence, they can successfully attack aircraft carriers and other surface combatants. Also, the Soviets maintained that although in World War II it had been necessary to employ several submarines in attacking a large surface ship, presently "any ship can be destroyed with one missile or torpedo having a nuclear warhead."¹⁶

In the late 1960s the Soviets still regarded anti-SLOC as one of the most important, (preceded only by the defeat of the enemy naval forces) navy wartime missions. Then it was postulated that interdiction of the enemy SLOCs (and disruption of air communications) must be undertaken on a large scale from the very start of a world war. The anti-SLOC tasks were to be accomplished principally through the nuclear strikes of the SRF, long-range aviation and ballistic missile-armed submarines against the enemy ports and shipping-related industries. Attack submarines and land-based bombers apparently were to play a secondary role in carrying out strikes against the enemy convoys and independently sailing transports on the sea.¹⁷

The Soviets also claimed that the experiences of past wars showed how the mass employment of mines can inflict serious damage to merchant shipping and also simplify the task of interdicting the enemy SLOCs. In their view, submarines possess great capabilities for conducting covert mining, torpedo-armed submarines in particular. They are capable of

creating a real mine threat by laying down mine barriers and “even minefields at the exits and entrances of [the enemy] naval bases and ports, and also in the coastal sectors of [the sea lines of] communications.”¹⁸

By the late 1960s anti-SLOC had apparently been relegated to a secondary wartime mission. Rear Admiral K. A. Stalbo (who is regarded as a spokesman for Admiral Gorshkov’s views) then asserted that the significance of warfare on oceanic communications has decreased in the nuclear-missile era, since the employment of nuclear weapons against enemy military-economic targets would cause damage several times greater than that inflicted by carrying out the most successful action against shipping.¹⁹ The reason for the apparent downgrading of anti-SLOC was that Soviet military doctrine in the late 1960s, although acknowledging the possibility of a general war to be fought initially with conventional weapons, still postulated that such a conflict would inevitably become all-out nuclear and very short.

The Attack Submarines’ Role is Upgraded (1971-75). The Soviet views regarding the capabilities and combat employment of attack submarines, and particularly the SSNs, have undergone gradual but significant evolution since the early 1970s. The Soviets maintained that nuclear-powered submarines by incorporating the latest technology have become the most modern force of navies and combine “great striking power, high mobility, endurance, [and] stealth” and are difficult to detect. They claimed that the trend in the development of operational-tactical submarines was to acquire the capabilities for carrying out successfully ASW, anti-surface warfare (ASUW), and anti-SLOC tasks.²⁰

The role of the Soviet attack submarines in the 1960s regarding ASW has also increased. The Soviets then asserted that the experience of World War II showed that a defensive strategy against submarines was not successful in neutralizing the submarine menace. In their view success in ASW would be possible to achieve only by employing friendly forces both offensively and defensively and with attack submarines in the front line. The Soviets regarded the SSNs, due to their high speed, as capable of conducting ASW missions for the protection of surface warships, amphibious forces and convoys.²¹

The role and significance of attack submarines in ASW were further upgraded because of the introduction of the first *Delta*-class SSBN armed with the 4,000-nm-plus range SLBMs in 1972. Then the newly introduced “limited intercontinental strategic war” option envisaged the use of the Soviet land-based MIRVed ICBMs as counterforce weapons in conducting initial strikes, while the *Deltas* would serve for countervalue withholding and late-war bargaining. Hence, the Soviet SSBNs would have to be protected in their sanctuaries and operating areas, both in peacetime and for the duration of a general conflict.

After 1971, when the Soviet withholding strategy was apparently adopted, pro-SSBN gradually emerged as one of the Soviet Navy's principal missions. The pro-SSBN tasks can be accomplished effectively only by exercising full sea control in the SSBNs' sanctuaries and operating areas. Admiral Gorshkov claimed that both world wars have demonstrated the false opinion that the submarine, by virtue of the secrecy of its movements after leaving base can in itself ensure its own invulnerability. Hence, sea control on behalf of missile-armed submarines is not a secondary but a main goal, along with strategic strike itself and is to be carried out by using surface ships, aviation and general-purpose submarines as the first and main task from the very beginning of the war.²²

The Soviets moreover argued that attack submarines were increasingly included not only as part of naval formations and convoys at sea, but also in support of the combat patrols of strategic submarines (SSBNs/SSBs). The SSNs were considered the most suitable for carrying out pro-SSBN missions. The Soviets then maintained that a real threat to their own submarines would be the enemy submarines, and particularly the SSNs. In a battle underwater, the winners would be those who heard the enemy first and opened fire without delay. The Soviets also claimed that although the principal role in ASW was assigned to SSNs, they would never be capable of fully carrying out their missions alone. Hence, diverse ASW forces comprising submarines, surface ships, and aircraft would be required to be employed jointly.²³

Besides carrying out pro-SSBN and anti-SSBN, other principal missions of the Soviet attack submarines included: (1) destruction of the enemy surface combatants, primarily aircraft carriers, (2) merchant ships, (3) minelaying, (4) covert surveillance of assigned regions, and (5) secret landing of reconnaissance teams and sabotage groups.²⁴

Although it appears that the ACW remained in the early 1970s the principal objective in the Soviet ASUW concept, there were some substantial changes in respect to the forces employed in carrying out such tasks. Admiral Gorshkov then argued that because of the substantial qualitative changes in respect to the submarine armament, the destruction of the enemy surface ships at sea had become one of the primary objectives of the Soviet submarine forces. The Soviets claimed that there was no longer any region of the world's oceans where enemy major surface combatants would be able to avoid at the beginning of hostilities the powerful and sudden attack of submarine forces. However, they also recognized that due to the high speed and mobility of surface warships and their strong ASW and AAW defenses, additional difficulties would arise in carrying out strikes against them.²⁵

The Soviets maintained that modern means of reconnaissance and surveillance would allow the effective detection and tracking of the enemy ships on the open ocean. Thus, conditions were to be created for submarines

in obtaining favorable tactical positions for conducting strikes against the enemy warships in cooperation with other forces, particularly aviation. By employing missile, torpedo and mine weapons, submarine forces were to inflict devastating blows against the enemy major combatants at sea. The Soviets considered antiship missiles as the principal weapons for the destruction of the enemy surface ships. Admiral Gorshkov wrote that their appearance had brought a radical change in conducting naval warfare, and had made it possible to deliver powerful and accurate strikes from great distances against the enemy major surface combatants.²⁶

By the early 1970s a more balanced view had emerged regarding the relative value of antiship missiles and other submarine weapons, which in turn had some significant repercussions on the Soviet ASUW concept. By then the opinion apparently prevailed that the torpedo and mine have not lost their significance in combating surface warships. Consequently, the torpedo-armed submarines' role in conduct of ASUW has been enhanced. The Soviets claimed that the ability of modern attack submarines to penetrate the enemy's formation defenses has been greatly improved in comparison with their predecessors in World War II. Therefore, it could not be any longer argued "that the attack submarines may be ineffective against an enemy fleet."²⁷

By the early 1970s the Soviets concluded that because of the aircraft carrier's very strong and echeloned ASW defenses, it was not after all as vulnerable to submarine attack as their naval theoreticians had argued so incessantly in the 1960s. Yet, there was seemingly a consensus that ACW tasks could still be successfully carried out. The Soviets then regarded cruise missile-armed submarines as having several significant advantages over the SSNs/SSs when employed against enemy surface warships. For example, in order to fire their missiles successfully the SSGNs do not require a rigid tactical position—because of standoff ranges they can carry out strikes with their missiles without the need to engage forces in the protective screen. For such tasks, not only the SSGNs, but also SSGs could be successfully used. When the antiship missile is fitted with a nuclear warhead, a direct hit on the target is not needed, since all that is required is that the enemy warship is found within lethal radius of the nuclear burst. At the same time, the enemy would have an extremely difficult task in countering the missile attack and in destroying cruise missile-armed submarines deployed over the vast regions of the world's oceans.²⁸

The Soviets then maintained that in view of the SSNs' high speed underwater, which equals and in some cases exceeds that of major surface combatants, the SSNs are capable of "breaking through the protective screen of a target and attacking an objective from any direction. Then the SSNs can pursue and carry out attacks repeatedly and over an extended period of time right down to the total destruction of the enemy group of warships."²⁹

Since the early 1970s the Soviet military doctrine has continued its evolution toward acquiring new strategic options each envisaging ever greater duration of the conventional phase in the event of a general war. Hence, it was not surprising that the importance of anti-SLOC was steadily upgraded within the Soviet Navy's mission structure. From the early 1970s, there has been much emphasis by the Soviet naval theoreticians on sea blockade operations. The Soviets predicted that an intense struggle over maritime communications was to start from the very beginning of a war and that submarines, aviation, and surface combatants as well, would be employed in carrying out anti-SLOC campaigns. In conducting a sea blockade, the principal targets to be destroyed were to include both merchant shipping and naval vessels at sea and in ports, naval bases, shipping-related industries, and communication centers.³⁰

Admiral Gorshkov stressed that in World War II submarines were the principal force in conducting anti-SLOC campaigns and that they were to become even more so should a general war break out. At the same time he argued that the experiences of German and US anti-SLOC campaigns in World War II indicated that although they greatly weakened the economies of their respective opponents and had a definite influence upon the course of the military operations in the secondary theaters, the campaigns in both cases were not decisive factors in the war's outcome. In Gorshkov's view, although the struggle over oceanic communications in a general conflict will be almost worldwide in scope and will involve the main part of the belligerents' naval forces, it would have—because of the war's continental character—only secondary significance for the opposing side.³¹

The Soviets also continued to stress the value mines have as a weapon both against warships and merchant vessels. The attack submarines, but especially the SSNs were seemingly regarded as the most suitable minelaying platforms. The Soviets claimed that almost unlimited range of nuclear-powered submarines would enable them to pose a mine threat even in the most distant parts of the world's oceans. Although submarines do not have as large a mine-carrying capacity as surface ships, they enjoy great advantage in being capable of laying mines with a far greater degree of covertness and accuracy than other platforms. A submarine can approach the enemy coast covertly and conduct reconnaissance of the approaches to the bases and ports in order to determine precisely the route used by the enemy vessels or merchant ships, and then lay mines. In some cases a submarine could even observe the explosion after the enemy's ship struck one of its mines and then, if necessary, finish it off with torpedoes.³²

The Soviet naval theoreticians have emphasized time and again that although nuclear-powered submarines have become the navy's main striking force as it is known from history, the most powerful forces are not such that they can achieve success without the cooperation of other forces. Similarly,

Admiral Gorshkov said that a modern navy intending to conduct combat operations against a strong opponent on the sea, cannot be just a submarine navy. In his view, for underrating the value for support of submarine operations by aviation and surface ships, the Germans had paid dearly in both world wars. Admiral Gorshkov maintained that the principal reason for Nazi Germany's failure in the conduct of unrestricted submarine warfare was that submarines did not receive adequate support from other forces. The latter would have been able to carry out both reconnaissance and the destruction of the enemy ASW forces, as well as conducting strikes against the enemy ports and shipyards, and also the ships at sea. Hence, although the development of the Soviet submarine forces was to have the highest priority, not only submarines, but also surface warships of various designation would be required. Surface ships not only provide combat stability (survivability) to submarines, but are also intended to carry out a wide range of missions both in peacetime and wartime.³³ Obviously, the Soviets were determined to continue to build a balanced fleet, comprised of both large numbers of submarines and surface combatants.

Submarines in Soviet Naval Theory Since 1976. By the mid-1970s pro-SSBN had become, except for strategic nuclear strikes, one of the Soviet Navy's principal missions. Pro-SSBN was (and still is) considered a crucial element of the navy's strategic strike role. The SSNs armed with modern A/S weapons are regarded by the Soviets as the principal platform in conducting ASW missions. Owing to their (1) great covertness of action, (2) deep-running capabilities, and (3) greater detection range, the SSNs are regarded far superior to ASW surface ships in carrying out pro-SSBN missions. Hence, the Soviet SSNs were increasingly employed in support of combat patrols of strategic submarines, thus "substantially strengthening these forces, and significantly reducing the underwater threat to them."³⁴

The Soviets asserted that operational-tactical nuclear-powered submarines (SSNs) had taken over the leading role in the open-ocean ASW. They maintained that one of the basic, if not the principal mission of the SSNs is to track the enemy SSBNs in peacetime and to destroy them at the beginning of a general conflict. The SSNs were perceived as being the most effective platforms in carrying out surveillance and destruction of the enemy submarines in the open ocean. The Soviets claimed that the SSNs are capable of operating more covertly than other ASW forces in carrying out the tasks of (1) detection, (2) classification, (3) tracking, and (4) attack on the enemy SSBNs. They can conduct these missions either independently or when vectored by other forces.³⁵ However, the employment of the Soviet SSNs in an anti-SSBN role, despite apparent high priority given to it, has proven to be a most difficult task, since detection of the US/Western SSBNs is routinely impossible.

Significantly, the Soviets regarded the SSs as useful in carrying out ASW tasks, including those against the enemy nuclear-powered submarines. They argued that although the SSs are inferior to the latter with respect to speed and continuous underwater endurance, the SSs have (1) small dimensions, (2) a low self-generated noise level when running on the electric motors, (3) good sonar, and (4) effective A/S weapons. Yet the Soviet SSs have, with the exception of the Tangos and most likely the Kilos, a very short detection range sonar even when operating on their batteries. Further, there were some Soviet naval theoreticians who argued that the SSs are more vulnerable to enemy action than aviation and for a large part of the time they have to sail by using snorkel. The SSs are also very noisy when using diesels and can be detected at comparatively great distances.³⁶ Consequently, their usefulness as an ASW platform is limited, especially against the enemy nuclear-powered submarines.

By the mid-1970s the Soviets had apparently come to the conclusion that barring the long-sought technological breakthrough in submarine detection, search for and destruction of the enemy nuclear-powered submarines on the open ocean is virtually a hopeless task. Therefore, it was not surprising that the ACW, and ASUW in general, were relatively upgraded within the Soviet Navy's mission structure. Admiral Gorshkov wrote that besides ASW the main efforts of the Soviet Navy in a nuclear-missile war were to be concentrated on the destruction of the enemy carrier task forces. The cruise missile-armed submarines, and ASM-carrying strike bombers were then still considered as the principal forces in carrying out the ACW tasks. The Soviets claimed that the former were not required to break through the aircraft carrier's protective screen, since the missiles' range allows them to carry out strikes from long distances and from any direction. The same cruise missile-armed submarines were to pose the most complicated problem for the enemy ASW because they were to operate beyond the target's zone of direct screening.³⁷

By the late 1970s, however, there were apparently some divergent views among the Soviet naval theoreticians in regard to ACW. Vice Admiral K. A. Stalbo stressed that ACW missions will be very complex in carrying out, in view of the carrier's strong and deeply echeloned ASW and AAW defenses, and also because of its ability to withstand the effects of numerous hits by missiles, torpedoes and bombs. This prompted Rear Admiral A. Pushkin, Editor-in-Chief of *Morskoy Sbornik*, to propound a different view. Although he acknowledged that the aircraft carriers' defenses have been improved considerably in the postwar years, thus creating conditions in which it will be difficult for submarines to operate, the improvements in the tactical capabilities of submarines would enable submarines to carry out several successive strikes against the selected targets both independently and jointly with other forces. Also, the range of missions to be carried out by submarines

has been substantially expanded, thus transforming them into the principal offensive force in naval warfare “[even] against such large surface ships as modern [aircraft] carriers.”³⁸

By 1980 Admiral Pushkin seemed to moderate his previously held optimistic views in regard to the submarines' employment against US carrier task forces. He then warned that there “should not be [any] illusion that it would be easy to attack and destroy [an aircraft] carrier.” Apparently, Admiral Pushkin's greatest concern was the enemy SSNs, which often form a part of the aircraft carrier's protective screen. Their presence not only can hinder the execution of an attack (by the Soviet submarines) but also can disrupt it. Yet, Admiral Pushkin concluded that experiences of World War II showed how “skilled and purposeful operations by submarines led to the destruction of [aircraft] carriers even when they had a heavy escort.”³⁹

We do not know yet the reasons for or the outcome of the Soviet debate on aircraft carriers. However, the Soviets apparently intend after the completion of the fourth and last *Kiev*-class V/STOL aircraft carrier (in 1984) to start with the construction of their first 60,000-70,000-ton nuclear-powered conventional take-off (CTOL) aircraft carrier. There is apparently a consensus among the Soviet naval theoreticians that their navy needs to build such large ships. Perhaps Admiral Pushkin and those who support his views, although recognizing the value of large aircraft carriers, nevertheless have tried to inject a cautionary note in assessing the carriers' potential. They most likely want to make sure that submarines will continue to have their consistently dominant role within the Soviet Navy in the years to come.

The Soviets continued to emphasize how valuable the SSNs are in carrying out the ASUW tasks, including ACW. Admiral Gorshkov asserted that the SSNs can close in with high speed on the enemy ships, track them for long periods of time, carry out attacks repeatedly, and then can be rapidly redeployed from one sector to another while successfully avoiding the enemy ASW forces. The Soviets at that time apparently regarded their SSNs as posing the greatest threat to the survivability of not only the enemy SSNs, but also all surface combatants. The SSN's speed will allow it to successfully penetrate the target's protective screen and then carry out the torpedo strike.⁴⁰ Despite these claims the Soviet SSNs will have great difficulty closing in on a CV or SSBN undetected since they are highly detectable themselves when sailing at high speed.

From the mid-1970s there have been unmistakable signs of the upgrading of anti-SLOC. This was also reflected in a spate of articles which then appeared in the Soviet naval and military journals concerning sea blockade operations. The Soviets argued, in contrast to their previous views, that anti-SLOC campaigns conducted during World War II exercised considerable influence upon the course of combat operations on the land front and also inflicted heavy damage upon the enemy's economy. The Soviets apparently implied

that in a general conflict the USSR should avoid Nazi Germany's mistake of not focusing the entire anti-SLOC efforts in the northern Atlantic. Consequently, they also regarded the German concept in conducting war against the enemy shipping—so-called "summary" tonnage, as practiced in both world wars—as false in its basic premise, and one which has suffered complete defeat. The Soviets postulated that the principal objective in future anti-SLOC campaigns instead should be the destruction of the enemy troop shipments, military cargo, strategic material and other material (economic shipping) during sea transit, and at port terminals with the simultaneous destruction of the shipping-related shore installations.⁴¹

The Soviets obviously consider the SSGNs/SSNs as having, in addition to land-based aviation, the principal role in conducting sea blockade operations. They asserted that anti-SLOC missions conducted with nuclear-powered submarines will be far more successful than those carried out in World War II. Nuclear-powered attack submarines by using their high-speed and deep-running capabilities will have a simpler task of breaking through the enemy convoys' defenses and then break away after they fire torpedoes. The Soviets apparently regard the SSs as still very effective in carrying out strikes against enemy merchant shipping, both close to the Soviet-controlled shores and in distant ocean regions.⁴²

The Soviet naval theoreticians stress that the potential of modern nuclear-powered submarines to disrupt merchant shipping has increased immeasurably and that "the classical method of protecting sea lines (of communications) is not effective enough." They pointed out that even with diesel-electric submarines in World War II, it was possible to choose the place, time and method of attack. They emphasize that "despite the development of methods of combating submarines . . . the problem of combating nuclear-powered submarines is still far from being resolved."⁴³

By the late 1970s the Soviets also emphasized that mines have acquired even greater significance and will find a wide use in sea blockade operations. Submarines continue to be regarded by the Soviets as the most potent minelaying platform for reasons already stated. Apparently Soviet submarines are intended, together with aviation, to conduct minelaying missions in the distant areas, while the surface ships remain (as before) the basic force in carrying out defensive minelaying in the Soviet-controlled coastal waters. Submarines will specifically be used to conduct secret mining of the enemy ports, narrows, and other areas heavily patrolled by the enemy forces.⁴⁴

The Soviets maintain that their nuclear-powered submarines presently in service have greatly enhanced offensive and defensive capabilities in comparison with those in the past, and they "can now operate confidently and effectively both against naval surface ships and submarines and against shore installations." They predict that combat activities at sea in the future are to have a global dimension. The Soviets also emphasize that a special

significance in the effective employment of naval forces, notably submarines will have "optimal combination of centralized and decentralized methods of control." Hence, there will be a need to assure "independence of tactical groups' commanders and in the action on the [open] ocean, and in some cases [even] commanders of ship's pairs in order to increase stability, of [command and] control."⁴⁵

Conclusions. Submarines had in the past and continue to have the single most important place in Soviet naval theory. Apart from ballistic missile-armed submarines which play an important role in the Soviet nuclear strategy, it is the operational-tactical submarines which are an indispensable element in conducting many Soviet Navy's principal wartime missions. Attack submarines, and above all those that are nuclear-powered, are undoubtedly the principal and probably the most effective part of the Soviet forces intended to carry out pro-/anti-SSBN, ASUW, and anti-SLOC tasks.

Apparently the Soviet SSGNs, together with the ASM-carrying bombers, as in the past still have the primary role in conduct of ASUW missions and ACW in particular. In recent years, there have been some inconclusive signs that the Soviets were becoming increasingly skeptical (particularly when compared with their highly optimistic tones prevalent in the 1960s) as to the complexity of ACW tasks facing their SSGNs.

The SSNs are thought by the Soviets to play a crucial role in the successful conduct of both pro-SSBNs and anti-SSBN missions. Also, their significance in carrying out ASUW tasks has steadily increased over the past decade. The anti-SLOC missions, despite being steadily upgraded in the 1970s, ranks third among the Soviet Navy's principal wartime missions. Yet, it is often forgotten that there is a very close interrelationship in the Soviet naval theory between ASUW and anti-SLOC. By successfully carrying out the former, there would be little difficulty in accomplishing the latter task. Also, anti-SLOC in itself includes the destruction of not only merchant shipping but naval vessels as well.

As for the foreseeable future, submarines and aviation are to remain, as the top Soviet naval leaders and theoreticians tell us, the principal forces of the Soviet Navy. Although the nuclear-powered submarines will still be regarded as the most important part, the Soviet diesel-electric submarines, unlike those in the US Navy, have and will continue to have a place in carrying out missions for which the SSNs are unsuitable or unavailable, such as in narrow seas and shallow waters, and in conduct of barrier operations close to the Soviet-controlled shores.

Finally, the Soviets remind us that they do not intend to repeat the mistakes which led to the failure of the German submarine warfare in both world wars. Hence, the Soviets intend to maintain, as they have in the past, the world's largest submarine fleet and to employ surface ships and aviation in providing full support of their submarines' combat employment.

Notes

1. Sergei G. Gorshkov, *Morskaya moshch' gosudarstva* (Sea Power of the State), (Moscow: Voenizdat 1976) pp. 227-228; A "nine-artillery position" (minno-artilleryskaya pozitsiya) is defined as the "aggregate of mine barriers, consisting of various types of mines and protected by fire from coastal artillery batteries with the aim of preventing the enemy warships from approaching the defended coast." *Sovetskaya Voenmaya Entsiklopediya* (The Soviet Military Encyclopedia), (Moscow: Voenizdat, 1978), v. 5, p. 298.
2. V. V. Belayev, "Kniga o podvodnykh lodkakh imperialisticheskikh gosudarstvov" (The Book on Submarines of the Imperialist States), *Morskoy Sbornik*, January 1961 p. 93.
3. V. D. Sokolovskiy, ed., et al., *Voyennaya Strategiya* (Military Strategy) (Moscow: Voenizdat, 1962). Translated as *Soviet Military Strategy* (Englewood Cliffs, N.J.: Prentice Hall, 1963), p. 423; *ibid.*, 2nd ed. 1963, pp. 396, 407.
4. *Ibid.*, p. 396; V. A. Lomov, *Sovetskaya Voenmaya Doktrina* (Soviet Military Doctrine), (Moscow: Nauka Press, 1963), p. 28.
5. *Soviet Military Strategy*, 2nd ed., pp. 397, 354.
6. *Ibid.*, 1st ed., p. 423.
7. *Ibid.*, 2nd ed., p. 422; Sergei G. Gorshkov, "Na strazhe mirnoga truda" (On Guard of Peaceful Labor), *Pravda* 28 July 1963.
8. A. A. Stokov, *Istoriya v Voenno Delo* (The History of Military Art) (Moscow: Voenizdat, 1965), p. 221.
9. Sokolovskiy, ed. Harriet F. Scott, trans. *Soviet Military Strategy* (Stanford, Calif.: Stanford Research Institute, 1971), pp. 363-365.
10. N. I. Suzdalev, *Podvodnyye lodki protiv podvodnykh lodok* (Submarines Against Submarines) (Moscow: Voenizdat, 1968) p. 25.
11. *Ibid.*, pp. 136-137, 156; A. I. Rodionov, *Udarnaya sila flota* (The Striking Power of the Fleet), (Moscow: DOSA AF Press, 1970), p. 37.
12. Suzdalev, p. 158.
13. N. A. Piperskiy, V. Achkasov, eds., *Boyevoy puty Sovetskogo Voenno-Morskogo Flota* (The Combat Road of the Soviet Navy) (Moscow: Voenizdat, 1967), p. 153.
14. Suzdalev, pp. 153, 155-156.
15. V. D. Yakovlev, *Sovetskiy Voenno-Morskiy Flot* (The Soviet Navy) 2nd ed. (Moscow: Voenizdat, 1968), pp. 66-67; V. D. Sokolovskiy, ed. *Militaer Strategie* (Military Strategy) (Cologne: Markus Verlag, 1969), p. 365.
16. Rodionov, p. 3.
17. Sokolovskiy, pp. 363, 365-366.
18. *Soviet Military Strategy*, 3d ed., p. 50.
19. K. A. Stalbo, concluding chapter in naval textbook entitled *Istoriya v Voenno-Morskoye Delo* (A History of Naval Art), S. E. Zakharov, ed. (Moscow: Voenizdat, 1969), p. 540.
20. N. Aleshkin, "Nekotorye tendentsii razvitiya voyenno-morskikh sil" (Some Trends in the Development of Naval Forces), *Morskoy Sbornik*, January 1972, p. 25; N. Shatrov, "Tendentsii razvitiya i primeneniya flotov" (Trends in the Development and Employment of Navies) *Voyennaya mysl*, January 1972, p. 46.
21. G. Kostev, "Bitva pod vodoy" (Battle Underwater), *Morskoy Sbornik*, March 1973, p. 38.
22. N. V'yunenko, "Nauchno-tekhnicheskaya revolyutsiya i flot" (The Scientific-Technical Revolution and the Fleet), *ibid.*, November 1973, p. 25.
23. Kostev, pp. 35-40; Shatrov, p. 46.
24. A. A. Kvitnitskiy, *Protivolodchnaye oruzhiye i ego nositeli* (Anti-Submarine Weapons and Their Platforms), (Moscow: Voenizdat, 1973), p. 12.
25. Sergei G. Gorshkov, "Voyenno morskoye floty v voynakh i mirovnaya vremena" (Navies in War and Peace), *Morskoy Sbornik*, February 1973, p. 21; Yu. Bol'shakov, "Podvodnykh lodki protiv krupnykh boyevoy nadvodnykh korabl'ev v more" (Submarines Against Major Surface Combatant Ships), *ibid.*, June 1972, p. 35; N. V'yunenko, "O nekotorykh tendentsiyakh v razvitiyi morskoy taktiki" (On Some Trends in the Development of Naval Tactics), *ibid.*, October 1975, p. 25.
26. Gorshkov, "Voyenno morskoye floty," p. 21.
27. Bol'shakov, p. 35.
28. *Ibid.*, p. 34.
29. *Ibid.*
30. B. Balev, "Sea and Oceanic Communications and Warfare on Them," *Voyennaya mysl*, October 1971, p. 47.
31. Gorshkov, "Voyenno morskoye floty," p. 28.
32. Rodionov, p. 43.

33. Balev, p. 47; N. Vlasov, "Vchera, segodnaya i zafta nadvodnykh korabli" (Yesterday, Today and Tomorrow of Surface Ships), *Morskoy Sbornik*, March 1974, pp. 22-23; Gorshkov, "Voyenno morskoye floty . . .," pp. 20-21; *ibid.*, "Na moryakh i okeanskikh" (On the Seas and Oceans), *Pravda*, 30 July 1972.
34. B. Chizev and A. Zheludev, "Protivolodochnyye podvodniye lodki: taktika ikh deystviy" (Antisubmarine Submarines: the Tactics of their Employment), *Morskoy Sbornik*, March 1976, pp. 94-98; V'yunenko, "O nekotorykh tendentsiyakh . . .," p. 21.
35. Chizev and Zheludev, p. 96; I. Knzmin, "Razvedka atomnykh-raketnykh podvodnykh lodok" (Surveillance of Nuclear-Powered Submarines), *ibid.*, May 1979, p. 70.
36. Rodionov, 2nd ed., p. 13; Chizev and Zheludev, p. 96.
37. Chizev and Zheludev, p. 100; Gorshkov, *Morskaya moshch' gosudarstve* 1st ed. pp. 245, 242.
38. K. A. Stalbo, "A vianostsii vo vtoroy mirovoy voyne" (Aircraft Carriers in World War II), *Morskoy Sbornik*, January 1978, pp. 91-100; A. Pnshkin, "Boyeviy deystviye amerikanskikh i yaponskikh podvodnykh lodok protiv avionostsev v period vtoroy mirovoy voyny" (Combat Operations against Aircraft Carriers by American and Japanese Submarines During World War II), *ibid.*, September 1979, pp. 11-26.
39. *Ibid.*, "Boyeviy deystviye nemetskikh podvodnykh lodok protiv avionostsev v period vtoroy mirovoy voyny" (German Submarine Operations Against Aircraft Carriers During World War II), *ibid.*, 6 June 1980, p. 20; Gorshkov, "Morskaya moshch' gosudarstv," pp. 245, 242.
40. Rodionov, 2nd ed., pp. 105-106.
41. G. Morozov and B. Krivinskiy, "Nekotorye uroki i vyvodi iz opyta bor'by na morskikh kommunikatsiyakh vo vtoroy mirovoy voyne" (Some Lessons and Conclusions of the Struggle on Sea (Lines of) Communications in World War II), *Morskoy Sbornik*, May 1976, pp. 27-28.
42. Rodionov, 2nd ed., p. 74; N. Smirnov, "Okean-shkola boyevoga masterstva" (The Ocean is a School of Combat Skill), *Tekhnika i Molodezh*, July 1977, pp. 2-3.
43. A. Pushkin, "Boyeviye deystviye podvodnykh lodok Germanii na kommunikatsiyakh u vostochnykh beregov Ameriki v 1942" (Combat Operations of German Submarines off the East Coast of America in 1942), *Morskoy Sbornik*, October 1982, p. 26.
44. V. Sysoyev, "Morskaya blokada" (Naval Blockade), *ibid.*, December 1976, p. 34; I. Bykhovskiy, "Ispol'zovaniye minnogo oruzhiya s podvodnykh lodok" (The Use of Mine Weapons from Submarines), *ibid.*, July 1977, pp. 27-28.
45. A. Pushkin, "Analiz opyta boyeviy deystviy podvodnykh lodok yaponii na tikhom okeany zgody vtoroy mirovoy voyny" (Analysis of the Experience of Combat Operations by Japanese Submarines in the Pacific During World War II), *ibid.*, December 1981, p. 34; G. Karmenok, "Upravlenie podvodnymi lodkami VMF pri deystviyakh na kommunikatsiyakh protivnika" (Control of Soviet Submarines in the Operations Against the Enemy (Sea Lines of) Communications), *ibid.*, May 1983, p. 26.

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