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15 SEP 1961

MEMORANDUM FOR: Assistant to the Secretary of Defense
(Special Operations)

SUBJECT : "The Use of Naval Forces in Closed Sea Theaters
in the Initial Period of a War", by Admiral
V. Kasatonov

1. Enclosed is a verbatim translation of an article entitled
"The Use of Naval Forces in Closed Sea Theaters in the Initial
Period of a War" by Admiral V. Kasatonov which appeared in a special
TOP SECRET issue of the Soviet military journal Voyennaya Mysl
(Military Thought).

2. This article was acquired by a Soviet official who has
provided reliable information in the past.

FOR THE DEPUTY DIRECTOR, PLANS:

Richard Helms

RICHARD HELMS

Enclosure

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30 JUN 1992

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cc: Military Representative of the President

Special Assistant to the President for
National Security Affairs

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The Joint Staff

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Headquarters, U. S. Air Force

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Following is a verbatim translation of an article entitled "The Use of Naval Forces in Closed Sea Theaters in the Initial Period of a War", written by Admiral Vladimir A. Kasatonov, now Commander of the Black Sea Fleet and formerly Commander of the Baltic Fleet.

The article appeared in the 1960 Second Edition of a special version of Voyennaya Mysl (Military Thought) which is classified TOP SECRET and is issued irregularly. The month of publication of the 1960 Second Edition is unknown. According to the preface, this edition contains articles never before published and some speeches which have been delivered prior to being published in this form. It is distributed only within the Ministry of Defense down to the level of Army Commander.

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The Use of Naval Forces in Closed Sea Theaters

in the

Initial Period of War

by

Admiral V. Kasatonov.

The qualitative leap in the development of the means of armed combat on the sea, which has occurred in an unprecedentedly short period of time, has placed before the art of naval warfare a series of problems connected with the development of methods of operations ensuring the fullest realization of the potentialities of new weapons for effective accomplishment of the missions of the fleets.

In recent years a considerable amount of work has been done in the Navy both in the field of construction and the development of forces and in training for the conduct of combat operations under new conditions. At the present time, the development of new weapons and the tempo of equipping the Navy with them has reached a level which urgently demands that the main attention be given to methods of using these weapons. It is becoming entirely obvious that even at the current stage the most important missions will be accomplished by strike forces of the Navy with missile and nuclear armament. We have in mind, first of all, submarines armed with cruise (krylataya) and ballistic missiles or long-range torpedoes with nuclear warheads, missile aviation, (raketnaya, aviatsiya), coastal missile units, and, to a certain extent, missile surface ships and boats (kater), capable even under current conditions of accomplishing a number of combat missions in sea theaters.

The high combat qualities of the strike forces create new potentialities for the Navy as a whole, make it possible to accomplish missions in a new way, and set up goals which were impossible to achieve not long ago. It is necessary to consider

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the employment of these forces under concrete military-geographic conditions of this or that theater of military operations. It is well known that the missions and methods for accomplishing them will be considerably different for the fleets in open sea theaters, such as the Northern and Pacific Fleets, and for the fleets in closed sea theaters such as the Black Sea and Baltic Fleets. However, it must be kept in mind that at present the conception of "the closed sea theater" does not reflect completely accurately the nature of the conditions for operations of the forces of the fleet in it. The point is that the activity of the fleets in the closed sea theaters is not at all limited by the closed seas such as the Black Sea and the Baltic Sea, as it was several years ago, but must be carried out to a large extent beyond the limits of these seas to accomplish the most important missions. The characteristics of the new weapons make it possible for the fleets to carry out such missions. However, for this it is necessary that part of the forces afloat, above all, submarines, be deployed beyond the limits of the closed seas even before the beginning of military operations, and that these forces be built up during the course of a war through movements from other sea theaters or after the seizure of straits zones by the ground forces. The operation of aviation beyond the limits of the closed seas is linked with the necessity, while flying over enemy territory, of overcoming the powerful countermeasures of the PVO system which has evolved. These circumstances constitute one of the most important features of closed sea theaters.

Characteristic of closed sea theaters is the presence of three large zones in which the conditions of conducting combat operations are substantially different. To such zones belong: the closed sea (for example, the Black Sea and the Baltic Sea), the zone of the straits with the adjacent narrows and islands, and the more open and extensive sea (for example, the Mediterranean Sea or the North Sea).

Among the most important missions of the Navy in closed sea theaters in the initial period of a war, it is possible to name two fundamental missions. One of these is the defense of one's own seacoast and the adjacent territory against attacks from the sea. The main element of this mission is

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combating enemy aircraft carrier large units (soyedineniye) operating in a given operational direction, with the goal of warding off the nuclear strikes of the aircraft carrier aviation forces against the coastal and immediate rear area economic and administrative-political objectives of the country, the forces of the Navy, and the maritime fronts. Thus, in substance, this mission is similar to an analogous mission accomplished by fleets in open sea theaters. However, in the conditions of operations of forces and the methods of their accomplishment, the mission in closed sea theaters has substantial peculiarities, as we shall show below.

The second fundamental mission is support (sodeystviye) of the ground forces in attack and defense, including support in the operation for seizing the straits zones, with the subsequent exit of submarine forces through the straits for operations in more open areas of the sea theater. To accomplish this mission it is also necessary to combat aircraft carrier and missile vessel (raketonosnoye) large units and prevent the entry of naval forces of the enemy through the straits into the closed sea, or disrupt their combat activity in the straits zone and in the area just outside the straits.

On behalf of a maritime front it may be necessary to accomplish other missions, such as support of the ground forces in forcing the straits and in seizing islands of the straits zone, disruption of the sea transport of the enemy, protecting one's own transport, etc. Furthermore, under current conditions it is possible to examine anew the problem of fire support for the maritime flank of the ground forces. Now, of course, there can be no talk of the delivery of fire strikes against the flank of enemy ground forces by tube artillery of surface vessels. At the present time, such a mission is clearly unrealistic. The problem is the employment of the missile forces of the Navy for delivering strikes against enemy ground forces from distances of several hundred kilometers with nuclear warheads. In spite of the fact that the activity of the Navy must be directed, first of all, toward combat with the naval forces of the enemy, on a number of occasions, when it is required by the situation on land and permitted by the situation at sea, it is advisable

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to bring in missile forces of the Navy, mainly submarines and coastal missile units, to deliver nuclear strikes against objectives on land for the benefit of the troops of a front. However these operations may not be conducted to the detriment of the accomplishment by the Navy of its basic tasks at sea.

A few words about the operations of the Navy on the sea communications lines of the enemy. In our opinion, during the first days of the initial period of a war in closed sea theaters, this mission will not have important independent significance, since during that period the main forces of the Navy must be directed toward the fastest possible destruction of the strike forces of the enemy fleet - the bearers of nuclear weapons. The mission of disrupting military sea supply during the first days of a war must be accomplished only to the extent necessary as one of the special missions for support of the ground forces. During the subsequent period, the importance of this mission may increase sharply in conjunction with the fact that after delivery of the first missile (airborne missile - vozdušno-raketnyy - on the part of our enemies) strikes, replenishment and regrouping of forces will be required for the development of further military operations. It should be expected that by this time a convoy service in sea theaters of military operations will have been organized by both sides. The most favorable conditions for combat against the sea communications lines will be created after the seizure of the straits zones by our troops, the exit of submarine forces out through the straits into the more extensive areas of the sea theater, and the organization of basing for units of the strike forces and the bulk of the support forces for seized enemy bases.

To determine correctly what forces of the Navy are needed in closed sea theaters for successful accomplishment of the missions enumerated above, one must consider the fact that the accomplishment of each of the missions is linked with definite geographic areas to a considerably greater degree than in open sea theaters. Thus, the mission of destroying the aircraft carrier attack large unit (AUS) must be accomplished beyond the limits of the closed sea, since the possibility of aircraft carriers entering into that part of the sea theater is practically out of the question. Operations for disruption of the entry of the forces of the enemy fleet through the straits and disruption of their combat activity in the straits zone must also be accomplished beyond the

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limits of the closed sea. In a number of instances this will require the concentration of main efforts in the straits zone itself. At the same time the mission of fire support for the maritime flank of the ground forces and a number of other missions for support of a front will be accomplished during the first days of war within the limits of the closed sea. Thus, in closed theaters it is necessary to have strike and support forces with a composition capable of accomplishing missions in all three basic zones of the sea theater.

Of all the arms of forces of the Navy, only submarines and aviation are capable of carrying out combat operations in the open part of a theater at the present time.

The main mission of these forces must be the destruction of enemy naval vessels already at sea; it is advisable to entrust the destruction of enemy naval vessels at their bases to the missile troops of the Supreme High Command (VGK), which can accomplish such missions more effectively.

Speaking of the use of submarines, it should be pointed out that their penetration into the above-mentioned areas of a sea theater, their conduct of combat operations there, and also their materiel and technical support (replenishment of ammunition, fuel, and relief of personnel) is linked with the necessity of overcoming the anti-submarine defense developed by the enemy. At the same time, having penetrated into the area of combat operations, the submarine must carry out combat operations for as long a period of time as possible with maximum effectiveness. This requirement is met to the greatest degree by fast submarines with atomic engines, armed with long-range torpedoes with nuclear warheads (with the condition that the depth of the sea permits atomic submarines to run at maximum diving depth as, for example, in the Mediterranean Sea).

Being able to stay at sea for a practically unlimited period of time, atomic submarines can be in waiting areas sufficiently remote from the zones most densely saturated by the forces and facilities of anti-submarine defense (PLO); execute a swift movement to deliver nuclear strikes against detected enemy naval vessels, and subsequently break away from pursuit by the anti-submarine forces. Beyond the limits of a closed sea it is also advisable to use missile submarines (with the condition that they use cruise - krylataya - missiles with homing - samonavedeniye). However, for this, the execution of special measures for the

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organization of accurate target designation and subsequent replenishment of expended missiles will be required.

Besides the destruction of naval vessels, special submarines must carry out reconnaissance of enemy naval vessel large units and convoys for the delivery of strikes against them by the forces of missile aviation and attack submarines. They must also combat enemy submarines, including missile-carrying submarines, the possible use of which is highly probable even in the immediate future.

To accomplish the missions of destroying highly maneuverable enemy formations in relatively extensive areas of a sea theater, it is necessary to have at the disposal of the fleet missile aviation capable of delivering strikes against enemy naval vessels with cruise missiles, both independently and in coordination with submarines, at a distance of up to 3,000-4,000 kilometers from their airfields. To carry out aerial reconnaissance for these forces, there must be long-range reconnaissance planes in the composition of the reconnaissance aviation of the Navy.

A quite unique area for carrying out combat operations is the straits zone, within which the operation of submarines and surface vessels is practically out of the question, and the operation of missile aviation is hampered by the small dimensions and intricate configurations of the reaches and straits among the islands. In view of the large number of islands, the detection of enemy vessels in the straits zone by any means of technical surveillance is considerably hampered. Not long ago the only arm of forces of the Navy capable of carrying out combat operations in such areas was mine - torpedo and fighter aviation. Such operations were unavoidably coupled with large losses, since straits zones are saturated to the greatest degree by the forces and facilities of anti-aircraft defense.

The situation changed with the introduction of nuclear-missile weapons into the armament of the Navy. For strikes against points of basing and clusters of vessels detected in anchorages, missiles from submarines and the launching installations of coastal missile units of the Navy can be used, independently and in coordination with units and large units of the operational (operativnaya) missiles of the ground forces. The submarines can deliver strikes from firing positions located in a closed sea at distances of 400 to 500 kilometers, and the coastal missile units, from firing

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positions on the seacoast.

Nuclear-missile means of destruction can also destroy formations of vessels during their passage of the straits. Since narrow straits are accurately determined zones, it is possible to use missiles effectively against areas calculated in advance in any sector of a strait. Using nuclear warheads of suitable force, it is possible to achieve the required destruction of an enemy formation forcing the straits with a limited number of missiles. At the same time one should take into account that for the destruction of small groups or individual small vessels in a heavily interrupted area of a sea theater, and also for the destruction of small targets at sea and on the coast, the use of nuclear-missile weapons will, in a number of cases, prove to be inadvisable. Therefore, supporting the opinion of a number of authors (for example, Colonel General A. Gastilovich¹ in the first [1960] issue of Spetsialnyy sbornik statey zhurnala "Voyennaya Mysl") that the fighter-bomber should be considered the basic aircraft of front aviation, we are convinced that just such a plane is also essential to the Navy for combating vessels and aviation of the antisubmarine defense in the interests of the support of the combat operations of submarines, the destruction of the facilities of coastal technical surveillance, and the execution of other missions.

In the immediate future coastal missile units must become the main strike force of the fleets in combating enemy naval vessels within the limits of the closed sea (and partially even in the straits zone). These units, armed with cruise missiles with a range of more than 500 kilometers, with inertial guidance (avtonomnoye upravleniye) for firing against areas, and with a homing device (ustroystvo samonavedeniya) for destruction of vessels at sea, will be able to cover with their fire the entire waters (akvatoriya) of a closed sea and make enemy combat activity and the operation of enemy naval vessels and transports within its limits practically out of the question. The limited dimensions of closed seas make it possible to use to the fullest extent modern radio navigation and hydroacoustic navigation systems of high accuracy to provide orientational support to reconnaissance vessels and planes, which in turn makes it possible to provide accurate target designation for coastal

missile units. Target designation can also be effectively provided by long-range coastal radar stations.

However, the high combat potentialities of coastal missile units do not eliminate the need for a small formation of missile submarines in the composition of a fleet operating in a closed sea theater. These submarines are needed both for delivering strikes against enemy vessels and objectives in the straits zone and for the fire support of the maritime flank of the ground forces. In the near future submarines will be armed with cruise missiles with a homing device for the final portion of their trajectory and will also be able to be used for the destruction of vessels at sea, particularly after these (missile submarines) have exited through the straits into the open part of a sea theater.

Taking these considerations into account, it is advisable to have in the composition of a fleet in a closed sea theater, submarines armed, not with ballistic missiles, but with cruise missiles, assuring the possibility of multipurpose use of the same submarines. To the credit of cruise missiles there is one more circumstance of no small importance, that with their launch from submarines the enemy does not have the opportunity of getting a fix on the missiles in flight to determine the trajectory and the point of launch, and consequently, the location of the submarine. With the use of ballistic missiles such a task is accomplished fairly easily under modern conditions, particularly within the limits of a closed sea with small dimensions. Having determined the location of a missile submarine, the enemy would be able to direct his antisubmarine forces in pursuit of her.

In addition to missile submarines, it is necessary to have in the composition of the fleet a numerically larger formation of torpedo submarines designated for the destruction of enemy vessels and transports at sea, carrying out reconnaissance at the exits of the straits and bases, and accomplishing a number of other missions. One of the most important missions of the torpedo submarines will be the prevention of secret infiltration of enemy submarines through the straits into a closed sea, and the destruction of submarines detected within the limits of this sea.

Finally, surface missile vessels (particularly missile boats) must occupy a definite place in the composition of the strike forces of the Navy in closed sea theaters. In our view, the main mission of surface missile vessels will be combating surface vessels of the antisubmarine defense, carrying out combat operations against the sea communications lines of the enemy in order to protect our own sea supply, and also combating enemy vessel forces in the island areas while supporting the ground forces in seizing the straits zone and in support of the exiting of submarines through the straits.

The combat durability of surface missile vessels can be increased primarily by providing them with reliable antiaircraft defense, especially by arming these vessels with antiaircraft missiles and including special PVO vessels in the battle order of missile formations. The conditions of closed theaters make it possible to provide PVO for surface vessels to a considerable extent by use of the forces and facilities of the maritime large units of the troops of the PVO of the Country.

Side by side with its strike forces, a fleet must have in its composition perfected forces of antisubmarine defense: antisubmarine vessels, antisubmarine aviation, fixed antisubmarine facilities, and also forces and facilities of antimine defense, the basis of which are minesweepers. To provide timely data on low-flying aerial targets to the strike forces of a fleet and the troops of the PVO of the Country, it is necessary to have in the composition of a fleet radar patrol submarines and surface vessels. Because of the aim of our enemies to use low altitudes to the maximum degree for the flights of their aviation, it is impossible under current conditions to ensure timely and effective use of the forces and facilities of the PVO to repel an air attack without a sufficient number of these vessels.

The conduct of aerial reconnaissance in closed sea theaters is highly complicated because of the necessity of carrying out flights over enemy territory having a powerful antiaircraft defense system organized in advance. Therefore, the presence in a fleet of a sufficient number of modern reconnaissance aircraft for carrying out short-range and long-range reconnaissance is a primary necessity.

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Finally, the fleet must have at its disposal potentialities for accomplishing yet another of its missions. We are talking about tactical naval landing operations (desant). In the course of the execution of operations by the ground forces for the purpose of seizing straits zones and also individual islands and groups of islands, it may be necessary for a fleet to debark small tactical landing forces in coordination with airborne and tank landing forces (desant). A fleet may also be given the mission of supporting troops of a front in forcing the straits, using its means to carry out the ferrying of units of troops and combat materiel.

To fulfill these missions, a fleet will require from the initiation of military operations a certain amount of fast and small amphibious transport means. To avoid wasteful expenditures on the composition of these means in peacetime, it is advisable to have them under the authority of civil maritime organizations, rather than in a fleet, and to use them in the national economy for internal sea and river transport. The experience of operating landing craft left over from World War II proved that they are a suitable and economic means for short hauls, particularly when loading and unloading cargo on a seacoast not equipped with wharves.

Thus, the nature of the missions of the fleets and the military-geographic conditions of the closed sea theaters require, in general, the following forces within the composition of these fleets:

- submarines: missile, with cruise missiles; torpedo, with nuclear and conventional torpedoes of different designation; and also radar and hydroacoustic patrol submarines;
- aviation: missile, reconnaissance, and antisubmarine;
- coastal missile units, armed with cruise missiles with an inertial (avtonomnaya) guidance system and homing;
- surface vessels (and boats): missile, antisubmarine, PVO, landing (only in wartime), radar patrol, and other special vessels.

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It is quite obvious that for the support of the basic forces enumerated it is necessary to have an auxiliary fleet corresponding in size and purpose, including submarine tenders, supply ships, emergency rescue ships, repair ships, etc.

Now let us examine some problems pertaining to the accomplishment of typical naval missions, using the forces and weapons mentioned.

Destruction of aircraft carrier attack large units. The mission of destroying aircraft carrier attack large units in closed sea theaters is no less real than in open sea theaters. For example, in the Mediterranean Sea, constantly being redeployed and maintained in high combat readiness, is a big aircraft carrier large unit, the U.S. Sixth Fleet, having in its composition two heavy aircraft carriers, cruisers, and destroyers. The Sixth Fleet is the main strike formation of the naval forces of NATO in the southern direction which is actually ready to deliver strikes against coastal objectives and accomplish missions in support of the ground forces. The aircraft carriers and missile vessels of the aircraft carrier attack large unit (AUS) must be evaluated as primary objectives, the destruction of which has independent operational consequences and, in addition, decisively affects the accomplishment of missions of a fleet in the support of the ground forces. In general, the mission of destroying an aircraft carrier attack large unit requires the execution of an independent operation of a fleet in coordination with long-range aviation, missile troops, and forces of the neighboring front.

As we have already noted, the accomplishment of the mission of destroying an aircraft carrier attack large unit in closed sea theaters has a number of intrinsic peculiarities. The military-geographic conditions make it possible not only to defend the aircraft carriers with the forces of the aircraft carrier attack large unit itself, but also to use for this, in full measure, the entire anti-aircraft defense system of the member countries of NATO, as well as the system of antisubmarine defense created in advance, based on the equipment of the fixed facilities of the border and of the mobile forces. The heavily interrupted nature of a theater (the presence of island and reef areas) facilitates the massing of enemy vessels and hampers

their detection. All this makes it possible for the enemy, without particular risk, to concentrate aircraft carriers at considerably shorter distances from our seacoast and to deliver sudden strikes against considerably more distant (by 400 to 500 kilometers) rear area objectives than in open sea theaters. This thesis is borne out by the experience of the exercises of the U.S. Sixth Fleet in the Mediterranean Sea.

Thus, in closed sea theaters it is necessary to consider two possible alternatives of aircraft carrier attack large unit operations: first, when an aircraft carrier large unit is concentrated before the initiation of combat operations in island areas which are at a distance of 1,000 to 1,200 kilometers (in certain cases perhaps even less) from our seacoast, and second, when an aircraft carrier attack large unit moves up from remote areas of a sea theater to deliver an attack at the operating radius of its aviation.

In the first case, the possibility of delivering a strike against the aircraft carriers before they launch their aviation is unlikely. The main mission of a fleet will be to deliver a counterstrike within the shortest possible period of time for the purpose of destroying the aircraft carriers and preventing repeated use of the aircraft carrier aviation.

In the second case, i.e., when an aircraft carrier attack large unit moves up from remote areas of the sea to the boundary of launch of its aviation, the mission is to deliver a strike against the aircraft carriers before the initial launching of the strike aviation. In spite of the fact that the conditions of closed sea theaters provide ample opportunity to employ refueling of aircraft carrier aviation in flight or at airfields on land, one must conclude that the most advantageous alternative for the enemy, ensuring the secrecy of operations, is to launch his planes from distances which allow them to fly to the objective of a strike without intermediate refueling.

The possible launching limit of aircraft carrier aviation for delivering attacks against probable objectives without intermediate refueling must be considered as the nearest boundary of that area in which it is necessary to concentrate

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the main efforts to destroy the aircraft carrier attack large unit (to deliver the main strike). The far boundary of that area can be defined as the maximum distance at which it is possible to deliver a massed strike by the most powerful forces against the aircraft carrier attack large unit. We support the opinion, expressed by many writers, that the most advantageous method of operations against an aircraft carrier attack large unit, considering its high mobility, is the delivery of a single strike which is as powerful as possible, primarily with nuclear-missile weapons, within the shortest possible period of time after the detection of the aircraft carrier attack large unit by reconnaissance.

Since, as a rule, aircraft carrier attack large units in closed sea theaters operate as separate strike groups (AUG), against which attacks can be delivered either simultaneously, or in sequence over short intervals of time, or, finally, with a considerable gap in time and place, the goal of each strike must be the destruction of one aircraft carrier. Consequently, the goal of the operation can be achieved by the delivery of at least two strikes, ensuring the destruction of both aircraft carriers.

The mission of destroying aircraft carriers can be accomplished by the joint efforts of missile aviation (the air forces - VVS - of the Navy and long-range aviation) and submarines. The missile troops of the Supreme High Command (VGK) can be used mainly for the destruction of aircraft carriers and servicing forces at bases. The forces of a front (missiles of tactical - takticheskoye - designation, fighter-bomber, and reconnaissance aviation) can be enlisted to support the combat operations of missile aviation and submarines.

For the conduct of combat operations against aircraft carrier attack large units at sea during the first days of a war, aviation will have the greatest use. Later on, as nuclear torpedo or missile submarines enter a sea theater, the role of submarine forces in the destruction of aircraft carrier attack large units will increase to a level of equal importance with missile aviation. To destroy an aircraft carrier attack large unit having a powerful antiaircraft defense which is echeloned

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in depth, it is necessary to deliver concentrated strikes by missile aviation forces using cruise missiles with nuclear warheads (snaryazheniye). Since the explosion of only one missile with a nuclear warhead hitting the calculated point is sufficient to destroy any class of vessel, the expenditure of such missiles will be only one fifth or one sixth of the expenditure of missiles with conventional warheads.

Considering the vulnerability of cruise missiles to antiaircraft artillery (ZA) and antiaircraft guided missile (ZURS) fire, it is advisable to employ salvo launching of missiles in delivering strikes against a strongly defended objective. In view of this, the invulnerability to jamming of cruise missiles has great importance, permitting the use of a large number of them in each salvo. According to calculations, the destruction of one aircraft carrier operating as a component of an aircraft carrier attack group (allowing for the opposition of the antiaircraft artillery of the vessels and four two-missile salvos of antiaircraft guided missiles) can be accomplished by one salvo of six airborne (aviatsionnaya) cruise missiles with nuclear warheads launched at a distance of 200 to 220 kilometers from the aircraft carrier attack group. With a strike by six-missile salvos from two directions simultaneously, the destruction of two large vessels (an aircraft carrier and a cruiser) of an aircraft carrier attack group can be accomplished. In this case, of the twelve missiles launched in the two salvos, it is sufficient to have only six or seven missiles with nuclear warheads, and the other five or six missiles can have conventional warheads without causing substantial degradation of the results of the strike (the loss of delivery aircraft en route is not allowed for here).

A somewhat different picture is presented with the use of "Komet" missiles, which are vulnerable to jamming. In this case, in view of the impossibility of a salvo launching of the required number of missiles from one direction, increasing the density and reducing the depth of the combat formation of the delivery aircraft is achieved by organizing it into several parallel columns (waves), and also by launching two or more missiles on the beam (v luche) of one leading delivery aircraft. An indispensable condition for increasing the density of the strike is to attack from several directions. The experience of combat training confirms practically

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the feasibility of launching "Komet" missiles from several directions, 45 to 60 degrees apart. Calculations show that in an attack from three or more directions the probability of the "Komet" missiles reaching the target increases to 25 percent, as against 10 percent in an attack from one direction.

To deliver strikes beyond the limits of a closed sea, missile-carrying aviation must overcome the anti-aircraft defense while flying over enemy territory. Considering this, it is necessary to select flight routes over areas which are less saturated by the forces and facilities of the anti-aircraft defense and to neutralize these forces and facilities in the zone of flight to the extent possible. However, considerable forces and facilities are required to neutralize the anti-aircraft defense, so it can only be fully accomplished by the joint efforts of a fleet and a front. Along with the use of front missiles and fighter-bomber aviation, the facilities of radio countermeasures (radioprotivodeystviye) have primary importance in overcoming the anti-aircraft defense, particularly in neutralizing the system of radiotechnical surveillance of aircraft (vozdushnoye radio-tekhnicheskoye nablyudeniye) and the control facilities of the enemy.

In addition to carrying out the supporting measures mentioned above, in order to overcome the enemy anti-aircraft defense system (both the land anti-aircraft defense system and the anti-aircraft defense system of the aircraft carrier attack large unit itself), it is necessary that all branches of aviation make maximum use of low flight altitudes, right down to hedgehopping. We believe that flight at minimum altitudes must be maintained by strike groups of aircraft both over the sea and over enemy territory, insofar as local terrain permits. Taking on altitude should be done only when the objective of the strike has been approached to within limits ensuring the possibility of launching and guiding (navedeniye) airborne cruise missiles.

Regardless of the limited number of submarines which can be counted on beyond the limits of a closed sea during the first days of a war, they must be used not only for strikes against enemy vessels but also for carrying out reconnaissance. From the beginning of combat operations, when reconnaissance information

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will be particularly needed for the delivery of an immediate counterstrike against the enemy, submarines may turn out to be the only reliable means of reconnaissance beyond the limits of a closed sea. At the same time, after detecting an aircraft carrier attack large unit and reporting it, submarines must use every opportunity to deliver nuclear strikes against the enemy aircraft carriers. Considering this and the complexity of resupplying ammunition, the maximum possible number of torpedoes on submarines should have nuclear warheads (with the exception of a certain number of antisubmarine torpedoes and torpedoes for firing at antisubmarine vessels).

In addition to the submarines deployed on the approaches to narrows, it is advisable to deploy the remaining submarines in small groups (two to three submarines each) along a wide front on the approaches to the probable combat maneuvering areas of the aircraft carriers. Such a disposition of submarines (PL) makes it possible to direct one to two groups of submarines of a brigade of submarines against the enemy in practically any direction he moves. Of course, in this case, only a small number of submarines sally forth to the attack, but the use of long-range torpedoes with nuclear charges compensates to a certain extent for the small number of attacking submarines.

It is advisable to use atomic submarines armed with torpedoes only for strikes against large enemy vessels. It is advisable to assign to them waiting positions outside the limits of the zone of probable movement of the aircraft carrier attack large unit, because the forces of the enemy antisubmarine defense (PLO) will carry out their most intensive search for submarines in that zone. In delivering strikes, atomic submarines, using their great underwater speed (50 to 60 kilometers per hour), approach the aircraft carrier attack large unit (AUS) on the basis of reconnaissance information, with the design of delivering the strike from the bow angles (nosovoy kursovoy ugol) of the enemy. In this case submarines can launch nuclear torpedoes against the vessels of the aircraft carrier attack large unit from distances of 15 to 20 kilometers, without penetrating the curtains of distant and close vessel protection of the aircraft carriers. On the other hand, when delivering

attacks from astern, a submarine must approach to within a distance of 4 to 5 kilometers of the enemy vessels. Both for self-defense and in the interest of combating enemy missile-carrying submarines, atomic submarines must destroy every enemy submarine detected, and to do this they must have reliable antisubmarine weapons and equipment for the detection of submarines.

The positions for missile submarines must be chosen with the design of carrying out a shift (manevr) of trajectories of the cruise missiles which will cover the largest number of probable directions of enemy movement. Considering the necessity of salvo firing, missile submarines are most advisably employed in groups, ensuring the launching of six to eight cruise missiles in one salvo. According to calculations, in this case, in the delivery of a strike against an aircraft carrier attack group (AUG) of typical composition, it can be guaranteed that one of the missiles with a nuclear warhead will reach the target.

The most crucial problem in organizing such a strike is providing the missile submarines with accurate data on the location and factors of movement of the enemy for calculating an aiming point which ensures the lock-on (zakhvat) of the enemy vessels by the homing system of the missile. With clear-cut organization of the control of submarines and aviation, this task can be accomplished by aviation carrying out a thorough reconnaissance (dorazvedka) of the enemy. Also exerting great influence on the success of the firing is the accuracy with which the submarines determine their own position; this can be ensured by the use of radio navigation systems of high accuracy and by further improvement of the navigational instruments on submarines.

As basic measures for the support of combat operations of submarines beyond the limits of a closed sea, the following must be provided for: strikes by missiles against the coastal centers of the antisubmarine defense, destruction of aircraft carrier antisubmarine hunter-killer groups at sea by the forces of aviation, and measures for self-defense by the submarines.

Obviously, in operations for the destruction of enemy forces at sea, the greatest effect can be achieved if there is

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tactical coordination between submarines and aviation. However, considering the high mobility of aircraft carrier and missile vessel formations, as well as the complexity of achieving tactical coordination, delay in the delivery of strikes, for the purpose of assembling all forces at assigned positions or by a specific time, cannot be tolerated. The power of each strike group enables it to inflict defeat upon the enemy even when the planned sequence is not observed.

What has been said does not signify a denial of the necessity of coordination. The point is only that under the conditions of the employment of missile-nuclear weapons, the most important thing is to anticipate the enemy. If the situation allows, i.e., the enemy operates in accordance with an alternative which was allowed for in planning, or close to it, then, undoubtedly, the best results will be obtained by combat operations carried out in the most expedient order. Specifically, the following sequence of strikes against an aircraft carrier attack large unit can be recommended as one of the advisable alternatives. First, missile submarines deliver a strike, since these forces ensure the greatest surprise of a strike because of the low flight altitudes of cruise missiles. After this, exploiting the weakening of the antiaircraft defense of the enemy large unit as a result of the strike of the submarines, missile aviation delivers a strike. Torpedo submarines attack last, getting a chance to use their weapon most effectively against a disorganized enemy. In a particular case, the strikes of aviation and torpedo submarines may coincide in time. In such a case, to ensure mutual safety, aviation must use only nuclear airbursts and submarines must use only underwater bursts.

It is quite obvious that success in combatting an aircraft carrier attack large unit depends entirely on reconnaissance, especially aerial.

For the fulfilment of the missions of aerial reconnaissance, it is necessary, in our opinion, to enlist simultaneously considerable groups of aircraft, which must, in a narrow sector and at low altitudes, surmount the zone least saturated with the forces and facilities of antiaircraft defenses and then disperse in accordance with their assigned reconnaissance routes. For the detection of an aircraft carrier large unit, not only the forces

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of naval reconnaissance must be used, but also the reconnaissance of the missile troops of the Supreme High Command and of long-range aviation.

Support of the ground forces in a maritime area. Without examining all of the above-mentioned missions which might be accomplished on behalf of a maritime front, we shall dwell briefly only on the fundamentals of accomplishing the task of disrupting the entry of enemy naval forces through the straits.

As is well known, the operational situation in closed seas depends to a considerable degree on the possibility of the entry of enemy naval forces from outside. In view of this, fleets in closed theaters have always had the mission of interdicting or disrupting the entry of forces of an enemy fleet through the straits. The importance of this mission rests in the fact that its accomplishment supports to the greatest degree the success of the operations of the ground forces in maritime areas, and creates favorable conditions for the operations of the forces of a fleet in fulfilling other missions in the closed seas.

The essence of the mission under examination is defined by the requirement that the enemy formation be destroyed before its passage through the straits, and that individual groups penetrating through the straits be destroyed in the area adjacent to the straits, i.e., before the accomplishment of their missions. Depending on the general situation and the composition of the enemy forces, this mission can be considered as one of the individual missions of support of the ground forces, and be accomplished in the course of daily operational activities, or it can be considered as a fundamental mission of support and be accomplished by carrying out an offensive operation for the destruction of the forces of the enemy fleet.

We believe that, in a number of instances, it will be impossible to differentiate sharply the mission of disrupting the entry of enemy naval forces through the straits and the mission of destroying his forces in the straits zone and beyond its limits, since it will not always be possible to determine what the enemy will elect to do, to send his forces through the straits or to operate them on behalf of his ground forces located outside the closed sea. Obviously, there will be instances when one will

occur and instances where the other will occur. Therefore, the conduct of an offensive operation for the destruction of the enemy forces, and not a defensive operation, is in order. This fits the conditions of the initial period of a war, during which, as is known, in addition to pursuing the immediate goals of this or that operation, one must always pursue the goal of seizing the initiative, which has a decisive influence on the entire course of combat operations during that period.

In the final analysis, in determining the conditions for mounting a given operation during the initial period of a war, we do not see the necessity for detecting without fail concrete indications of the intentions of the enemy to send his forces through the straits. Moreover, it is not always possible to do this sufficiently ahead of time. It seems to us that the operation under examination should be carried out from the very start of combat operations and should have the character of a counterstrike for the purpose of destroying the main enemy strike (or landing) formations, detected even before the start of combat operations. In this case, irrespective of the intentions of the enemy for the use of his forces, the goal of the operation is attained by their destruction.

In general, to achieve the goal of the operation, accomplishment of the following particular tasks must be provided for:

- the destruction or weakening of an enemy formation detected at its bases;
- the destruction of the main enemy forces at sea, including in the straits zone;
- the destruction of units of forces which have penetrated through the straits in the area adjacent to the straits.

In setting forth the particular tasks in such a sequence, we do not mean that it is required to fulfill all of them without fail. The point is that they must be considered during the planning of the operation. It is not difficult to imagine various alternative situations in which it will be unnecessary to accomplish this or that particular task.

Speaking of the destruction of enemy vessels at their bases, we have in mind those bases and points of basing which are located within the limits of the straits zone or in the area just outside the straits. In accomplishing this mission in closed sea theaters, the main role belongs to large units of ballistic missiles of operational designation of the ground forces, missile submarines, and coastal missile units of the Navy. Each of these arms of forces can deliver strikes against vessels at their bases either independently or in coordination with each other. By this, not only are the enemy vessels at the bases destroyed, but also the naval base or point of basing itself is either destroyed or put out of operation for a long time.

The use of ballistic missiles provides a number of advantages because they are less subject to dispersion (rasselvaniye) in comparison with cruise missiles and are invulnerable to the forces and facilities of the enemy anti-aircraft defense. Therefore, in fulfilling the mission by joint efforts it is expedient to plan the delivery of the first strike by ballistic missiles, pursuing the goal of not only delivering destruction to the enemy vessels and the installations of a base, but also of neutralizing the forces and facilities of the enemy anti-aircraft defense, thus decreasing significantly the counteraction to the subsequent employment of cruise missiles from submarines and coastal launchers.

In using cruise missiles, it is necessary to allow for the fact that because of their low flight altitudes their use for strikes against objectives remote from the seacoast is limited by the nature of the local topography. Specifically, the altitude of the terrain in the zone of flight of cruise missiles must not exceed 200 to 300 meters above sea level. In this respect, coastal missile units of the Navy are more limited in the selection of possible directions and distances of fire than submarines, which can select the most advantageous direction of fire by changing the launching position. On the other hand, submarines are inferior to coastal missile units in accuracy of fire, since the error in determination of the location of the submarine is added to the dispersion of the missiles. In closed seas, with the existing means of supporting the navigation of submarines, this error in location may amount to one to four kilometers. Considering

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these circumstances, it is necessary to use ballistic missiles for the destruction of objectives more remote from the coast, and cruise missiles for the destruction of coastal objectives.

In planning combat operations for the destruction of vessels at sea, it is necessary to distinguish between two cases. If the vessels are effecting movement in long and narrow straits, then cruise and ballistic missiles can be used successfully for the destruction of the vessels. If the enemy vessels are located outside the straits and have freedom of maneuver, then it is not advisable to use either cruise or ballistic missiles with inertial (avtonomnoye) guidance, since during the time of preparing the missiles for launching, the vessels can change the factors of their movement sharply, and by the moment of the strike be beyond the limits of the radius of destruction. In this case, the vessels can be destroyed by naval attack aviation, using missiles and nuclear bombs.

The delivery of joint missile strikes against enemy vessels forcing the straits requires very careful organization, especially the organization of reliable reconnaissance, and timely preparation and precise direction of fire. The organization of missile strikes in the straits zone must provide for determination of the limits for detection of the enemy (with consideration of the readiness of the missiles for launching) and for designation of the positions and time for delivering the strikes. During successive strikes, to avoid mutual interference (pomekh) during the flight of the missiles, each strike group must be assigned aiming points and a time of attack, i.e., a moment of firing (vzryv) the missiles. The time of launch for the missiles is calculated on the basis of the assigned time periods of a strike, with allowance for their flight time to the target.

Considering the substantial differences in the nature of the preparation and methods of fire of forces participating in a strike, it is impossible during the course of a strike to shift the aiming points and introduce some sort of adjustments requiring changes in the initial data for firing. This leads unavoidably to disruption of a strike. Thus, the calculated area of a strike, positions, and aiming points, and consequently all of the initial data for firing, remain unchanged. As a rule, the conditions of straits make it possible to control the forces precisely, changing only the time of the strikes in accordance with the

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speed of movement of the enemy. These conditions also determine the paramount role of reconnaissance, as the success of a strike depends primarily on the trustworthiness and accuracy of its information.

Shifting the area of a strike is possible and necessary only in case the enemy breaks off forcing the straits and puts into his bases (into his roadsteads). It is to be supposed that in this case there will be sufficient time for shifting fire, especially if the probable holding points of the enemy are taken into account in advance and specified to the commanders of large units and units as alternate strike objectives.

Successful operations of our forces beyond the limits of a closed sea do not exclude the possibility of a penetration through the straits by individual enemy groups, for the destruction of which a special formation of forces must be deployed in advance. In the composition of this formation, coastal missile units of the Navy can be effectively used; they would deliver the first strikes against the enemy formation while it is still in the straits, and then destroy the enemy vessels which have penetrated into the area adjacent to the straits. An important advantage of coastal missile units is the ability of the duty sub-units (dezhurnoye podrazdeleniye) to deliver strikes against an enemy appearing unexpectedly in shorter periods of time than can any other naval forces. For carrying out combat operations for the destruction of enemy forces which have penetrated through the straits, other naval forces must also be enlisted, especially submarines and surface missile vessels. Of primary importance for the successful accomplishment of the mission by submarines is their deployment in advance in the area adjacent to the straits, ensuring their timely maneuver for the interception of the enemy suddenly sallying forth from the straits.

It should be noted that the conditions of a closed theater, primarily the feasibility of carrying out overlapping reconnaissance by various forces, and also the possibility for ample utilization of coastal facilities of surveillance, facilitate the organization and practical accomplishment of coordination of all forces, and make it possible to deliver strikes against the enemy in the most advantageous sequence.

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Such are some of the elements of the accomplishment of the mission of disrupting the entry through the straits of the naval forces of the enemy. The growing operational-tactical potential of the forces, based on the power of missile-nuclear weapons, makes it possible to accomplish such a mission, not by blockading the straits from the side of the closed part of the theater, but by destroying the enemy forces at their bases and at sea beyond the limits of the closed part of the theater.

In the present article, methods of using naval forces in closed sea theaters in the initial period of war have been examined only in general outline and inconformity with the situation in these theaters at the present time, with consideration of the prospects for the next few years. In conclusion, it should be noted that the special complexity of this situation, caused by the limited dimensions of the closed sea theaters and the presence in the immediate proximity of bases for aggression prepared in advance on the territories of the member countries of NATO, urgently requires all possible automatization of the control of naval forces, above all, the automatization of the collection and processing of information.

1. Headquarters Comment: Colonel General Anton Iosipovich Gastilovich is on the faculty of the Military Academy of the General Staff of the Armed Forces of the USSR.