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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

11 March 1974

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): Overcoming Fortified Zones and Positions in Modern Warfare

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". This article characterizes fortified areas and positions in modern warfare as having changed little since World War II, and traditional ways of overcoming them are described. New factors cited by the authors are nuclear mines incorporated in fortifications and nuclear missiles and helicopter gunships available to assault groups. Motorized rifle assault groups will break through the defenses and tank elements will exploit the breakthrough. This article appeared in Issue No. 2 (90) for 1970.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

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William E. Nelson
Deputy Director for Operations

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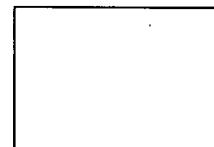
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Intelligence Information Special Report

COUNTRY USSR

DATE OF INFO. Mid-1970

[Redacted]

DATE 11 March 1974

SUBJECT

MILITARY THOUGHT (USSR): Breakthrough of Fortified Zones in Modern Warfare

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 2 (90) for 1970 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The authors of this article are General-Major V. Popov and Colonel I. Apanovich. This article characterizes fortified areas and positions in modern warfare as having changed little since World War II, and traditional ways of overcoming them are described. New factors cited by the authors are nuclear mines incorporated in fortifications and nuclear missiles and helicopter gunships available to assault groups. Motorized rifle assault groups will break through the defenses and tank elements will exploit the breakthrough.

End of Summary

[Redacted] Comment:

There is no information in available reference materials which can be firmly associated with the authors. Military Thought has been published by the USSR Ministry of Defense in three versions in the past -- TOP SECRET, SECRET, and RESTRICTED. There is no information as to whether or not the TOP SECRET version continues to be published. The SECRET version is published three times annually and is distributed down to the level of division commander.

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Breakthrough of Fortified Areas and Zones in Modern Warfare

by

General-Mayor V. Popov and Colonel I. Apanovich

During World War II the Soviet Army repeatedly had to break through enemy fortified areas and zones. The valuable combat experience accumulated was developed and improved in the first postwar years. However, the adoption of nuclear weapons into the armament of modern armies gave rise to the opinion that fortified areas had lost their former significance. Combat operations to break through them accordingly began to be given less attention.

Meanwhile, work is being done in a number of foreign countries to remove from storage and reconstruct old defensive works and to construct new fortified areas and zones based on recent achievements in the development of weapons and combat equipment. Consequently, accomplishing the tasks of breaking through fortified areas and zones, especially when conducting combat operations with the use of conventional means of destruction, has not lost its significance in modern warfare. Therefore there is an objective necessity to work out this problem theoretically as it applies to the new conditions of conducting war.

Before we examine the questions of organizing and carrying out a breakthrough of fortified areas and zones, we shall briefly outline their characteristics.

According to foreign views, a typical fortified area may include the security zone with a depth of 30 to 40 kilometers, prepared with separate strongpoints, field-type fortifications and engineer obstacles; the first (main) fortified zone, with a depth of 15 to 20 kilometers, consisting of three or four positions which are based on company-size strongpoints with close fire and tactical coordination among them; the second fortified zone of up to 5 to 10 kilometers, prepared similar to the first, but with less density of defensive works; and the rear zone, which usually has field-type fortifications. All the defensive works of the fortified area, as a rule, are protected by a well-developed system of engineer obstacles emplaced along

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the front, on the flanks, and at the junctions of the strongpoints and centers of resistance. The engineer obstacles include controlled and contact minefields, antitank obstacles, and others. An important distinguishing feature of modern fortified areas is that shafts and pits for the emplacement of nuclear mines are prepared in front of their forward edges.

Depending upon their function, fortified areas and zones usually are created along the national border and in the interior of the country. In the first case, fortified areas are erected to cover axes leading to vitally important political, administrative, and economic centers of the country and to large military installations. With only limited forces and means, they ensure the deployment of the main grouping of forces for the offensive (counter-offensive). In the interior of the country fortified areas are created for the direct coverage of designated centers and installations.

Coastal fortified areas are prepared for the protection of important sections of the seacoast, straits, sea channels, and the land approaches to naval bases and ports. In some cases they also cover axes leading deep into the territory of the country. In similar situations, land fortifications are augmented by a system of sea barricades located on adjacent islands or on the body of water. Anti-landing obstacles and barricades are created in areas where an enemy landing is probable.

Fortified areas and zones usually are erected along an advantageous natural line and with their flanks, as a rule, abutting against the sea or other water obstacle, or against mountain masses and difficult of access marshy woodland or desert sections of terrain, all of which hinder circumvention of defensive fortifications. Roads leading to fortified areas are prepared for demolition, and the terrain lying before them, for flooding or contamination with radioactive and poisonous substances. Thus, fortified areas and zones significantly increase the stability of defenses and their ability to withstand strikes by conventional means of destruction and reduce the results of the use of nuclear weapons.

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When conducting modern combat operations, fortified areas may be broken through using either nuclear weapons or conventional means of destruction. We have to assume the latter will be characteristic of the beginning of war; breaking through fortified areas under these conditions undoubtedly is the most complex. //

If we turn to the experience of World War II (and modern combat operations without the use of nuclear weapons will have much in common with it), we can see that the main method of seizing fortified areas and zones was a breakthrough effected by large units of ground forces. In this instance, an offensive against a fortified area usually was initiated from a position of direct contact with the enemy.

A sustained (calculated in hours) preliminary artillery and air preparation was conducted to create a breach in the prepared defenses of the enemy in the breakthrough sector. Heavy and special-purpose artillery on land and the main shipboard artillery on coastal axes were used for this purpose. Artillery and mortar units became special destruction groups. Up to one-third of the ammunition allocated to the offensive operation was expended to neutralize permanent defensive installations. Artillery fire was augmented by bombing assault strikes of front and naval aviation.

The strongest defensive installations forming the basis of the fortified area were damaged and destroyed as a result of massive artillery and air strikes on the eve of the offensive. Due to good organization these strikes proved to be highly effective. For example, in the Vyborg offensive operation conducted by the troops of the Leningrad Front in June 1944, the number of targets destroyed in the preliminary artillery and air preparation period totalled 176 out of the 189 planned for destruction on the front main strike axis, i.e., about 93 percent.

Another integral step in breaking through prepared enemy defenses was direct artillery and air preparation by means of strikes by artillery and by bomber and assault aircraft, to neutralize the fire means and manpower of the enemy in the breakthrough sector and on the flanks, to disrupt his troop control, and to create the conditions for the successful advance of the attacking large units. For

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this purpose a minimum of 150 to 200 guns and mortars per kilometer of breakthrough sector, firing from indirect fire positions, and 20 to 30 guns for direct fire, were concentrated on the axis of the main strike. The duration of direct artillery and air preparation varied from one to two hours and more.

The assault on the fortified area began after the artillery and air strikes. Assault detachments and groups, operating as a rule from the front or maneuvering without going beyond the confines of the tactical zone, were assigned to seize the permanent strongpoints not destroyed by artillery and aviation.

This was the procedure for seizing a fortified area by the forces and means available for conducting armed warfare during that period. The attacking side had limited capabilities for simultaneously accomplishing a deep move by large forces by water or by air-dropping them over difficult areas of terrain, having covered the flanks of the fortified areas and zones. However, attempts were made to circumvent the fortifications wherever possible.

At the present time, many armies have become equipped with essentially new mobile means. These include helicopters, air elements, amphibious ships, amphibious tanks, and high-speed armored boats armed with missiles, artillery and machineguns. Combined-arms large units have modern tanks, infantry combat vehicles, antitank guided missiles, and engineer equipment. All this permits a new approach to fulfilling the task of seizing fortified areas.

Under modern conditions, one of the main methods of breaking through fortified areas may be the combined actions of ground forces large units and units advancing from the front, and various landing operations carried out in the rear. Breaking through fortified areas by the methods used in the past war will take place only in the situation when circumvention of the fortifications by attacking troops for some reason proves to be impossible.

Success in breaking through fortified areas, as in any battle, is largely predetermined by surprise and swift troop actions begun after powerful artillery fire and air strikes. Therefore, in principle it is desirable to seize fortified

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areas from the march. But this does not preclude battling for fortified areas from direct contact with the enemy. Ground forces large units in all cases should have designated breakthrough sectors in which they have to carry out decisive massing of forces, surpassing the enemy many times over in the basic means of destruction.

The axis of the main strike must be chosen with consideration for the defeat of the main grouping of enemy combat troops on the approaches to the main defensive zone, barring its occupation by retreating troops; for the rapid breakout into the flank and rear of the main areas of resistance; for the seizure of nuclear minefields prepared for detonation; and for the prevention of the flow of operational reserves from the depth.

The combined actions of ground and landing forces in breaking through fortified areas necessitate a different approach to the creation of troop groupings and to the structuring of the combat composition of large units and units. The classic plan for dividing a ground forces grouping into a first and second echelon does not completely reflect the requirements of modern battle for fortified areas. Here the first plan includes an assault on the fortifications, conducted by specialized groups and detachments simultaneously on land (from the front), from the air, and, where possible, also from the sea. The efforts of the troops of the first assault wave must be augmented by highly mobile large units and units capable of exploiting the breakthrough on the whole depth of enemy defenses in a short time.

On this basis we think that the combat composition of troops breaking through fortified areas must include an assault echelon and an echelon for exploiting the breakthrough. In addition, to fulfil the tasks of destroying defensive installations, and to neutralize enemy fire means and manpower, it is necessary to create appropriate artillery groups. One must assume that the remaining elements of the combat composition and operational structure of the forces of formations will not undergo changes in purpose and methods of use.

The assault echelon, in our opinion, must consist of reinforced motorized rifle regiments advancing in the first

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line and must be allotted the following: engineer and chemical reconnaissance patrols; obstacle clearing groups, each consisting of a motorized rifle platoon reinforced by a sapper section with obstacle clearing means (minesweeping attachments, route clearers, sets of bangalore torpedoes and explosives); assault groups, each containing up to a motorized rifle company reinforced by a tank platoon, firing platoon (2 or 3 guns), 1 or 2 assault guns, a sapper platoon, a bulldozer tank, a tank-mounted minesweeper (KMT), and sets of shaped charges and explosives. It could be very effective for the assault group to have the means for using incendiary mixtures: flamethrowing tanks, and manpack and non-portable flamethrowers, which proved themselves favorably during World War II.

Motorized rifle subunits must become the basis of organizing assault groups and obstacle clearing groups. Organizationally they must be formed into an assault detachment, controlled by a motorized rifle battalion commanding officer. The assault echelon also should include air mobile units and subunits operating as air assault detachments, groups, and tactical airborne landing forces. The experience of recent exercises in the Red Banner Odessa Military District provides examples of such a troop structure in combat for fortified areas. Specifically, it confirms that this type of structure corresponds more to the nature of modern combat for fortified areas and ensures: the infliction of a decisive defeat of the enemy in the whole depth of his defenses; the rapid exploitation of the results of firepower by conventional means of destruction and nuclear weapons, in the event the latter are used, and protection from weapons of mass destruction; the flexible maneuvering and buildup of the strike force; the use of favorable terrain conditions; and the operational control and maintenance of continuous coordination.

In addition, the principle being proposed for organizing assault detachments assures them certain autonomy on the battlefield; the capability to conduct specialized engineer, chemical, and radiation reconnaissance of defensive installations and nuclear minefields with their own forces; the ability to quickly make gaps in engineer obstacles and to overcome various barriers; the neutralization of resistance by firing; and the capability to

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blockade, destroy, and seize the permanent fire positions and control posts of the enemy.

The echelon for exploiting the breakthrough must include tank large units and units. They are better able than others to augment the efforts of troops of the assault echelon, to carry a rapid offensive into the depth, to quickly connect up with landing forces being landed in the rear, and to defeat the advancing enemy operational reserves. All this comprises the main task of the echelon for exploiting the breakthrough.

The specific procedure for troop actions also pre-determines another approach to organizing the fire support of a breakthrough of fortified areas. First of all, the exclusion from the arsenal of combat means of the weapons of mass destruction necessitates a sharp increase in the number of conventional means of destruction, primarily heavy artillery and aviation. As calculations show, average artillery densities must comprise no less than 100 to 120 guns and mortars per kilometer of breakthrough sector.

Close support of assault echelon units requires the creation of regimental artillery groups; and to destroy permanent defensive installations and augment the fire of the regimental artillery groups on the main axis requires division and army artillery groups.

Rocket artillery subunits and units, which have the most effect in firing against area targets, remain available to large unit commanders. The main task of rocket large units and units is to ensure constant readiness to use nuclear weapons; therefore, in certain cases they may be assigned to accomplish fire tasks with conventional munitions.

Overcoming fortified areas from the march rules out the possibility of conducting preliminary preparatory fire. However, this does not eliminate the necessity of taking steps to destroy nuclear means and control posts, and key permanent defensive installations as they are discovered, and of creating realistic conditions for aviation and

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long-range field, shipboard, and rocket artillery to accomplish these tasks.

Preparatory fire (previously known as close) will always be conducted. Its duration is calculated by taking the time necessary to destroy the most important permanent defensive installations in the enemy system of defense; to neutralize other fire means and manpower, troop and nuclear mine control posts; and to make gaps in engineer obstacles; as well as the time required for the subunits and units of the assault echelon to reach the assault position.

The sequence of conducting preparatory fire and fire support is determined each time by the actual conditions of the situation. But we should emphasize that fire tasks must be accomplished in the minimum amount of time possible, and the artillery fire and the bombing assault strikes by air must be brought down on the enemy with surprise and calculated to inflict the highest probability of destruction.

The inadequacy of artillery used from indirect fire positions, as shown by the experience of the past war and postwar exercises, may be made up by assigning antitank guns, antitank guided missiles, tanks, antiaircraft artillery, and grenade launchers; by bringing air strikes close to the forward edge of the enemy; and, on maritime axes, by using shipboard artillery fire. These measures will also help reduce the total time needed for preparatory fire.

This type of artillery complement and fundamental use of it have been approved for exercises. It makes it possible to fulfil the main fire tasks when seizing fortified areas: the destruction of defensive installations and the neutralization of fire means and manpower both of the permanent defensive installation garrisons and field troop replacements.

The basic method of breaking through fortified areas with the use of nuclear weapons will also be the combined actions of ground forces with various landing forces, assault groups, and detachments of airmobile large units and units. The use of nuclear weapons greatly increases the capabilities of troops on the offensive by destroying the

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enemy in the entire depth of his defenses at once, and it creates favorable conditions for concluding his defeat and seizing his fortified areas in a short time. But, despite this, we cannot count on all defensive installations in the breakthrough sector being destroyed and their garrisons annihilated. Therefore, the combat composition of troops in this case must include an assault echelon and an echelon for exploiting the breakthrough.

In breaking through fortified areas with the use of weapons of mass destruction, special attention must be devoted to planning the first nuclear strike. Its principal targets for destruction will remain the enemy means of nuclear attack and also his fire means and manpower sheltered in defensive installations. We know that the complete destruction of permanent defensive installations requires a shock wave overpressure of about 10 to 20 kilograms per square centimeter; this may be achieved by detonating a high-yield nuclear munition or by matching the ground zero of the burst of a lesser yield munition with the target being destroyed. This clearly requires a large expenditure of nuclear munitions.

To put personnel out of action requires an overpressure of about one kilogram per square centimeter; for installations which are not hermetically sealed, this is assured by a shock wave force on the surface of 2 to 3 kilograms per square centimeter. Hence follows the conclusion that in planning a nuclear strike there is no need for a task that calls for the destruction of all the defensive installations, for it is sufficient to limit the task to putting out of action the garrisons of the permanent defensive installations.

The battle against permanent defensive installations which have not been destroyed by nuclear weapons will be continued by field artillery, aviation, and assault detachments and groups. There is little change in the ways and methods of using them in the nuclear variant of war.

To rapidly carry the main efforts of attacking troops as far into the depth as possible, to give combat actions a large spatial scope, and to seize the important defended objectives and disorganize the control of enemy forces and

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means requires the skilful use of airborne, amphibious, and tank amphibious landing forces.

The experience of exercises shows that helicopter-landed tactical airborne landings, consisting of a reinforced motorized rifle company or battalion each, will be used quite frequently to break through fortified areas. The inclusion of sappers with a supply of shaped charges and explosives in this kind of landing force permits permanent defensive installations to be approached from the rear and then demolished. Even greater effect may be had by using helicopters in the transport-combat variant, which can carry rocket, artillery and machinegun armament. For example, the experimental use of S-3K and S-5K free rockets and 9M178-type antitank missiles from MI-4 and MI-8 helicopters has demonstrated their capability for destroying both tanks and stationary defensive installations from the air. In addition, helicopter armament may be used successfully against the field troop replacements of fortified areas, and to destroy nuclear mines, control posts, and other targets.

Maritime axes present an opportunity to circumvent fortified areas by water. Separate tank regiments equipped with medium tanks with special bulldozer attachment, amphibious tanks, and armored personnel carriers are available for this. These units take naval training and practice sea crossings over distances of more than 100 kilometers, withstanding choppy seas of up to 4 or 5 balls. The tanks can enter and leave the water on unprepared sectors of the seacoast regardless of offshore depths. They have demonstrated such positive qualities as the capability for a more concealed approach to the enemy shore than on landing craft. They can conduct aimed cannon and machinegun fire on sea and land targets while afloat, which facilitates the task of fire support for a landing.

Under the conditions being examined, it is desirable for tank regiments, reinforced by motorized rifle and sapper subunits and by naval vessels, to be given the task of seizing coastal fortified areas and capturing centers of enemy resistance from the rear, of destroying nuclear means and conventional artillery fire positions, and of preventing the approach of enemy reserves. This will help the troops advancing from the front to seize the fortified areas.

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But using only tank landings hardly reduces the problem of moving ground forces by water. Its solution is significantly facilitated with the entry into motorized rifle divisions of infantry combat vehicles, which are capable of moving over tens of kilometers of water, possess high mobility on land, and have heavy armament. They make it possible to increase the autonomy of motorized rifle large units and units fulfilling tasks when separated from the main forces.

However, sometimes the situation at sea may not permit using amphibious combat equipment due to the impossibility of launching it into the water or getting it onto the shore, to stormy weather, or to an adverse radiation situation in coastal waters. Amphibious landing forces can be used under these conditions.

Army and navy capabilities for using amphibious landing forces are constantly increasing at present. This is aided by the availability to the ground forces and navy of powerful long-range means of destroying the enemy on land and sea, by the creation of special fighting ships and landing craft with high seaworthiness, by the revival of the marines, and by the saturation of motorized rifle and tank divisions with amphibious combat equipment.

Tactical amphibious landing forces consisting of one or two reinforced motorized rifle (tank) regiments will be used in support of seizing fortified areas. It is desirable to give these landing forces the same tasks as the tank forces, but they should be landed in greater depth. To capture sea straits, large islands and naval bases, along with the seizure of fortified areas, it is necessary to conduct landing operations on an operational scale within the framework of a front or strategic operation in the theater of military operations.

In recent exercises, combined landing operations-- amphibious, tank, and airborne--were used quite frequently to carry out an overall combat mission or independent, but closely coordinated, missions. Tactical airborne, and in some cases also tank amphibious, landings are organized by the army commanders, while amphibious and combined landings are organized by the front commander. Practical experience shows it is desirable to create an operational group, headed

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by the deputy commander of the operational formation, to command the direct preparation and landing of forces. Officers from the staffs of the ground forces, navy, and air forces and from the appropriate chiefs of the arms of troops and services are assigned to this group.

When organizing a landing operation it should be taken into consideration that centers of permanent defensive installations may be captured and other tasks fulfilled only by well-organized reconnaissance, the advance neutralization of enemy defenses in the landing area, the appropriate support to the flight of the airborne landing force and to the transit of the landing craft in the water, the maintenance of secrecy concerning preparatory measures, and firm control over the actions of the landing forces.

An important element in troop combat actions to seize fortified areas on a maritime axis is the organization and maintenance of coordination with naval forces. Under these conditions, when conducting combat actions without using nuclear weapons, the navy may assist the ground forces by destroying particularly strong coastal permanent defensive installations with shipboard artillery, by supporting the disembarkation of amphibious landing forces, by jointly repelling the air enemy, by organizing the anti-landing defense of the seacoast, and by supplying front troops, especially the amphibious and tank landing forces, with materiel by sea. In the event of nuclear war the navy also participates in the first and subsequent nuclear strikes of the front in accordance with a coordinated plan.

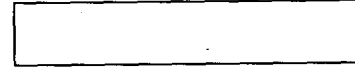
Coordination, as an integral part of the planning for a breakthrough of fortified areas, must be organized in advance and in detail. This is facilitated by the stationary nature of defensive installations and by the opportunity to accumulate the necessary intelligence data in peacetime.

In conclusion, we would like to reemphasize the importance of developing the theory of breaking through fortified areas and zones, and also of organizing the field training of large units and units for operations under these highly complex and unique conditions. The sections on breaking through fortified areas and zones in modern

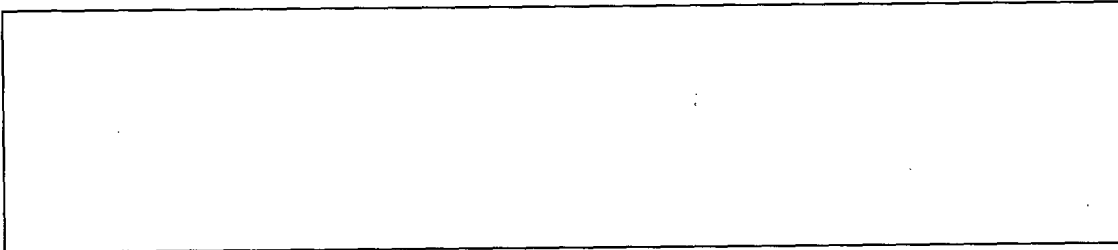
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conditions should be updated in the new regulations and the Manual on Conducting Ground Forces Operations.



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