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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

4 January 1978

MEMORANDUM FOR: The Director of Central Intelligence

FROM : Theodore G. Shackley
Acting Deputy Director for Operations

SUBJECT : MILITARY THOUGHT (USSR): Theoretical Recommendations and Their Application by the Troops

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 discusses certain theoretical propositions advanced in the publication and how they have been applied in developing the rocket troops and artillery. The authors focus mainly on the role of rocket troops in the initial nuclear strike and associated combat readiness requirements and implementation and planning procedures. Matters of the proper employment of the rocket troops of a reserve front, control and organization, as well as the employment of artillery in conventional operations, also are treated. This article appeared in Issue No. 1 (80) for 1967. The Russian-language version was disseminated as FIRDB-312/02292-75.

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. For ease of reference, reports from this publication have been assigned the [redacted] Codeword [redacted]

[redacted]

Theodore G. Shackley

FIRDB-312/00002-78

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35589

Intelligence Information Special Report

COUNTRY USSR

FIRDB- 312/00002-78

DATE OF INFO. Early 1967

DATE 4 January 1978

SUBJECT

MILITARY THOUGHT (USSR): Theoretical Recommendations and Their Application by the Troops

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 1 (80) for 1967 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The authors of this article are General-Mayor of Artillery L. Sapkov and Colonel P. Shkarubskiy. This article discusses certain theoretical propositions advanced in the publication and how they have been applied in developing the rocket troops and artillery. The authors focus mainly on the role of rocket troops in the initial nuclear strike and associated combat readiness requirements and implementation and planning procedures. Matters of the proper employment of the rocket troops of a reserve front, control and organization, as well as the employment of artillery in conventional operations, also are treated.

End of Summary

Comment:

General-Leytenant of Artillery Leonid Sergeyevich Sapkov was identified as First Deputy Commander of the Rocket Troops and Artillery in November 1970. The SECRET version of Military Thought was published three times annually and was distributed down to the level of division commander. It reportedly ceased publication at the end of 1970. The Russian-language version of this article was disseminated as FIRDB-312/02292-75.

Theoretical Recommendations and Their Application by the Troops

by
General-Mayor of Artillery L. SAPKOV
and
Colonel P. SHKARUBSKIY

The paramount role in solving the fundamental problems of military affairs is played by scientific research and theoretical generalizations. The rocket troops are particularly in need of them. Indeed, in resolving the problems of their use, organization, and support, we had to start at the very beginning, since initially there was almost no relevant practical experience. Naturally, under these circumstances military theory had an extremely great influence on the development of rocket troops, and on their organization as an independent branch arm.

A balanced, scientifically based, and systematic approach to the role and tasks of rocket troops and the methods of using them in armed combat was developed through the collective efforts of the scientific research institutions, military academies, the central apparatus of the Ministry of Defense, and the troops. Articles by authors in the journal "Military Thought" and in its Collections of Articles also played a substantial role in accomplishing these tasks. The journal has consistently published articles devoted to the most important and timely problems of the combat employment of rocket troops, of their organization, and developments in weaponry, etc.

The purpose of this article is to show how the basic theoretical propositions, thoughts, and ideas set forth in the Collections have been applied in practice, and which problems have not as yet been fully resolved and require further elaboration. This will contribute to a more purposeful approach to the solution of the practical and theoretical problems confronting the rocket troops.

The role and tasks of rocket troops in an initial nuclear strike.

An objective study of the conditions and nature of operations by ground troops has led to the conclusion that the

initial nuclear strike has a decisive role in destroying an opposing enemy and in creating favorable conditions so that the actions of our troops can achieve their objectives in the shortest possible time. It was also recognized that rocket troops constitute the basic means of accomplishing the tasks of the initial nuclear strike, since they possess great fire power, and are able to deliver strikes under any conditions with a high degree of accuracy and reliability.

These theoretical conclusions subsequently served as the basis for an exchange of views on the problems of employing rocket troops that appeared in the Collections of Articles of the Journal "Military Thought" and has continued up to the present time. This has not only contributed to the development of a common approach to the problems involved in the employment of missile/nuclear weapons, but has also had a definite effect on efforts to further improve and develop the rocket troops and to raise the level of operational training of generals, officers, and staffs.

It is a generally accepted premise that the initial nuclear strike will achieve its main objective only if it is carried out on a massed basis using all available means and is in time to preempt an enemy strike. From this it logically follows that a massed nuclear strike by a front should be delivered using the greatest possible amount of nuclear means simultaneously with the first strike by strategic means. And this means, as Marshal of Artillery K. Kazakov* has pointed out, that the combat readiness of the rocket troops must be at the highest possible level, ensuring that the possibility of retaliatory actions by the enemy is reduced to the minimum.

On the basis of these premises, an effort was begun to seek during the research process, and during operational exercises and combat training of troops, ways of reducing the amount of time needed to bring rocket troops up to combat readiness. The problems of organizing reconnaissance, planning an initial nuclear strike, and controlling troops were handled in a different way.

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* Collection of Articles of the Journal "Military Thought", 1965, No. 1 (74).

The results of the creative research in this area were reflected in the Collections. It was found that the execution, on the former scale and using former methods, of all the measures involved in bringing rocket troops up to readiness to deliver the initial strike from the time the combat alert is announced no longer meets modern requirements. A great deal of time is spent on this (24 hours or more), mainly because of the considerable amount of time needed to prepare the missiles and deliver them to the missile units (up to 18 to 20 hours and more from the moment the mobile missile technical bases go into action). Under the former procedure for care and maintenance of stocks of missiles and warheads, the mobile missile technical bases had to carry out the full cycle of their preparation upon arrival in the deployment areas. The missiles that were ready were delivered to the missile units usually over distances of 50 to 60 and sometimes 100 kilometers.

To reduce the amount of time needed to supply the rocket troops with missiles, the authors of a number of articles published in the Collections proposed that a reserve of delivery missiles that have been tested and are ready for fueling (one for each launcher), as well as the propellant for them, be set up in missile large units and units. The opinion was also expressed that it would be desirable for armies to have combined mobile missile technical bases to prepare both tactical and operational-tactical missiles. When these proposals were implemented, the amount of time needed to supply the missile units was reduced by four to six hours, but it was still high. The weak spot continued to be the preparation of the missile warheads, which took two to three hours (the time needed to prepare one warhead).

The problem of the prolonged storage of warheads in Special Readiness 5 has been solved technically. In view of this, Colonel General G. KARIOFILLI has expressed the opinion that in peacetime it is advisable to maintain a certain supply of warheads in Special Readiness 5 at the mobile missile technical bases. At the beginning of a combat alert or during a period of threat they could be delivered to the missile large units (units) and mated with the available delivery missiles* by the personnel of their technical subunits.

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* Collection of Articles of the Journal "Military Thought", 1966, No. 2 (78).

At the same time, in view of the fact that there are missile systems in a front that have a great launch range (300 to 500 kilometers or more), the idea has been suggested that the rocket troops deliver the initial strike from siting areas occupied near the permanent garrisons of large units and units. A careful study of these propositions at the military science conference of the artillery academy in December 1965, and particularly during the research war game held from February through April 1966, showed that their implementation would result in a further substantial reduction in the amount of time needed to bring the rocket troops up to combat readiness. As a result, they will be able to prepare quickly for the initial strike and deliver it virtually at the same time as the strategic means.

It is of great practical importance to find the correct solution to the problem of the procedure for carrying out the initial nuclear strike. At a number of exercises the rocket troops, as a rule, accomplished the tasks of the initial strike by having two missile launchings: the first usually destroyed stationary targets, the second mobile targets. A strike by a front lasted up to two and even three hours, and its effectiveness was consequently reduced, since the enemy was not subjected to simultaneous destruction throughout his depth, and was able to use his nuclear means to deliver strikes against our troops.

The justification for this strike procedure was, first, that during the initial stage of development rocket troops were unable to carry out all their tasks in one missile launching because they were few in number, and that several missile systems, such as the LUNA, could not destroy enemy targets during the initial strike because of the short range of their missiles. Second, at the beginning of the strike the rocket troops did not as a rule have reliable reconnaissance information on field targets; they could acquire such information only after the operation had begun and all front reconnaissance forces and means had gone into action.

As was pointed out in number of articles, the increase in the number of rocket troops and in the maximum range of missile systems has made it possible to carry out the tasks of the initial front nuclear strike with one missile launching and one flight by delivery aircraft. In a number of cases the duration

of this strike may depend on the amount of time required by aviation to carry out the assigned combat task. However, the experience of exercises shows that, despite the increase in the fighting power of front rocket troops, at the present stage it is not always possible to accomplish this task in practice.

The problem is that, as in the past, the reconnaissance means available to a front are not in a position to provide the rocket troops with complete information on the principal targets of destruction by the time of the strike after an operation begins. Therefore, even when they are at the very highest level of readiness, the rocket troops will sometimes find it necessary to carry out not one but several missile launchings in order to accomplish the tasks of the initial strike.

One of the major factors which tend to reduce the effectiveness of strikes by rocket troops is the technical lag of reconnaissance. Because existing reconnaissance means do not determine the coordinates of the targets with sufficient accuracy, and a great deal of time is spent processing reconnaissance information and transmitting it to the staffs, the yields of the nuclear warheads are exploited less effectively, and the swift and reliable destruction of the enemy, particularly his means of nuclear attack, is not entirely ensured. The authors of many articles have given close attention to precisely these problems.*

It should be pointed out that providing the rocket troops with accurate reconnaissance information on the targets to be destroyed continues to be one of our most acute problems.

A number of authors have also devoted considerable attention to the problems of preparing and planning the initial nuclear strike. As we know, the principle of having centralized planning of the strike done on a front-wide scale has now come into practice. This includes assigning the rocket troops specific tasks of destroying targets. However, as recent research and exercises have shown, this principle is not universal, and applies mainly to a strike being carried out at the beginning of an operation.

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* Collection of Articles of the Journal "Military Thought", 1965, No. 2 (75); 1966, No. 1 (77): 1966, No. 2 (78).

In those cases where the initial strike is delivered during an operation (for example, when going over from combat actions using conventional means of destruction to actions using nuclear weapons), because the positions of the rocket troops and the targets to be destroyed are constantly changing, the framework of centralized planning will be different. Under these circumstances, at the front level it is advisable to carry out complete planning of the employment in the initial strike of only operational-tactical rocket troops, while in the case of tactical missiles, the number of launchers to be brought in for the strike, the maximum number of nuclear warheads to be expended, and the readiness deadlines should be specified. It is preferable for the designation of the specific targets to be destroyed by tactical missiles, the allocation of missiles, and the allocation of the battalions that are to participate in the first strike, be made at the army level. Naturally the front command must be informed of all the targets to be destroyed by tactical missiles, so that it can plan the strikes with operational-tactical missiles more effectively, and when necessary clarify the tasks for the armies.

When the initial nuclear strike is carried out during an operation, the task of building up the level of readiness of the rocket troops must also be accomplished somewhat differently. The front commander cannot know in advance when it will become necessary to carry out the initial strike; he must therefore, as the situation permits, bring his means up to the highest possible level of readiness for the moment when the troops will carry out the most important tasks, i.e. when there is an increasing danger that a nuclear war will be unleashed. Consequently, during an operation the rocket troops may be shifted from one level of readiness to another several times depending on the situation.

In order to bring as many rocket troops as possible into an initial strike being carried out during an operation, their relocation must be executed in a centralized manner: operational-tactical missile large units (units) according to a front plan, and tactical missile battalions according to plans of armies.

It was pointed out in a number of articles, when discussing the problems of the initial nuclear strike, that the practice of using rocket troop subunits that are on alert, when they are

allocated to destroy only enemy nuclear means, and not allocating them for strikes against other important targets in anticipation of the readiness of all means, is not entirely correct.* The experience of exercises fully corroborates this conclusion. The subunits on alert must deliver strikes immediately against reconnoitered targets without waiting for other means to be readied. In the process, in addition to nuclear means they may also destroy other important targets. The subunits on alert that have been brought in to carry out the task may be replaced by others by order of missile large unit commanders.

The utilization in this matter of subunits on alert is of great importance when the initial strike is carried out during an operation, when it is impossible to ensure the highest possible level of readiness among all rocket troops at the same time. Under these conditions, when the threat of a nuclear war being unleashed is mounting, the subunits on alert may be brought up to Readiness No. 1 independently of the other rocket troops, so that they may deliver a strike immediately against enemy means of nuclear attack that have been detected.

At exercises the initial nuclear strike is delivered, as a rule, at a command (signal) by the front, which is entirely proper. However, should the command post be put out of action and control be disrupted, the use of this procedure could result in a delay in the delivery of strikes. Therefore, to guard against the enemy's preempting us in the delivery of a nuclear strike and disrupting front troop control, army commanders, as well as commanders of missile large units, should be given the authority to order the delivery of planned strikes.

The employment of rocket troops when committing a reserve front to an engagement. When this problem was discussed in the Collections** the greatest amount of attention was devoted to the problems involved in bringing the rocket troops of a reserve front up to combat readiness, and their actions at the time the motorized rifle and tank large units are moving into the departure area.

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* Collection of Articles of the Journal "Military Thought", 1965, No. 1 (74).
** Collection of Articles of the Journal "Military Thought", 1965, No. 1 (74) and 2 (75).

In the opinion of most of the authors, the rocket troops must be the first to deploy, and must be brought up to readiness before the motorized rifle and tank large units of the first operational echelon concentrate in the departure area. This is based on the assumption that the supplying of missile units and large units with missiles must take place in the departure area by having the mobile missile technical bases move and deploy in advance, or during the march. These propositions were tested at a number of exercises. The experience gained shows that when regrouping over great distances it is not always possible to move out and deploy the missile technical units in advance. As a rule, they arrive and are deployed at the same time as the forward troops. When this happened, the preparation of a single missile for a launcher took as much as a day. And it was not always possible to supply the rocket troops with missiles during the regrouping.

Under conditions where it is technically feasible to transport ready missiles over a distance of 1,200 to 2,000 kilometers, it is desirable for the rocket troops to be supplied with them prior to the beginning of the march. This considerably increases the level of combat readiness of missile large units and units, and enables them to deploy from the march to carry out tasks from any area.

If this is not done, the enemy could deliver a massed nuclear strike against the troops in the departure area before the front missile units are ready to launch their missiles. This is precisely what happened at one of the exercises.

A consensus has not yet been reached regarding the actions of rocket troops at the time the reserve front moves into the departure area. Judging by the experience of exercises, good results are achieved when the rocket troops occupy their siting areas from the march and a portion of their forces are brought in to destroy enemy means of nuclear attack prior to the delivery of the massed strike. The use of this variant of operations is dictated by the fact that while the troops of the reserve front are moving out and assembling, the destruction of the enemy in the area of their forthcoming commitment to the engagement is being accomplished, as a rule, by the means of the front operating forward. But, should it lack sufficient forces and means to destroy the means of nuclear attack, the rocket troops

of the front that is being committed to the engagement must also be brought in. Therefore when the missile units that have ready missiles reach the departure area, they must be brought up to combat readiness and have specific targets of destruction.

In general, the problems involved in the combat employment of rocket troops during the commitment of a reserve front to an engagement are extremely complex and require further elaboration.

Control of rocket troops, as was pointed out in the Collections,* cannot practically speaking be limited to the organization, by the chiefs and staffs of rocket troops and artillery, of the timely preparation of nuclear strikes. It embraces a whole range of problems involving planning and directly supervising the combat actions of missile large units and units, supplying them with everything they need, and constant monitoring to see that orders, instructions, and commands are carried out with precision and at the right time, and that the troops are given practical assistance toward this end. When any of these functions were omitted or not performed promptly, as much as one to 1.5 hours were spent in preparing a massed nuclear strike, and occasionally a grouped nuclear strike, by rocket troops. As the experience of exercises has shown, under these conditions it became virtually impossible to destroy field targets, since they changed their location and the strikes often landed on empty sites.

The considerable amount of time being spent on preparing nuclear strikes, was due largely to the absence of a clear-cut procedure for making the decision for the strike and conveying the tasks directly to the executors. It turned out that the commander of the front (army) troops, together with his staff, first worked out all the problems, and only then did he assign tasks to the chief of rocket troops and artillery. The latter was not able to assign tasks to the units and large units until the targets to be destroyed had been assessed, the necessary calculations completed, and the orders prepared. This took a considerable amount of time.

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* Collection of Articles of the Journal "Military Thought", 1965, No. 2 (75); 1966, Nos. 1 (77) and 2 (78).

This can be avoided if the commander of the front (army), when working out the decision on the employment of nuclear weapons, draws on the command personnel of the field headquarters, and first and foremost the chief of rocket troops and artillery and the commander of the air army. It is these people who can be of considerable help to the commander in arriving at the most correct decision on the employment of nuclear weapons, and can swiftly convey to subordinate troops the tasks relating to the delivery of strikes. The chief of rocket troops and artillery should be the only person through whom the commander of the front (army) exercises control of rocket troops.

The publication of Collections devoted to problems of control, particularly those that summarized the experience of exercises, contributed to the practical solution of a number of problems. For example, after articles appeared on the results of the BEREZINA exercise, the practice was initiated at subsequent exercises of having control exercised from the command post by the chief of the rocket troops and artillery, rather than from the rear control post as had been done previously. It was also decided to reinforce the missile technical units with communications means.

But, although a number of measures have been taken, this problem cannot be regarded as solved. A marked improvement in control can be achieved only if the rocket troops are supplied with automatic secure communications equipment for telegraph, radio-relay, and telephone communications channels, and integrated automation of the processes of preparing, launching, and controlling missiles is introduced at all levels as soon as possible.

The first steps in this direction have already been taken: individual tactical and operational-tactical missile battalions are employing electronic computers, which in less than a minute automatically provide data for launches, process the results of weather soundings of the atmosphere, etc. In the near future, electronic computers will begin to be introduced at the highest levels, including the staffs of rocket troops and artillery. The need therefore arises to find effective work methods for commanders, chiefs, and staffs utilizing the above means, and to improve the organs of control.

Problems of improving the table of organization and equipment and armament. The authors' proposals in this area* come down basically to increasing the number of launchers in missile large units and units, equipping them with systems having a longer range (with due regard for their organic affiliation and the tasks to be carried out), as well as revising the table of organization and equipment of the missile technical units. Most of these proposals have already been implemented. The number of launchers in the missile battalions of divisions and in front missile brigades has been increased. The rocket troops have been equipped with new missile systems having greater range, which has considerably enhanced the capabilities of a front, army, or division to deliver missile/nuclear strikes and to maneuver them in the zones of action.

The creation of army combined mobile missile technical bases to prepare both tactical and operational-tactical missiles has helped to increase the combat readiness of rocket troops. As a result armies have acquired the capability of independently solving the problems of employing missile units and large units.

At the same time the experience of many exercises shows that the organization of rocket troops requires further improvement. Suggestions that a missile division, as well as missile large units and units from the Reserve of the Supreme High Command** be established in a front deserve consideration. The absence of missile units in the Reserve of the Supreme High Command creates a serious problem in restoring the nuclear fire power of fronts and armies following a massed enemy nuclear strike. At present this task can be accomplished only by reorganizing the units that have been subjected to nuclear attack and replacing their equipment and personnel, all of which takes a rather large amount of time.

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* Collection of Articles of the Journal "Military Thought", 1965, No. 1 (74).
** Collection of Articles of the Journal "Military Thought", 1965, No. 1 (74).

Protecting rocket troops against weapons of mass destruction. This complex and insufficiently studied problem has not been omitted from the topics covered in the Collections. However, it was dealt with only in passing, in conjunction with other subjects. A complete understanding of the importance of this problem and of ways of solving it cannot be acquired as yet on the basis of the materials published in the Collections. Obviously subsequent materials will make up for this deficiency, but the task can be successfully accomplished only if the problem is considered not in isolation, but in close connection with the problem of the combat readiness and combat effectiveness of the rocket troops.

It is of paramount importance in protecting rocket troops against weapons of mass destruction for the following problems to be solved: providing protection for the personnel of launchers and other combat equipment against radioactive and toxic agents, developing reliable protective clothing so that the job of preparing the launchers can be performed on contaminated terrain, establishing protected control posts, and supplying the missile units with high-performance engineer equipment.

Problems of the combat use of artillery. These problems have become particularly urgent in the light of the requirements laid down by the Minister of Defense on mastering the methods of conducting combat operations using conventional means of destruction when a threat of nuclear attack exists. Under these conditions artillery, as in the last war, will constitute the basic means of destroying the enemy. Taking note of this premise, the authors of articles published in the Collections devoted a great deal of attention to the problems of the role of artillery in offensive and defensive operations.

Calculations and research exercises show that in order to break through a modern enemy defense with preparatory fire lasting up to one hour, a density of a minimum of 65 to 70 guns is required for each kilometer of the breakthrough sector. Using organic front means, however, only half this figure can be reached.

It is therefore entirely natural that a number of authors should raise the question of the need to revise upwards the quantity of organic artillery in formations, large units, and

units. We must also see to it that the artillery of one of our divisions not only equals that of our probable enemies in quality and quantity, but is superior to it.

In response to the requirements of combat practice, an article by General-Mayor I. KONOPLEV and Colonel N. PAVLOV was published on the need to develop self-propelled artillery.* The advantages of self-propelled artillery over towed artillery lie first of all in its great survivability and mobility. Calculations show that under equal conditions of destruction, the losses in personnel suffered by a self-propelled artillery battery will be two to six times fewer than those suffered by a towed artillery battery.

Self-propelled artillery is more maneuverable, and is able to consistently keep up with the attacking troops, even when there are large zones of destruction and radioactive and chemical contamination.

The introduction of self-propelled artillery into the forces would greatly enhance their fire and maneuver capabilities during actions under conditions of extensive zones of destruction and radioactive and chemical contamination.

A critical problem in increasing the fighting power of artillery is that of supplying it with ammunition. The sharp reduction in organic artillery has made it necessary to use it with maximum intensity. This naturally results in an increase in the expenditure of ammunition per gun (mortar) during an operation. The changed nature of targets has also contributed to the increase in the expenditure of ammunition. Many of the targets are now armored, and a considerable amount of ammunition must be expended for them to be destroyed effectively. For example, the destruction of a self-propelled artillery battery requires 1.5 to two times as much ammunition as a non-self-propelled (towed) battery.

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* Collection of Articles of the Journal "Military Thought", 1966, No. 2 (78).

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This trend and the need to increase the mobile reserves of artillery ammunition were demonstrated quite persuasively in the articles by Colonel Ye. YEFIMOV and Colonel General of Artillery I. VOLKOTRUBENKO.* Research and the experience of exercises shows that for the conduct of combat operations under modern conditions the following mobile reserves of artillery ammunition should be brought in: in units up to 1.5 units of fire, in a division up to 0.5, in an army, up to 0.5 and in a front up to 2.0. In addition, the time has come for our artillery to have nuclear and other special ammunition capable of destroying enemy targets in a short period of time at a distance of seven to eight kilometers from our troops (the minimum safe distance when missiles are being employed).

All the problems of rocket troops and artillery that have been discussed on the pages of the Collection cannot, of course, be considered at length in a single article, not even those discussed during the last two years. However, from what has been said it is clear that the discussions have played a definite role in the development of theory and in the formation and strengthening of the rocket troops and artillery.

The rocket troops and artillery have made great progress in their development. However, much remains to be done to further improve them. The military press, and in particular the theoretical Collection of the Journal "Military Thought", are expected to continue to contribute to this in every way.

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* Collection of Articles of the Journal "Military Thought", 1965, No. 3 (76) and 1966, No. 2 (78).