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MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (SECRET): "The Forms and Methods of Operational Training According to the Experience of Exercises",
by Lieutenant-General V. Mernov

1. Enclosed is a verbatim translation of an article from the SECRET Collection of Articles of the Journal "Military Thought" published by the Ministry of Defense, USSR, and distributed down to the level of division commander.

2. For convenience of reference by USIB agencies, the codeword IRONBARK has been assigned to this series of TOP SECRET CSDB reports containing documentary Soviet material. The word IRONBARK is classified CONFIDENTIAL and is to be used only among persons authorized to read and handle this material.

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Richard Helms
Deputy Director (Plans)

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SUBJECT : MILITARY THOUGHT (SECRET): "The Forms and Methods of Operational Training According to the Experience of Exercises", by Lieutenant-General V. Mernov

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Following is a verbatim translation of an article entitled "The Forms and Methods of Operational Training According to the Experience of Exercises", by Lieutenant-General V. Mernov. It appeared in Issue 3 (64) of 1962 of a special version of the Soviet journal Military Thought which is classified SECRET by the Soviets and is published irregularly. Issue 3 (64) of 1962 was probably sent to press in May or June of 1962.

Comment: Military Thought is published by the USSR Ministry of Defense in three versions, classified RESTRICTED, SECRET, and TOP SECRET. The RESTRICTED version has been issued monthly since 1937, while the other two versions are issued irregularly. The TOP SECRET version was initiated in early 1960. By the end of 1961, 61 issues of the SECRET version had been published, 6 of them during 1961.

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The Forms and Methods of Operational
Training According to the Experience of Exercises

by

Lieutenant-General V. Mernov

The appearance of nuclear/missile weapons and their rapid introduction into all types of armed forces have caused a radical change of opinion on a future war, on its beginning, and on the ways of conducting it.

The enormous destructive power of nuclear weapons and the capability of their missile carriers to deliver megaton charges to any point on our planet give armed forces possessing this weapon absolutely limitless combat might. Therefore, in the theory and practice of military affairs we are devoting our main attention to working out ways of employing troops based on the skilful use of nuclear/missile weapons, especially in operations in the initial period of a war. Positive results have been achieved in this connection.

There is now a new approach to ways of conducting operations in a future war and to several fundamental problems of the employment of the branches of the armed forces and arms of troops. All this allows one to carry out in a more purposeful way further elaboration of the theory of operational art and the practice of building up and training the armed forces with the aim of improving their constant combat readiness.

In the process of seeking and establishing contemporary military doctrine, the forms and methods of the operational training of troops

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are also changing. However, this is not happening as decisively as the interests of military affairs demand. That makes it necessary to give greater prominence in the periodical military press to problems of the method of operational training.

In this article an attempt is made to show the changes in the forms and methods of operational training, the main shortcomings in this training, and the ways in which they could, in the writer's view, be eliminated.

Many officers, generals, and admirals have basically a correct understanding of operational training, i.e., as a system of measures for the training of the command element and staffs to resolve problems of planning and conducting operations in accordance with the directives of the Minister of Defense. During operational training, unity of views on operational art are worked out, staffs are knitted together, and officers, generals, and admirals study new weapons and combat equipment, get experience in organizing coordination between formations and in controlling troops when operations are conducted at a high speed. A considerable role in training generals and officers is played by independent work on improving their military education, studying new equipment and the methods of using it, and making a contribution to working out problems of an operational character (in the form of working out exercises and the methods of conducting them, etc.).

The development of the forms and methods of operational training promotes the development of operational art and the improvement of the combat readiness of formations and headquarters. If the forms and methods of operational training become too stiff, however, they can impede the development of military affairs.

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To understand the significance of the forms and methods of operational training, one must examine them together with its content. Essentially, the content of operational training is the theory of operational art which has taken shape at a given time and rests upon officially accepted military doctrine. The forms of operational training are considered to be the various kinds of exercises and studies during which officers, generals and admirals with staffs and troops familiarize themselves with combat equipment and check and improve the theory of operational art.

During operational training, use is made of almost all the forms and methods which were already known long before the Second World War. Group exercises, short study periods (letuchka), war games, staff training, staff exercises, and command staff exercises in the field are widely used in fulfilling operational training tasks.

Despite the sharp, revolutionary change in the weapons of combat and in the ways of conducting a battle, operations, and warfare as a whole, very few new forms and methods of operational training have come into being. The only examples are military-scientific conferences on problems of a difficult nature held at large headquarters and at military academies and special experimental exercises with staffs and troops to study new weapons and military equipment.

Involuntarily, the question arises - Why is it that during the years when there has been such a fundamental advance in the whole of military affairs, so little new has appeared in the field of the methods of operational training? Undoubtedly, one of the many reasons explaining this is the inadequate attention paid in military-scientific works to problems of finding new and more efficient and effective forms and methods of operational training.

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Historical documents and all the work of the XXII Congress of the CPSU provide evidence of the bold overcoming by our Party and its Central Committee of antiquated dogmas; also evidence of the further creative development of Marxist-Leninist teaching about Communism and of the practical accomplishment of tasks to build a Communist society.

In an equally bold manner, officers, generals, and admirals must seek ways for the creative resolution of problems concerning military affairs, particularly problems concerning the instruction of staffs and troops in accordance with the requirements of modern warfare. At the same time, the laws of objective natural development must not be overlooked; in other words, old forms are very often retained when new factors appear until such time as they promote their development. On the other hand, however, it must also be taken into account that an old form may become a hindrance to the further development of these factors, and in such a case, the sooner the old form is discarded the better. This obliges those in charge, and military-scientific personnel working in the field of operational training, to analyze constantly and thoroughly the whole process of planning and conducting studies and exercises with staffs and troops.

To determine to what extent the adopted forms and methods of operational training meet the requirements of the development of operational art, it is desirable to examine in greater detail at least the higher forms of the operational training of each type of the armed forces.

It is known that such a high form of comprehensive training of staffs and troops as maneuvers, a form which was extensively used before the war, has become completely unacceptable and has died out. The organization of training in the form of maneuvers for modern ground forces, which operate at high speed and over enormous distances, would call for large and unjustifiable expenditures of motor transport resources and

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fuel and would also result in damage to fields. In practice, the operational command-staff exercise in the field, sometimes with the use of a small number of troops for checking calculations, has proved to be a very effective and, compared with maneuvers, a more economical form of training staffs and ground forces. This form of training is likewise not new, but it has been modernized to a considerable extent, many of its old elements have died away, and there have appeared new ones which are essential for the development of operational art based on the use of nuclear/missile weapons. It is quite easy to become convinced of this, if a comparison is drawn between the methods of conducting such exercises now and in the past.

Only a few years ago, when the problem of planning a breakthrough of the enemy's front was the central point in the theory of operational art, the director and directing staff concentrated all their attention during the command-staff exercise on working out problems of coordination between formations of ground forces, other types of armed forces, and arms of troops, when breaking through the defense. In this connection, the directing staff of the exercise tried to find ways of bringing all the work closer to reality by organizing coordination in the field. For this purpose, a meeting was arranged of commanders of formations at important points in the sector of the breakthrough, usually on the main axis. The form in which the exercise was planned was intended to promote an instructive working out of the training problems on the ground, from observation posts. All the subsequent scheme of the exercise was connected with organizing meetings of commanders at those positions where the second echelon of the front was being brought into battle or where a counterstrike by a large enemy grouping was to be repulsed. The resolution of such problems called for the organization of efforts by

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several large units and formations in the field.

Because the problem of breaking through the enemy's defense front with the use of nuclear/missile weapons has ceased to be the main one, a radical change has taken place in the procedure for conducting a command-staff exercise. Now, the directing staff of the exercises must pay its main attention to the employment of nuclear/missile weapons and to skilful operations by troops following the nuclear strikes, at high speed and in great depth. This problem is no less complex and calls for efficient and organized work on the part of the directing staff and higher headquarters in giving assistance to subordinate staffs at their command posts. For this purpose, a plan is drawn up and put into effect for checks and visits to the troops by generals and headquarters officers.

The main problem now consists of studying and working out in detail the possible alternatives for troop operations in the initial period of a war. In this connection, the need has arisen to plan command-staff exercises for border districts in an initial situation very similar to that which will obtain in the initial period of a war. The forces of the sides, their combat readiness, their resources in supplies of all kinds, and the operational position are taken to be as they are according to the information available on the day of the exercise. An acute military-political situation is created, of a kind in which the hostile side may start combat operations. Staffs and troops are confronted with the situation which they may have to face in the first days of war. Problems of bringing troops to combat readiness and controlling them before the beginning and in the first days of war are worked out while the staffs are moved up to the lines or areas which can be regarded as the starting ones for an invasion of the enemy's territory. Later on,

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carrying out of the offensive operation throughout the whole depth in accordance with the exercise plan is effected on maps of the terrain. This enables the staffs to resolve several problems concerning the maintenance of troops at combat readiness and the conduct of combat operations by troops in accordance with their operational role.

Naturally, all the materials relating to the preparation and conduct of command-staff exercises of such a nature have their own special features. The exercise plan must be drawn up in a strictly limited number of copies and kept as a top secret document of special importance. In the mission there is no need to create an imaginary grouping of the two sides; consequently, after an account of the military-political situation, it is stated that the position of the troops of the two sides is factual and data of a reference nature are given. As the staffs under training do not require a long time for the study of such a mission (own troops and enemy troops facing them are under constant study), the exercise can start when the mission is handed out. At Exercise "Burya" such a mission contained, in addition, an operational task for a formation, and the whole thing was given the new name "a mission directive" (zadaniye-direktiva). The plan for conducting the exercise is worked out in this way in order to keep the exercise plan secret. The director hears all the commanders of formations personally, not at a big assembly, but with a limited number of generals and officers present.

Thus, essentially an operational command-staff exercise in the field borrows only general lines from the old form, has undergone a change in structure and in the way in which it is conducted, and can ensure the attainment of the training aims in conformity with the new demands of operational art. It allows one to practice bringing staffs and large units,

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maintained in accordance with wartime T/O&E strength, to full combat readiness, mobilizing units and large units in the appointed time, and moving them into the areas laid down in the operational plan; also, to try out various alternatives for the operations of large units and formations in the initial period of a war.

Great importance attaches to strict and creative fulfilment of the instructions of the Minister of Defense in his operational directive for 1962: "At exercises and war games an acute instructive situation is to be created, and no simplification and indulgence is to be permitted." One often hears of different theoretical propositions drawn from experience gained at exercises. But if the exercise was conducted on the basis that certain conditions were allowed, then such conclusions are false and must not be used. In order that exercises should enable one to draw conclusions regarding the practicability of a certain theoretical proposition of operational art, they must be constructed and conducted on the basis of a scientific, critical substantiation of such important initial data as the use of new weapons and combat equipment, the possible losses in personnel, arms, equipment and in the material-technical support means of the sides participating in the exercise, the anticipated radioactive contamination, etc.

In 1961, in accordance with a General Staff plan, operational command-staff exercises in the field were conducted which, from the aspect of the reality of the forces drawn in for the two sides and the conditions of the situation created for each formation, represented a considerable step forward. Such exercises were shown to have a flexible form, permitting the simultaneous inclusion of the armies of several countries of the Socialist Camp and of the forces of several military districts of the Soviet Union in those areas in which they may take up dispositions before the beginning of war.

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The PVC Troops of the Country and the Navy acted in coordination with the Ground Forces. Each formation worked out tasks which, in their content, were close to those which will have to be performed in accordance with the operational situation, while in the case of some types of Armed Forces the correctness of operational calculations and conclusions was tested by actual operations on the part of troops.

These exercises served as a beginning for working out many problems of a theoretical nature, involving the moving up of large groupings of troops over large distances in the period of threat and in the first days of war. At the same time the specific measures which border districts must implement without delay in connection with the need to move their troops forward a distance of 1,000 to 1,500 km were brought to light and are continuing to emerge. It is proposed to implement measures for operational, engineer, and materiel-technical support in coordination with the headquarters of the armies of those countries in the socialist camp over the territory of which troops will be moved up in a combined way. It is particularly important that specific resolutions should be found for problems concerning the location of fuel supplies, the organization of the PVC, a system of communications, and support for crossing water obstacles.

It goes without saying that during exercises on such a large scale, successful resolutions could not be found rapidly for all problems. But it is very important that the problems have been brought to light and raised, and now it is possible to complete work on them in the future in a continuous, painstaking, and specific way during daily life and during combat and operational training.

One must bear in mind that an operational command staff exercise may not always be the most suitable form for working out operational tasks. It is too

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cumbersome. Let us take, for example, the specific problem of studying the routes for the movement of troops, the bottlenecks on them, as well as the concentration areas in which divisions have to assemble after moving. Of course, it is difficult to resolve this problem at an exercise. All headquarters personnel move according to the situation at night and work out several problems within the framework of the whole on the basis of information provided by umpires; consequently, other forms and methods will be required for the specific study of certain problems which have arisen. In particular, it is useful to organize special field trips by groups of generals and officers for detailed work on problems arising from the plan of the operational role of a certain formation. It is desirable that each group's work plan should provide for different situations and possible conditions under which the troops may cover large distances and also that a definite scope for the work should be laid down in it. It is useful to make a preliminary study of the possible ways of resolving the problems that have been set before the field trip using either the seminar exercise method or group exercises.

Experience shows that the study of routes in general does not constitute a problem; the important thing is to know the water obstacles which cross the routes over which our troops will move. The Vistula, Oder, Danube, Rhine, and many other rivers less deep and less wide are on the routes over which our troops would move westward; it is necessary to study them well. Every 800 to 1,000 km in the Western Theater of Military Operations, troops may encounter 10 to 12 rivers, the crossing of which will call for special arrangements. It is necessary to learn how to overcome these obstacles because the bridges may be put out of action by modern means of destruction. Therefore, it is very important to prepare for the crossing of water barriers by troops under war conditions. With this in view, it is important to

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check on the spot the approaches to rivers built during the last war for temporary crossings and to make provision in advance for the delivery of crossing equipment to these spots.

We have drawn attention to one group of important problems, the study of which cannot be delayed until a routine large command-staff exercise is held, all the more so because solutions to these problems can be found more easily by other methods. This applies equally to headquarters, generals, and officers of other districts and groups of forces, faced with other tasks, but these too must be studied during the operational training not in an abstract way, but in close connection with the requirements dictated by the operational role of the troops. On this question, operational directive No.0062 contains direct instructions: "Operational training in main headquarters,... in military districts.....is to be planned and conducted with their role in mind."

The forms, methods, and content of the operational training of each formation of the Armed Forces must be made subordinate to the operational role of the troops and to the requirement of keeping them at the necessary level of combat readiness. To fulfill this requirement in accordance with operational directive No.0062, in this training year the General Staff is setting, on the basis of a single plan, operational command-staff exercises for military districts, groups of forces and fleets, and is laying down the theme, the aims, the combat complement of the two sides, the quantity of nuclear warheads allotted for the operation, and the general procedure for conducting the exercise.

It is planned to start the exercise in each military district on a signal from the General Staff. The exercising staff has to report on how the exercise is going (the decision made, the moves of HQ's, the position of the troops at a definite time) to

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the Chief Operations Directorate of the General Staff. This will promote responsibility for the information documents (informatsionnyy dokument) that are worked out and will give practical experience of the kind necessary in war to officers and generals in the work of operational staffs.

Special demands are placed on working out reliable communications and an efficient reporting service between the General Staff and the Strategic Missile Troops. The main task of these troops is to deliver the first strike without delay and accurately against the allotted targets. This is achieved by all-round materiel-technical support for the units and missiles at the sites and by high technical training of the personnel. Therefore, at exercises of staffs and missile troops efforts are directed toward organizing the work in a way that will ensure the preparation of missiles to deliver a strike within the times laid down for this.

The high degree of combat readiness of units of the Missile Troops demands that the reliability of control from the General Staff's command post in accordance with predetermined signals should be constantly checked, especially during the exercises. At all stages of the exercise, staffs must report in agreed code to the General Staff on how the exercise problems are being worked out.

From the above it can be seen that the main and highest form of operational training of staffs, generals, and officers of the Ground Forces - a command-staff exercise in the field - has undergone changes in the last few years and has begun to promote more fully a comprehensive study of new ways to conduct operations, and also the bringing of the conditions of the situation closer to actual conditions which will obtain in the initial period of a war. As a rule, in exercises of border districts simulation

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has not been permitted in regard to the border and in regard to the forces and weapons of the two sides and to their operational position. The scale of the command-staff exercises, as regards the number of exercising staffs and the exercise area, has corresponded to the training aims laid down before each exercise. The largest was the Exercise "Burya." On the side of the "Reds" it included several front formations of ground forces and other types of armed forces. Each side used a large quantity of nuclear warheads. This exercise enabled certain conclusions to be drawn also on problems concerning the planning of operational command-staff exercises.

It is generally recognized that a two-sided command-staff exercise enables the directing staff to conduct the combat operations content not in a preconceived way, but on the basis of the decisions of the commanders of the two sides. Usually a strong and authoritative directing staff is assigned to conduct such an exercise. Great mobility is demanded in the work of the directing staff for collecting information and watching the combat operations of troops, for analyzing the decisions made by the two sides, and for conveying the instructions of the exercise's director to the umpires. The complications involved in organizing a two-sided exercise sometimes compel one to resort to a one-sided exercise.

At Exercise "Burya" a strong group of generals and officers from military academies was organized, and it took the part of the "Blue" side with the cards of its plan under the table, but it was located jointly with the directing staff. The exercise was carried out as a two-sided one, but the main attention was devoted to the "Red" side. Such a method brought the exercise considerably closer to reality and at the same time greatly reduced the technical difficulties compared with an actual two-sided exercise and enabled the problems under study to be worked out in a more instructive way. It can be fully recommended for

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command-staff exercises in military districts, where one of the main shortcomings in the procedure for conducting an exercise is that the directing staff makes decisions for the "Blue" side at each stage in advance, even before the exercise has started, and then tries in every way to tie in the development of combat operations with these mapped out decisions.

On the basis of experience gained in Exercise "Burya," a no less important conclusion can be drawn in regard to the organization of the directing staff. Almost at every command-staff exercise the directing staff is composed of generals and officers from various directorates, military academies, schools, and other establishments. Time is never provided to knit it together. New commanding officers do not know their subordinates, and the latter do not know the duties and requirements they will be called upon to fulfil in their new appointments. The negative effect of these regular shortcomings, which as a rule lead to overloading of the main, experienced operators (operator) at the exercises, is now greatly aggravated in view of the growing speeds of offensives, the speed with which the situation changes, and the necessity of making an accurate calculation of the results of each nuclear burst, something which is still being done by the old method without the use of automation. It is natural that things were difficult for officers and generals of the directing staff at an exercise in which each side used a large quantity of nuclear warheads during a few days over an enormous area, and in which many combined-arms large units were continuously on the move; but the main thing is that not everything was done in the way that the situation demanded, because an individual cannot work successfully without rest, even if he is well trained and capable. The directing staff apparatus must clearly be organized to conform with the tasks to be performed. It must be strong enough so that in its role of a higher headquarters it can control the headquarters

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and troops drawn in for the exercise, as it would in war.

In the next few years one will still not be able to count on easing the work of the directing staff by means of automation, and consequently more attention must be paid to organizing and training it on correct lines.

Experience in planning operational exercises has been amassed at headquarters. Each exercise has its own specific features, which, depending on the scale and aims of the exercise, are reflected in the plan, in the ways of conducting the exercise, and in the organization of the directing staff. But despite the distinctive features of each exercise, the directing staffs formed for exercises to some extent or another will contain groups or individual officers who will be fulfilling tasks identical in their nature and content. For instance, the planning group (gruppa planirovaniya) does the planning of the exercise for stages and days, works out the plan for enacting important episodes, draws up the instructions of the director and conveys them to umpires, and prepares recommendations directed toward attaining the training aims, taking into account losses in personnel on both sides. The situation or axis group (gruppa obstanovki ili napravleniya) keeps the maps of the operational situation, analyzes the decisions taken by the commanders, processes the information coming in, and prepares a report for the chief of staff or the director of the exercise on the state of the forces of the two sides and the relationship between them.

For the reproduction of maps and information about the progress of the exercise, an information group (gruppa informatsii) is also formed inside the staff. Often these three groups are combined as an operations department or an operations

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directorate.

In addition, a critique group (gruppa razbora) is formed to prepare reports for the critique by the director and the chief of the directing staff; an organization group (organizatsionnaya gruppa) is also formed. These two groups are usually subordinated to the chief of the directing staff.

Experience at exercises has shown that it is impossible to separate the work of the planning group from that of the situation and information group, and that it is even harmful to do this. Planning is possible only on the basis of knowledge of the situation. In turn, information regarding troop operations can be understood better if it is known what instructions have been issued by the director of the exercise to the umpires. That is why the work of both groups in one combined organ will be considerably more productive. This can be seen particularly clearly from the experience of the work of the directing staff at Exercise "Burya."

The best organ, which has passed the test of experience in troop control and is capable of carrying out both the planning tasks as well as the staff work concerned with the operational situation and information at an exercise, can be an axis group which is strong in composition and doing the staff work for not more than one front, and at an exercise on the scale of a front - for not more than one army. Naturally, such an axis group must include the necessary number of specialists in its complement. The total number of officers will depend on the number of large units and formations operating on the axis concerned, but there should be not less than three officers to an army with a view to organize the work in shifts. All axis groups are combined in the operations directorate or operations department.

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There is no need to be afraid of swelling the strength of the directing staff apparatus at the expense of officer-operators. In doing this kind of work, officers get good practical experience and acquire operational knowledge so that the expenditure of time and effort is fully justified. In Exercise "Burya," Marshal of the Soviet Union Comrade A.A. Grechko expressed dissatisfaction when he learned that only one axis group was dealing with two fronts and said frankly that the directing staff must not be reduced at the expense of operational personnel and that the directing staff must include a strong axis group for each front.

The same should be said also about the complement of the critique group. Generals and officers of this group must be familiar with staff work, and be present when the director of the exercise interviews commanders; they must analyze the decisions and the whole course of the exercise and in the same limited amount of time must summarize material and write a report. All this urgently requires the selection of experienced officers for the critique group, and there should be not less than three officers to each army headquarters participating in the exercise.

Finally, one must find ways to train personnel for the directing staff, draw from various directorates and establishments, in order to provide officers with an opportunity to receive training before the start of the exercise and to display their knowledge and capabilities.

The question under discussion is that of setting up and organizing the directing staff in a way that would ensure its being able to conduct an exercise with the use of nuclear/missile weapons. The difficulty lies in the fact that it is impossible to calculate the results of each nuclear strike with the authenticity and accuracy required in war, and without this the course of combat operations and actions becomes distorted. If one looks at the resolution of this problem by our probable enemies, then one

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can satisfy oneself that they are faced with the same problem. In analyses of exercises conducted by them it is stated frankly that all exercises are planned for conditions of waging nuclear warfare, but in view of the impossibility of calculating the results of the use of nuclear weapons, they are in reality conducted as though conventional weapons of destruction were used. It is admitted that the time has come to conduct exercises with the help of accurate calculations of the results of nuclear strikes, but that for this one must have a specially trained directing staff and detailed planning of the exercises.

With the use of automated systems for troop control, the problem of organizing and conducting an exercise will undergo a radical change. The process of collecting and processing information and of determining the expected results of the use of nuclear weapons by the two sides will become much simpler, as well as the process of preparing the combat operations introduced for the exercise. All this will bring to reality new forms and methods of training troops and staffs, and special scientific-research work is needed in this direction. The new forms and methods of exercises must ensure the practical working out in various alternatives, of the operations of all types of armed forces and arms of troops, in the initial period of a war in complete accordance with the operational views regarding their employment and with due regard to the constant improvement of combat equipment, armament, means of communications, and electronics.

The following most widespread shortcomings have been noted in the methods of conducting command staff exercises in military districts. As is known, the most reliable and effective means of communications for troop control in operations of a mobile nature is radio. However, owing to the need to use a code for conversations and lack of skill on the part of

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officers and generals in working radio sets, this form of communications is either ignored, if there is a possibility of using line high-frequency communications and radio relay, or conversations take place by radio without strict adherence to the security rules. All this leads to a superficial solution of training problems in troop control and to the possibility of open conversations being intercepted by enemy intelligence. To overcome this shortcoming, it is essential that the directing staff of the exercise should more often put out of action the means of communication which are the most vulnerable in war - line and radio relay - and compel the participants in the exercise to make use of radio communications for troop control. To suppress breaches of the communications security rules, a strict radio watch should be set up, and those who are guilty of security lapses should be punished. When communications secrecy equipment is available, it becomes much easier to fulfil this task.

Another shortcoming in the methods of conducting command-staff exercises, which is also characteristic of war games on maps, lies in an excessive addiction on the part of the directing staff of an exercise to so-called operational leapfrogging. This comes about because the situation created for a definite time to work out a set of training problems does not build up in succession (an hour of operational time to an hour of real time) even for a period of twenty-four hours, but is greatly compressed. Then, after combat operations have been going on for several periods of twenty-four hours, the participants in the game are given a new situation in which to work out (again in a static way) the next training problems laid down in the plan for the exercise or for the war game. Such leapfrogging is repeated two or three times during an exercise or a war game, as a result of which all problems are actually resolved in static circumstances although the terrain and the position of the troops of both sides change. When

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such operational leapfrogging occurs, it becomes impossible for the participants in the exercise or the war game, within the framework of the dynamics of a battle, to work out all the problems involved in troop control and in using different arms of troops. For instance, in static circumstances missile troops cannot solve all the specific problems of preparing data to destroy groupings of enemy troops, because for this one must carry out combat reconnaissance of targets before launching the missiles. Problems of relocating subunits of missile troops also cannot be worked out. At such a war game, what happens in practice is that several versions of the situation, created for short-term study periods, succeed one another in turn, while the operation as a whole loses its logical sequence. In a command-staff exercise and war game it is necessary to create a situation which would permit the performance of the tasks set not only in static but also in dynamic situations.

To preclude such mistakes, during an exercise or a war game it is essential to make provision for a definite period after a leap when the operational time corresponds to actual time, hour by hour and when it becomes possible to perform tasks in dynamic circumstances, as under real conditions of warfare. The high speed of an offensive under modern operations enables a reduction to be made in the number of operational leaps during an exercise and provides possibilities for the participants in it to work out training problems during the successively developing combat operations by the two sides.

Speaking of other forms of operational training of ground forces, one must take into account that the significance of each of them depends directly on the tasks set for the given training year. During operational exercises last year, serious shortcomings were revealed in the work of staffs when working out a decision. These deeply ingrained shortcomings lay

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mainly in the absence of ability in many officers and generals to report concisely and clearly their conclusions based on an estimate of the situation, and decisions or suggestions for the employment of a certain arm of troops in the operation. To overcome these shortcomings, the operational directive for 1962 recommends that command war games should be conducted in which the participants should make every effort toward working out a language for giving orders (komandnyy yazyk), (for putting over with the utmost clarity what is required in practice) and ensuring successful conduct of operations. Therefore, this year command war games will become a very widespread form of training for officers and generals.

Positive examples of conducting games of this kind are already available. At the end of January 1962, a one-sided command war game was carried out in the Transcaucasus Military District on maps under field conditions. The participating officers from the headquarters of the district and the headquarters of armies were the army commanders, the chiefs of staff, and the commanding officers of arms of troops and of directorates and departments, each in the role of the positions actually held by him. The training problems regarding the planning and conducting of an operation were worked out by the participants in the game independently on maps. The director of the war game - the commander of the troops of the district - listened to the reports and assessed in a critical fashion almost all the participants in the game in succession after the issue of the operational directive to the front and after the situation data had been given. The game continued for forty-eight hours. Officers and generals got good training for fulfilling their duties at the impending command-staff exercise in the field with the use of means of communications.

No less useful at the operational assembly of this military district were the lectures given on

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subjects of an operational nature, and the seminar periods for the study of nuclear/missile and chemical weapons and the tactical-technical data on military equipment.

Skilful combination of the various forms and methods of operational training will make it possible to raise the combat readiness of staffs and troops to a higher level.

In this connection, mention should be made of the short-term operational study periods which are widely practiced at all headquarters and military academies to train officers and generals. In their nature and purpose, they are of the following kinds - command, staff, rear services, and special. At the exercises conducted by this method, one training problem is usually set and a situation is created with enough details about the position of the two sides to make the attainment of the aims set by the director possible.

Short-term operational study periods are conducted with the aim of training the participants to make decisions and to prepare documents and also to test their knowledge of certain problems concerning the preparation and conduct of operations. Not much time is required for working out and conducting them. Depending on the number of participants, the exercise can last 3 to 6 hours. At the exercise the director either hears the decisions orally and provides a critique of them or instructs each participant to present his decision in writing. In the latter case, the checking of the decisions made and the critique must be done as soon as possible.

The main shortcomings of operational short-term study periods in practice usually lie in oversimplification of the situation. The trainees in this case quickly determine the director's plan and make a

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decision which is the obvious one. Therefore, in working out short-term study periods the director must find ways of complicating the situation on the lines of the nature of modern operations, with a view to ensuring that the most correct decision should emerge as a result of a deep analysis of all the data describing the position and the combat capabilities of the two sides.

Sometimes the training goals laid down for short-term operational study periods are far too large: for instance, in 4 hours to make a decision and plan the army's next offensive operation. Such a task can be done only collectively in that period of time, and one officer or general, finding himself unable to cope with the work, will as a result lose confidence in his powers.

As the most flexible, active, and, in comparison with others, most easily worked out forms of training for officers and generals, operational short-term study periods must be perfected and should be given one of the important places in the system of operational training.

Among the PVO Troops of the Country, in the Air Forces, and in the Navy, the operational and operational-strategic exercise with troops, usually conducted as a two-sided one, has become firmly established as the highest form of operational training. As it is essential in these types of Armed Forces to keep the troops in a high state of combat capability and readiness, which depends on the specific results of the use of combat equipment and the training of each crew, the command staff exercise has become for them an auxiliary training measure, directed mainly toward the training of staffs and the command element in how to train with troops. The PVO Troops of the Country can consider

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their task to be fulfilled only when an enemy aircraft or winged missile has been shot down in the approaches to the objective. A bomber of the Air Forces must actually evade the antiair defense on the enemy's territory and destroy its objective. Besides staff exercises, all this demands the organization and conduct of two-sided operational exercises with troops including actual flights by attacking aircraft and flights by PVO fighters to intercept them, as well as operations by antiaircraft missile troops and radio-technical detection posts.

At such operational and operational-strategic two-sided exercises, under conditions corresponding as closely as possible to the actual situation, all arms of troops, all staffs, formations, large units, units, crews, and teams work together to perform simultaneously the operational, tactical, and combat tasks in the fullest possible way both for the attacking as well as for the defending side. At the same time, they serve as a check on the training and skill of subunits, crews, and teams and of the ability of commanders and commanding officers at all levels to control the troops subordinated to them.

In 1961, the largest two-sided exercise was Exercise "Volna," the Air Forces participating on the side of the "Blues" and the PVO Troops of the Country on the side of the "Reds." According to the plan, the "Blue" aircraft were to operate on the axes which are being studied by the probable enemy

This exercise made it possible to work out the training problems set to discover the strong and weak points in the training of the large units and formations participating in the exercise, as well as to lay down specific ways to eliminate shortcomings.

Useful experience was also gained in regard to

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the planning and the methods of conducting such exercises, and this calls for further elaboration.

The plan for the organization of the exercise, for the directing staff, and for the staff (apparat) of umpires was worked out on the basis of the experience of all the previous exercises on this scale, and proved to be efficient in practice. In the directing staff, a chief operations directorate was organized, which included the following: a group to execute the combat operations (gruppa rozygrisha boyevykh deystviy), consisting of two strongly staffed axis parties - one for the "Red" and the other for the "Blue" side; a group responsible for preparing the critique; an organizational group; a group to investigate new problems; a group concerned with the automation and mechanization of control; a group of the 8th Directorate and a secret section.

Umpires were detailed down to each unit. For the training of umpires, special instructions were published, in which were set forth the special duties of umpires working with units and large units operating both on the "Blue" as well as the "Red" sides. In addition, the umpires were given instruction during which they studied the situation, the plan of the exercise, and the instructions for safeguarding flights. This instruction was concluded with an instructive lecture by the deputy director of the exercise.

Thanks to thorough preparation, the complicated two-sided exercise was held without any extraordinary incidents. However, after the critique it became clear that the reports which had come in from the umpires and from command posts did not reflect the course of the combat operations of the troops of both sides accurately. Naturally, this precluded an objective evaluation of the state of preparedness of the staffs, units, and large units participating in the exercise. It became necessary to analyze the actual operations

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of the two sides on the basis of more reliable information - the reports which came in from the troops. A more objective picture of the operations of the two sides could be arrived at only after studying and processing the reports of the "Blue" aviation units regarding the actual sorties flown by them, the plan for following air targets by the "Red" radio-technical troops, and the reports regarding the operations of "Red" fighter aircraft units, antiaircraft missile troops, and special designation units. Without such painstaking work, it is impossible to prepare material for a critique of an exercise on such a large scale. This is due to the following factors - the combat operations of the two sides are of short duration; in many sectors weather conditions may be complicated; ways of assessing the effectiveness of attacks by fighters objectively under conditions of jamming are lacking; it is difficult to detect bombers flying at low altitudes and many antiaircraft missiles cannot participate in repelling air attacks in view of the need to counter the probable enemy's actual reconnaissance. We must accelerate work on a technical solution of the problems connected with the elimination of these difficulties. In the future, such exercises should be conducted on the basis of the existing capabilities of the PVO Troops of the Country and of the Air Forces, and also on the basis of the experience of exercises already conducted. This must be reflected above all in the system of training staffs and troops of both sides for the impending exercise.

Experience of exercises shows that data regarding the enemy, to the extent of the amount of information allowed in accordance with the plan for the exercise, must be given to the two sides not 5 to 7 days in advance, as is done, but a month before the start of the exercise, so that a thorough study of the situation can be made and the possible alternative actions by the "enemy" can be considered. After all, the first strike and the first operations in the initial period of a war in expectation of the probable enemy's attack

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are in fact prepared in peacetime; consequently, the granting of much time to staffs and troops for the study of a new situation creates not simpler but realistic conditions.

The assembly of troops for an exercise is a very costly undertaking, and so it is necessary also to seek other effective ways of preparing and conducting exercises on such a scale. At the beginning of an exercise, during its preparatory phase, it is advisable to practice working out all training problems with staffs without troops, as is usually done at a command-staff exercise. After a thorough study of the whole situation, the next phase of the exercise should be continued with troops of both sides engaged in combat operations. By this method, the combat operations of the large units, units, and subunits participating in the exercise can be conducted in the most advantageous way.

It should also be considered that when the number of attacking aircraft is limited, the territory of the defending side should be correspondingly limited in size. A disadvantageous proportion of forces on either side complicates the working out of practical ways of carrying out attacks by bombers and interceptions by fighters. The introduction of so-called coefficients of correlation of forces, when each attacking aircraft is considered to be two or three, does not make the situation easier. It is impossible to combine simulated and real forces, especially in a large-scale exercise.

In working out and conducting troop exercises with large units and formations of PVO Troops of the Country and of the Air Forces, it is equally important to calculate and consider the possible results of the operations of other types of armed forces in the first and subsequent nuclear strikes. A war is waged by the efforts of all types of armed forces of both sides. The PVO Troops of the

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Country fulfil their tasks while other types of armed forces, especially strategic missile troops, deliver crushing nuclear strikes against the aggressor's objectives, including his nuclear weapon vehicles. Consequently, PVO Troops of the Country and the Air Forces must work out their problems at exercises under realistic conditions, following nuclear strikes by other types of armed forces, taking into account the possible results of these strikes on the bases of the enemy's nuclear weapon delivery vehicles.

In conclusion one must mention that an exchange of views on the problems of the forms and methods of operational training will permit the acceleration of their improvement and the creation of new ones in accordance with the rapid development of military art. The readiness of armed forces in peacetime to wage a future war depends to a considerable degree on the extent to which the forms and methods of training staffs and troops promote the creation during training of real conditions, close to the actual combat situation.

In the general plan for the training of armed forces, the search for effective forms and methods of training troops and staffs and the creation of new techniques for this purpose must occupy just as important a place as the formulation of new ways of fighting a battle, conducting an operation, and waging war as a whole.

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