MEMORANDUM FOR: The Acting Director of Central Intelligence

SUBJECT: MILITARY THOUGHT (SECRET): "On Regrouping a Combined-Arms Army from the Depth of the Country in the Initial Period of a War", by Major-General P. Stepshin

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On Regrouping a Combined-Arms Army from the Depth of the Country in the Initial Period of a War

by

Major-General P. Stepshin

From the very beginning of a future war there will be a requirement for the stepping up of the efforts of the operating fronts with troops being moved up from the depth. Not only individual units and large units, but also whole formations, will be moved up to the line of the front. The demand for this may result from the need to create strong groupings in short periods of time to develop an offensive, to deliver counterstrikes or to go over to a counteroffensive, to close large gaps which have formed, and to replace troops who have been weakened or who have lost their combat effectiveness.

In recent years considerable experience has been accumulated from exercises in the organization and carrying out of regroupings of a combined-arms army from the depth of a country in the initial period of a war, in different theaters of military operations and in different situations. Thus, in one of the exercises in the North Caucasus Military District, a combined-arms army consisting of a missile brigade, and of one tank and four motorized rifle divisions, moved 1,400 to 1,600 km in the first days of the war to participate in the fulfillment of the further task of a front attacking in a mountain theater. The regrouping was carried out by crossing a mountain ridge along one railroad and three highway axes. A large part of the troops (up to 80 percent) moved under their own power, and the remainder by railroad, air, and water transportation. The army was sent into battle on the seventh day after beginning its forward movement.

In another exercise, an army with the same complement and the same assignment moved 1,000 to 1,200 km across territory with a developed road network and was sent into battle in five days. About 40 percent of the complement
of the army moved by railroad, up to 45 percent moved under their own power, and about 15 percent of the whole volume of transportation fell to the lot of air transport.

The procedure and time for moving troops within the complement of an army during a regrouping can be most varied. Together with this, an analysis of the experience of exercises and games reveals a number of general laws characterizing the conditions and methods of organizing and conducting the regrouping of a combined-arms army from the depth of the country in the initial period of a nuclear/missile war.

* * *

The law of nuclear/missile warfare, formulated by N. S. Khrushchev, which states that from the very beginning of an armed conflict the primary efforts of both sides are aimed at the depth of the hostile camp, is bringing about basic changes in the conditions for moving troops and will give a new character to regroupings.

Troops and communications will now be subjected to enemy action at any distance from the front. The scale and effectiveness of this action have increased immeasurably. It is sufficient to note that the probable enemy can take special measures at the beginning of a war to upset the movement of reserves forward from the depth of the country by setting up so-called "nuclear obstruction barriers" along the natural lines intersecting the basic lines of communication. Simultaneously, a large number of nuclear strikes can be delivered against troops, road junctions, stations, tunnels, ports, and wharves.

Judging by the exercises held, for struggle against reserves moving up in the most important theaters of military operations, the command of NATO envisages the use of a large number of nuclear warheads, of thousands of aircraft, of bacterial and toxic chemical agents, of airborne forces, and of specially trained and equipped sabotage groups and detachments. This is also taken into consideration in our command games and operational exercises.
Thus, during one of the military command games, during the first two days of the war alone, the "enemy" delivered 19 ground and 3 air nuclear strikes against the lines of communication of our troops. Calculations showed that even such relatively small actions by the "enemy" resulted in the radioactive contamination of large areas. Moreover, as a result of the nuclear strikes, 9 railroad junctions, whose restoration took 4 to 14 days, were destroyed. The railroad network was broken up into 6 isolated sections. Of two through railroad lines leading toward the front, one was put out of action for a prolonged period, and the other was subjected to constant action by "enemy" sabotage groups and detachments. The total carrying capacity of the railroads decreased by 60 percent, and the length of the route for the greater part of the military echelons increased twofold and more. As a result of the destruction of a hydrotechnical installation, terrain over an area of 200 by 25 km was flooded. Very important highway junctions were also destroyed, and the roads themselves became clogged with streams of people and civilian transportation.

In a short time the forces and weapons of the army had to be brought in to ensure the continuation of its regrouping, which was in progress—to carry out engineer work to overcome the obstacles which had appeared and to restore the roads, to carry out antiair defense and protection against atomic and chemical attack, to eliminate the consequences of the "enemy" nuclear attack, to increase sharply the commandant's service and the regulation of traffic, to destroy "enemy" sabotage groups and landings, and also to wage a struggle against isolated groupings of his troops which remained in the rear of the attacking front in the zone near the border.

Further "enemy" action against lines of communication and against troops moving up turned out to be so effective that it threatened the regrouping with possible failure. Special measures had to be taken to provide reliable support for the troops moving up.

The need for fire support of the regrouping was already felt during the past war. However, at that time, it amounted
to passive measures, mainly to the antiair defense of troops and lines of communication. Now this is no longer sufficient. To ensure the movement of large reserves from the zone of interior, operational nuclear/missile means must be actively combatted and strikes must be delivered against his airfields. This combat will be waged in the framework of the general plan of the General Headquarters of the Supreme High Command for the gaining of fire superiority in the initial period of a war. At the same time, the planning and carrying out of the fire support of troops moving up must become an important duty for a front and even for an army.

Consequently, the regrouping of an army from the rear to the front—something which formerly had the nature of "peacetime transportation" and which was frequently connected only with the expenditure of time, vehicle resources, and fuel—has now been transformed into a distinctive combat operation whose purpose, after active and constant enemy counteraction has been overcome, is to maintain the combat effectiveness of the troops and build up the complement of the front to the grouping necessary for the performance of the new task. During a regrouping, the troops will now cease to be simply passengers being transported from one area to another. They will be forced to overcome various obstacles along the paths of their movement and to cross contaminated sectors of terrain, to take active measures to upset or to decrease enemy pressure to a maximum, and, in several instances, to eliminate the consequences of his nuclear strikes.

The definition of regrouping as a combat operation shows sufficiently fully the qualitative change which it has undergone in connection with the shift in the center of gravity of armed struggle to the depth of the belligerents, reflects the essence of the process of moving troops under modern conditions, and favors the correct solution of a number of problems connected with the organization of regrouping.

The different methods in which it can be carried out are also in keeping with the changed nature of regrouping.
Methods of moving troops which are not connected with the use of the large, permanent transportation installations most subject to enemy action and which ensure reliable regrouping and maintenance of the combat effectiveness of the troops, are acquiring very great significance. Among these are the following: moving an army as a whole by air transportation, with the loading and unloading of troops and equipment at temporary field airfields, combined regrouping with the comprehensive use of various types of transportation, with the predominant role given to movement under their own power, and the movement of all the forces of an army under their own power. We believe that the last method will become the most widespread in regroupings over a distance of up to 1,000 km, i.e., in the zone where the enemy will use his main weapons in his nuclear offensive.

* * *

Under modern conditions it is necessary to examine afresh the regrouping of an army, in connection with its subsequent commitment to battle. In the past, the sequence and procedure for regrouping had little dependence on the nature of the operational task which the army had to accomplish within the complement of a front. In the majority of cases, after its movement an army spent a prolonged time in the build-up area, where it also prepared to conduct the operation.

At the present time, the high speeds of development of operations, the desire to increase its efforts as quickly as possible and to achieve surprise, the mass destruction of communications, and also the threat of the destruction of a concentrated army by enemy nuclear/missile strikes, make it inadvisable for the army to remain in a build-up area for a long time, except in certain cases when it is necessary to create a new grouping of troops, for example, in preparing a counteroffensive along a given axis.

The experience of exercises shows that a tendency to transform the regrouping and the commitment to battle of an army from two independent and relatively unrelated acts into a single process, connected by a general plan,
and by the continuity of operations, is already appearing. There is every reason to suppose that, as the speed of regroupings and of the operations of ground troops increases, this law will manifest itself even more strongly. This results from the fact that the organization and procedure for regrouping prove to depend increasingly on the nature of the operational task which the army will have to accomplish within the complement of a front. However, for the proper organization of troop movement, there is more and more need for timely determination and knowledge of this task.

It is sometimes said that in the strained and dynamic situation of the initial period of a war, it will be impossible to determine in advance the nature of the task which an army will accomplish after regrouping within the complement of a front. Of course, sudden and abrupt changes in the situation during this time are quite possible. On this basis, however, it is impossible to gainsay the advisability of planning the first army operations and army regroupings from the depth of the country before the war starts.

It should be borne in mind that under modern conditions, in contrast to the last war, the number of armies within the complement of a front may be somewhat smaller. In connection with this, there is the increasing possibility of determining the tasks of each army in good time. Moreover, in the majority of cases the development of an offensive by the troops of a front will be carried out, we suppose, by the reinforcement of the armies of the first echelon with individual large units from the front's reserve. The commitment of a whole army to battle must be considered a rare phenomenon, and the general nature of the task of such an army can be determined in advance.

For example, in one of the exercises, the need to commit an army to battle arose from the fact that a new, important operational axis had appeared in the depth of "enemy" territory. In another instance, an army was committed to battle after troops of the first echelon of the front had traversed a narrow defile between two water barriers. In both instances, the operational tasks of the armies being committed in the impending army operations were determined in advance.
Sometimes it will be possible to orient an army in the most probable variants of its use in general terms only, but even this will assist in the purposeful organization of troop movement.

Depending on the length of the period of threat (ugrozhayemyy period), the period of mobilization, the complement and assignment of the army, and the distance and speed of the regrouping, an army can arrive in the complement of the front at various stages of its first or subsequent operations, and, if the period of threat is of sufficient duration, before the beginning of military operations and at the beginning of the war it will be in the first echelon, or will comprise the second echelon of the front.

An army which is constantly deployed at a distance of no more than 1,000 to 1,500 km from the line of the front, and which succeeds in completing its mobilization before the beginning of military operations or which is in a state of constant readiness, will be able to join the complement of the front (if it is not moved by air) approximately as the fulfilment of the subsequent task of the first front operation is beginning, i.e., on the fifth to seventh day of the war.

It is most probable that mobilization will begin only on the eve, and sometimes at the beginning, of the war. In this case, an army which is moving forward while regrouping at a distance exceeding 1,000 to 1,500 km will be able to participate only in the second and subsequent operations of a front. Guaranteeing the participation of this army in the first front operation is a very complicated task, which can be accomplished only by moving the troops by air.

We now have such military transport aircraft as the AN-8, AN-12, IL-18, TU-104, and the MI-6 helicopter, which are able to transport by air the personnel and organic means of a motorized rifle division of modern organization (without tanks).
Calculations show that 4 to 5 divisions of military transport aviation can transport an entire motorized rifle division in two trips over a distance of 2,000 km in two days. From this, one can see that basically, modern military transport means already meet requirements for the movement of troops over large distances. When this aviation is equipped with AN-22 aircraft, it will be able to transport motorized rifle and tank divisions and missile and other units in full complement by air.

However, this does not exclude the need for the further improvement of military transport aviation. For example, we must have aircraft able to carry loads of 30 to 50 tons, with a maximum speed of about 800 kph, and with a flight range of 5,000 to 8,000 kms, which can take off and land on dirt airfields of limited size. There is also a great future for autcraft (turbolet), combining the characteristics of a helicopter and an automobile and able to move on the ground as well as in the air.

An important problem is that of decreasing the time between regrouping and committing an army to combat. As has already been noted, the simultaneous commitment of all or of a large part of the forces of an army which is moving up will now be a very rare phenomenon. There is now no sense in keeping all the troops of an army in definite areas until they have been fully concentrated. Firstly, such a grouping would be a good target for enemy nuclear strikes and could cause great losses; secondly, the presence of an army in the build-up area for several days will result in its separation from the troops operating over a considerable area ahead, and this will not ensure the timely stepping-up of the efforts of the first echelon of the front.

As has been shown by the experience of exercises, the one or two divisions which are in contact with the enemy will usually be again subordinated to an army being committed to battle after regrouping, and at first, only a part of the complement of arriving troops may be committed to battle -- a missile brigade and three, two, or even one division with the necessary means for reinforcement. As a rule, these divisions will be committed to battle on separate axes and at a different depth as they approach
and deploy for combat.

Therefore, under the conditions which have been examined, the readiness of an army for commitment to battle must be determined not by the completion of the concentration of all its forces, but by the time of the arrival in the new areas of its large units which have been assigned for operations in the first echelon of the army. On exercises this made it possible for us to reduce the time between the beginning of regrouping and the commitment of an army to battle by almost three days.

In connection with the conceptions which have been expressed, the procedure for assigning the task of regrouping to an army is also changing. For example, in the majority of instances the designation of a build-up area is losing its meaning because in practice there will be no such build-up; the large units of the first echelon of the army will enter battle abruptly, while the remainder, trying not to lag behind the troops operating ahead, will also continue the movement, in readiness to develop the offensive.

It seems to us that, under the conditions which have been examined, instead of indicating an area and a time for the conclusion of the build-up of an army, it would be preferable to specify the area and time at which commitment to battle should be begun and ended and also the forces by which this commitment should be carried out and supported.

Also, in allotting tasks to the army's large units, there is no need to specify build-up areas. Bearing in mind that these large units will enter combat abruptly, and frequently not simultaneously, they should be given only the limits of deployment (commitment).

Allocation of tasks in this way corresponds more fully to the modern understanding of commitment to battle and to its coordination with regrouping, allows maximum use of the limited capabilities of existing means of communication for the forward movement of large units in
the most advisable sequence, and reduces the time needed to move and create the necessary grouping of forces and weapons.

* * *

Preparation for moving an army from the depth of the country begins even before war starts. In this process, its assignment and complement are determined, together with the zone of its movement, the times for mobilizing and regrouping, the requisite transport and support means, and the procedure for their use. At the same time, measures are taken to maintain the constant high state of mobilization and march readiness of the troops. In accordance with the assignment of the army and with possible changes in the state of the lines of communication and transportation, several variants of the regrouping plan are worked out.

Under the conditions of nuclear/missile warfare, however, the significance of this prewar planning should not be exaggerated. The experience of exercises shows that the very first enemy nuclear/missile strikes can so substantially alter the periods for mobilizing troops, the state of the lines of communication, and their traffic capacity, that only basic elements of the prewar plan will retain their significance. Therefore, the greater part of the work on the organization of the forward movement will be done not ahead of time but immediately before the very beginning of regrouping, in extremely compressed periods of time, often under enemy action, while the consequences of his strikes are being eliminated, and simultaneously with the conduct of mobilization measures.

So that the army commander and staff will be able to accomplish their tasks successfully under these complicated conditions, we must first of all ensure the rapid collection of information on the situation. For this, specifically, a single system must be worked out for notifying troops about the radiation situation, using all the means of reconnaissance, subunits and units of the chemical troops, local organs of civil defense, and the network of the hydro-meteorological service. We must also resolve the
problems of organizing engineer reconnaissance and of the regular notification of troops of the state of the highway network. With this purpose, we should periodically publish appropriate information bulletins and also implement current information, even immediately after the first enemy strikes.

The direct organization of regrouping begins with the receipt of the appropriate directive. If this directive arrives at the army staff during the period of threat, it may contain only the briefest instructions on which variant of the regrouping plan to use for guidance. Sometimes such a directive can be replaced by a verbal order or even by a simple signal. Under these conditions, the army commander and headquarters should ensure that the regrouping plan which was worked out earlier is put into practice.

It is another matter if the war begins suddenly or if the period of threat is so short that the army has not succeeded in beginning its regrouping before the beginning of military operations. Under these conditions, abrupt changes in the regrouping plan are possible, and in several instances the task of the army as well, and this demands a directive containing new and specific instructions, which take these changes into account.

We think that a directive on regrouping should include the following: the task and complement of the army; the zone and time for beginning and ending the regrouping; the probable targets, the area and orientation time for committing the army to battle, and the means by which this commitment should be carried out; the transportation means assigned to the army for the regrouping; the procedure by which the means of the senior level support the forward movement and the commitment of the army; and the latest information on the state of the lines of communication in the zone of the forward movement.

In determining the regrouping zone for an army, one should proceed on the basis of the particular conditions of the situation. It is still a widely held view that the regrouping zone is a zone of terrain within the bounds of which the troops carry out their own forward movement.
Railroads on which troops are transported and airfields and docks for loading and unloading in the regrouping zone are therefore frequently not included.

We consider that such an approach is already out-of-date. Rail, water, and air transportation can be disrupted at any time by enemy action and the troops will be forced to continue the movement under their own power. To carry out the loading and unloading of a large unit, armies must have priority in the use of roads leading to the corresponding stations (airfields, wharves, and ports). By a regrouping zone, therefore, is meant that area within the bounds of which the whole complex of measures for the loading, shifting, and unloading of troops is being carried out or is planned to be carried out, regardless of the means for their movement.

As far as the required width for a regrouping zone is concerned, this can vary considerably, depending on the specific conditions. It seems to us that one should not set any kind of norms here.

For example, in the Western Theater of Military Operations, as calculations show, an army should be assigned a zone of movement with a width of about 250 to 300 kms. In less developed theaters, when serious obstacles exist on the roads on which the forward movement will occur, the width of a regrouping zone is considerably greater. Thus, in one of the games, an army crossed a mountain ridge in a zone with a width of about 1,000 kms; in another instance the sudden formation of a broad flooded zone made it necessary to cut the width of the zone of movement to about 500 kms.

Each time, a regrouping zone must be determined in such a way that it includes all the lines of communication and the stations (airfields and ports) for loading and unloading which are needed under given conditions for timely movement of the forces and means of the army assigned primarily for operations in its first echelon.
After receiving the directive, the commander and headquarters of the army will, as a rule, have a limited amount of time which, in a number of instances, is reckoned in hours, to organize the regrouping. Under these conditions, the success of operations will depend largely on the correct sequence of the work.

Let us examine the method of work chosen by an army commander at one of the command-staff exercises.

The commander began his work correctly by determining first of all, on the basis of the nature of the task which had been set, the complement of the army's first echelon, which it was desirable to have for the commitment of the army to battle. It was precisely here that the correlation between the regrouping and the forthcoming task of the army was expressed, particularly since a directive from a higher headquarters on the regrouping will hardly give exhaustive instructions on this problem. There was a case in a command military game in which the task of an army was insufficiently considered in making the decision on regrouping. The army was to be committed to battle in the complex conditions of a mountainous region, where the use of large tank masses was hampered. In spite of this, in organizing the movement forward, the army commander decided to include a tank division in the complement of the first echelon. The result of this error was that the army arrived in the complement of the front in a grouping which did not correspond with the conditions of its commitment. The tank division had to be replaced quickly by a motorized rifle division from the complement of the front's reserve, and this resulted in loss of time and made it difficult to fulfil the task set.

It should be borne in mind that the complement of an army's first echelon (the number and type of divisions which it contains) may be quite varied. However, experience shows that, in all instances, the first elements to enter the area of commitment must be the missile brigade, the army antiair units, the forces and means of the commandant's service, several combined-arms large units with the necessary means of reinforcement, the forces and
means of army intelligence, and the minimum necessary organs of the rear.

At one command-staff exercise the situation developed in such a way that, after suffering defeat in a border battle, the "enemy", using the remains of the armies of the first echelon, went over to delaying operations, and simultaneously, from the depth, began a movement forward by a strong grouping which was assigned to deliver a powerful counterstrike. An army was sent to combat this grouping.

An appreciation of the situation led to the conclusion that the hostile grouping would enter the battle earlier than the army. This made it necessary to create a strong first echelon containing three of the four divisions of the army, including one tank division.

One further example. At an exercise conducted in the North Caucasus Military District in 1959, from the beginning of the war an army moved forward to organize the defense of the sea coast, in anticipation of a landing by a large hostile force. The road conditions were very difficult. In this situation the army commander decided to use the whole network of lines of communication for the very rapid, top priority transfer of two motorized rifle divisions and missile units, which made it possible to gain time and to create a defense on the most dangerous sectors of the coast before the landing of the "enemy" force.

The capacity and nature of the operational axis on which an army will have to operate after being committed to battle, and other factors, can also influence the complement of the army's first echelon.

After having determined the complement of the first echelon, the army commander planned the times for its arrival in the commitment area, the volume of transport, the methods of moving troops, and the means necessary for this, Army headquarters prepared a chart on which was shown the traffic capacity of the lines of communication in the regrouping zone.
The capability of the lines of communication to move troops must be calculated, taking into consideration the existence of almost impassable sectors, i.e., areas of terrain where the traffic capacity of the roads is least. To these belong the various types of defile, ridges and rivers crossing the zone of the forward movement. As has already been stated, the enemy can create "nuclear obstruction barriers".

At the exercise which was conducted, the army's zone of forward movement was crossed by a river and by a flooded area created by the "enemy". The river was 200 km from the permanent disposition area, and the flooded area was 900 km away. The roads in the flooded area had the lowest traffic capacity.

Thus, the zone of the army's forward movement consisted of three parts. In the first part of the zone -- up to the river -- the traffic capacity of the roads was highest. The time for transportation from the river to the flooded area was determined by the traffic capacity of the river (the existence of river crossings), and from the flooded area to the area where the army was to be committed to battle it was determined by the traffic capacity of the roads in the flooded sector.

Clearly, the total traffic capacity of the roads in the regrouping zone could not exceed the traffic capacity of the least passable barrier line.

First of all, therefore, the army commander planned and organized the crossing of the flooded area by the troops. Bearing in mind the volume for transportation of the first echelon and the traffic capacity of the roads in the flooded area, which proved to be insufficient, the army commander decided to move one lightened motorized rifle division to the commitment area by air, using the resources of the military transport aviation which had been assigned to the army. Thanks to this, the amount of motor transport moving under its own power was reduced by approximately 1,500 vehicles each day. In addition, it was decided to build one more river crossing.
in the flooded area, with army means, with a traffic capacity of up to 1,300 vehicles each calendar day. These measures turned out to be sufficient to ensure the timely crossing of the flooded area by the army's first echelon, even when several functioning river crossings were put out of action.

In order to build a river crossing before the arrival of the troops of the first echelon, the engineer units of the army began to embark in railroad echelons early, before completion of the organization of the regrouping.

After this, the army commander established the most advisable sequence for the arrival of the forces and weapons of the first echelon in the commitment area, their grouping, and the disposition areas of individual large units and units.

It was decided to carry out the movement of the forces and means of the first echelon to the commitment area in the following order: the forces and means of the army intelligence; the lightened motorized rifle division which had been moved by air and which was used before commitment to battle to clear the area of remaining enemy groups and to ensure the safe deployment of the missile units; road-engineer and position engineer units and subunits brought in for the commandant's service; weapons of the army antiair defense; the missile brigade; the intelligence forces and means of the first echelon divisions; anti-aircraft missile units and missile battalions of these divisions; antitank artillery units; the remaining forces and means for reinforcement of the large units of the first echelon; and the minimum necessary rear organs. Such a sequence met the interests of the forthcoming commitment of the army to battle to the greatest extent.

In accordance with this, the necessary time and order for the troops of the first echelon to cross the flooded area were determined, as well as the arrangement of their movement from this line to the commitment area. Here the troops could move only under their own power because the railroad bridges had been destroyed, and the short distance between the flooded area and the commitment area made it pointless to restore the railroad transport after the
forced unloading. The routes for movement of the large units of the army's first echelon under their own power and the time for their arrival at their final destinations were therefore planned.

After this, the army commander planned and organized the crossing by the troops of the river which cut through the regrouping zone; the river crossings and the order, methods, and times for the troops to cross the river were determined, and then the order in which they were to move to the line of the flooded area. In this sector, the troops were transported by railroad and moved under their own power. The following were transported by railroad: combat engineer units assigned to build crossings on the line of the flooded area; a missile brigade and a missile maintenance battalion; the heavy materiel of two motorized rifle divisions and of one tank division; and some other forces and means.

On the basis of the established procedure for crossing a flooded area, primary and alternate areas for the unloading of the materiel following by railroad were assigned. These areas were planned close to the routes along which the divisions were moving under their own power, so that the heavy equipment could take its place as quickly as possible in the marching columns.

Loading stations were assigned to some units in the army's permanent disposition area and to others after they had crossed the river, to which they had been brought by motor transport. The reason for this was that not more than 26 echelons could be allowed to cross the river in a 24-hour period or, in the sector between the river to the flooded area, up to 32 echelons in a 24-hour period.

After the procedure for the troops to cross the river had been determined, it also became possible to plan the procedure for their forward movement from disposition areas to the river.

It was in this way that the regrouping of the troops of the first echelon was organized. The work of organizing
the regrouping of the remaining forces of the army was conducted in a similar manner.

Thus, in contrast to the past, when a regrouping was usually planned for the whole depth of a movement at once, in this exercise it was planned in phases. Under modern conditions, when the process of regrouping requires intensive participation by the forces and weapons of an army to overcome several successive barrier lines, but when the conditions of the forward movement will differ for each phase, we consider that such a planning procedure is the most advisable.

The army commander and headquarters were not limited to a single variant in organizing the regrouping. Bearing in mind the possibility that the outlined plan of movement might be disrupted by enemy nuclear/missile and aircraft strikes, they prepared one more variant for operations in case all the forces and weapons of the army moved under their own power. A procedure was also worked out for shifting from one method of forward movement to another.

When they were being moved by rail, the complement of the echelons was constituted in such a way that the subunits being transported had complete march and combat independence. Keeping in mind the possibility of a forced cessation of air transport, alternate areas for the landing of aircraft were assigned, and a procedure for the resumption of movement under their own power of the troops who had been transported by air. Large units moving under their own power were assigned routes (zones) of movement. One zone able to contain a division was left as a reserve zone.

The course of the regrouping, which occurred under constant "enemy" pressure, showed the advisability of these measures.

As far as the speed and procedure for the movement of troops under their own power are concerned, the experience of exercises has led us to the following conclusions.
We must use all measures to ensure that troops are moved with the maximum speed.

No matter how high the demands may be for speed in regrouping, however, its conduct must not result in the exhaustion of personnel or in putting combat equipment out of action on a mass scale.

The length of a day's movement must not exceed 12 to 13 hours. In the middle of the movement there should be a halt lasting up to 3 hours. With such a schedule of movement, the extent of a day's movement across average broken terrain may reach 350 km and more.

In the final phases of the march, the length of a movement may be decreased because of the need to move mainly at night and to conserve forces immediately before committing them to battle.

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The problems of support for a regrouping acquire great significance under all conditions. Let us examine some of them.

We consider that the present practice of constantly accompanying troops moving forward with support means is not in accordance with the concentrated nature of destruction along lines of communication or with the increased capabilities of units and large units to overcome obstacles independently, and it does not favor the purposeful use of support forces and means.

Support means, especially those under the authority of senior levels, must be concentrated at a barrier line before the approach of the troops and must support the passage of troops across obstacles which have appeared, and they must then move rapidly forward to the next line in readiness to perform the same support measures. The best roads must be allocated for the movement of support forces and weapons in good time, and in some cases it may be useful to make use of all or a part of the aviation transport resources which have been assigned to the army.
The protection of troops against enemy nuclear attack while they are regrouping is achieved by their maximum dispersion, by rapidly overcoming obstacles, and also by reliable antiair defense, since aviation is still at present the basic weapon for destroying moving targets.

At formation and loading sites, divisions must be assigned several concentration areas, each with an area of up to 600 km². The mutual location of these areas must make it impossible for them to be simultaneously destroyed by a weapon with a yield of one megaton. There must also be strict observance of the diagram for loading and for an efficient commandant's service. Troops must also be dispersed in the unloading areas.

In the movement of troops under their own power, their dispersal is achieved by using the maximum number of routes and by decreasing the length of columns in such a way that each short column, following independently, will not be a worthwhile target, and can at the same time be dispersed quickly to the depth at a signal of the danger of an enemy nuclear or air attack.

The method by which troops can overcome obstacles during the progress of a regrouping is determined by the nature of the latter, by the time needed to overcome them, and by the requirements for the maintenance of the troops' combat effectiveness.

As a rule, sectors of the terrain with high levels of radiation should be bypassed. When this is impossible, they should be crossed by a rapid forward movement along the axes with the lowest level of contamination. In some instances, it will be advisable to wait for a decrease in dangerous levels of radiation.

In crossing zones with high levels of radiation and other obstacles which have appeared during a forward movement, it may be advisable to use aircraft, particularly heavy helicopters, to set up temporary transfer areas. That is how the problem was resolved at one command game which was conducted. The situation developed in such a way that while one of the divisions was crossing a
mountain pass, the "enemy" delivered a ground nuclear strike. The movement of the division stopped. Then, in a short period of time, a temporary transfer area was organized and two regiments of MI-6s were allocated, which carried the personnel and motor transport of two motorized rifle regiments over the obstacle which had appeared.

The experience of exercises shows that it is necessary to consider not only the contaminated sectors of the terrain, but also the general radioactive background in the zone of the troops' movement. Here it should be borne in mind that vast areas may be subject to high radioactive contamination. According to preliminary calculations, in crossing such areas the doses of radiation received by the overwhelming majority of the personnel may approach the maximum permissible. To prevent a decrease in the combat effectiveness of troops under these conditions, the time they spend in contaminated areas must be reduced by increasing their speed of movement every possible way and by decreasing the length of the rest period, and at the stops they are forced to make, they should carry out partial sanitary processing and decontamination.

An enemy nuclear attack during a regrouping may result in stopping the movement of a certain unit or large unit or even in knocking it out of action completely. The elimination of the consequences of these strikes will be done primarily by the means of the troops which have suffered the attack and of local military organs, and in the vicinity of barrier lines, by the rescue means (спасателные средства) of the special treatment posts of the army which were deployed there earlier.

The antiair defense of an army which is moving forward will be provided mainly by the antiair defense troops of the country, and in a front zone by the forces and means of the front's antiair defense and by the organic antiair defense weapons of the army and of the divisions.

The mass nature of regroupings being carried out over a vast area and at great distances, and the characteristics of modern means of antiair defense, make it inexpedient
to cover each column individually. The main forces of fighter aviation and of the antiair missile units must be directed at covering troops in build-up areas and areas of loading, reloading, and unloading and when they cross the areas which are most dangerous for them.

From the very beginning of a regrouping, an army's anti-aircraft missile regiment may be transferred by rail to the area where the army is committed to battle or brought in to cover the main grouping of troops while they are crossing the main barrier lines. According to the experience of exercises, this regiment is able to cover river crossings (roads) in a zone of up to 80 to 90 km.

The warning of troops of an army about the air enemy during a regrouping will be carried out from the main posts of the formations of the antiair defense troops of the country. The large units and units being moved forward must be provided in advance with appropriate radio operating data to receive this warning.

Skilful and timely maneuver by road, bridge-building, repair- and-restoration, and evacuation units takes on special significance during a regrouping. In all circumstances, efforts of these must be concentrated on ensuring the passage of troops across those barrier areas where the movement of the large units of the first echelon is being most held up at a given moment.

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The organization of troop control during a regrouping must ensure the almost simultaneous accomplishment of three basic tasks: direction of the completion of mobilization and elimination of the consequences of the enemy nuclear attack in the areas of permanent troop disposition; control of the movement of large units and units; and the organization of their commitment to battle. Since these tasks must be accomplished in areas located at a great distance from each other, there arises a need for the creation of three control points (which we shall provisionally call the Command Post, Alternate Command Post, and the Rear Control Point).
Each post must be capable of the independent resolution of operational, rear, and technical problems. It is therefore necessary for representatives of all the departments and services of an army to be in the complement of those performing functions at the control points. This problem is resolved in advance, even before the war begins.

As regards the movement of control points during a regrouping, this can be done in various ways. At one of the exercises, the sequence for moving control points was as follows. With the beginning of the forward movement, the control of the troops of the first echelon was carried out from the Command Post, which followed an independent route, and that of the troops of the second echelon from the Alternate Command Post. During this time, the generals and officers of the Rear Control Point performed the work of completing the mobilization of rear units and establishments and also of organizing the turning in of materiel which the troops would not need in a combat situation.

There will also be special features in the control of troops when an army is committed to battle. It must be supposed that an army commander will receive the front's directive to commit the army to battle at a time when troops of the first echelon are at a distance of 300 km and more from the commitment area. We think that by this time the whole complement of the Command Post headed by the army commander should already be in the commitment area. This will make it possible to evaluate the situation better, to make a decision, to plan the operation in a short period of time, and to inform the troops about the tasks in good time.

The Alternate Command Post must take on the direction of the forward movement of the troops of the first echelon during this time, and the control of the troops of the second echelon may temporarily be entrusted to the Rear Control Point.

To control the troops during the crossing of the main barrier lines, the control points should be deployed near these lines, and operational groups or responsible
generals and officers from the complement of the command and staff of the army should be sent to the principal routes.

The experience of exercises has shown that existing means of army communications do not ensure reliable troop control during a regrouping from the depth of the country. At the same time, a part of the civil centers and lines of communication may also be put out of action. The situation will also be complicated by the need to observe radio silence.

In order to ensure troop control under these conditions, it is necessary to assign a considerable amount of forces and means for communications to an army by a special order of the General Staff or of the front (border district). In a number of cases the use of the railroad communications network may prove effective. All means for permanent long-distance communications must also be fully used.

The process of regrouping will necessitate frequent changes in the methods, routes, and zones of troop movement to avoid the obstacles which appear. To carry out these changes successfully, constant reconnaissance of the terrain and road network in the zone of the forward movement and on the flanks, constant knowledge of the situation, and systematic clarification of tasks to the troops will be necessary.

The timely clarification of the procedure and times of arrival of large units in the area where an army is committed to battle has special significance. Here there will have to be exceptional flexibility at all levels of control, a very well organized commandant's service, and efficient communications, so that the complex changes of troop formation that sometimes become necessary can be carried out without loss of time.

When necessary, we shall have to replace a unit which has been put out of action with forces from the second echelon, so that the arrival in the commitment area will take place at the proper time and in the intended grouping.
The experience of the command games and exercises which have been held has led us to the conclusion that firm and unbroken troop control during a regrouping is possible only if the whole complement of an army's control has developed practical skills for the independent and rapid resolution of complex problems in a constantly changing situation, given the large spatial scope of operations.

The interests of a constant heightening of the readiness of our operational control organs call for continual and persistent study of all sides of the regrouping of an army over great distances under the difficult conditions of the initial period of a war.