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Troop Control in an Offensive

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TROOP CONTROL IN AN OFFENSIVE

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[Book by Docent, Lt Gen P.P. Tovstukha and Doctor of Historical Sciences, Col R.M. Portugal'skiy, with supervision by Lt Gen Tank Trps A.A. Dunin and Maj Gen Yu. V. Yakunin, Voyenizdat, 12,000 copies, 223 pages]

CONTENTS

ANNOTATION

The military theoretical work examines the most important problems of troop control which arose during the years of the Great Patriotic War. It examines the experience of the commanders, the staffs and other headquarters bodies in preparing and conducting an offensive. The basic areas are brought out for improving troop control, and the trends and patterns of this process are disclosed. The authors focus the reader's attention on those questions which are of greatest interest for the activities of officers under present-day conditions. The book is designed for generals and officers of the Soviet Army.

FOREWORD

The duty of the USSR Armed Forces to the people is to securely defend the socialist fatherland and to be in constant combat readiness to guarantee an immediate rebuff of any aggressor, as states the USSR Constitution.[1] For carrying out this task, the Communist Party and the Soviet government, in following the instructions of the 26th CPSU Congress, give constant attention to strengthening the nation's defense capability. All the necessary conditions are created for equipping the troops with modern technology and improving the level of their training. Military science is developing, including that portion of it which solves the problem of achieving high effectiveness of troop leadership on the battlefield, that is, the science of control which was aptly styled by L. I. Brezhnev as the science of winning.[2]

The experience of the past, particularly of World War II as well as combat operations in Southeast Asia and the Near East, prove that troop control as a process of creative activity by the commanders and bodies under them in the area of directing the efforts of subordinates at carrying out combat tasks is a most important factor for success in armed combat. Troop control is rightly considered one of the basic components in the combat readiness and capability of the Armed Forces.

The Great Patriotic War is an inexhaustible source of creative knowledge and practical experience as it was the largest scale, fiercest and bloodiest of all the wars known to mankind. In the course of waging it, Soviet strategy, operational art and tactics were enriched by new forms and methods of troop operations. A great deal of attention was given to the search for unusual and unexpected procedures to defeat enemy groupings. With great skill the massing of men and equipment was carried out and the problems of firing for effect and maneuvering on the battlefield were solved. As a result the Soviet troops achieved major successes in an offensive even when they did not have an overall superiority over the enemy. One of the clear indicators of the high level of troop control was also the ability to achieve uninterrupted cooperation in combined-arms combat by all the branches of the ground forces and their coordinated operations with aviation and, in a number of instances, the navy, airborne landing troops and partisans. The operations carried out required their thorough preparation. "...Any engagement," emphasized V. I. Lenin, "includes the abstract possibility of defeat and there is no other means to reduce this possibility than the organized preparation for the engagement."[3] This task was successfully carried out by conducting measures to organize combat operations, for complete support and for implementing party political work.

The designated questions comprised the basic content of the work done by the commanders, the combined-arms staffs and other control bodies [headquarters bodies] on the offensive during the years of the Great Patriotic War in operating as the basic condition for achieving victory. This is shown by the combat practices of the past. There is no doubt that this experience is not only of great cognitive interest but also to a certain degree has maintained its practical significance for troop and staff training.

The experience of troop control on the battlefields of the last war has been reflected in a number of military history and military theoretical works, in articles by military journalists and in the memoirs of its active participants. This experience has been widely used in seeking out forms and methods of work helping to increase the efficiency of troop control in combat. However, up to the present attention still merits being given to the questions of elucidating the ways for attaining continuity and stability of troop control and the most effective ways of organizing and implementing cooperation on the battlefield, preparing the staffs and the troops for the offensive and maintaining a high level of their battleworthiness in the course of conducting combat operations. An analysis of these questions on the basis of generalizing the experience of the commanders and the combined-arms staffs in the preparations for and in the course of an offensive during the years of the last war comprises the chief contents of this work.

The book has been written mainly from materials of the Central Archives of the USSR Ministry of Defense and a significant portion is published here for the first time. We have also used Soviet and foreign military and military history literature, captured documents and memoirs of participants in the war. The experience of the postwar troop and staff exercises has also been used.

The authors have endeavored to focus the reader's attention on those questions which are of the greatest theoretical and practical interest in carrying out the tasks of training the command personnel, the staffs and the troops under present conditions of armed combat. They have made a number of practical recommendations on the effective organization of work in the combined-arms staffs considering the increased demands on troop control at present and the necessity of improving this in the future.

FOOTNOTES

[1]See: "Konstitutsiya (Osnovnoy Zakon) SSSR" [The USSR Constitution (Basic Law)], Moscow, 1977, Article 31.

[2]See: L. I. Brezhnev, "Leninskim Kursom" [By the Leninist Course], Speeches and Articles, Moscow, 1970, Vol 2, p 43.

[3]V. I. Lenin, PSS [Complete Collected Works], Vol 6, p 137.

CHAPTER 1: THE MOST IMPORTANT FUNCTIONS OF CONTROL ACTIVITIES. THE STATE OF THE TROOP CONTROL SYSTEM

In defining the role and place of control in the social process, Karl Marx stressed that the control function "stems from the very nature of joint...labor...."[1] Consequently, armed combat is also controllable. For this reason, simultaneously with the rise of armies the necessity arose of solving the problems of troop control. As the troops became equipped with new weapons and under the influence of the improved art of their combat employment, the range of activities of the control bodies continuously broadened and changed. By the start of the Great Patriotic War, by troop control one understood the constant effect of the commanders, staffs and other control bodies on the organization, course and outcome of combat operations. "To control combat means to keep the course of events firmly in one's hands and to subordinate actions to one's will and maintain the initiative," was how the control process was interpreted in the prewar works.[2]

1. The Essence, Content and Conditions of Troop Control During the War Years

The Great Patriotic War confirmed the prewar views that troop control is a process related to implementing a range of measures to maintain a high level of troop battleworthiness and to prepare and carry out combat operations on all organizational levels, from the inferior tactical one up to the highest operational level. The achieving of maximum effectiveness from the employment of the existing resources as well as the fullest utilization of the conditions of the existing situation were the basic task of troop control.

The essence of troop control on an offensive, as followed from the experience of this war, was expressed in the effective activities of the commanders, the staffs, the political and other control bodies based upon the creative employment of the principles of military art, the laws and patterns of armed combat. The basic content of these activities was the questions of acquiring, studying and analyzing the situational data, decision taking, planning the forthcoming actions, the setting and issuing of combat tasks, the organization and maintaining of cooperation and continuous control, the complete support of the operation (engagement), supervision and the providing of help to the troops. The commander's decision comprised the basis of troop control. It operated as the result of the unity of the processes of elucidating the combat task and assessing the situation. It manifested the commander's personal experience, his professional training, mind, will power, decisiveness, firmness and other qualities.

Troop control was carried out both in the preparations of the offensive as well as in the course of it.

In the preparations for an offensive, the most important measures were related to maintaining a high political-moral state among the troops and their constant combat readiness, to the continuous collection, processing and analysis of the situational data, to the planning and organizing of combat operations. A significant place was held by the work of issuing the combat missions, coordinating the efforts of the various branches of forces and to thorough support for the forthcoming engagement (operation). The combat training of the troops and party political work were also carried out. A system of control posts, communications and the commendant service were organized. Supervision was exercised over the preparation of the troops for the offensive and this was combined with the providing of practical aid to subordinates.

In the course of an offensive, along with the designated measures, the commanders, the combined-arms staffs and other control bodies conducted work to maintain the battleworthiness of the troops and in accord with the situational conditions make changes in the adopted decision and combat (operational) plan as well as in the organizing of the control posts and communications. Measures were taken to promptly set new tasks and to restore disrupted cooperation.

Experience shows that the most important demands made upon troop control on an offensive were effectiveness, firmness, flexibility, continuity and secrecy. The basic criterion for assessing effectiveness of the work was the time spent on the effective carrying out by the commanders and staffs of that range of measures comprising the content of the control functions. Firmness of control was expressed chiefly by the ability of the commanders to steadily carry out an adopted decision and under any conditions to maintain control of subordinates in their hands. Flexibility of control consisted in the ability to promptly make changes in the offensive's plan proceeding from the developing situation. By continuity of control one understood the persistence and survival of the control system, its ability when necessary to rapidly readjust and ensure continuous contact with the troops and the constant handing on of operational and tactical information for providing the necessary influence on the course of combat operations. The secrecy or concealment of control was aimed at keeping the enemy uninformed of all measures carried out by the control bodies to prepare combat operations and direct the troops in an engagement (operation).

The conditions involved in the preparation and execution of an offensive had a substantial impact on the nature of troop control.

For the first period of the Great Patriotic War (22 June 1941-18 November 1942) the most typical were limited times for preparing combat operations. The army commanders had less than a day to organize the offensive and the formation commanders had 3-5 hours in July 1941 at Smolensk and Yel'nya. The front and army operations were prepared for in 2 or 3 days and an offensive engagement was organized in 5-6 hours in the formations and units during the counteroffensive at Moscow (December 1941). In those instances when up to 5-10 days were assigned to prepare for an offensive, it was essential to carry out a number of tasks requiring large expenditures of time, such as: receiving and readying the drafts of reinforcements, making up new

formations and organizing the field headquarters of the armies and army groups. In addition, the control bodies had to at least generally coordinate the formations and units arriving at the front and provide them with the obtained combat experience. Such conditions were present in the battles for Rostov and Tikhvin (November-December 1941) and in the Barvenkovo-Lozovskiy Offensive Operation (January 1942).

The fact that the formations and units often went over to the offensive with a portion of the forces conducting defensive engagements had a substantial influence on the sequence of work and the scope of the preparatory measures during the first period of the war. During the summer and autumn of 1941 as well as in the winter of 1941-1942, an offensive in addition was carried out with a lack of an overall superiority in resources over the enemy and with a shortage of combat equipment and ammunition. The commanders and staffs did not have sufficient experience in organizing and conducting an offensive with decisive aims when the enemy was superior in equipment and in the strategic initiative.

The troop control conditions changed significantly in the second period of the war (19 November 1942-December 1943).

The field headquarters of the field forces began to have more time to prepare for the offensive. For example, the front-level operations were prepared for almost a month on the eve of the Soviet troops going over to the counteroffensive at Stalingrad as well as in breaking the blockade of Leningrad. The Ostrogozhsk-Rossoch', Orel and Belgorod-Khar'kov operations were prepared for in from 6 to 15 days. The formation commanders were now given 2 or 3 days to organize combat. Combat experience was gained and this was generalized in the directives and orders of HqSHC and in the regulation and manuals. The corps level of control in the army was restored on a new qualitative basis. The designated phenomena had a positive impact on the work of the commanders and the staffs. At the same time, the conditions of control in combat became more complex as a consequence of the fact that certain offensive operations (the Voronezh-Kostornoye, in the Khar'kov sector in February 1943, and in the course of the battle for the Dnepr) were carried out without lulls in operations, and as successive ones.

Substantial changes also occurred in enemy tactics. The Nazi command in the winter of 1942-1943 issued the Instructions "On Creating a Particularly Strong Defense by Improving Positions in Engineer Terms."[3] Defenses became trenched. The depth of the main area by the summer of 1943 had risen to 4-6 km (in 1941-1942 it was 2-4 km), while that of the tactical zone had increased from 8-10 to 12-15 km and more. The operational defensive zone began to include the area which had been prepared 16-25 km behind the forward edge. The rear defensive zone was prepared 50-80 km back. At it were concentrated 2 or 3 infantry divisions and sometimes tank divisions.

As can be seen from the data in Table 1, the densities of the troops and combat equipment increased. More attention was given to all types of man-made obstacles and to building various structures. The strength of enemy defenses rose. The defense became more active and an example of this would be the numerous counterstrikes in the course of the defensive operations conducted by the Soviet troops. There was also a desire to deceive our troops by first pulling back the units and formations to positions and lines deep in the defenses. Sometimes the main enemy forces were disengaged in the middle of the night, as was the case in the Donets Basin in

Table 1

Density of Nazi Troops on the Defensive

Years	Kilometers per Division	Number per Kilometer	
		of guns	of tanks
1941-1942	11-35	4-15	3-5
1943	12-13	25-30	7-9

September 1943. In the course of defensive operations the enemy frequently employed operational defensive centers ("hedgehogs") in the aim of tieing down and splitting the advancing groupings and to gain time before the bringing of its deep reserves. This was the case in the area of Poltava in the autumn of 1943. This was done to prevent the Soviet troops from reaching the Dnepr River.[4]

In a majority of instances, the offensive by the Soviet troops started with the breaking through of enemy defenses. This necessitated a decisive massing of resources and led to the necessity of carrying out a large scale undetected regrouping of the troops and the skillful organizing of their camouflage. The choice of the direction of the main thrust assumed particular significance. This, in turn, placed increased demands on all types of intelligence and on the organizing of the work done by the commanders and the staffs on the spot. In the course of the breakthrough, the troops encountered strong enemy reserves. As a result, the commanders had to show a quick response to changes in the situation, the combined-arms staffs had to carry out effective work in collecting and analyzing the data, while the troops needed great maneuverability and skill in actions on the battlefield. In organizing pursuit, the control bodies, in addition, were responsible for preparing the forward detachments as well as the nighttime actions of the troops. The great depth of the offensive and the significant losses in personnel and combat equipment forced the commanders and the staffs to be fully concerned with solving the problem of restoring the battleworthiness of the troops.

In the third period of the war (January 1944-8 May 1945), as is seen from the data of Table 2, more significant time was allocated to prepare for the first offensive operations. The commanders of rifle formations began to have up to 7 days to organize combat while army commanders had up to 20. As a whole, this had a favorable influence on improving the quality of offensive preparations. However, it is essential to bear in mind that the commanders and staffs of armored and mechanized formations had, as a rule, from 1 to 3 or 4 hours to organize combat, particularly in the course of an offensive. This predetermined a number of particular features in their work.

The commanders, staffs and other control bodies were also confronted by other problems. One of them was the organizing of an offensive with the crossing of a number of intermediate defensive lines. For example, in the Vistula-Oder and East Prussian operations, the formations and units broke through from 5 to 8 reinforced lines. The combat operations in addition were conducted on territory abounding in water

Table 2

Time Allocated for the Preparation of an Offensive

Period of War	Fronts and Groups of Fronts	Combined-Arms Armies (in days)	Tank Armies (in days)	Rifle Divisions
First	2-7 days	1-15	1-4	From 3 hrs to a day
Second	2-3 months	4-10	From 1-2 to 11	1-5 days
Third	To 3.5 months	To 20	From 1-2 to 8-10 and more	To 5-7 days

obstacles, population points which had been prepared for all-round defense and fortified areas. Large amounts of diverse equipment was employed. All of this significantly broadened the scope of measures comprising the content of control activities, particularly from the viewpoint of organizing cooperation among the different branches of troops.

The enemy continued to improve the organization of defenses. Their high level was manifested primarily in the form of counterstrikes (particularly in the Vistula-Oder and Berlin operations) and sometimes by a counteroffensive (for example, at Lake Balaton in 1945). The command of the Nazi troops skillfully maneuvered its resources both along the front and from the interior. Often ambushes were organized for the purpose of cutting off and encircling individual advancing groups as was the case in the zone of the 28th Army in the Belorussian Offensive (June 1944). Man-made obstacles and destruction of all sorts were widely used. Cities were turned into fortresses. In the operational depth, resistance was organized along lines which were built at different distances apart (from 3-6 to 20-25 km) with the pulling back of the troops after the advancing troops had deployed opposite the next one.

The enemy was still rather strong. By the beginning of 1944, on the Soviet-German Front, it possessed a grouping which numbered more than 4 million men, 54,570 guns and mortars, 5,400 tanks and assault guns and 3,073 aircraft.[5]

Thus, during all the Great Patriotic War, the conditions under which the commanders and their subordinate control bodies worked in preparing for and in the course of an offensive were characterized by an ever-increasing scale of combat operations, by a situational complexity, by a great volume of tasks, by great demands upon the effectiveness and quality of control and by the decisive significance of the time factor. The combat tasks and the nature of combined-arms battle required a creative approach to the employment of the resources, the search for effective methods to defeat the enemy and a choice of the proper methods and forms of work for the commanders and the staffs. The effectiveness of resolving the designated problems on an offensive depended upon many factors, including upon the state of the control bodies and the means of troop control and upon the professional preparation of the command personnel.

2. Control Bodies and Means of Communications

The structure of the control bodies on the operational and tactical levels on the eve of the war were determined by the TOE approved in September 1940 and April-May 1941.

At the head of a front (army) stood the military council, the chairman of which was the commander. Under him was the staff and a number of directorates (sections): for political propaganda, artillery, motor vehicle and tank, air forces, air defense, engineer, signal, intendant, chamical warfare troops, the airborne service (on a front), military training, personnel, fuel supply, medical, veterinary, financial as well as the military tribunal and judge advocate's office. As a total a field headquarters of a front included eight directorates and ten independent sections (925 men). An army field headquarters included 15 sections (391 men).[6] A special place was held by the combined-arms staff which included such sections (departments) as operations, intelligence, military lines of communications, the organization of the rear, supply and road services, manning, the organization and service of the troops, the military topographic service, cipher (in an army the cipher department was part of the operations section), and the administrative-housekeeping. The number of staff personnel was 333 men on a front and 182 men in an army.

Under the commanders of the rifle corps and divisions were staffs consisting of sections (departments) as follows: operations, intelligence, rear, drill and personnel, special (cipher), administrative-housekeeping as well as the chief of artillery, the corps (divisional) engineer, the signals chief and the chief of the chemical service. The deputy commander for political affairs directed the political propaganda section (department). In the formations of the armored and mechanized troops (mechanized corps and tank divisions) there was a repair and supply service headed by the assistant commander for technical affairs.

The commander of a rifle (tank) regiment controlled his subordinates through a staff consisting of a chief of staff, his assistants for intelligence, for logistical service, for rear services and communications, as well as through the artillery chief, the regimental engineer and the chemical service chief. Also under him were the senior physician, the veterinarian and a number of service chiefs. The deputy regimental commander for political affairs directed the activities of the secretaries for the primary party and Komsomol organizations and the instructor propagandist.

Under the commander of a rifle (tank) battalion were a deputy for personnel and supply records and a deputy for political affairs as well as an adjutant who performed the functions of a battalion chief of staff.

As a whole the organizational structure of the control bodies on the eve of the war considered the demands which were then made on troop control in combined-arms combat and an operation with the massed use of tanks, artillery, aviation and other combat equipment. However it also embodied the traits inherited from the past of cumbersomeness, immobility and an excessive overload of personnel. The delimitation of functions and tasks between the corresponding structural elements was also not completely clear in the interests of increasing effective troop leadership in the course of conducting fluid combat operations. This was particularly characteristic for the combined-arms staffs as there was a desire to make them an all-encompassing

organizational center for the entire control system, from carrying out operational tasks to performing functions in the area of organizing logistical support for troop combat operations.

From the very first days of the Great Patriotic War, the question arose of the need to improve the structure of the control bodies. Changes were made in the TOE of the field headquarters of a front (army) and the headquarters of rifle divisions.[7] Here consideration was given to the new demands made on troop control, primarily from the viewpoint of eliminating the scattering of efforts by the staffs in the simultaneous performing of functions which differed in their content as well as for increasing the effectiveness of the work done by the control bodies.

By December 1941, the number of personnel at the field headquarters had been reduced, mainly due to the service personnel, by almost 2-fold, including by 2.1-fold on a front staff and by more than 3-fold on an army staff. The main change in the structure of the staffs was that they had removed from them the sections in charge of the organization of the rear, supply and road service as well as the sections of military lines of communications. Thus, the staffs were freed from performing tasks not inherent to them. Now their efforts could be focused on carrying out the operational functions of troop control. For the leadership of the rear services an independent body was created, the headquarters for the rear services of the front (army). In the formations and units (Diagram 1), the position of deputy commander was introduced. The operations department of a division was somewhat strengthened. In a regiment there were two positions of assistant chief of staff and the position of translator was also introduced. The questions of logistical support were concentrated in the hands of the deputy divisional commander for the rear. All rear services were under him.

Experience showed that the adopted structure of the control bodies was effective and viable. It existed with certain changes over the entire war. But the necessity of alterations was caused by a number of objective factors, the most important ones being: the mass delivery of military equipment and weapons to the troops; the creation of new formations and, as a consequence, the growth of the fighting strength of the fronts and armies; the constantly increasing number of diverse resources involved in conducting the operations and the related increase in the range of measures in planning their combat operations, organizing cooperation between them and providing continuous control in the course of the offensive; the significant increase in the scope of the conducted operations; the increased maneuverability, rapidity and continuity of troop combat operations. To an enormous degree all of this influenced not only the volume but also the content of the work carried out by the control bodies. In turn, this required a clearer delimitation of functions between the leading control levels and an improvement in work methods. For these reasons the TOE of the front and army-level field headquarters were revised in March-April 1942 and in June-July 1944.[8]

The amendments incorporated in the structure of the control bodies had a great impact upon further raising their viability, flexibility and effectiveness in carrying out control tasks with the increased spatial scope, continuity and dynamicness of operations.

Particular attention was given to the combined-arms staffs as the basic troop control bodies.

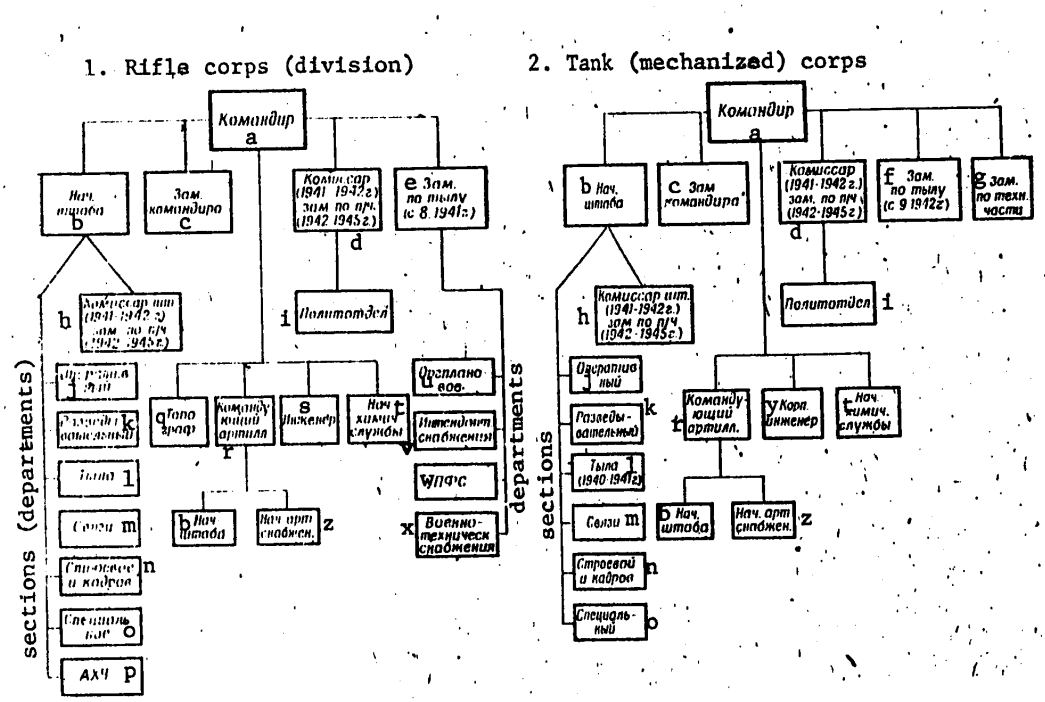

Diagram 1. Structure of Control Bodies in Formations on Eve of and During the Years of the War

Key: a--Commander; b--Chief of Staff; c--Deputy Commander; d--Commissar (1941-1942) and Deputy for Political Affairs (1942-1945); e--Deputy for the Rear (from August 1941); f--Deputy for the Rear (from September 1942); g--Deputy for Technical Affairs; h--Staff Commissar (1941-1942) and Deputy for Political Affairs (1942-1945); i--Political section; j--Operations; k--Intelligence; ℓ--Rear; m--Signals; n--Records and personnel; o--Special; p--Administrative-Housekeeping; q--Topographic; r--Artillery Commander; s--Engineer; t--Chemical Service Chief; u--Organizational-planning; v--Intendant, supply; w--Ration and forage supply; x--Military-technical supply; y--Corps Engineer; z--Chief of artillery supply.

Their leading directorates (sections) were reinforced with personnel. According to the 1944 TOE, the personnel of an operational directorate on a front had increased by 2-2.6-fold in comparison with the 1941 TOE,[9] while the operations section of an army had increased by 1.4-fold. Cipher and topographic departments had been incorporated in it. By an order of the People's Commissariat of Defense [NKO] of 16 April 1943, the chief of the intelligence section of a front (army or corps) and the intelligence department of a division assumed the rank of chief of intelligence or deputy chief of staff for intelligence. The number of personnel on the intelligence sections (departments) was increased by 10-20 percent, and by 1945, this had more than doubled on a front and increased by 1.3-fold in an army. As a result, the intelligence departments were able to implement measures more effectively and

directly in the area of planning and organizing all types of intelligence, to direct the activities of the subordinate intelligence units (subunits), to promptly secure, study and generalize the intelligence data and to prepare the calculations and proposals needed for adopting sound decisions for the operation and conducting combat operations in the course of carrying out the operation.

A service of signals officers was created on the army staffs. Its personnel was set as follows: five men in a combined-arms staff and seven men on a tank staff.[10] The position of military topographer was introduced on a divisional staff. The records and personnel departments were strengthened with two officers. In the autumn of 1942, on a number of fronts (Karelian, Leningrad, Volkhov and others), positions of non-T/O topographers were introduced in the rifle regiments. Their duties included the obtaining, reading, drawing up and issuing of maps and the conducting of exercises on military topography. They supported troop operations using man-made markers and made terrain mock-ups.

Considering the particular importance and, at the same time, the exceptional complexity of prompt and uninterrupted troop support for all types of materiel, great attention was given to further improving the rear control bodies.

For the purposes of increasing the level of rear support for the troops as well as for more precise centralization of the work done by the various services, in 1942 a decision was taken to transform the planning and organizational sections of the rear directorates of the front and army into the corresponding rear staffs. In the area of improving the work of the rear bodies an important role was played by incorporating as a member of the front and army military councils the positions of military council member for the rear. In addition, for strengthening political work in the rear bodies and units, in August 1941, rear political sections were organized. All of this contributed to the effective and prompt solution to the questions of rear troop support on an offensive, it significantly increased coordination in the work of all the rear services, it systematized troop supply for ammunition, fuel, food and other logistical means and made it possible to have the most rational utilization of all types of transport.

In the course of the war there was a continuous rise in the technical equipping and an increase in the combat capabilities of the formations and units of the Armed Services, branches of troops and special troops. This increased the scope of the tasks to be carried out and strengthened the role of their commanders in planning, preparing and controlling combat operations.

For centralizing leadership of aviation in the interests of its massed employment, in 1942, 17 air armies of the frontal [tactical] aviation were organized and in 1944, the long-range air army. In line with this, the air force directorates of the fronts were transformed into air army directorates. In the same year the chiefs of artillery and motor vehicle-tank troops became, respectively, the commanders of the artillery and tank and mechanized troops. Moreover, they, like the chief of the engineer troops, were raised to the rank of deputy commanders of the fronts (armies). In their directorates staffs were set up which were entrusted with the functions of planning and preparing the necessary calculations and proposals on the combat employment of the resources, for exercising control over their correct use, for organizing cooperation, technical support and a number of others.

The most essential changes occurred in the structure of the artillery control bodies. In line with the organization of a significant number of antiaircraft artillery units, it was advisable to put them under the artillery commanders of the front (army). Successively there were introduced the positions of deputy artillery commanders for antiaircraft artillery and rocket units as well as an assistant signals commander. By the summer of 1943, the directorate for headquarters of the artillery commander included a staff (operations and intelligence departments), sections for antiaircraft artillery, manning and artillery supply, and by the start of the second half of 1944, in addition to this, sections for signals and the operational use of the rocket launcher units. In 1944, the number of officers on the artillery staff had increased by almost 4-fold in comparison with 1941.

Additional positions were introduced in the signals directorate (section) of a front (army), and in particular the position of duty officer at a communications center, deputy radio signals chief and others. As a result there was an improvement in control over the transmitting and receiving of operational-tactical information, the handling times were reduced and reliability increased. The TOE for officers in the section of the chief of engineer troops almost doubled. In the directorate (section) of the chief of the chemical troops a department was introduced for the use of flamethrowing and incendiary devices.

The increased amount of artillery and direct infantry support (NPP) tanks in the rifle corps (divisions) led to a situation where changes were also made in the structure of the formation control bodies. An artillery staff was set up. A section for armored and mechanized troops (BT i MV) was introduced in the corps staff.

With the increased effective fighting strength of the fronts and armies as well as with the increased number of officials directly under the troops commanders, the latter began to experience great difficulties in exercising command and control. Thus, a front commander had to set tasks for at least seven or eight directly subordinate officials and control six-ten field forces (formations). An army commander was in an even more complicated situation as in a number of instances he had under him up to 20 divisions, brigades, separate regiments and battalions. Because of this the problem arose of releasing the commanders from the excessive number of directly subordinate officials so that he would be able to focus efforts on solving the main questions of his activity. For this purpose on the TOE of the front and army field headquarters they incorporated two deputy commanders. The air defense equipment was taken away from his direct control. In the tank armies the motor vehicle section which previously was under the commander was transferred to the chief of the rear. By the summer of 1943, the process of restoring the corps level of control was virtually completed.

During the war years great attention was given to the questions of increasing the quality of operational and combat training. Here an important role was played by the increased number of higher military schools and advanced training courses as well as by the effective work in the area of studying and generalizing the troop combat experience. One might merely point out that in 1943-1945, military personnel for the Soviet Army was being trained by 31 higher schools, 220 military schools and over 200 various training and retraining courses for the leadership.[11] The positive solution to the personnel question helped to improve the work style of the control bodies.

The combat experience of the troops and the control bodies was studied and generalized from the very outset of the war. In accord with the Directive of the General Staff of 9 November 1941 and the order of the NKO of 11 December 1941, sections (departments) for studying the experience of the war were organized on the staffs of the fronts and the armies. At that time in the formations the position of senior assistant chief of the operations department for studying and generalizing the experience of combat operations was introduced. Somewhat later such departments were organized on the staffs of the artillery commander and the chief of the rear of a front and in the corresponding army-level bodies. A TOE officer position was introduced in the signals directorate (section) of a front (army) for this work. Thus, the staffs of the field forces and formations, under the direct leadership of their commanders, became the basic center for generalizing experience and disseminating it in the troops.

The combat training sections of the fronts and armies carried out the important task of increasing the combat readiness and capability of the troops and the staffs, primarily the arriving draft of recruits. By the autumn of 1942, there had been a significant broadening of the system of assistant commanders in charge of them. Training centers for the various branches of troops were set up on the fronts and in certain armies. This made it possible to also improve the planning and organization of combat training and to raise the level of working out the questions of troop cooperation for carrying out complex combat tasks in the course of the conducted operations. In the formations, units and subunits the tasks of directly organizing troop combat training were entrusted to the deputy commander and staff as well as to the chiefs of the branches of troops (special troops).

Over the entire war the military councils played a leading role in the control of a front or army. In their activities the military councils employed a consulting form of collectivism which presupposed a collective discussion of the fundamental questions and the collective elaboration of recommendations on them. But the final decision was taken by the individual commander. He had the right also to personally command all the subordinate troops.

The military councils were directly and fully responsible for carrying out the important and complex tasks to the party's Central Committee and the Soviet government. A commander was the chairman of the military council. The first member of the military council[12] was concerned with operational questions, training and all-round support of the troops. In addition, he was entrusted with the duties of directly leading the work of the front's political directorate (the army's political section), to supervise the activities of the judge advocate's office and military tribunal as well as carry out other tasks. The second member of the military council, the position of which was introduced to the TOE in November 1941 was in charge of the rear services. By the spring of 1944, the membership of the front military councils also included the commanders of the air army and artillery of the front. As a result the military councils were highly skilled military leadership bodies with a precise delimitation of functions and duties among each of the officials comprising them. With the enormous amount of work and the complexity of the tasks carried out, the principle of collectiveness combined with one-man responsibility, ensured the use of the knowledge and experience of all its members and unity of action. At the same time it prevented any arbitrariness, subjectivism and lack of responsibility in the process of taking decisions and implementing them. This most

important Leninist principle in the activities of the military control bodies demonstrated its irrefutable vital force.

The political bodies played an exceptionally important role in improving the activities of the control bodies during the war and in raising their combat cohesiveness, responsibility and efficiency. In considering the enormous importance of their work, by a decision of the Politburo of the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee and the Presidium of the USSR Supreme Soviet of 16 July 1941, the political propaganda directorates (sections) of the fronts (armies) were turned into political directorates and sections. At the very outset of the war the institution of military commissars was introduced on all levels of directorates and staffs (it was abolished in October 1942). At that time political sections were organized for strengthening political work among the personnel of the special units of a front (army). In addition, sections (departments) for working with the local population were introduced in the political bodies and this made it possible to carry out explanatory work on the territories liberated from the enemy about the great liberation mission of the Soviet Army and the aims and tasks of fighting against the enemy.

Thus, during the war years there was a process of a continuous improvement in the control bodies and the adaptation of their structure to the tasks which had to be carried out on an offensive. From the very first days of the attack by Nazi Germany on our nation, the troop control bodies envisaged by the prewar TOE began to function. Their structure was based on such principles as one-man leadership (personal responsibility and the right of a commander to take a final decision), collectivism expressed in the presence of military councils in the operational field forces, the identicalness of the control structure on the operational and tactical levels and the conformity of the skill level of officials and the specialization of leadership bodies to the nature of the controlled tasks under the specific conditions of conducting combined-arms combat.

Experience shows that the most important changes during the war years in the structure of the control bodies occurred in the interests of clearly delimiting functions between the different sections (services), for strengthening the role of the com-
combined-arms staff, for centralizing rear support, for broadening the opportunities to control subordinates by the chiefs of the branches of troops (special troops) and for a certain freeing of the commanders from solving secondary problems. The basic trend in the change in the role and functions of the various control bodies became a rise in the centralized influence of the superior levels on the activities of subordinate control bodies. Consequently, relatively favorable conditions were created for carrying out the complex process of preparing and conducting an operation and an engagement. The positive solution to the personnel question contributed to all of this.

Radio, wire (telephone and telegraph), mobile and signal equipment was employed from the very first days of the war for controlling the troops on an offensive. In organizational terms this equipment was in the signal units and subunits of the field forces, formations and units.

In the fronts and armies there were: a separate signals regiment, a line cable battalion, and a number of construction and operational signals companies. In addition, the front possessed a liaison air squadron and an army had a liaison air flight (in an air army, two squadrons of 12-15 aircraft each).

The means of communications of the rifle corps and divisions, the mechanized corps and tank divisions were in a separate signals battalion. According to the TOE this was to have from 8 (in a division) to 10 (in a corps) radios,[13] 273 km of cable, around 30 telephone sets, 6-8 motor vehicles (armored vehicles) and 10-12 motorcycles. The signals companies of the rifle (tank) regiments and the signals platoons of battalions had low-power radios (4 in a signals company), telephones and bibycles as well as the regulation signals equipment.

The war disclosed a number of substantial drawbacks in the logistical base of troop control as well as in the principles of organizing communications. In its initial period the signal troops were virtually unable to provide dependable control over troop combat activity. The reliance of wire communications on overhead lines made it easy for the enemy aviation to knock it out by bombing. The lack of line and operational signals unit did not make it possible to quickly restore the destroyed lines. The organizing of the statewide wire network following the radial principle whereby the communications centers were concentrated in large administrative centers and the absence of alternative centers and bypasses and underground cable lines reduced communications reliability on the operational levels. The significant losses of communications equipment as a result of the forced retreat of the troops and difficulties in their production forced a sharp reduction in the supply standards of the signals subunits and a certain reorganization of them. In a division, a signals company was organized in the place of a battalion, and a platoon in a regiment. The number of radios in them was reduced by 6-fold.

In the aim of centralizing the leadership of communications, the separate leadership of military and civilian communications was eliminated. This created better conditions for effectively solving the questions of organizing control.

New signals units were organized, including: reconstruction-operational battalions, construction columns and others. Mobile communications centers equipped with high frequency gear were created for the staffs of a front.

In December 1941, the troops began receiving the RAF-KV-3 and 12RP radios, the 5SG, 5SG-2 and Ural receivers, and in February 1942, the RBM and Sever radios. They all had better tactical and technical performance, particularly in terms of range of communications and operating indicators. At that time the staffs of the armies and divisions began receiving the first examples of the BA-64 light armored vehicles equipped with a machine gun and bullet-proof armor. In 1941, an order of the NKO was issued which pointed out that unsatisfactory troop control to a significant degree was the result of the poor organization of communications and above all the ignoring of radio communications. It was demanded that the commanders and staff officers themselves learn and teach their subordinates the art of operating a radio. In May 1942, personal radios were introduced for the commanders of fronts, armies and formations.

In the second period of the war, further organizational changes were carried out in the signals units and subunits.

On the fronts separate telephone and telegraph companies were organized for rebuilding and providing maintenance on the permanent centers and relay points, the signals trains and truck-mounted communications centers. As a reserve of HqSHC, separate

line and operating companies and battalions were organized as well as units of special troops equipped with high-frequency communications gear. These reinforced the fronts operating in the main sector. There was a process of restoring the signal battalions of the rifle divisions and corps. A tank (mechanized) corps received a signals battalion instead of a headquarters company.

In 1942-1943, new equipment was designed for the telegraph and telephone exchanges. Thus, in the place of the 2BD-2G duplex telegraph equipment there was the 2BDA-43 set. A reduction in weight of 3.5-fold and a lowering of the time for setting up and establishing contact by 5-6-fold increased the mobility of the communications centers and raised the capacity of the telegraph exchanges. In 1943, there was a decision to employ a unified magneto call system in the troops. The TAI-43 telephone (magneto) was adopted in the place of a phonic one. The improved operation of the industrial enterprises helped to increase the deliveries of communications equipment to the troops. In 1943, in comparison with 1942, they increased by 192 percent for radios of the RAT type, by 188 percent for the RB type, by 210 percent for anode batteries and by 250-300 percent for the Baudot and ST-35 equipment.[14] Possibilities were also increased for establishing radio contact in the armored troops as from the outset of 1943, 100 percent of the heavy tanks began to be equipped with radios, 50 percent of the medium tanks and 30 percent of the light tanks while the tanks of commanders had two radios.

By the beginning of 1944, a new organization was set for the signals units of field forces (Diagram 2). The signals regiments were designed for equipping and servicing the basic communications centers and the signals battalions were used for the forward and auxiliary ones. The rear and alternative communications centers were manned by a separate radio company and radios were issued to officers being sent into the troops. The line communications battalion was given the mission of constructing, rebuilding and servicing the permanent overhead lines. Analogous tasks were carried out by the separate construction and operating companies. At the same time signals battalions were organized for the artillery commanders and dignals companies for the commanders of the armored and mechanized troops and the chief of the front rears.

The signals subunits on the tactical control level also assumed a new organization. By the middle of 1944, a liaison air flight (three PO-2 liaison aircraft) was included on the TOE of the rifle, tank and mechanized corps. The rifle divisions now had 123 radios, including 10 in a signals battalion,[15] 8 in each of the signals companies of the regiments, 1 in each of the signals platoons of the battalions, 55 in the artillery units and 25 in the remaining subunits. The commanders and staffs down to the battalion inclusively thus gained an opportunity to control their subordinates in combat by radio. In truth, the tactical and technical performance of the radio equipment still did not meet the conditions of conducting combat operations, particularly in terms of the range of communications.

By the beginning of 1945, the staffs of the field forces had received the modernized RAF-KV-5 radios with the Karbit printer. The rifle and artillery units were receiving the A-7B and A-7A USW radios. This made it possible to increase the capacity of the radio nets and links, to increase the concealment of data transmission and free the shortwave band. The communications centers began using the LVK-20/12 telegraph switchboards and the DTA-45 translators which increased the range of telegraph communications. For the first time the signals battalions of the corps and divisions

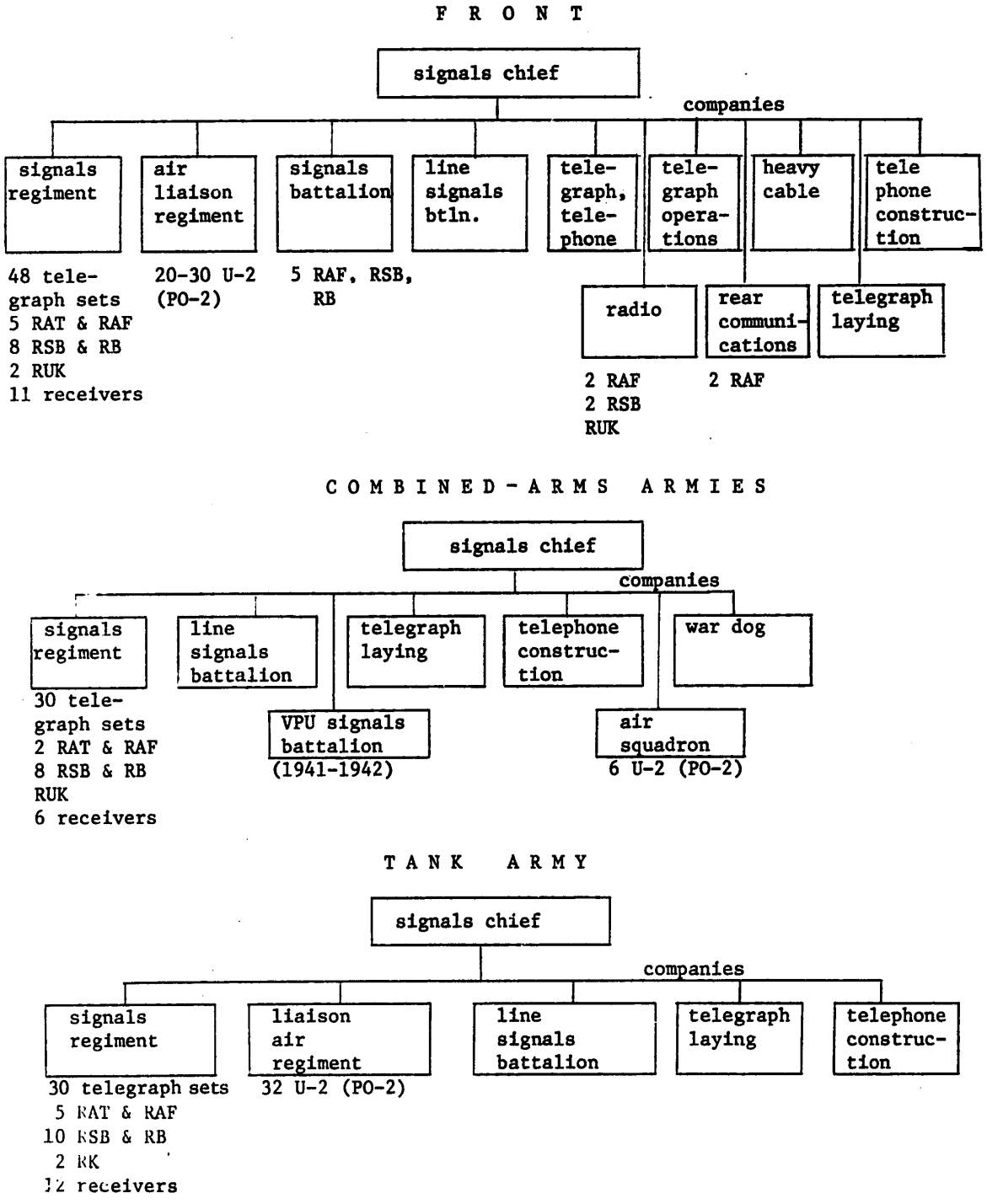

Diagram 2. Signals Units (Subunits) of Formations in War Years

began receiving the Morse telegraph equipment. The number of telephones in them increased by 1.5-fold. The quality of the power sources was improved. Equipment was introduced for the remote control of radios. New repair shops were developed for repairing the communications equipment and these had improved productivity.

Table 3

Equipment of Signals Units in Army Field Forces by War's End

Communications Equipment	Amount of Equipment in Army					
	Combined-arms		Tank		Air	
	1943	1945	1943	1945	1943	1945
RAT, RAF, RSMAK	2-3	7-9	5	9	4	10
Sever	1	4	1	4	--	5
RB, RBM, RSB	15	24-30	16	28	10	24
Receivers	2	10	6	6	8	12
Telegraph sets	10	19	17	18	9	13

As a whole, as can be seen from the data of Table 3, the quantity of radio equipment in the signals units of field forces over the last 2 years of the war increased by 2-2.5-fold, and telegraph sets rose by 1.5-2-fold. Changes also occurred in the formations: A tank (mechanized) corps in 1945 had 189 radios and receivers and a rifle corps had around 400. The saturating of the troops with radio equipment increased sharply. For example, in the formations of the 11th Guards Army in June 1944 (the Belorussian Operation), per km of front in the sector of the main thrust there were 326 radios, while in the counteroffensive at Stalingrad (November 1942) there were around 20 of them.

As a result of this the commanders and staffs had vastly different opportunities to achieve steady troop control on an offensive. While in 1941-1942 the limited number of radios made it possible to create only the minimally necessary number of radio networks and links, by the end of the war a portion of the radio equipment was assigned to the reserves as well as to officers being sent into the troops. Duplicate positions of radio equipment and intermediate relay points were created. To a greater degree than before radio communications were provided for the chiefs of the branches of troops, special troops and rear services.

Consequently, the conditions of combat operations required and the increased economic opportunities made it possible during the war years to solve a number of tasks in improving the technical base of control. The organizational structure of the signals subunits (units) was developed by specializing them in terms of types of communications. The tactical and technical performance of the communications equipment was improved, primarily the radios and receivers, and the degree of their

saturation of the units, formations and field forces increased. Changes in the technical base of control created conditions for achieving qualitatively new indicators for effectiveness, reliability and concealment of information handling and for a creative search for rational procedures to organize the communications system. The realization of these opportunities to a significant degree depended upon the organization of control, including the posts from which leadership was exercised over troop combat activities.

3. The Organization of Control Posts

According to the views which had developed by the end of the 1930's, troop control on an offensive was to be carried out from a single control post located in the sector of the main thrust. Its distance from the first echelon subunits was to be: 3-5 km from the division, 15-20 from the corps, 50-80 from the army and 100-150 km from the front. The experience of the Soviet-Finnish War of 1939-1940 showed the need to set up observation posts as well which were to be deployed 2-5 km away. However on the eve of the Great Patriotic War no practical measures had been undertaken to reinforce the gained experience.

In the summer and autumn of 1941 there were two extremes in the approach to solving the question. The commanders and staffs of the field forces (fronts and armies) were located a significant distance away from the troops, some 80-150 km. This was necessitated by a number of factors, including the cumbersomeness of the control posts which were set out as a single whole, without dividing into echelons.

At the same time the tactical-level commanders often controlled the troops by personal example. The commander of the Reserve Front, for example, in an order of 3 August emphasized that the commanders and commissars were personally to lead the personnel into the attack. An analogous demand was made by the commander-in-chief of the Western Sector.[16] As a result, the casualties of command personnel reached 35-40 percent per engagement. The commanders were deprived of the opportunity to observe enemy actions in the entire zone of the offensive as well as their subordinates and adjacent units and, consequently, to respond promptly to the situation.

The complexity of control was aggravated also by a number of other circumstances. The enemy by sabotage or by air raids had knocked out the wire communications lines (up to 40 percent in the zone of the Northwestern Front). The troops were advancing on a broad front. The supply rate of the signals units and subunits with radios was just 30-35 percent. In addition, as was noted in the report of 1 August 1941 by the chief of staff of the Western Front, "the troops operate the radio exceptionally clearly...control using a cipher is torture and the staffs are unable to use radio signals."[17] On 24 August the chief of staff of the Southwestern Sector stated that "the use of radios by all levels of staffs is as yet a haphazard phenomenon...."[18]

Under the designated conditions it was essential to sharply improve the organization of control. Here they pursued the main aim of *creating optimum opportunities for a prompt and effective response by the commander to the situation.*

The search for a solution to the designated problem was apparent primarily in the fact that the control posts during the offensive began to be echeloned, that is, along with the command post temporary (auxiliary) and command-observation posts

(VPU and KNP) began to be organized. In the Yel'nya Operation a northern, central and southern VPU functioned (in keeping with the number of assault groupings). At the beginning of the counteroffensive at Rostov, control was carried out from the front's observation post set up near the command post of the 37th Army which was fighting in the sector of the main thrust. An attempt was also made to man a command post of a small size (five or six officers) headed by a commander, for example, in the offensive in August 1941 on the Smolensk axis. By the autumn of 1941, on the front, army and divisional levels, the practice had been established of dividing the control post into a command and rear control post.

The creation of auxiliary control posts in the winter of 1941-1942 became a typical phenomenon as a consequence of the fact that the troops were advancing along axes while the communications equipment, particularly radios, was in short supply. The control posts, in addition, were brought closer to the troops conducting combat operations. The command post of the Southwestern Front in December 1941 was 4-6 km from the command posts of the assault grouping formations, while the divisional command posts were 2-3 km from the forward edge of the enemy defenses. The command posts of the Western and Kalinin fronts (December 1941-January 1942) were located 10-12 km behind the first echelon subunits. The observation post of the Volkhov Front in conducting the Lyuban' Operation (the commander spent 40-50 percent of the time at it) was set up 1 or 2 km from the command post of the 2d Assault Army. The divisional observation posts were 1 km from the forward edge.

In organizing control in operations during the summer and autumn campaign of 1943, temporary control posts continued to operate on operational levels. This was explained chiefly by the absence of a corps control element and by the presence of a large number of formations (up to 10-15) in the troop assault groupings. The commander's place in combat had been defined. The NKO in the Order No 306 demanded "the squad commander is to be directly in the extended line.... The platoon, company and battalion commander is to be behind the battle formation of his subunit in a place from which each of them could observe the course of combat both of his own subunit as well as on the flanks of the adjacent units and the enemy.... A regimental or divisional commander should be at the command post (observation post) where he can more conveniently control combat...." This demand was reinforced by the provisions of the 1942 Infantry Field Manual.

In organizing troop control on the offensive in the winter of 1942-1943, a new feature was the practice of centralizing leadership over those formations which were fighting to destroy a surrounded enemy grouping (a "Ring" operation). For this a unified command post was set up and from it they controlled the troops fighting around the encirclement perimeter. The desire to echelon control posts began to be more apparent. Thus, in preparing for the Ostrogozhsk-Rossosh' Operation for the period of the offensive there were provisions to have a command post in the front, an alternative command post and a second control echelon. Due to the significant distance of the front command post from the command post of the 3d Tank Army an auxiliary control post was set up. The front's command post had an operational air army group, and under the staffs of the 40th and 3d Tank armies and the XVIII Rifle Corps auxiliary control posts of the air groups were created. The army command posts were brought up 11-17 km from the troops, the divisional ones to 2-4 km and the regimental ones to 1-2 km.

The setting up of control posts in an operation and engagement in 1944-1945 was carried out considering the previous positive experience.

In preparing the offensive in the summer of 1944 in Belorussia, in the First Baltic Front the field headquarters was split into three positions. The command post of the front was deployed 50 km behind the troops and the second control echelon was 20 km behind it. An auxiliary control post was set up consisting of 20 officers ready to leave for the observation post. This was set up 4 km behind the forward edge. The army command posts were located 7-18 km from the line of attack, those of the corps were 3-7 km, those of the divisions were 2-4 while the observation posts were 1.5 km.

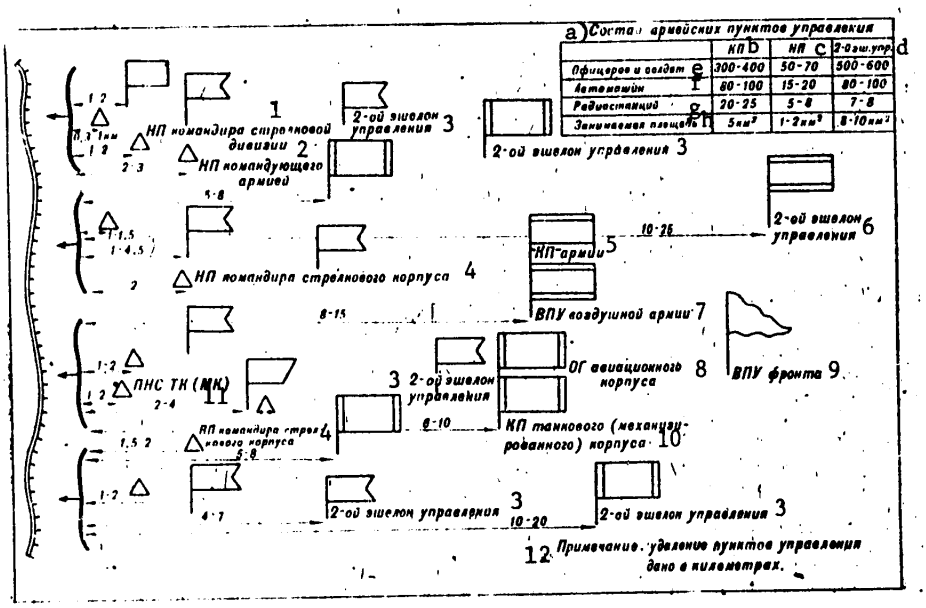

Diagram 3. Placement of Basic Control Posts of Units, Formations and Field Forces in the Jumping-Off Position (Vistula-Oder Operation, January 1945)

Key: a--Composition of army control posts; b--Command post; c--Observation post; d--Second control echelon; e--Officers and soldiers; f--Motor vehicles; g--Radios; h--Occupied area; 1--Observation post of rifle division commander; 2--Observation post of army commander; 3--Second control echelon; 4--Observation post of rifle corps commander; 5--Army command post; 6--Second control echelon; 7--Auxiliary control post of air army; 8--Operational group of air corps; 9--Auxiliary control post of front; 10--Command post of tank (mechanized) corps; 11--Observation and signals post of tank corps (mechanized corps); 12--Note. Distances of control post given in kilometers.

An extensive network of control posts (Diagram 3) was set up also in the Vistula-Oder Operation. The air army VPU was located near the command posts of the armies (combined-arms and tank) while those of the air corps were at the command posts of the tank (mechanized) corps. The staffs of the tank formations set up observation and signals points (PNS) consisting of officers from the operations section, technical service, 2 or 3 spotters and messengers. Aviation guidance officers were sent to the brigades of the first echelon. Artillery unit commanders were also located at the brigade command posts. The commanders of the regimental artillery groups were located at the command (observation) posts of the rifle regiment commanders.

A number of particular features in organizing control can be traced in the Berlin Operation, particularly in conducting combat operations in the capital of Nazi Germany. The network of command (observation) posts was more extensive both on the tactical and operational levels. They were located in direct proximity to the troops conducting combat operations and sometimes even in their battle formations in the aim of increasing the directness of control and proceeding from the need to observe the battlefield. The air representatives were at the command posts of the rifle and tank formations while artillery spotters were in the rifle (tank) battalions and companies.

During the third period of the war, a special role was assigned to the operations groups (OG) made up from the personnel of the command post. The practice of organizing them became most widely spread in the armored formations. The formation of operations groups was caused by the increased possibilities of the communications equipment, by the necessity of bringing leadership closer to the troops as well as by the fact that the command post fell behind the troops which advanced at relatively high rates.

Table 4

Composition of Operations Groups of Formations in Armored and Mechanized Troops

Name of Formations	Number		
	of personnel	of radios	of transport
Tank (mechanized) corps	7-12	3-5	5-7
Tank (mechanized) brigade	5-9	2-4	4-7

The operations groups, as is seen from the data of Table 4, were small in size. At the same time they possessed a significant number of radios and transport. This was, consequently, a workable and rather mobile organ for directing combat actions in a dynamic situation. It played an important role in troop control, particularly when they went over to pursuit. In addition, the viability of the system of control posts as a whole was increased. The creation of the operations groups, in truth, had its negative aspects. The communications equipment was scattered. The basic staff personnel was separated from the commander and to a definite degree was turned

Table 5

Positioning of Control Posts on Eve of Offensive*

1) Эшелоны полевого управления	2) Удаление от подразделений первого эшелона (км)							
	5) фронта	3) армий			4) корпусов		11) стрелковых дивизий	12) танковых (мотострелковых) бригад
		6) общевойсковых	7) танковых	8) воздушных	9) стрелковых	10) танковых (механизированных)		
First period of war								
13) Командный пункт	50—150	15—30	10—30	—	5—10	3—7	3—8	5—7
14) Вспомогательный пункт управления	25—30	8—12	—	—	—	—	—	—
15) Наблюдательный пункт	3—7	1,5—2,5	2—4	—	2—3	1—3	1—2	—
16) Второй эшелон управления	60—90	30—90	20—50	—	—	—	15—20	7—10
17) Запасный командный пункт	25—40	8—12	—	—	—	—	—	—
Second period of war								
13) Командный пункт	50—55	10—20	15—20	60—80	3—7	3—6	2—3	2—3
18) Вспомогательный пункт управления (временный)	5—20	7—10	2—3	20—25	—	—	—	—
19) Наблюдательный пункт (оперативная группа)	3—5	1,5—2	2—3	—	1—2	1—2	1—2	1—2
16) Второй эшелон управления	60—80	30—40	25—50	До 150	15—20	12—15	10—12	5—8
17) Запасный командный пункт	50—55	—	—	—	—	—	—	—
Third period of war								
13) Командный пункт	25—50	7—15	5—10	25—40	3—7	3—5	2—3	1—3
18) Вспомогательный пункт управления (временный)	5—15	6—8	5—10	8—15	—	—	—	—
19) Наблюдательный пункт (оперативная группа)	2—3	1,5—2	1,5—2	5—15	1—2	1—2	1	1
16) Второй эшелон управления	50—60	20—30	20—30	До 100	12—15	10—12	7—10	3—7
17) Запасный командный пункт	50—55	7—10	—	—	—	—	—	—

*TsAMO [Central Archives of the Ministry of Defense], folio 220, inv. 7143, file 21, sheets 17-19; folio 336, inv. 440736, file 1, sheet 6; folio 332, inv. 4949, file 15, sheet 2; folio 299, inv. 23690, file 2, sheets 1-33; folio 339, inv. 5179, file 86, sheet 636; folio 339, inv. 5179, file 26, sheet 640; folio 299, inv. 23690, file 3, sheet 10; folio 236, inv. 21084, file 3, sheet 216; folio 330, inv. 5179, file 91, sheets 178-181 and so forth (more than 50 front and around 110 army operations were counted).

Key: 1--Echelons of field headquarters; 2--Distance from first echelon subunits (km); 3--of armies; 4--of corps; 5--of front; 6--Combined-arms; 7--Tank; 8--Air; 9--Rifle; 10--Tank (mechanized); 11--Rifle divisions; 12--Tank (motorized rifle) brigades; 13--Command post; 14--Auxiliary control post; 15--Observation post; 16--Second control echelon; 17--Alternative command post; 18--Auxiliary (temporary) control post; 19--Observation post (operations group).

Note. The operations groups of the air armies, corps and divisions numbered three-eight officers (a deputy commander, operator officer, intelligence officer, signals officer, code chief, meteorologist and others), three-six radios and receivers (V-100, RAT, RSMAK, RSB and RUS-2) and a radio intercepts station was frequently part of it.

into an information-collecting body. The splitting of the command post in two with a limited amount of communications equipment often led to a delay in collecting data and assigning tasks according to the existing situation. This was explained by the fact that the commander was forced to make an urgent trip to a command post or report a decision to a chief of staff who was there. Only from there could the tasks be assigned or issued to subordinates. In considering this, in a number of instances, in 1945, up to 15-25 percent of the radios were assigned to support control as part of the OG. Often the chief of staff went there with a group of officers, particularly with abrupt changes in the situation and with the need to take a new decision.

The data of Table 5 also show that there was a further process of bringing the control posts closer to the troops conducting combat operations. This was particularly characteristic again for the armored troops formations. While a command post of a mechanized corps, according to the prewar views, was to be 7-10 km away, during the second period of the war (from the experience of the 9 corps in the Orel and Belgorod-Khar'kov operations) the distance was 3-6 km and in the third period of the war the command posts of the 12 corps fighting in the Belorussian and Vistula-Oder operations were 3-5 km from the brigade command posts while those of 6 corps were even 1 or 2 km from the command posts of the brigades advancing in the main sector. The designated trend was also characteristic of the rifle formations and units. The rule formulated in one of the orders of the troop commander of the First Ukrainian Front had become a common requirement: "To establish a procedure whereby the commanders...during the day direct combat from the observation posts where they can see the battlefield, their troops and the enemy grouping.... The commander is to have with him the operations group of the staff, the artillery chief, the signals chief, the intelligence officer and a group of officers or sergeants as delegates and without fail a direct link with the observation posts of subordinate commanders. The army commanders...are to have their observation posts in the army's main sector. By the end of the day the army commander is to return to the staff, sum up the results of battle, give orders...for the next day and report the operational plan to me."[19]

Thus, the war posed a number of difficult problems in the organization of control posts. The main ones were the following: the creation of a small number of mobile control posts capable of moving behind the advancing troops as well as their positioning in areas and in such zones where the commander could view the battlefield or at least that portion of it where the troops were carrying out the main tasks. It was essential to have a positioning of the control posts of cooperating troops that would ensure the rapid and effective response to all changes in the situation. Their combined placement became one of the ways for solving this problem.

The characteristics of the control bodies and control equipment as well as the principles of organizing control posts during the years of the past war makes it possible to conclude that the improving of control systems, both under present-day conditions and in the future, is possible by the further specializing of the control bodies and by the bringing of them as well as the tactical and technical data of the communications equipment into accord with the nature of the tasks being carried out. The war's experience leads the commanders and the staffs to a creative approach to considering the apparent trends in the organizing of the control posts proceeding from the positive examples provided by the war as well as the negative ones which had a restraining influence on effective troop control in combat.

During the war years, the greatest bottlenecks in the material and technical base of control were evident. These were: the limited amount of equipment making it possible to effectively and directly solve the task of collecting and processing situational data and the poor indicators of communications equipment, particularly radios. All of this makes it possible to feel that under present-day conditions the most important areas for the development of control equipment should be: the bold use of the results of the attained scientific and technical progress, the transition to integrating individual types of office equipment and utilizing standard automated complexes and broadening the area of use of control equipment in the activities of the commanders, staffs and other control bodies.

Combat practice has shown that an effective organization of troop control is a most important factor ensuring success in an operation and engagement. This question should be settled considering the specific situational conditions, the capabilities of the communications equipment, the development prospects of events and the necessity of achieving coordinated actions by all the branches of troops (special troops) in combined-arms combat. Only in such an instance can one count on achieving stability, effectiveness and concealment of troop control on an offensive.

FOOTNOTES

[1]K. Marx and F. Engels, "Soch." [Works], 2d Edition, Vol 23, p 344.

[2]"Sluzhba Obshchevoyskovykh Shatabov" [Service of Combined-Arms Staffs], Moscow, 1940, p 11.

[3]E. V. Manstein, "Verlorene Siege," Bonn, 1955, p 476.

[4]See: A. D. Bagreyev, "Voyennoye Iskusstvo Kapitalististicheskikh Gosudarstv. 1939-1945 gg." [Military Art of the Capitalist States. 1939-1945], Moscow, 1960, pp 90-91; E. Middeldorf, "Taktika v Russkoy Kampanii" [Tactics in the Russian Campaign], translated from the German, Moscow, 1958, pp 192-210.

[5]See: "Istoriya Vtoroy Mirovoy Voyny" [History of World War II], Moscow, 1977, Vol 8, p 45.

[6]See: VOYENNO-ISTORICHESKIY ZHURNAL, No 8, 1978, p 33.

[7]TsAMO [Central Archives of the Ministry of Defense], folio 22, inv. 159, file 21, sheet 13; folio 200, inv. 36, file 18, sheet 228; folio 382, inv. 8447, file 14, sheet 17; folio 357, inv. 5973, file 6, sheet 11.

[8]Ibid., folio 217, inv. 1224, file 10, sheets 11-12.

[9]Ibid., folio 38, inv. 11353, file 981, sheets 4-8.

[10]Ibid., folio 323, inv. 4766, file 11, sheet 4.

[11]See: "Istoriya Velikoy Otechestvennoy Voyny Sovetskogo Soyuza 1941-1945" [History of the Great Patriotic War of the Soviet Union of 1941-1945], Moscow, 1965, Vol 6, p 126.

[12]The qualitative composition of the military council members was characterized by the following data: virtually all of them had a higher military-political, party or general education, and more than one-half of them possessed experience in party political work under the Civil War conditions. Among the 40 first military council members of the fronts were 3 members of the Politburo, 10 members of the party Central Committee and 26 military council members were full-time political workers. All the military council members of the tank armies had a special military education (see: KOMMUNIST VOORUZHENNYKH SIL, No 16, 1978, p 27).

[13]As a total a rifle division had 63 radios, a tank division had 102 and a mechanized corps around 400.

[14]See: "Voyennyye Svyazisty v Dni Voyny i Mira" [Signal Troops in Days of War and Peace], Moscow, 1968, pp 175-182.

[15]A signals battalion of a corps and division by that time consisted of radio and telephone cable companies and a mobile liaison platoon.

[16]TsAMO, folio 816, inv. 3120, file 1, sheet 22; folio 208, inv. 2454, file 32, sheet 263.

[17]Ibid., folio 208, inv. 3039, file 36, sheet 35.

[18]Ibid., folio 251, inv. 6883, file 2, sheets 4-5.

[19]Ibid., folio 236, inv. 2673, file 2538, sheets 105, 106.

CHAPTER 2: CHARACTERISTIC TRAITS IN THE ACTIVITIES OF CONTROL BODIES IN PREPARING FOR AN OFFENSIVE

The conditions which influenced troop control during the years of the Great Patriotic War predetermined the content of activities carried out by the commanders and the staffs, the methods and style of their work in preparing for the offensive as well as the scope of the measures carried out. In each specific instance the procedure and forms (methods) of carrying out one or another task had their particular features. At the same time there was much in common in the work of the bodies providing troop control on an offensive.

1. Methods and Style of Work of Commanders and Staffs

Characteristic of the basic offensive operations in the Great Patriotic War was their preparation successively on the front and army levels and then in the formations and units. A positive aspect of such a method was the fact that on each level there was (of course, under the condition of providing sufficient time) the high quality carrying out of the preparatory measures. Moreover, secrecy of the preparations was achieved as the subordinate staffs learned of the pending tasks only at the designated time. Experience shows that under the designated conditions the following sequence of work was most characteristic for the commander and the combined-arms staff.

Having received a task, the commander of a front studied it. For assessing the situation he called in his closest assistants, the members of the military council, including the chief of staff, the artillery commander as well as the chief of the operations directorate (section). Often this work involved the chief of the rear, the chief of intelligence and the chief of the engineer troops. As a result the commander made the decisions for the operation. The staff drew it up on a map. Under the commander's leadership the involved officials worked out a plan for the forthcoming operations. Then the decision was successively detailed, encompassing an ever-broader range of questions. It was thoroughly worked through in exercises, military games and reconnoiterings. At the same time measures were carried out for military and political training, for the supplying of the troops and for rear support. As the date for the start of the offensive grew nearer, the chiefs of the branches of troops were called in for making the plan more concrete and then the tasks were given to the army commanders.

Some 5-10 days before the start of combat operations, on the basis of the decision, the plan was worked out for the forthcoming offensive in an army. During this same

time the corps staffs became involved in the planning of combat operations (most often on the basis of the oral receiving of tasks) while the division staffs began to work 3-6 days before. During this period great attention was given to the organization of cooperation, including on the spot. In a number of instances the decisions of subordinates were heard at military council sessions. Work was carried out in this sequence at the field headquarters and formations of the Volkhov Front in August 1942 (the Sinyavino Operation), the Southwestern and Stalingrad fronts in the autumn of 1942 (the "Uran" Operation), the Central Front in July 1943 (the Orel Operation), the Second Belorussian Front in June 1944 (the Mogilev Operation), in tank armies in preparing for such operations as the Vistula-Oder and Berlin as well as in the combined-arms armies in preparing for a majority of the operations carried out by them in 1943-1945.

As an example (Diagram 4) we have shown the work of the field headquarters of the First Belorussian Front, the 2d Guards Tank and 8th Guards Armies as well as their formations in preparing for the Vistula-Oder Operation. From the graph's data, it follows that with 47 days to prepare for the front operation, for 64 percent of the time a limited group of persons at the front field headquarters was concerned with the operational portion of preparations (taking the decision, planning and so forth). In the following 19 days, the questions were solved in an analogous manner in the armies. Some 5-6 days before the start of the offensive, specific tasks were issued to the corps commanders and 2-3 days before to the divisional commanders. Consequently, only 20-25 percent of the available time was spent on preparing the operation and organizing combat operations in parallel in the field forces and formations.

The task was carried out in approximately the same manner in preparing the Lwow-Sandomierz Operation (July 1944), when the army commanders gave the tasks to the corps commanders 11 days before the start of the operation and the latter gave the missions to the division (brigade) commanders 5 days before the start. Such an allocation of time was made chiefly for achieving concealment of the operation.

As a whole the successive preparation of operations made it possible for the control bodies to encompass the planning questions sufficiently fully, profoundly and in detail, to achieve effective coordination of the efforts of the involved men and equipment and to thoroughly support troop combat operations.

Frequently the preparations for an offensive were carried out virtually in parallel (that is, with a certain time lead for the superior levels) by carrying out the measures in the front and in the armies, successively involving the formation commanders and staffs in this work. This was done in the course of preparing the troops of the First Baltic Front for the Vitebsk-Orsha Operation (Diagram 5). A number of frontal operations were prepared in such a manner in the second stage of the strategic offensive in Belorussia in July-August 1944. With the obtaining of the mission for the offensive, the front commander studied it. First of all, he determined the content and times for carrying out the combat tasks and the amount of necessary information for taking the decision, and at the same time through the officers of the sections (directorates) issued the preliminary orders to the troops. During this time the chief of staff provided background information for the basic officials at the field headquarters and on the basis of this they began to prepare proposals for the commander and to issue instructions to subordinates. In the following stage the commander worked out the decision for the operation. The staff officers issued the formulated tasks to the army commanders (formation commanders),

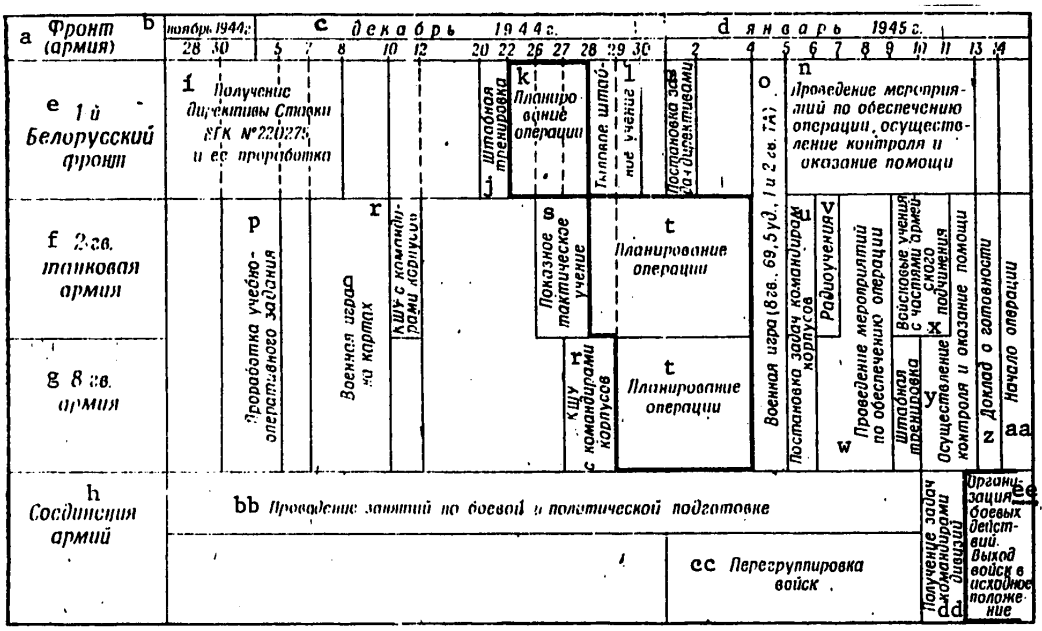

Diagram 4. Sequence of Work by Control Bodies in Preparing for Vistula-Oder Operation

Key: a--Front (army); b--November 1944; c--December 1944; d--January 1945; e--First Belorussian Front; f--Second Guards Tank Army; g--Eighth Guards Army; h--Army formations; i--Receiving of directive from HqSHC No 220275 and its study; j--Staff training; k--Planning of operation; ℓ--Rear staff exercise; m--Giving of tasks by directives; n--Carrying out measures to support operation, providing of control and aid; o--Military gain (8th Army, 69th Army, 5th Assault Army and 1st and 2d Guards Tank Armies); p--Working out operational training assignment; q--Map military game; r--Command-headquarters exercises with corps commander; s--Demonstration tactical exercise; t--Planning of operation; u--Giving of tasks to corps commander; v--Radio training; w--Carrying out measures to support exercise; x--Troop exercises with assigned army units; y--Providing control and aid; z--Preparedness briefing; aa--Start of operation; bb--Conducting exericses for military and political training; cc--Regrouping of troops; dd--Receiving of tasks by division commander; ee--Organization of combat operations. Bringing up troops to jumping-off position.

when necessary they worked out a reconnaissance plan and summoned the officers involved in the task to the command post or to a designated area. With the obtaining of the initial data, work was organized in an analogous manner in the subordinate levels. The designated sequence of work was particularly typical for tank army field headquarters.

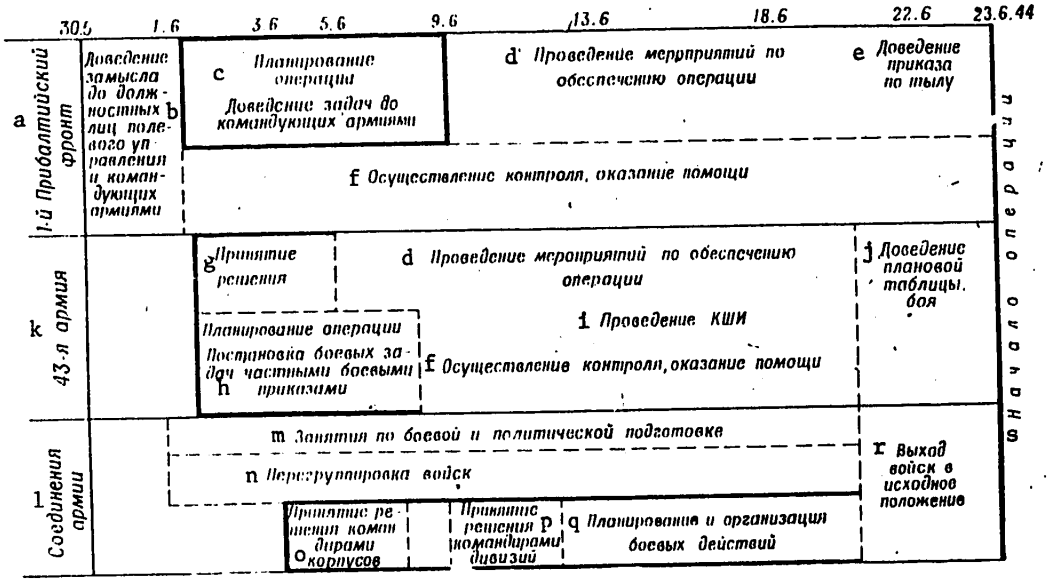

Diagram 5. Sequence of Work by Control Bodies in Preparing for the Vitebsk-Orsha Operation

Key: a--First Baltic Front; b--Issuing plan to headquarters officials and army commander; c--Planning of operation; issuing tasks to army commander; d--Carrying out measures to support operations; e--Issuing rear order; f--Providing control and aid; g--Adopting of decision; h--Planning of operation; giving of combat tasks by particular combat orders; i--Conducting command-staff games; j--Issuing combat planning table; k--43d Army; ℓ--Army formations; m--Exercises for combat and political training; n--Regrouping of troops; o--Adopting of decisions by corps commander; p--Adopting of decisions by divisional commanders; q--Planning and organization of combat operation; r--Bringing up troops into jump-off position; s--Start of operation.

Thus, in the preparations of the 4th Tank Army for the Orel Operation (July 1943), the army's commander 3.5 hours after receiving the mission from the staff gave preliminary instructions to the troops for the offensive. On the basis of these the formations began to organize combat operations. During the following 2 hours, the commander conducted reconnaissance involving the basic officials of the army field headquarters and the corps commanders. Here the operation order was given. The formation commanders and staffs began to organize combat operations. Consequently, of the available 23 hours (from 1100 hours on 25 July to 1000 hours on 26 July), almost 20 hours, that is, 86 percent of the time, were used to simultaneously carry out the tasks of preparing for combat operations in the army and its formations.

In a number of instances a high level of parallel work was also inherent to the field headquarters of the combined-arms armies and to the staffs of rifle formations.

In the 10th Army (December 1941), under the conditions when the military council had only 24 hours to prepare the operation, its commander within an hour worked out his decision on a map. Since the offensive was to be carried out along three axes, two operations groups (Maj Gens V. A. Mishulin and K. S. Kalganov) were organized from the personnel of the command post for more rationally organizing combat operations and for stable control. The tasks for the generals heading the operations groups were set by the army commander. Then they traveled to the formations for carrying out the required range of work to prepare for the offensive. The army commander, having ordered the chief of staff to supervise the bringing up of the units to the jump-off position, began to organize the combat operations of the central troop group. Characteristically the commanders of the rifle divisions and regiments were summoned to the command post of the assault grouping for the issuing of tasks. After giving the combat missions to them, the commander then gave instructions for cooperation.

Form the given examples it can be seen that parallel work in preparing an offensive during the war years was achieved mainly by the fact that in the armies, formations and units the same type of work (a decision was taken, cooperation was organized and so forth) simultaneously (with a certain lead for the superior levels). It is important to emphasize that under these conditions the commander focused his attention on carrying out only the main tasks, in providing extensive initiative to subordinate commanders. All of this made it possible to prepare an offensive in a relatively short time and this was a strong point of such a method in organizing an offensive. The drawback was that certain questions involved in the organization of combat operations were issued to subordinates piecemeal (the decision, then the principles of cooperation followed by the questions of support, the organization of control and so forth). Subsequently these were made more concrete and detailed. As a consequence of this the initial data needed for complete combat operations planning was lacking in the lower levels up to a certain time.

During the years of the Great Patriotic War there also were instances when an offensive was prepared for on the basis of sequentially issued instructions to carry out preparatory measures (regrouping, the march to the jumping-off area for the offensive and the creation of materiel stocks) and then the instructions were issued with the setting of the combat missions. This method was successfully employed, for example, in preparing the Prague Operation. Thus, the commander of the 4th Guards Tank Army received the regrouping mission at 1630 hours on 2 May 1945. Having made his decision, in 20-40 minutes through the army staff he issued preliminary instructions to the troops. By 2200 hours, the combat orders for the regrouping had been sent out to the formations, and by 0200 hours on 3 May, that is, by the start of the march, copies of the regrouping plan and orders according to the types of support. The commander received the mission for the offensive on the morning of 5 May. The combat orders for reaching the jumping-off area were sent out to the formations by 1100 hours and the tasks were forwarded through the staff by 1600 hours of the same day. The operation order was received in the formations by 0400 hours on 6 May. Consequently, of the existing 10 hours for organizing the regrouping, the army commander spent up to 1.5 hours on the work, that is, 6-7 percent of the time. In organizing the offensive which commenced at 1400 hours on 6 May, of the available 32 hours the army field headquarters spent 3-4 hours (10-11 percent of the time) on work, after which the formations began to carry out the tasks confronting them in organizing combat operations.

Since in similar conditions the time factor assumed dominant significance, the commander first of all formulated the tasks for those formations which were to be the first into battle. As the situation became clearer and as the basic planning documents were worked out, subordinates received the combat planning tables (copies of the cooperation plan) and orders for the types of support. For example, in the 19th Army, in committing to an engagement (the East Pomeranian Operation), the commander with a group of officers and the formation commanders even before the arrival of the forward units traveled out to the area from which the army was to start its operation. By this time the division commanders had received preliminary orders for moving up and general data on the enemy which were concretized on the spot. "Here, on the spot," commented K. K. Rokossovskiy, "we worked out the tasks and coordinated the cooperation of the infantry with the III Tank Corps and the reinforcement units."[1] Having studied the received tasks, the formation commanders left to meet the advancing troops. As the plan of the operation was clarified and made more detailed by the army staff, the formations received instructions on the allocating of reinforcements and on the organization of combat and logistical support.

Thus, the choice of the work methods (from the viewpoint of the sequence of this work) in preparing an offensive during the years of the Great Patriotic War was determined by a number of conditions, chiefly by the availability of time and by the necessity of concealing the plan of the operation. Even then those methods originated which in the postwar years were termed the method of successive work (on the basis of the complete planning of the operation (engagement) in the superior levels and then in the subordinate ones), the method of parallel work (on the basis of planning simultaneously on two or more levels) and the by-order method. Characteristically, during the war years the sequence of carrying out the necessary measures was most often a combination of the designated methods. This is quite natural since each of them had its positive and negative features.

One must point out a whole series of particular features in preparing an offensive in the work of the commanders and staffs of formations and units.

During virtually the entire first period of the war, combat was organized within times limited to several hours and more rarely days. Under the designated conditions the basic work method was the parallel execution of preparatory measures for the offensive in the formations, units and subunits. This was characteristic for the work of the commanders and staffs from the divisions of the 24th Army in August 1941 as well as the 10th Army in December 1941. In the preparation of the 37th Army formations for the counteroffensive at Rostov, the method of issuing a series of sequential orders was employed. As a consequence of the complexity of the situation, the extremely limited initial information and the little experience of the commanders and staffs in organizing reconnaissance, the task was given only in very general outlines while the situation was assessed without terrain reconnaissance. For example, this was the case in 15 out of the 18 formations of the 3d and 4th Assault armies in preparing for the Toropets-Kholm Operation (January 1942).

During the second period of the war, a division commander assessed the situation, including on the spot, during the period of conducting reconnaissance, usually studying the task on the basis of the obtained operation order and often speaking personally with the corps commander. Then the decision was taken. Its individual questions were adjusted and tried out in command-staff and troop exercises. An example of such a sequence was the work done by the commander of the 47th Rifle Division on

the eve of the counteroffensive at Stalingrad. In a number of instances the work was organized somewhat differently. The commander of the 14th Guards Rifle Division made his decision for combat using a map as he was well acquainted with the terrain and on 16 November 1942 gave the tasks to the regimental commanders. On the same day he conducted reconnaissance. The tasks were adjusted, the start lines were set, markers and signals were established and the procedure indicated for supporting the boundary area with the adjacent 47th Guards Rifle Division. After this the staff began to work out the combat planning table. In preparation for the Orel Operation (July 1943), the commander of the 11th Guards Rifle Division, having received the task and studied it, heard proposals on the employment of the branches of troops from his deputies and the chiefs of the branches of troops (special troops) at the conference held. A number of questions was clarified in reconnaissance and worked through in a command-staff game, at a demonstration regimental exercise and battalion and company exercises with field firing. Only after this was the decision finally formulated and issued to subordinates.

During the third period of the war, the acquired skills made it possible to skillfully combine the diverse methods of organizing combat and to achieve an effective solution to the problems of preparations even in times restricted to 1 or 2 days. This was achieved by the planned nature of the work as well as by the improved content of the information and the better organizational activities through the issuing of preliminary orders and the precise allocation of functional duties on the staffs. The various sources of information were more skillfully used, chiefly in assessing the situation, including air and radio reconnaissance, as was the case in the 86th, 125th and 63d Guards Rifle divisions of the Leningrad Front in January 1944. The role of the observation post service increased sharply. From the data of reports from the formations of the 43d Army, on the eve of the Belorussian Operation they detected up to 70 percent of all the targets located in the first enemy position.

Of greatest interest for today's conditions is the experience of the commanders and staffs from the formations of the armored and mechanized troops.

The particular features of their activities were determined, in the first place, by the specific nature of the tasks to be carried out, that is, by the completing of the breakthrough of defenses, by pursuit of the enemy at a rapid pace and by operations along separate axes; secondly, by the composition of the formations (the presence of a significant number of tanks, SAU [self-propelled artillery mount] and motor vehicles); thirdly by their positioning sequentially in the concentration, waiting and jump-off areas, that is, out of contact with the enemy; fourthly, by the times of preparing for the offensive (this was limited to hours). It must also be considered that with the receiving of a task, the commander of a tank (mechanized) corps had to determine or clarify on the spot the jumping-off area, the routes for reaching the start line, while the staff and the chiefs of the branches of troops had to organize a commendant service [traffic control service] and ensure the engineer preparations of the routes and areas, check the condition of the materiel and the availability of ammunition and fuel, evacuation and repair equipment. Moreover, it was essential to coordinate a number of questions with the rifle formations, including becoming free of the rifle troops, and often for the preparation of routes by these troops with the start of combat operations.

Proceeding from what has been stated, in maintaining the sequence of work characteristic of the rifle formations, the commander of a tank (mechanized) corps (brigade)

devoted great attention to assessing the terrain from the standpoint of its passability and to studying the tasks to be carried out by the rifle troops. Having taken a preliminary decision on the map and having issued instructions to the staff as well as to the chiefs of the branches of troops and services, he, together with the commanders of the brigades (battalions) and reinforcement units, traveled along the routes of advance to the forward edge and for this all the officers put on common troop uniforms. During this time the corps staff through the staffs of the combined-arms formations assembled intelligence data on the enemy in the area of the breakthrough (it was prohibited for a corps to carry out intelligence work) and made the calculations for the move-up. Sometimes an operations group headed by the deputy corps commander was assigned from the personnel of a command post to organize traffic control on the by-pass routes and the crossing areas. This was the case, in particular, in preparing to commit the IV Guards Mechanized Corps to the engagement in the Nikopol'-Krivoy Rog Operation in January 1944.

There was the important feature that the combat decision taken for reconnaissance was approximate. It had to be concretized proceeding from the situation which developed in the course of breaking through the enemy defenses by the rifle formations. The decision, or more accurately its individual questions (the direction of the main thrust, the tasks of the formations and so forth), was clarified as the tank formations were brought up to the start line. For this reason the basic method of issuing tasks with the start of an offensive, even in the first period of the war, on the corps-brigade levels, and in following years on inferior levels, was the giving of orders by the commander to subordinates circularly (that is, simultaneously) by radio. This also established the bases of cooperation in combat, as each of the brigade commanders heard and understood not only his own tasks but also those of the adjacent units. Orders on the types of support were most often given verbally.

As a whole, the work methods of the commanders and staffs during the war years were continuously improved. The activities of HqSHC had a significant influence on this process as it directly generalized and analyzed in detail the combat experience, in formulating the basic demands on the work of the commanders and staffs in preparing for the offensive.

As a result there was the widespread practice of carrying out the preparatory measures in strict accord with the calendar plans worked out by the military councils of the fronts and armies. These plans defined the scope of the work, the time and executors. This provided planned and long-range preparations of the troops and staffs for forthcoming operations. The problem of the placement of forces was solved more effectively. Duplication of implemented control was almost excluded.

Greater effectiveness and quality of work were also furthered by the practice of conducting operational and reconnaissance orientations for the formation leadership. In the first instance the general goal of the forthcoming operation and the role and place of the field forces and formations in it were defined. In the second, subordinates were informed of the composition and condition of the enemy grouping, the possible nature of operations and the engineer preparations of enemy defenses. The involvement of the chiefs of the branches of troops and services raised the role of the latter in planning the use of the resources and created better opportunities for their effective work.

With difficult preparatory conditions (restricted time and a large amount of diverse tasks) there was the extensive practice of setting up special bodies (like operations groups) for directing the planning of an offensive (the counteroffensive at Tikhvin and the Yelets Operation), in providing camouflage (the Sinyavino and Smolensk operations), in the regrouping of troops (the Ostrogozhsk-Rossoch' Operation) and in organizing the commendant service and rear support (the Lower Silesian and other operations). In a number of instances they also set up work groups for shift work at a command post. All of this made it possible on a centralized and effective basis to control the troops and involve the most skilled command personnel in carrying out the tasks. For this reason the designated experience merits attention at present.

The work style of the commanders and staffs, that is, the aggregate of the procedures and forms of their activities, was improved.

The experience of the war shows that the enormous amount of work with diverse functions could be carried out only if the work was well organized. The collective form of work was an essential condition for rationally organized labor. For precisely this reason the collective form was found on all levels of the military hierarchy in the person of the military councils of the fronts and armies as well as in the form of the diverse system of staff services. The effectiveness of the work carried out by this complex organism depended upon many factors, including upon the skill of the co-workers as well as upon how coordinated were the actions of the various control bodies which performed what could not be done by a single person. Certainly "in order to provide the commander with the opportunity...to lead...the troops entrusted to him," commented F. Engels, "...a special service has been set up consisting exclusively of officers and called a staff."[2]

During the war years, the specific work carried out by a staff demanded from the officers profound analytical thought, industriousness, patience and the ability to spot a development trend in one or another event and foresee to what this development could lead. All of this required special attention in manning the staffs and a consideration of not only the professional qualities of the officers but also personal character traits and their inclinations. For this reason it is worth noting the approach to allocating work in a staff proceeding from the psychological features of the individual as described by the former chief of staff of the 8th Guards Army, Maj Gen V. A. Belyavskiy: "...Lt Col S. I. Martsenko, a calm and cool-headed officer, was basically concerned with painstaking work of compiling calculations and plan tables. The operator, Maj K. F. Petrov, a person of great erudition and a sharp mind, was irreplacable on questions requiring an immediate response. We were repeatedly aided by the pedantic efficiency and sound work...of Maj P. F. Zheltov. When it was a question of drawing up documents, first violin was played by the master of clear and terse formulations and the superior graphic artist Maj I. A. Ivashchenko."[3] As a result, the persons who differed in terms of the type of character complimented one another and comprised that close-knit collective without which effective work by all the elements is inconceivable.

Of great importance for a commander was his ability to work with the men. Here the main thing was the combination of a respectable attitude toward subordinates with strict exactingness for them, a desire for collective thinking and a profound belief in the possibilities of the collective. As K. G. Telegin (a member of the

military council of the First Belorussian Front) recalls, during the preparations of the Belorussian Operation "the members of the military council spent several days and nights together at the operations section of the front's staff...they thought, calculated, clarified, voiced doubts and fears, they made proposals and sought advice from the army commanders and the commanders of tank corps."[4] Here is how K. K. Rokossovskiy describes the work of preparing for the Vistula-Oder Operation: "The offensive was prepared by collective efforts.... A staff headquarters, as we called it, was created where together we thought out the plans, took decisions, heard information from the representative officers, discussed all sorts of proposals and exchanged opinions on the employment of the various branches of troops and on organizing cooperation between them."[5] One of his co-workers, Arm Gen P. I. Batov, drew attention to the fact that "he (Rokossovskiy) did not like to be alone and endeavored to be closer to the activities of his staff.... This created a surprisingly pleasant working atmosphere...one felt neither constrained nor any fear of voicing one's opinion which might differ from the opinions of the superior."[6] A profound understanding of the scope of the tasks, professionalism, trust in the persons around coupled with such character traits as tact and amiability ensured the success of collective effort.

Such an approach to carrying out the tasks did not exclude, however, great organizational activities by the commanders. It has been pointed out, in particular, that G. K. Zhukov prepared an operation with painstaking care. He delved into all questions, he worked them out in detail, he made calculations, he checked possible variations of actions and played them out with subordinates on maps and three-dimensional dimensional charts. It is worth noting that the desire to increase the probability of a successful outcome of an operation by playing through variations of the actions was characteristic of G. K. Zhukov over the entire war, even under the extremely difficult conditions of preparing the offensive in the Western Sector in August-September 1941 (the Yel'nya Operation). Georgiy Konstantinovich [Zhukov] always endeavored to work, as witnesses have noted, not only with the army commanders, but also with the formation commanders in order to personally become acquainted with the state of affairs, particularly in the breakthrough areas.[7]

The erudition of a military leader (commander), his experience, his sense of responsibility for the assigned job, practical boldness and volitional qualities contributed to the shaping of such a trait of style of activity as providing constant practical aid to subordinates in troop leadership. For precisely this reason, as Arm Gen A. S. Zhadov has pointed out, I. S. Konev, in assigning tasks, analyzed their sense and contents in detail, he endeavored to make certain that the commanders clearly understood the role and place of the armies in achieving the aim of the front operation and was always ready to help them.

The style of leadership over troop combat activities was, consequently, an active aspect in achieving effective troop control. Its formation depended largely upon the personal qualities of the military leader (commander or staff officer). Among the main ones one must put the aggregate of political-ideological, professional, organizational and moral-psychological character traits, as a leader, in the words of V. I. Lenin, must combine "loyalty to socialism with the ability...to establish strong and close joint work...."[8]

Experience shows that the work style of commanders to the greatest degree was apparent in their relations with the collective and in the ability to find the main element in solving various questions. An important criterion for assessing this was a clear defining of the goals and specific tasks in the activities of subordinates and the organizing of their labor considering the abilities and inclinations of each. Here of great significance was the leader's authority based upon professional knowledge, experience as well as his ideology and moral qualities. The development of a rational work style among the commanders and staffs was largely aided by the structure of the control bodies which came into being during the war years (the presence of military councils and the institution of military commissars or deputy commanders for political affairs), by the stability of the leadership and command personnel as well as by the skillfully carried out line of the personnel bodies in the area of the selection of commanders, military council members, chiefs of staff and other officials considering their personal qualities, skills, combat experience and the nature of the forthcoming actions.

2. The Plan for the Offensive--The Basis of Troop Control

A most important control function in the preparation of an offensive was the commander's adoption of a plan or decision on the basis of which the combined-arms staff, together with the other control bodies, planned the forthcoming operations. This plan determined the resources and the methods of carrying out the combat tasks. This was a complex creative process based upon the individual experience of the commander and his intuition and mainly on a profound and thorough analysis of the situational data and on the accuracy of the calculations.

The general concept of the combat operations was the basis of the plan. It provided an answer to the questions of: what enemy was to be defeated and in what sequence, where the basic troop efforts were to be concentrated, what operational configuration (battle formation) should be chosen and what maneuver should be planned for the involved resources for achieving the set goals. In addition, the plan formulated the combat tasks for the subordinate troops and provided for the procedure of cooperation and the organization of troop control (Diagram 6).

Experience shows that during the years of the Great Patriotic War there was an active search for the most *rational use of available resources for achieving the goals of the offensive.* This was the basic problem confronting the commander, the staff and other control bodies. Here the central place in solving it was held by the questions of choosing the axis of the main thrust (the sectors, the concentration of basic efforts on the offensive), its support with men and equipment, as well as the questions of defining the proper operational configuration (battle formation) of the troops under the specific situational conditions.

The short times and difficult conditions for preparing an offensive during the first period of the war, in being carried out most often in the course of defensive engagements, had a substantial impact on the choice of the method for defeating the enemy. During the winter of 1941-1942, a majority of the Western Front armies (the Moscow counteroffensive) made frontal strikes along a broad front virtually in the same grouping as was used for the defensive tasks. The troops fought analogously on the Kalinin Front, advancing in two sectors. The divisions carried out combat operations in a zone up to 10 km and this predetermined virtually the equal distribution

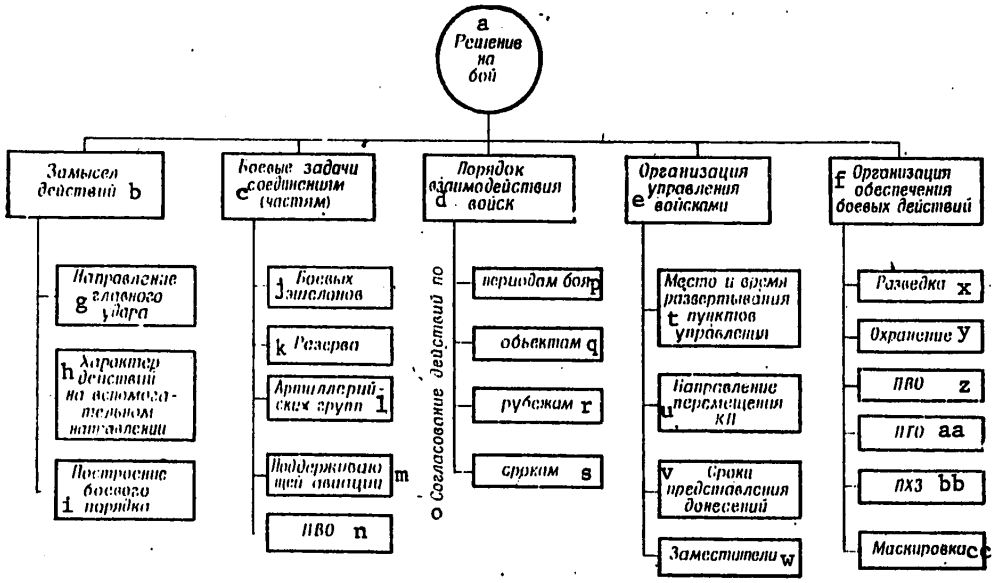

Diagram 6. Content of the Commander's Combat Plan (from the experience of the war)

Key: a--Combat plan; b--Overall concept of actions; c--Combat tasks for formations (units); d--Order of troop cooperation; e--Organization of troop control; f--Organization of support for combat operations; g--Axis of main thrust; h--Nature of actions in auxiliary sector; i--Configuration of battle formation; j--Of combat echelons; k--Reserve; l--Artillery groups; m--Supporting aviation; n--Air defense; o--Coordinating efforts for; p--Periods of combat; q--Objective; r--Lines; s--Dates; t--Place and time for deploying control posts; u--Direction for moving command post; v--Time for submitting reports; w--Deputies; x--Intelligence; y--Security; z--Air defense; aa--Antitank defense; bb--Antichemical warfare defense; cc--Camouflaging

of resources. However even then there was a noticeable desire for the massing of men and equipment. In a letter to K. A. Meretskov of 29 December 1941 (on the eve of the Lyuban' Operation), the Supreme Commander-in-Chief stressed: "I would want that the forthcoming offensive...not be broken up into small clashes but rather develop into a unified powerful blow against the enemy."[9] In holding direct talks in December 1941 with the chief of staff of the Kalinin Front, A. M. Vasilevskiy, in expressing the opinion of the Supreme Commander-in-Chief, pointed out that "the conducted offensive along the entire sector of the front in five separate axes... is ineffective. It is essential...to concentrate efforts on one of them in order to undertake a decisive offensive for the purpose of destroying the opposing enemy."[10]

The further development of the art of massing men and equipment was reflected in the directive letter from HqSHC of 10 January 1942. It formulated the demand that the "assault group of a front consist not of several divisions but of several armies.... An offensive can produce the proper effect only in the instance that we create in one of the front's sectors a great superiority of forces over the enemy forces...."[11] The instructions of HqSHC to a certain degree was realized by the commanders and staffs in the general offensive on the central sector in January 1942. The Northwestern Front made the main thrust with two armies, the Western and Kalinin fronts each with two armies and a cavalry corps. In the Barvenkovo-Lozovskiy Operation already up to 50 percent of the rifle divisions, 70 percent of the cavalry divisions and 75 percent of the tank brigades were concentrated in the sector of the main thrust. A number of divisions advanced in a zone of 3-4 km. With an overall equality of forces this made it possible in the commanders' plans to have a 2- or 3-fold superiority in the breakthrough sectors.[12]

Certain new aspects from the standpoint of the massing of men and equipment can be noticed in the plans of the commanders for the offensive in the summer of 1942. The strategy for the operation on the Khar'kov sector (May 1942) envisaged the creation of two assault groupings: on the northern wing of the Southwestern Front consisting of three armies (a breakthrough sector of 55 km) and on the Southern with the 6th Army and the group of Maj Gen I. P. Bobkin (a breakthrough sector of 36 km) with an overall zone of advance of 390 km. In the armies of the assault groupings, mobile groups were organized ahead of time: in the 28th Army one consisting of a reinforced cavalry corps and in the 6th Army two tank corps. Breakthrough areas were assigned to the divisions and units. According to the plan of the Western Front commander, on the Zubtsov-Rzhev and Sychevo sectors (August 1942), the enemy defenses were to be broken through in a zone of 16 km by the forces of two armies brought up secretly to the jump-off position. The massing of up to 70 percent of the rifle troops, 100 percent of the tanks and 80 percent of the artillery in the breakthrough sector made it possible to create a superiority over the enemy of 4-fold for personnel, more than 7-fold for tanks and 6-fold for guns and mortars. Mobile groups were organized in the armies and on the front and forward detachments in the formations.[13]

In selecting the sector of the main thrust during the second period of the war the principle was maintained established in the previous years, that is, the main thrust was to be made against a weak point in the enemy defenses with the subsequent emerging in the enemy flanks and rear. A new feature was that consideration was given to the moral-combat qualities of the enemy troops in the various sectors of the front in determining the sector of the main thrust in the counteroffensive at Leningrad and in the Ostrogozhsk-Rossosh' and Voronezh-Kastornoye operations. In the plan of the offensive proposed to HqSHC by the military council of the Southwestern Front for attacking the formations of the fourth Royal Romanian Army it was emphasized that "the benefits of this sector are obvious.... We will destroy the weaker enemy units and this is of great moral significance for our troops. It will inspire them.... The success will thereby influence the rate of advance of the 21st Army.... In coming out on the main lines of communications and the crossings over the Don... we will deprive the enemy of the main thing, that is, the maneuvering of its mobile tank and motorized forces operating in Stalingrad."[14]

Particular attention was given to the massing of men and equipment on the chosen sector of the main thrust in the form of concentrating the efforts of two or three

armies (divisions) and a larger portion of the front (army) resources. As a result, even with a relative equality of forces (in the counteroffensive at Stalingrad and in the Ostrogozhsk-Rossosh' Operation) in the breakthrough areas a 3- or 4-fold superiority over the enemy was achieved. Characteristically the weapons were massed first. In breaking through the Leningrad blockade (January 1943) according to the plans of the commanders, 45-60 percent of the personnel, 90 percent of the artillery and 100 percent of the aviation were massed in the breakthrough sectors of the fronts comprising around 10 percent of the zone of advance. In this operation many formation (unit) commanders and their staffs showed a good deal of creativity in selecting the sector of the main thrust and in solving the question of the allocation of resources in the offensive.

Thus, the commander of the 372d Rifle Division, in proceeding from the set task and the nature of enemy defenses (in the zone of the forthcoming offensive a reinforced battalion from the 227th Infantry Division was defending Worker Settlement No 8 which had a developed system of pillboxes), decided to make the main thrust with the forces of the 1,238th Rifle Regiment toward this strongpoint and simultaneously break the defenses to the north and south of it. The concentration of basic efforts against the strongest place in enemy defenses was necessitated by the blockading of a well-prepared strongpoint to create better conditions for the flank units in carrying out the subsequent task. Characteristically the 1,238th Rifle Regiment was reinforced by a machine gun battalion, by artillery and mortar regiments as well as by a combat engineer battalion. These comprised up to 70 percent of the division's resources. Two assault detachments were organized in the regiment. Each of them included an engineer and chemical reconnaissance group (19-20 men), a clearing group (25-28 men) and an assault group (rifle and combat engineer platoons, squads of submachine gunners, antitank weapons and medium machine guns as well as a crew of a 45-mm gun).

The carrying out of the tasks of the massed employment of men and equipment on an offensive to break through deeply echeloned enemy defenses can be traced also in other examples in this period of the war.

Thus, the commander of the Voronezh Front, in determining the concept for the Ostrogozhsk-Rossosh' Operation, decided to make three strikes against the enemy grouping, to break its defenses and, in developing the offensive along converging axes to encircle and destroy the enemy formations. The strikes by the 40th Army and the 3d Tank Army were to be made against the enemy grouping's flanks where formations of the 2d Hungarian Army were defending. These troops possessed relatively low battleworthiness.[15]

The choice of the sector of the main thrust was predetermined for the commander of the 40th Army by the presence of a guard bridgehead and by the necessity of rapidly linking up with the 3d Tank Army. For this reason he decided to make the thrust in the area between the enemy 20th and 7th Infantry divisions in a sector 10 km wide (11 percent of the total area), having regrouped here up to 88 percent of the rifle troops and 95-100 percent of the artillery and tanks. The remaining 75-km front was held by the forces of a rifle regiment, three training battalions and a separate machine gun battalion. A high breakthrough rate was to be achieved by using brigades of the IV Tank Corps for joint actions with the rifle formations. Subsequently the efforts were to be increased by the second echelon. The troop regrouping carried out secretly from the enemy made it possible to alter the ratio of

resources and in the sector of the main thrust a 2- or 3-fold superiority over the enemy was achieved.

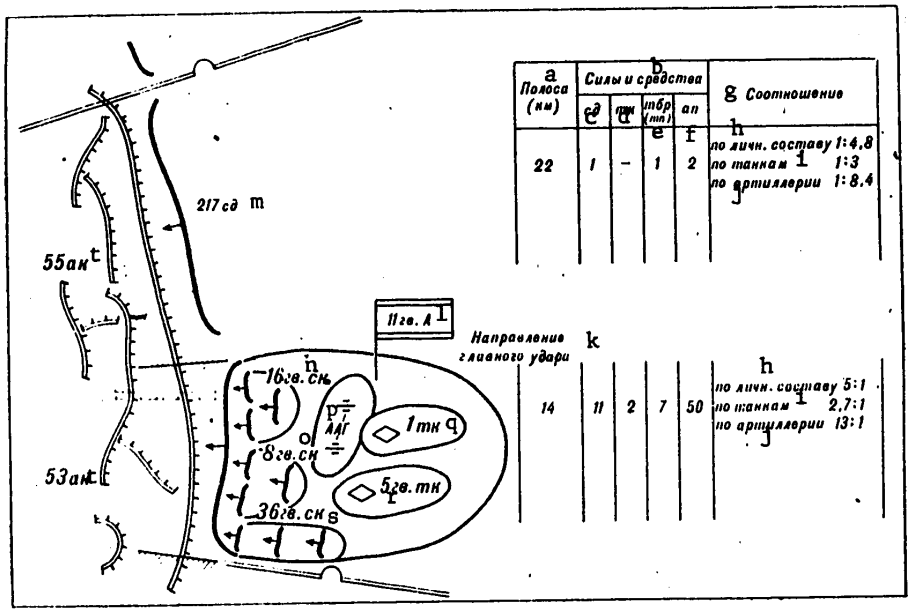

Diagram 7. Plan of the Commander of the 11th Guards Army for Massing Men and Equipment in the Orel Operation (July 1943)

Key: a--Zone (km); b--Men and equipment; c--Rifle division; d--Tank corps; e--Tank brigade (regiment); f--Artillery regiment; g--Ratio; h--for personnel; i--for tanks; j--for artillery; k--Sector of main thrust; ℓ--11th Guards Army; m--217th Rifle Division; n--XVI Guards Rifle Corps; o--VIII Guards Rifle Corps; p--Artillery group; q--I Tank Corps; r--V Guards Tank Corps; s--XXXVI Guards Rifle Corps; t--Army Corps.

An analysis of the plan adopted by the commander of the 11th Guards Army in July 1943 (the Orel Operation), for example, shows that in choosing the sector of the main thrust (Diagram 7), the commander proceeded primarily from the fact that the enemy possessed a deeply echeloned defense which was well equipped in engineer terms. The army was operating in the sector of concentration of the basic forces of the front. In its zone, for exploiting the success, they planned to commit two tank corps. The selected sector of the main thrust in terms of terrain conditions was acceptable for the use of large masses of tanks. The most vulnerable point in the enemy defenses was the boundary area of the LIII and LV Army corps from the 2d Tank Army of Nazi Germany. Considering the nature of the enemy defenses, the army commander concentrated the army's basic efforts (80-90 percent of the resources) in a sector 14 km wide. At the center of the assault grouping advanced the VIII Guards Rifle Corps. It was assigned a breakthrough area of 3.5 km (25 percent of the army one). It received up to 40 percent of the army artillery and tanks for reinforcements. The army's reserve, a rifle division, was located in the same sector.

Consequently, the chosen sector of the main thrust was supported by a decisive massing of resources and in this manner possibilities were created for rapidly breaking through the enemy defenses.[16]

In determining the plan for the Nevel' Offensive Operation (October 1943), the commander of the 3d Assault Army proceeded from the task received of advancing on the first day to a depth of 30-35 km as well as from the ratio of men and equipment (in the zone 100 km wide this was 1.5 in favor of the Soviet troops). For this reason he concentrated up to 90 percent of the available resources in a breakthrough sector of 4 km. On the remaining extent of the front, the tasks were to be carried out by the least manned division, by two reinforced areas and an army reserve regiment. As a result, a superiority over the enemy was created which ensured the successful breakthrough of the deeply echeloned enemy defenses during the first day of the operation.[17]

The art of choosing the sector of the main thrust during the operations of the third period of the war was manifested in a thorough analysis of all the component indicators of the operational and tactical situation while the massing of men and equipment was apparent in the increased degree of their concentration, and primarily weapons. This is seen from the data of Table 6 compiled from the experience of more than 20 army operations.

On the eve of the offensive in Belorussia (June 1944), the formations of the 65th Army, for example, occupied defenses in a forested area with numerous broad rivers, with floodplains, canals and swamps. The areas were exceptionally difficult for maneuvering. The Nazi command used these particular features, creating a deeply echeloned defense in the sectors exposed for the use of large masses of military equipment. In adopting the plan for the defensive, the front commander and the army commander thoroughly assessed the nature of the terrain on which combat operations were to be conducted. The most enticing was the Parichi sector since all branches of troops could operate here. At the same time it was impossible to expect rapid advance, since the enemy controlled all the prevailing heights. The density of enemy weapons was high. A detailed study of enemy defenses and the terrain argued in favor of choosing the sector of the main thrust across the swamps and bogs. In this instance an opportunity was created for the assault grouping to come out in the enemy rear and to defeat the enemy quickly and with fewer casualties. This, however, necessitated carrying out such measures as the building of corduroy roads, log trackways and adaptations for the crossing of tanks. This was done in strict secrecy from the enemy. Having concentrated up to 90 percent of the artillery in the area of the main thrust, the army commander took the decision to carry out artillery softening up for 125 minutes. During this time the combat engineers put together the tank planking. The course of the operation demonstrated the correctness of the adopted plan.

In the Iasi-Kishinev Operation, the commander of the Second Ukrainian Front selected the sector of the main thrust in the most vulnerable point in the operational configuration of the enemy troops in the border area between the 4th Royal Romanian Army and the 8th Nazi Army. It led by the shortest route to the crossings over the Prut River, that is, into the rear of the enemy grouping. In comparison with other operations, the problem of the massing of men and equipment was solved by the uneven distribution of men and equipment not only along the front but also in depth.

Table 6

Basic Indicators Characterizing the Degree of Massing Men and Equipment on Chosen Sector in Army Offensive Operations of 1944-1945

a Операция	b Армия	c Полоса наступления (км)	d Участок прорыва (км)	e Количество дивизий			Распределение сил по элементам оперативного построения				n Массирование артиллерии и танков
				f всего	g в том числе на участке прорыва	h % к общему количеству	i первый эшелон	j второй эшелон	k резерв	l подвижная группа	
							m количество дивизий				
e Корсунь-Шевченковская	27	140	8 ¶	3 (§ УР-2)	2	67	3 (УР-1)	—	УР-1	—	90/100
	40	86	17 (с 6ТА)	6	4	67	6	1	—	—	83/96
	53	22	9	10	9	90	9	—	1	—	97/90
	4 гв*	75	10	7	5	71	6	—	1	—	80/85
p Белорусская	65	28	6	8	6	75	6	1	1	1 гв. тк	90/100
	3	53	9	13	8	62	11	2	—	9 тк	73/92
q Львовско-Сандомирская	3 гв.	65	8	12	8	67	11	—	1	—	56/83
	13	82	4	9	4	45	8	2	1	—	74/90
	60	30	8	10	5	50	7	—	1	—	82/90
	38	40	6	10	7	70	9	—	—	—	84/88
r Ясско-Кишиневская	27	22	8	9	7	78	7	2	—	—	90/100
	52	30	8	9	7	78	7	2	—	—	79/75
	57	14	4	8	3	38	3	3+2	—	—	81/90
	37	9	6	9	6	67	6	3	—	7 мк	91/100
	46	111	8	10	9	90	10	—	—	—	65/80
s Висло-Одерская	8 гв.	30	7	10	8	80	7	3	—	—	90/95
	69	55	7	10	7	70	6	3	1	11 тк	80/93
	5 уд.	12	6	9	8	89	5	3	1	—	86/90
	47	14	4	9	7	78	6	3	—	—	92/96
t Берлинская	65	17	4	9	7	78	8	—	1	—	84/91
	8 гв.	13	7	9	6	67	9	—	—	11 тк	94/95
	69	18	6	10	6	60	9	—	1	—	97/100
	5 гв.	13	8	9	8	89	6	3	—	4 гв. тк	80/95

Note. The column "Massing of Artillery and Tank" [n] shows the degree of concentration in the breakthrough sector in percent of available artillery in the numerator and available tanks in the demoninator.

Key: a--Operation; b--Army; c--Zone of advance (km); d--Breakthrough area (km); e--Number of divisions; f--Total; g--In breakthrough sector; h--Percent of total number; i--First echelon; j--Second echelon; k--Reserve; l--Mobile group; m--Number of divisions; n--Massing of artillery and tanks; o--Korsun'-Shevchenkovskiy; p--Belorussian; q--Lwow-Sandomierz; r--Iasi-Kishinev; s--Vistula-Oder; t--Berlin; *--Guards; †--Assault; ¶--With the 6th Tank Army; §--Reinforced company.

There was to be a deep operational configuration of the field forces and battle formation of the formations. Thus a possibility was provided of attaining a rapid breakthrough rate for the tactical defensive zone and for exploiting the success to a great depth by increasing the efforts in the course of the operation. Characteristically according to the commander's plan, the breakthrough of the entire tactical enemy defensive zone was entrusted to the 27th Army. This was done to create relatively favorable conditions for the 6th Guards Tank Army which was the mobile group of the front with a momentum of advance of 50-80 km. The combined-arms army was assigned a breakthrough area of 8 km where around 90 percent of the artillery, 100 percent of the tanks and 90 percent of the engineer troop subunits were concentrated.

The commanders showed a good deal of creativity in settling the question of determining the proper battle order (operational configuration) of the troops under the specific situational conditions.

The Soviet Army entered the Great Patriotic War with views on the configuration of troop battle formations in offensive combat which had been based upon the theory of an engagement (operation) in depth as well as on the assumption of the need to cross strong and deep enemy defenses. According to these views there had to be a deep echeloning of the battle formations of our troops.

At the outset of the war, there were different conditions which determined the configuration of the battle formations. The defenses of the Nazi Army had a focal nature. For breaking through the defenses a deep configuration of the battle formations was required. Along with this, the Soviet Army units and formations, in being below strength in men and military equipment, were forced to carry out combat operations in broad zones. Regardless of this, the battle formations of the rifle troops during the first period of the war were organized by the commanders as still being echeloned in depth. On all levels second echelons were created and these ordinarily included up to one-third of the troops. This was the case, for example, in the 33d Army of the Western Front in the Moscow counteroffensive. Its 110th and 338th Rifle divisions which were advancing in the main sector had double-echelon battle formations. The rifle division had just 8 percent of the companies out of 27 in the first line while the remaining 19 companies were positioned in depth. The battle formation of the companies and battalions was too spread out and difficult to control.

In the winter offensive operations of 1941-1942, certain division commanders began to establish a single-echelon battle formation and with such a configuration achieved the more successful execution of combat missions. The battle formation of the 8th Guards Rifle Division was organized in this manner in the offensive against Kryukovo in December 1941 and also for the 249th Rifle Division of the 4th Assault Army in the offensive against Peno in January 1942. But these still were only individual instances. As a rule, the divisions, regiments and battalions continued to be organized at that time in two-echelon battle formations.

The combat experience of the first period of the war demonstrated that the battle formations employed at that time by the Soviet troops did not meet the demands posed by the new situational conditions. A deep configuration of the battle formations did not ensure the making of an effective initial thrust. The second echelons of the subunits, units and formations even before engaging in battle suffered significant and unjustified casualties from enemy artillery, mortar and air fire. It was

difficult to control the deeply echeloned battle formation which was deployed over a significant area. All of this had a negative effect upon the successful carrying out of offensive combat.

On the basis of generalizing combat experience, special instructions were issued to the troops and these were reflected in the Order of the NKO No 306. These were later incorporated in the Red Army Infantry Field Manual. The manual fundamentally altered the configuration of the battle formations in an offensive. The basic demand came down to having the battle formations ensure the simultaneous and active involvement of the infantry and all its weapons in combat from the beginning to end. With a shortage of artillery, mortars and tanks, the firing of all infantry weapons was of great importance. At the same time this could be carried out only with a single-echelon configuration of the troop battle formations. For this reason it was pointed out that the battle formations down to a rifle division, inclusively, were to be formed up in a single echelon with the allocating of reserves of not more than one-tenth of the effective combat strength. Here the extended line of riflemen was restored with intervals of six-eight steps between the men.

Such a configuration of the rifle troops made it possible to have maximum use of the fire from rifle weapons, it facilitated control, it strengthened the force of the initial thrust and at the same time, under the specific conditions of that period of the war, ensured a reduction in casualties from enemy fire.

From 1943, as a consequence of improved enemy defenses, there was still a need to echelon the forces of the advancing troops. Indicative in this regard is the example of the operational configuration of the fronts and armies in the Belgorod-Khar'kov Offensive Operation. In considering that the attack was to be made against a strong enemy grouping and in assessing the strength of the troops in the Voronezh Front, the commander, Arm Gen N. F. Vatutin, put four combined-arms armies in the first echelon and three of them had mobile groups. There were to be two armies in the front's reserve. The front's mobile group consisted of two tank armies. Thus, around 25 percent of the rifle troops and up to 90 percent of the tanks were concentrated in depth. In the 53d Army of the Steppe Front, the commander's plan envisaged having more than 80 percent of the tanks in the second echelon and as part of the mobile group. Such an operational configuration made it possible to effectively carry out the tasks of increasing the effort in the course of the operation.

The designated trend can also be traced on the tactical levels. Thus, in adopting the plan to break through enemy defenses in crossing the Neva River (January 1943), the commander of the 136th Rifle Division set the battle formation in a single echelon. However he put in the reserve one battalion from each of the 269th and 342d Rifle regiments and the 549th Separate Tank Battalion. In the regiments a reserve was created consisting of a rifle company, a company of submachine gunners (or a machine gun platoon) and a PTR [anti-tank rifle] platoon. In the battalions assault groups were formed for capturing bridgeheads on the eastern bank of the river. These usually included: 5 or 6 combat engineers, 8-10 submachine gunners, 2 chemical warfare men and 2 or 3 flamethrower operators. The group was issued cog boots and had 4 or 5 explosive charges, 10-12 antitank grenades, 30-40 hand grenades and 2-5 smoke charges. In each rifle company, in addition, a mine clearing group was trained consisting of 5 or 6 combat engineers, 8-10 riflemen with a mine detector, 6 probes, 3 charges, 2 hooks with ropes and shears.[18]

In the summer of 1943, many formation and unit commanders, in considering the existing structure of enemy defenses, in their plans began to adopt a battle order of not only one but sometimes two and even three echelons. The certain narrowing of the zones of advance contributed to this as well as the changes which had occurred in the organization of rifle formations. Thus, by a decision of the commander of the VIII Guards Rifle Corps of the 11th Guards Army (Orel Operation) the 11th and 83d Guards Rifle divisions were to be in the first echelon and the 26th Guards Rifle Division in the second (Diagram 7). Two long-range artillery groups were set up. A tank and antitank artillery reserve were assigned as well as a mobile obstacle construction detachment. With the organizing of a division's battle formation in a single echelon, the rifle regiments, as a rule, had a two- or even three-echelon configuration. Such a configuration of the battle formation in the regiments and divisions ensured the breaking through of the enemy's positional defenses by a successive increasing of the force of the strike from behind. Here extensive use was made of support for the first echelons by artillery and mortar fire from the second echelons of the rifle regiments and divisions before they were committed to battle.

The experience of breaking through the enemy positional defenses during the summer and autumn of 1943 confirmed the advisability of forming deep battle formations (an operational configuration) for the troops. The changes which occurred in subsequent years in the effective fighting strength of the army field forces contributed to a situation where the double-echelon configuration of armies in 1944 was planned for 20 percent of the operations, and in 1945, 33 percent. In a number of instances they even had three echelons such as the 57th Army in the Iasi-Kishinev Operation, the 49th Army in the East Prussian Operation and the 3d Guards Army in the Vistula-Oder Operation. Usually such a configuration existed in the formations which were operating on the flank of the front's assault grouping. The tendency to echelon the resources in depth during the 3d period of the war can be traced also in the fronts. In 1945, 40 percent of the frontal operations were carried out with a double-echelon configuration (5 percent in 1943-1944). Here one or two armies were assigned to the second echelon. Then 65 percent of the fronts had mobile groups such as tank armies and horse-mechanized groups (in 1943-1944, from 18 to 35 percent), while in 41 percent of the armies there were tank (mechanized) corps (in 1943-1944, from 20 to 38 percent).

New elements of the battle formation (operational configuration) were also created.

Characteristic in this regard is the example of the plan adopted by the commander of the XXX Rifle Corps (Vyborg Operation). The main thrust was to be made on the right flank in the direction of Beloostrov and Maynila. The main enemy defensive zone was to be broken through in a sector 5 km wide (the zone of advance was 6.5 km), the Beloostrov Heights were to be captured and by the end of the day the troops were to advance 9-10 km. Subsequently, in committing the second echelon to combat and having focused the basic efforts in the sector of the Alakyul' Heights, the enemy grouping defending them was to be defeated, the Sestra River was to be crossed and by the end of the 16th day the troops were to advance 15 km. Fighting in the first echelon were the 63d (breakthrough area of 2 km) and 45th (breakthrough area of 3 km) Guards Rifle divisions, and in the second, the 64th Guards Rifle Division. An artillery group was organized in the corps, and in the divisions there were artillery close combat groups (50-mm and 82-mm mortars) direct laying gun groups (regimental and antitank artillery) as well as infantry support groups figuring a battalion per

first-echelon battalion (an artillery battalion regiment and a mortar regiment of the SHC Reserve). Artillery antitank reserves and mobile obstacle construction detachments were organized in the corps and divisions. Forward detachments were prepared from the divisions.[19]

As we can see, during the years of the Great Patriotic War, the development of the battle formations (operational configuration) occurred along the lines of increasing the depth of their configuration, the creation of new elements and a change in their qualitative composition. The art of the commanders and staffs was chiefly apparent in the fact that this question was settled proceeding from the specific situation and the combat tasks, the capabilities of our troops and the enemy's methods of combat operations.

The plan was always adopted personally by the commander. However the forms of his work varied.

In a number of instances this was done after an exchange of opinions with a limited group of persons (the chief of staff, the first military council members and the artillery commander) or on the basis of data known to the commander. Often the adopting of a plan was preceded by the detailed hearing of reports (proposals) from the chiefs of the branches of troops (special troops). The difference in the approach was explained chiefly by the situational conditions and by the work style. Also of important significance was the demand of HqSHC to take every possible measure to prevent the leaking of information.

In examining the procedure for adopting the plan, it must be particularly emphasized that, beginning in the autumn of 1942, significant attention began to be devoted to work on the spot, and not only by the subunit, unit and formation commanders, as was envisaged in the prewar views, but also by the field force commanders. One of the directives of HqSHC (September 1942) pointed out that "the commander, on the basis of a careful study of the situation, should adopt a preliminary plan using the map... and issue the necessary orders. The adopted plan is to be worked out on the terrain, after which the final plan is adopted and the operation order given."[20] On the terrain a study was made of the enemy, the nature of its defenses, the precise configuration of the forward edge, the fire plan and the system of man-made obstacles. Thus an opportunity was created to have more effective fire neutralization. The weak points in enemy defenses were established. This made it possible to clarify the direction of the main and other thrusts and the content of the combat tasks for subordinates. Conditions were analyzed for employing the branches of troops, primarily from the viewpoint of the passability of the terrain and the effectiveness of operations. Here also the bases of cooperation were determined and this was done in greatest detail during the period of breaking through the enemy's tactical defensive zone.

Consequently, work on the spot contributed to the soundness of the adopted plans. The desire to utilize the slightest opportunity, even under the most complicated situational conditions, to work on the spot, as a rule, provided good results.

The work procedure of the commanders in adopting a plan for an offensive can be traced in greatest detail from a number of examples.

At the end of May 1944, the commander of the First Belorussian Front, Arm Gen K. K. Rokossovskiy, summoned the army commanders to Gomel' to a session of the front's military council, he announced his plan to them and gave combat tasks.

The 65th Army was fighting in the Bobruysk sector. It had been in contact with the enemy for almost 6 months and for this reason its commander and staff knew in detail the nature of enemy defenses and the grouping of men and equipment. The formation and unit commanders had studied the terrain features well. In the course of commander training (even before receiving the combat task), several military games and a command-headquarters exercise had been held. Such preliminary work made it possible for the army commander, without spending much time, to understand the obtained task, to grasp the role and place of the army in the front's operation and to adopt a preliminary plan. He then ordered the chief of staff to draw up the necessary calculations and information. On the following day the army commander, with the chief of staff, the artillery commander and the chief of the engineer troops, carried out reconnaissance where they clarified the sector of the main thrust, the breakthrough area, the areas for deploying the troops in the jump-off position and the artillery firing positions. After returning to the staff, having heard the information and proposals from the chief of staff, the army commander adopted the plan for the offensive which was then reported to the front commander.[21]

The characteristic work traits in adopting the plan on the tactical level can be seen from the experience of the 37th Guards Rifle Division of the XVIII Rifle Corps which was fighting in the sector of the main thrust of the 65th Army.

The division's commander had received the task for the offensive verbally 2 days before the start of the operation. Having arrived at the division's command post (the division was in the concentration area and was involved with combat training), he summoned his deputies, the chiefs of the branches of troops and services. They were given the division's combat task and told the amount of data which was essential for preparing the report to the commander. The combined-arms staff began to work out the preliminary orders for the units and the plan for forthcoming reconnaissance while the officials began to prepare the necessary calculations. The division's commander along with the chief of staff, the chief of the operations department and the chief of intelligence, during that time studied the task, assessed (proceeding from the existing data) the situation and adopted a plan. This was plotted on a working chart. On the following day, in accord with the staff's plan, reconnaissance was carried out. In it the division's commander on the spot clarified the sector of the main thrust, the boundary lines, the objects of the attack, the procedure for the relief of troops and the questions of cooperation and the organization of control. His plan in a final form was issued to the corps commander 12 hours after the receiving of the combat task. Around 36 hours were assigned for organizing combat operations in the units and subunits.

The uniqueness of the situation predetermined a somewhat different work sequence for the commander of the 28th Army and the commanders of its formations in adopting a plan in April 1945. The problem was that after the elimination of the enemy to the northeast of Konigsberg, the army had been put into the reserves of HqSHC and on 18 April was transferred to the First Ukrainian Front for participating in the Berlin Operation. During the night of 21 April, the front's commander, Mar SU I. S. Konev, issued the order to commit it to battle. The army commander with the operations group traveled to the attack line. In conducting reconnaissance for 2 hours,

he adopted a plan for the offensive on a map and set the task for the recently arrived commander of the CXXVIII Rifle Corps. The formation and unit commanders also adopted their plan using a map. The objects of the attack, the axes of the advance and the boundary lines were clarified on the spot as they reached the attack line.[22]

Consequently, depending upon the situational conditions, mainly proceeding from the availability of time, during the war years the plan of an offensive was adopted by the commander using a map with the subsequent clarification of individual questions by reconnaissance or only using a map. The adopting of a plan was always preceded by work to clarify the combat task and assess the situation. This was done personally by the commander or with the involvement of the headquarters officials. The past war determined the basic directions for improving the commander's work in adopting the plan for the offensive. The first was a thorough analysis of the situational conditions and all its component elements. The second was the use of various forms of work proceeding from the time allocated to organize combat. As a result an opportunity was created to successfully solve the problem of the effective employment of the available resources in an operation and engagement.

3. Planning Combat Operations

On the basis of the adopted plan, the forthcoming combat operations were planned, that is, the sequence, times and methods for carrying out the set tasks were determined and the procedure for employing the troops and the basis of their cooperation were established. Measures were also worked out for political work, the complete support of the offensive and troop control. The results of this work in field forces were embodied in the operation plan. It most often included an operations part, plans for the types of support, a plan of party political work and a plan for organizing control in the offensive.

In the preparation of a majority of frontal operations, planning was carried out in two stages. Initially, upon the request of HqSHC or upon personal initiative by the military council, the plan was worked out in the form of proposals for the forthcoming offensive. This was done in one copy in writing by the commander or the chief of staff. The plan was forwarded to HqSHC (the General Staff). The following planning stage commenced with the receiving of the directive of HqSHC for the offensive or from the moment of the plan's approval (the receipt of notification from the General Staff on its approval). A similar sequence was employed in planning army operations when they were carried out on a separate sector, as was the case in the winter of 1943-1944 in Belorussia. If they were a component part of a frontal operation, usually the planning of the offensive on the army level started after the receiving of a directive from the front's military council or a verbal order from the commander.

In the formations and units, combat operations were planned by the commanders and staffs on a basis of the verbal issuing of combat tasks and sometimes with the receiving of the operation order for the offensive. Planning, as a rule, was carried out on a map with an explanatory note (legend). The staff worked out the combat planning table or the cooperation table and the operation order (sometimes also the order of the artillery commander and the chief of the rear). Starting with the second period of the war, the plan for breaking through the enemy tactical defensive zone and the plan for the crossing of a water obstacle were drawn up in writing with

the appending of a map. The employment of the units (subunits) of the branches of troops and special troops was carried out, in addition, on the work maps of the chiefs of the branches of troops.

Characteristic of the planning of an offensive over the entire war was a high degree of its centralization and most often on the level of HqSHC and a front. This was a natural phenomenon as it was essential to carry out the task of breaking through the deeply echeloned enemy defenses, surrounding the enemy groupings, making counter-strikes as well as ensuring the commitment of mobile groups to battle. All of this necessitated coordinated actions by several field forces. In addition, such an approach made it possible to mass the weapons (aviation and artillery) and the reserves as well as most effectively carry out measures for operational camouflage.

The *operations part of the plan* gave an assessment of the enemy, the goal of the offensive, the men and equipment to be used, the overall plan and the tasks of the troops. The bases of cooperation, the organization of control and rear support were defined. The most important stages of the offensive were also outlined and in individual instances, the tasks for individual days.

In generalizing the planning experience during the summer-autumn campaign of 1941, HqSHC pointed to the shortcoming of those times that the plans often did not indicate the dates for carrying out combat tasks. Such a situation reduced the responsibility of the commanders and their staffs and complicated the organizing of cooperation, particularly with aviation. The control bodies were deprived of an opportunity to exercise effective control over the course of combat operations. The practice of determining the tasks for the armies for 5-10 and more days also at a number of negative aspects. For this reason, the Chief of the General Staff, in a directive of 13 December 1941 demanded: "...Tasks on a front scale are to be given to armies for a period not exceeding 3 days and in setting the immediate tasks each day a line is to be set which should be achieved by the army's formations by the end end of the day...."[23]

In subsequent years, as conditions improved and combat experience was gained, the content of the operations portion of plans for frontal operations changed. A larger portion of them began to define the goal and stages of the operation, the first stage in days and the subsequent ones for 5 or 6 days each. A series of operations conducted to a shallow depth were planned not by stages but rather by days (the Belogorod-Khar'kov and Bobruysk operations and others). Indicators were also set for the scope of the operations. The degree of the computational soundness of the plans was increased, in particular for the involved men and equipment, the dates for being ready and the arrival of the troops at certain lines and for the spatial scope of the forthcoming operations.

For the staffs of the combined-arms armies, the most typical was planning of tasks by stages. The first stage was the breaking through of enemy defenses (1 or 2 days), the second was the defeat of the operational reserves (2 or 3 days) and the third was pursuit of the enemy (5-8 days). Very often the content of the first stage was measures to prepare for the operation, including the regrouping of the troops and the taking up of the jump-off position for the offensive. Often the first day of an operation was made into a separate stage and planned with a greater degree of detail.[24]

In the plans for offensive operations by the tank armies from the autumn of 1943, a significant place began to be given over to the questions of operational camouflage and radio countermeasures. The composition, tasks and methods of combat operations were also defined for the forward detachments, the traffic support detachments and the mobile obstacle construction detachments. A new feature in planning in 1944-1945 was that in a number of instances two or three variations were provided for committing the army formations to an engagement. Different sectors were planned for the attack or several attack lines in the same sector depending upon the outcome of the breakthrough of enemy defenses by the combined-arms armies. Thus an opportunity was created to think out ahead of time the cooperation procedure under various situational conditions as well as carry out certain measures for the engineer equipping of the routes of advance and for the artillery support for the entry into battle.

The questions of the employment of the branches of troops (special troops), the armed services as well as the partisan formations were reflected in more detail in planning documents for the forthcoming operations which were worked out specially by the field headquarters of the fronts and armies.

The plans for the employment of artillery were worked out by the directorate of the artillery commander on the basis of the front (army) commander's plan. A number of questions were coordinated with the operations directorate of the staff, with the rear directorate, with the engineer troops and signals sections as well as with other bodies of the field headquarters. The basic content of planning in 1941-1942 was the elaboration of a schedule for artillery softening up (duration, configuration and the content of its periods). The ammunition consumption rates were also set for the days of the operation. In the last two periods of the war, an artillery offensive was planned and the essence of this consisted in continuous support for troop operations by artillery and mortar fire during the entire battle (operation). Written instructions also began to be worked out to ensure the committing of front mobile groups to the engagement and artillery operations for the period of conducting a reconnaissance in force.

The planning of an artillery offensive in the combined-arms armies was usually carried out on a centralized basis. It consisted in defining the artillery tasks, the areas for deploying the guns and mortars, the procedure for regrouping the artillery units, the organization of target reconnaissance, ranging and the procedure for ammunition supply. The plan was compiled in the form of a table with the indicating of the artillery grouping, the tasks of the artillery groups, the procedure of their change of subordination and sequence of movements. Diagrams of targets were worked out with particular care for the artillery softening up period. As a result the effectiveness of firing against the enemy was sharply increased.

In the tank armies, in working out the artillery combat employment plans, the artillery was to be used in breaking through the intermediate defensive lines on a centralized basis, and in the commitment to battle and the pursuit of the enemy, on a decentralized basis. This expressed the specific use of artillery proceeding from the nature of the combat operations of the tank field forces. For example, in the Vistula-Oder Operation up to 30 percent of the army artillery and 60-70 percent of the corps artillery, with the going over to pursuit, was to be turned over to the forward detachments as reinforcements.[25] Also noted was the particular effectiveness

of supporting tank formation operations by rocket fire which was marked by comparatively greater maneuverability and hit effectiveness.

The plans for the employment of the armored and mechanized troops were worked out by the staff of a front (army) together with the directorate of the commander of the armored and mechanized troops. The questions of utilizing the armored field forces (formations) were usually shown in the operations portion of the plan while the use of the direct infantry support (NPP) tanks was shown in the combat planning table of the formations.

The combat employment of aviation up to the autumn of 1942 was planned in the armies (for army aviation) and fronts (for frontal aviation) by the combined-arms staffs together with the air force commanders of the field forces.

The experience of the first period of the war showed the discrepancy between the organizational forms of aviation and the requirements of its combat employment. As a result of the scattering of aviation over the armies, under the conditions of the limited number of combat aircraft, the possibilities were reduced for massing aviation in the main sector. The creation of temporary air force groups in the fronts during January-October 1942 played a positive role but did not ultimately solve the problem. The heterogeneity of their composition complicated the use of aviation, its basing and air field servicing. The organizational measures carried out in 1942, the main one of which was the creation of air armies in the fronts, created better conditions for the commanders and staffs to seek out the most effective variations for the combat employment of aviation in an offensive.

There was a greater degree of the massing of aviation in the sector where the basic efforts of the fronts were concentrated (from 36 percent in the "Uran" Operation, 40 percent in the Battle of Kursk, up to 90 percent in the Berlin Operation). For the period of air softening up, the strikes began to be planned not only against centers of resistance but also against enemy artillery, command posts and communications centers, in being coordinated in greater detail with artillery fire for the various targets. The duration of air softening up increased by 2- or 3-fold while the density of bomb strikes rose from 16 tons per km (1941-1942) up to 50-100 tons and more (1945). The period of air support became ever-longer. There was a transition from the planning of episodic air strikes by small aircraft groups to the organizing of continuous, concentrated and echeloned strikes by large air groups in close cooperation with the ground forces. The scope of the tasks to be carried out by aviation was also broadened. Aviation was planned for implementing an air blockade (the "Ring" Operation), for destroying surrounded enemy groupings (the Bobruysk Operation) and for delivering materiel (the Korsun'-Shevchenkovskiy, Belorussian operations and others). An ever-larger amount of aviation was assigned to ensure the committing and subsequent operations of the frontal and army mobile groups, including up to 70 percent of the forces in the Belgorod-Khar'kov Operation, up to 80 percent in the Lwow-Sandomierz and 75 percent in the Berlin Operation.

During the first two periods of the war, a plan for the combat employment of an air army was most often worked out not for the entire offensive operation but for the last 3 or 4 days of its preparatory stage and for the first 3 or 4 days of the offensive. Consequently, air operations were planned ahead of time only for the period that the troops broke through the enemy defenses and for the committing of the

mobile group (second echelon) to the engagement. Such a practice led to a situation where the allocated flying time was used extremely unevenly. Considering this, the staffs of the air armies (the first in the Belorussian Operation and the second in the Berlin Operation), in working out the aviation combat employment plan, began to make long-range operational calculations which made it possible to determine the possible flying time and the consumption of materiel for each day of the entire operation. Here the initial data for these were the available composition of the army, the load factor for the crew, the assigned limit of materiel, the probable losses, the consumption of fuel and ammunition on each sortie. The employment of aviation began to be planned for two or three variations depending both upon the weather conditions (in the 4th Air Army, February 1945) as well as upon the rate of breaking through enemy defenses (in the 16th Air Army on the eve of the Berlin Operation).

With the abolishing of the aviation in an army, the use of aviation in the plans of army operations was reflected only from the viewpoint of allocating flying time by days of the offensive. From the middle of 1944, due to the fact that the air formations began to be put under operational subordination to the armies, and primarily the tank armies, a plan was worked out for using aviation in the form of a separate document (in the 1st Guards Tank Army, the Proskurovsko-Chernovtsy Operation) or in the form of a cooperation table with the appending of control, identification and target designation signals (in a majority of operations). Planning consisted in determining the tasks of aviation and the methods of carrying them out as well as the procedure for organizing control.

In the operations of the first period there were a number of shortcomings in planning the combat employment of air defense weapons (aviation, antiaircraft artillery, the VNOS [aircraft warning service] subdivisions and so forth). From the experience of the counteroffensive at Moscow, Tikhvin and Rostov, the air defense resources were virtually not massed, the staffs of the fronts organized cooperation between the aviation and antiaircraft artillery unsatisfactorily and the firing of firearms was used only episodically.

In the subsequent years, there was an improvement in the air cover of the troops and installations from a duty status at the airfields combined with the previously employed patrolling over the battlefield. The aviation was stacked. There was a transition from visual methods of guidance to instrument ones and this made it possible to intercept the aircraft at the distant approaches. The formation of air defense army regiments and the antiaircraft artillery divisions of the RBGK [SHC Reserve] made it possible to change over to the planning of the massed use of antiaircraft artillery and its centralized control. For this front and army antiaircraft artillery groups (ZAG) were organized. From the middle of 1944, the national air defense resources began to be employed in the interests of a front (by 1 October, up to 34 percent of the fighter aviation and up to 54 percent of the antiaircraft guns). This made it possible to plan and carry out not only a cover for individual installations but also areas (the positions of the assault troop groupings, mobile groups and so forth).

By the war's end, the basic planning document for front air defense was a plan worked out by the directorate of the artillery commander. In a number of operations air defense for rear installations was planned separately.[26] In the armies

their staffs compiled an antiaircraft artillery cover plan. The chief content of the planning documents was the questions of determining the air defense target and the tasks carried out by different means as well as the maintaining of cooperation between them.

During the winter of 1942 and in the autumn of 1943, by a decision of HqSHC, airborne troops [VDV] began to be used in a number of front offensive operations. In these instances the staff of a front, on the basis of the commander's plan, together with the operations group of the VDV directorate and the representatives of the frontal and military transport aviation, worked out a landing plan. As a rule, it gave the men and equipment of the landing party, the air transport to be used, the jump-off areas and the drop (landing) areas, the air cover procedures, the target designation, control and recognition signals as well as camouflage questions. The basic content of this document was a computation of the men and equipment by landing stages. The use of airborne troops was shown on the commander's map and in the text portion of the plan of the front's operation (the goal, the tasks of the paratroopers, the time of their employment and the nature of operations).

In planning an offensive on a maritime (lake) sector, the plan of the operation provided for the employment of the navy (naval flotillas) and these operated under the front commanders. They carried out a number of missions: they provided artillery support (Krasnoye Selo-Ropsha Operation), they covered the troops with naval aviation (the Crimean and Petsamo-Kirkenes operations), they supported the landing of amphibious troops (Novorossiysk, Moonzund and Budapest operations) and the regrouping of troops (Vyborg Operation). The staffs of the front and the fleet (flotilla) worked out a joint operation plan. It defined the sequence for carrying out the tasks by the troops of the front on the coast and the resulting tasks of the naval (flotilla) forces, the cooperation procedure, the organization of communications and questions of operational and rear support. The landing plan, from the experience of the Kerch'-Feodosiya and Novorossiysk operations, showed the composition of the landing force (by waves), the transport, the regions and time of the landing, the tasks of the troops as well as the command structure, the control signals and the communications system.[27]

In a number of frontal operations of 1942-1944, plans were made to use the partisan formations operating in the enemy rear. For example, on the eve of the Rzhev-Sychev Operation (August 1942), the Kalinin partisan movement staff, together with the operations section of the front's staff, worked out a "Operations Plan for Combat Operations of Partisan Detachments." It defined the tasks for the partisan detachments, the redeployment areas and established the bases for cooperation with the operational army. The partisan movement staff in the Western Front in line with the operation being prepared for the troops on the left wing of the front in the Bryansk Sector, in the middle of February 1943 worked out a "Plan for Conducting an Operation to Defeat the Rears of the Bryansk-Kirov Enemy Grouping." This formulated the tasks of the brigades and detachments and reflected the questions of organizing communications and logistical support. Partisan actions were planned in approximately the same manner in the preparations for the Smolensk Operation (August-October 1943) and in the battle for the Dnepr (August-December 1943). On the eve of the Belorussian Operation (the summer of 1944), a plan for joint operations with the partisans was worked out by the operations group of the staff from the First Baltic Front.

The employment of resources for all-round support of the offensive was planned by the directorates (sections) of the chiefs of the branches of troops together with the combined-arms staff. The content of the basic documents for the organization of reconnaissance and camouflage, for securing the boundary areas and flanks and for employing the engineer, smoke and flamethrower-incendiary subunits (units) according to the experience of the war is shown in Table 7.

On the basis of the plan by the rear commander, under the leadership of the deputy commander for the rear, a plan was worked out for material support of an offensive. Diagrams were drawn up for the organization of the rear and its deployment. Calculations of the required materiel were used as an appendix to the plan. The sections of the planning documents included: questions for organizing transport, medical evacuation measures, defense and protection of the rear and road support. Proceeding from the scope of the forthcoming operation, the dates, standards and procedure for echeloning material supplies were set. In line with the increased size of the field forces (formations), the greater technical equipping of the troops and the higher intensity of combat operations in the offensive operations of 1944-1945. the troops had a greater need for materiel and the scope of work carried out by the rear increased. For this reason, in planning material support for operations in the third period of the war, consideration was also given to reflecting the questions of determining the procedure for allocating the rear units (subunits), for utilizing captured materiel, for redistributing the standards for certain types of supply at the expense of others, and the providing of crating for equipment. Antiepidemic and sanitary-hygiene measures began to hold an important place.

The planning of technical support for an offensive was carried out by the commander of the armored and mechanized troops of a front (combined-arms army) as well as by the assistant tank army commander for technical affairs. The subordinate directorates (sections) worked out a plan for the days of an operation, indicating the deployment areas, the procedure for deployment and movement of the equipment, the organization of technical repairs and maintenance as well as the work involved in rebuilding the equipment and supplying spare parts. The plan was worked out in writing ot graphically. It depicted the questions of the use of repair and evacuation facilities, the organization of the supply of armored equipment and the control of the repair and evacuation service. From the autumn of 1942, great attention was given to detailed calculations of possible losses, the assumed amount of repairs, the requirements for spare parts, repair materials and so forth. In preparing for the 1945 operations, there was a transition to unified planning of logistical support as well as the reflecting of technical support questions in the rear order.[28]

The planning of party political work was carried out by the political directorate (section) most often separately for the preparatory period and for the first 3-5 days of the offensive. The basic document was the plan for the work of the political directorate (section). It was worked out on the basis of the orders of the military council and the guiding documents of the VKP(b) Central Committee and the Soviet government, considering the conditions of the forthcoming operations. The basic tasks defined in the plan were: the indoctrination of the men in a spirit of Soviet patriotism, love for the motherland and total dedication to the Communist Party; the unmasking of fascism as the most evil enemy of mankind and the fanning of a sacred hate for it; the greatest possible propagandizing of the requirements of military discipline and a readiness at any price to carry out the commander's order; ensuring that the commanders, political workers, communists and Komsomol members set a personal example in combat.

Table 7

Contents of Planning Documents for Basic Types of Combat Support in Offensive Operations

Type of support	Basic planning documents in		Executors	Contents of basic documents	Contents of planned measures
	fronts	armies			
Intelligence	Intelligence plan	Intelligence plan	Intelligence section	Tasks, forces, means, methods, dates & areas of intelligence. Reserve of mean & equipment. Organization of control. Procedure for submitting intelligence data.	Organization of observation, searches, ambushes, reconnaissance in force, air reconnaissance. Sending of recon. groups into enemy rear. Collection of data and analysis of received data
Troop camouflage	Camouflage plan	Camouflage order (instruction)	Operations directorate (section). Engineer troops section	Aim, tasks, place, dates and persons responsible. Resources to be used. Methods & forms of control. Special instructions.	Measures to conceal troop actions & positions, to mislead enemy by decoys & disinformation
Engineer support	Engineer support plan	Engineer support plan	Engineer troops section	In a front--aim of engineer support, calculation of men & equipment for reinforcing front's formations. In an army--tasks of engineer units, calculations of men & equipment to carry out each task. Dates for completing work & forms of control. Composition of engineer reserve, mobile obstacle construction & traffic support detachments. Troop tasks for engineer support.	Camouflage measures (for front). Road & bridge work, support for crossing of rivers & committing to battle of mobile groups (in armies). Organization of reconnaissance, preparation of jump-off areas, clearing work, building passages, servicing crossings (in formations)

Table 7 (continued)

Type of support	Basic planning documents in		Executors	Contents of basic documents	Contents of planned measures
	fronts	armies			
Support of boundaries & flanks	Plan for support of boundaries & flanks	Instructions & acts to support boundaries & flanks	Operations directorate (section)	Responsible commanders for boundaries & flanks. Procedures for organizing reconnaissance on boundaries & flanks. Cooperation procedures with flank formations. Men & equipment to be used for supporting boundaries & flanks	Conducting of reconnaissance. Organization of battle outposts. Allocation of weapons, duty subunits, lateral screens (typical for BT 1 MV) or curtains (characteristic for combined arms formations)
Use of smoke, flamethrower & incendiary equipment	Plan for use of resources according to Instructions	Instructions for use of men & equipment	Chemical troops section	Allocation of men & equipment, procedure for their use, safety measures. Nature of maneuver of resources in operation	Preparation of men & equipment for combat employment

The combat planning table (the cooperation table) of the rifle formations (the armored and mechanized troop formations), in being the basic document worked out in a corps and division in organizing an offensive, took up the questions of the employment of men and equipment to the depth of the immediate task (in the first period of the war) and the tasks of a day or 2 or 3 days of the offensive (in the subsequent periods of the war). More often the combat planning table was an appendix to the operation order (in 131 divisions out of the 160 participating in the Belorussian Operation). Excerpts of it were forwarded to the subordinate units, including attached units and units arriving as reinforcements.

Thus, in organizing the offensive in the Sinyavin sector in breaking through the blockade of Leningrad (January 1943), the combined-arms staff of the 372d Rifle Division, on the basis of the division commander's plan, elaborated a combat planning table for the first 2 days of combat operations (an appendix to the operation order of 8 January 1943). It indicated the tasks for the rifle units, the artillery, the NPP tanks, the engineer and chemical troop subunits as well as for the assault detachments and mobile obstacle construction detachments. Their actions were planned by periods: preparations for the attack and the bringing up of the infantry to the jump-off line, artillery softening up for the attack, the attack on the forward edge and the capturing of the first position, combat in depth and the capturing of the second position, and pursuit of the enemy.[29] In a number of instances a combat planning table separately designated the tasks for the forward detachments. For example, for the six divisions out of the ten in the 8th Guards Army in the preparations for the Vistula-Oder Operation (January 1945) as well as for the subunits to be used for conducting reconnaissance in force (in the formations of the 5th Assault Army, the Berlin Operation of April 1945).

On the tactical levels, the questions of planning the combat employment of the artillery and NPP tanks were most worked out.

The experience of the first 2 years of the war indicated that the creation of an artillery grouping in the rifle corps and divisions, in accord with the prewar views, that is, long-range (DD) and infantry support (PP) groups, had led to a situation where the rifle regiments and the subunits comprising them actually operated without effective artillery fire support, since the system for calling in fire required a great amount of time. It was essential to seek out new methods for employing the artillery. A successful solution to the problem was aided by the increased number of guns and mortars in the rifle divisions and corps as well as by the acquired skills of controlling the artillery on the battlefield.

In the second period of the war, in particular in the Kursk counteroffensive, according to the commanders' plans, in 30-35 percent of the divisions regimental artillery groups were to be organized and they would be under the commanders of the rifle regiments. Divisional artillery groups also began to be organized. The artillery was decisively masked in the breakthrough sector. For example, up to 85 percent in the first echelon rifle divisions during the Stalingrad counteroffensive and up to 100 percent in the divisions of the 11th Guards Army in the Orel Operation. The duration of artillery softening up also increased. In 14 out of the 18 divisions of the Southwestern Front in November 1942, this lasted 70-90 minutes and in the first echelon divisions of the Voronezh and Steppe fronts in the Battle of Kursk, 165-175 minutes. As a result there was a sharp increase in effective fire neutralization

of the enemy and this evidenced an increased skill of the commanders and staffs in troop control.

During the third period of the war, the improved tactical and technical performance of the guns and mortars, the bringing of the artillery firing positions closer to the forward edge as well as the increased possibility of ammunition consumption made it possible to plan fire during the artillery softening up period to a depth of 4-7 km. Artillery support began to be planned not only using the successive concentration of fire (PSO) method but also by a rolling barage, including a double one.

There was also improved planning of artillery fire control by the combined-arms commanders and staffs also due to the fact that the targets impeding the advance of the infantry and tanks were more accurately pointed out. The results of firing for effect against the enemy were increased not only in the tactical but also the operational depth, in crossing rivers, in conducting operations in a city, that is, under conditions when great independence was demanded from the formations and units. The degree of artillery masses in the sector of the main thrust was further increased. In the commanders' plans, with a certain reduction in the length of artillery softening up, there was a sharp increase in the time assigned to concentrated fire: from 3-5 minutes in 1941, 10-20 minutes at the end of 1942 up to 65 minutes in 1945. The proportional amount of this firing averaged 40-60 percent. In a number of instances, for example in the XXIX Rifle Corps of the 8th Guards Army in the Vistula-Oder Operation, it reached 100 percent. To avoid routine in the artillery offensive plans, a differing procedure was envisaged for carrying out artillery softening up, following two variations depending upon the outcome of the combat operations of the forward battalions (Berlin Operation) as well as with the false shifting of fire (in the 3d Guards Rifle Division on the Perekop' Isthmus in April 1944).

Experience taught that the unique situational conditions predetermined the specific employment of the resources. For precisely this reason, a number of particular features in the planning of fire for effect against the enemy can be traced in the armored troops formations. These were determined by the nature of their operations, by the composition (in a tank and mechanized corps there were half the amount of guns and mortars than in a division and 5-fold less than in a rifle corps) as well as by the necessity of supporting highly fluid combat operations. The specific features were expressed in the fact that it was most often planned that the artillery would employ regular artillery units. Some 60-70 percent of the artillery according to the commanders' plans was assigned to the forward detachments of the corps and brigades as reinforcements for supporting tank operations with brief concentrated fire. For this reason the corps commander determined only the tactical tasks while the brigade commander set the fire tasks. The questions of employing the artillery in the brigades were reflected in the operation order, on the working maps of the officials and in the combat planning table. The plan was compiled in those instances when the corps artillery was to be used for supporting (for example, in the VI Tank and III Mechanized corps in the Belgorod-Khar'kov Operation) the committing of the formations to the engagement in the battle for the tactical defensive zone.

During the first months of the war, the NPP tanks received as reinforcements in a division were to be turned over to the first echelon regiments. A portion of them was held in reserve. The even distribution of the NPP tanks along the front, their limited number (at best from 10 to 20 tanks were assigned to a division) as well as

the broad zones of advance (up to 10 km) led to a situation where the NPP tank densities were very low. Infantry fought with weak tank support. In addition, the lack of experience among the rifle unit and subunit commanders in organizing combined-arms combat frequently led to uncoordinated actions between the infantry, tanks, artillery, aviation and engineer troops.

Subsequently there was a transition to rigid centralization in planning tank use. This was required by the order of HqSHC of 22 January and the order of the NKO of 16 October 1942, No 325. Great attention was given to organizing combined-arms combat. In particular, it was prohibited to commit tanks to combat without preliminary reconnaissance and reconnoitering by the commanders of the infantry and artillery and the tank chiefs. Views were changed on the deep echeloning of the NPP tank battle orders as with low tank densities this led to a weakening of the force of the initial thrust, it caused a large gap between the first tank echelon and the infantry (up to 600-900 m) and disrupted cooperation.

During the second period of the war, as experience was acquired and in line with changes in enemy defenses, the NPP tanks began to be planned also for "destroying enemy infantry, gun and mortar crews."[30] In the Stalingrad counteroffensive, in 10-15 percent of the divisions, the commanders' plans provided for the allocating of tank close support guns. For this same purpose, in 1943, the use of the SAU was planned. From brief halts they destroyed enemy antitank weapons, tanks and assault guns. In those instances when the infantry operated without the NPP tanks, the SAU were in its battle formations or advanced directly behind the extended line of infantry. In the battle for the Dnepr (in the 37th Guards and 60th Rifle divisions of the 65th Army and in the 167th and 180th Rifle divisions of the 38th Army), upon the instructions of the army armored and mechanized troop commanders, the division staffs provided for the creation on the eve of the operation of forward detachments from the NPP tanks. With the breaking through of the enemy defenses, the tanks with the SAU moved up into the concentration area designated by the division commander. Here the tank units (formations) were reinforced by rifle and combat engineer subunits as well as by artillery. After this, as forward detachments, they began to carry out the tasks of pursuing the retreating enemy. As a result the momentum of advance rose.

Particular attention was paid to supporting the committing of the tanks to battle. One of the directives of HqSHC from the second period of the war emphasized that "their operations should be bold and daring, and along with this the attack can be made only after sufficient artillery and air softening up of the enemy defensive zone." The bringing up of the tanks to the jump-off positions began to be planned more carefully. While in 1941-1942 this was more often done the night prior to the offensive, subsequently a more rational solution to the question was found. They were brought up during the period of the artillery and air softening up. In the preparations for the Vistula-Oder Operation the staffs of seven out of the eight armies of the First Belorussian Front planned tank operations in this manner.

In the course of the third period of the war, a portion of the tank subunits was assigned to rifle regiments. This was done in divisions operating in the sectors of the main thrusts in the Belorussian, Lwow-Sandomierz and other operations. Sometimes control of the NPP tanks was entrusted to battalion commanders (in the Vistula-Oder Operation) and even company commanders, as was the case in the Berlin

Operation. In the operations to liberate Belorussia and in the Lwow-Sandomierz Operation, tanks were also assigned to the forward battalions. This was not only a consequence of the increased number of tanks and the narrowing of the zones of advance for the rifle divisions to 2-3 km, but also a result of the increased skill of the unit and subunit commanders and also their staffs in organizing cooperation.

A new feature in 1945 was the fact that in a number of instances, for example in the 96th Guards Rifle Division in the East Prussian Operation, in the 47th Guards Rifle Division in the Berlin Operation, they planned ahead of time to strengthen the regiments not only of the first echelon of the division but also its second. This made it possible to more effectively increase the effort and raise the momentum of advance. Moreover, after breaking through the main enemy defensive zone they planned to unite the NPP tanks into forward detachments of the formations for capturing the second zone without a halt and after the breaking through of the tactical enemy defensive zone to combine them into army forward detachments (in the 27th Army in the preparations for the Korsun'-Shevchenkovskiy Operation and in the 5th Assault Army for the Vistula-Oder Operation). In the spring of 1945, the first experience was also acquired in planning the combat employment of regular SAU battalions of rifle divisions. In the first echelon divisions these were most often used for direct infantry support and in the second echelons as a reserve.

As a whole, during the war years the role of the division commander and staff in planning the combat employment of artillery and NPP tanks increased sharply. The division commander became the immediate organizer of their use both in breaking through enemy defenses as well as in conducting enemy pursuit proceeding from the situational conditions and on the basis of the principle of massing men and equipment in combined-arms combat and the coordinating of fire, attack and maneuver.

4. The Giving (Issuing) of Combat Tasks

In the prewar years, demands were worked out which acted as guides for control bodies in the setting of combat tasks. These demands were: directness and secrecy of their issuing, clarity, completeness and lucidity of writing. Every measure was to be undertaken so that the inferior levels had the necessary time to organize combat operations and that the subordinate commanders and staffs could make optimum use of the initial data for adopting plans within the tasks entrusted to them considering the situational conditions.

During the years of the Great Patriotic War, combat tasks were given by a commander verbally or with the aid of communications. They were issued by his deputies and by staff officers.

Over the entire period of the war the issuing of combat tasks personally by the commander was inherent to tactical levels, that is, to the subunits, units and formations. This was often done also by commanders of field forces. The experience of the war showed the rationality of this method. With the personal assigning of a task, the commander had an opportunity to make certain that it was correctly understood by subordinates, to resolve all unclear questions as well as provide tactical aid in organizing combat operations. Also of positive significance in this regard was the reduction in the number of formations under an army commander by the start of the second period of the war as a result of the restoring of the

corps level of command by the summer of 1943 as well as the increased amount of time to prepare for operations.

The commander of a front (army) set the combat tasks at the command post in the presence of all or a larger portion of the army (formation) commanders when there was sufficient time to prepare for the offensive. For example, the tasks were carried out in this manner by the commander of the 28th Army in the preparations for the Bobruysk Operation. Having adopted the plan and having clarified individual questions of cooperation on the terrain with the subordinate commanders, at the army command post he set the combat tasks for the corps commanders using a map and in the presence of their chiefs of staff. Here also the army chief of staff had the corps commanders sign for the operation order which had been worked out by that time.[31] Work was organized in a similar manner when subordinates were directly near the command post. This was characteristic for the tank armies and the tank (mechanized) corps when they were located in a concentration area (jump-off area). In the designated variation following the experience of two tank armies and 12 corps in June 1944 (the Belorussian Operation), the time spent was within the limits of from 4 to 6 hours, figuring: 1-2 hours to issue the operation order and additional instructions and 3-4 hours for the move.

Starting with the second period of the war, frequently tasks were given in reconnaissance or at the end of conducted military games (command-staff exercises), as was done in preparing for the Gumbinnen Operation (a portion of the East Prussian Operation) in January 1945 by the commander of the 11th Guards Army. At dawn of 12 January, he, together with the army chief of staff, the deputy commander of the 1st Air Army, the artillery commander, the armored and mechanized troop commander, the chief of the engineer troops and the chief of the intelligence section, traveled out on reconnaissance. The corps commanders also showed up here. The army chief of staff acquainted those present with the overall concept of the offensive. Then the artillery commander and the armored and mechanized troop commander gave instructions on the employment of the branches of troops. "...For each corps commander on the spot," recalled K. N. Galitskiy, "I indicated the breakthrough area in the corps' zone of advance and the direction of the main thrust, I set the battle formation and clarified the immediate task...."[32]

The setting of combat tasks for subordinates in conducting reconnaissance became particularly typical from the autumn of 1942 for the unit and subunit commanders. In the field the enemy grouping, the nature of its defenses, the objects of the attack, the direction of the further offensive and the boundary lines were pointed out and the operational procedure was set with the arrival of the NPP tanks at the forward edge of the enemy defenses and with the start of artillery support and close support. Here also they checked the correct understanding of the received task and listened to the plan. For all this work, from the experience of organizing combat operations in the third period of the war in preparing for an offensive in Belorussia (June 1944), in Poland (January 1945) and in East Prussia (February 1945), a regimental commander spend up to 4-6 hours of time and a battalion commander up to 2 or 3 hours.

A commander drove (flew) to the formations usually when it was not advisable to remove subordinates from troop control. In these instances a front commander required at least a day for successively setting the tasks for subordinates while an

army commander required from 8 to 12 hours. From the experience of the commander of the 372d Rifle Division in preparing the offensive in the Sinyavin sector (January 1943), it required around 6 hours to give the tasks by this method. Along with the giving of a combat task, one of the aims of the travel was to become familiar with the state of affairs in the formations. For this reason often even with limited time a commander traveled to those formations (units) which had arrived as part of a front (army) on the eve of an operation. This was the case in the preparations of the 4th Tank Army for the Orel Operation, when its commander traveled to the command post of the XXV Tank Corps where he issued the task to its commander, considering that the corps had arrived in the army during the night prior to the start of the operation. If the commander's time was limited, then he traveled only to the field forces (formations) which were to fight in the main sector. Sometimes the tasks were issued to the troops simultaneously by the commander and his deputies.

With the aid of communications equipment a commander usually set the tasks for subordinates if he did not have time to assemble them. For this wire communications were used and, as an exception, radio. Up to an hour was spent on the telephone for setting the tasks successively for all the army (formation) commanders and 2- or 3-fold more time by radio. It must be emphasized that for the commander of a front or combined-arms army such a form of setting the tasks in preparing an offensive was a rather rare phenomenon basically due to the danger of enemy interception of the calls. The directive of HqSHC of 25 August 1941 demanded "refraining from telephone calls in the aim of maintaining the secrecy of preparations for operations...and to set tasks for executors verbally."[34] For this reason the setting of combat tasks using equipment was most often practiced just for clarifying individual questions of a plan in the event of changes in the situation and directly before the start of going over to the offensive. The formation and unit commanders used wire communications for transmitting the established signals.

The combined-arms staff and the other control bodies played an important role in issuing tasks to subordinates.

The staff officers issued general and particular operation orders,[35] as well as written and oral instructions. Often the tasks were issued in an order map (through the signals officers). The transmitting of operation orders by staff officers using communications equipment was carried out over the entire war when the organization of combat was carried out by the by-order procedure as well as in preparing for an offensive in limited time. Communications equipment was used particularly often by the commanders and staffs of tank (mechanized) corps and brigades with the start of moving up to the attack line. This was also done by the commanders of rifle formations, for example, by the commander of the 63d Guards Rifle Division in organizing combat for Mount Voron'ya on 17 January 1944 (the Krasnoye Selo-Ropsha Operation).

The staff issued individual offensive planning documents, copies of the planning table and cooperation table, the operation order and instructions. Thus, the staff of the 136th Rifle Division, during the night prior to the attack (the breaking of the blockade of Leningrad, January 1943) issued the regimental commanders excerpts from the combat planning table, planning cards for the cooperation of the groups of branches of troops comprising the assault detachments, a radio signals table and an order for chemical warfare defense. In the morning of 11 January,

the regimental staffs received an order from the division chief of staff which gave the signals for linking up with the troops of the Volkhov Front and recognizing friendly troops.[36]

Consequently, the methods of issuing tasks to troops in preparing for an offensive assumed different forms depending upon the situation. Experience shows that in terms of time, the most economic was the setting of tasks personally by the commander and their simultaneous issuing by the staff in written combat documents. This form was employed particularly widely in the formations and units.

Experience also taught that the completeness of combat tasks depended primarily upon the form of their setting (issuing).

In personal contacts the commander had an opportunity to concretize and detail individual questions of his plan, and not only on a map but also in the field, as well as to issue the necessary instructions to support combat operations and organize cooperation.

In issuing combat tasks in an operation order (directive)[37] they gave conclusions from the assessment of the enemy grouping and the nature of its actions, the goal and overall concept of the offensive, the combat tasks for subordinates (composition, reinforcements, the content of combat tasks, the tasks of adjacent units, and boundary lines with them), the tasks for aviation and artillery, the composition of reserves, the deployment areas of the command (sometimes also observation) point and the dates for submitting the combat operations plan by subordinates. From the middle of 1944, an operation order also gave the procedure and times for issuing the tasks to various levels and the time for reporting that the troops were ready for forthcoming operations.

The written combat instructions more often contained brief information on the enemy (if this information was not known to subordinates), the combat task of the field force (formation, unit) and the time for being ready for the offensive. The preliminary instructions usually gave instructions on measures which had to be carried out by the troops for the purposes of preparing for the forthcoming offensive and sometimes also gave the time and methods for issuing a combat task.

Practice showed that the degree of detailing the questions in the operation orders and instructions depended upon many factors, including upon how skillfully the combined-arms staffs had organized their work of informing the inferior levels of the operational-tactical situation.

From the middle of 1942, the front, and from 1944, the army as well, began to more regularly forward operational-tactical information to subordinates. The staffs of the Southwestern and Don Fronts, during the period from 10 November 1942 through 3 February 1943, each week worked out and forwarded to the troops, down to the division commander inclusively, the so-called situational background studies. In November 1942 alone, the staff of the Southwestern Front five times assembled the army commanders and chiefs of staff for issuing information on the situation in the southern wing of the Soviet-German Front. The commander of the 5th Army, 1 month before the receiving of the task for the offensive in the Belorussian Operation, three times issued to the formation commanders generalized data on the enemy

in the zone of the Third Belorussian Front. The task was carried out in a similar manner in the 11th Guards, 31st and 39th armies. Such a practice made it possible for the formation (unit) commanders and staffs, even before receiving a specific combat task, to understand the situation and think through the nature of the coming operations. A commander subsequently could be given a task in a briefer form. For precisely this reason the volume of the operation orders in the third period of the war remained as before and often even declined, regardless of the sharp increase in the questions taken up in them. The issuing of various instructions, memorandums and orders to subordinate staffs on the eve of preparing for an offensive also helped largely in reducing the volume of the operation orders. These disclosed the nature of enemy defenses and its fire plan, they described the engineer works and gave recommendations on the working procedures of the control bodies. Thus, the staff of the CIX Rifle Corps (Vyborg Operation, June 1944), in organizing combat to break through the second enemy defensive zone, issued the commanders of the 72d and 286th Rifle divisions a detailed diagram plan of the enemy defenses at the strongpoints of Kutersel'ka and Tirikolla as well as instructions on the actions of the assault groups.

Secrecy in the transmitting of issued instructions was achieved by an aggregate of measures, including by dependable security for officers (liaison delegates) traveling to the troops. The combined-arms staff notified the chief of staff of the subordinate troops of the dispatching of combat documents, indicating when, by whom and by what means the document had been dispatched. The chief of staff, having received notification, organized the meeting with the liaison officers. For ensuring troop control secrecy (SUV) in an offensive, the combined-arms staffs worked out and issued to subordinate staffs signals tables, reference maps and procedure tables. Moreover, the SUV instructions contained pseudonyms for the commanders, the military council members, the chiefs of staffs, the commanders (chiefs) of the branches of troops (special troops) as well as the formation commanders. A new feature during the third period of the war was that a division staff often drew up a signals table and procedure table for each day of combat. This was the case, for example, in the formations of the 8th Guards Army (Vistula-Oder Operation).

The aggregate of measures carried out by the commanders and staffs to increase the effectiveness and secrecy of issuing combat tasks and to improve the quality of information issued helped in the successful carrying out of troop combat operations and the achieving of a unity of goals in an offensive.

5. The Organization of Cooperation

During the years of the Great Patriotic War, there was a significant rise in the amount of questions related to coordinating the efforts of the various branches of troops in an offensive. This was explained by the fact that cooperation began to be carried out to an ever-greater depth, at a more rapid pace and in a number of instances together with the navy (flotillas) and in cooperation with paratroopers and partisans. The number of elements in the operational configuration (battle formation) increased. Enemy defenses also changed. They became more echeloned and saturated with weapons. This required detailed preparations for solving the fire tasks in breaking through the defenses. From 1943, in addition, it was necessary to solve the questions of ensuring the committing of large masses of tanks to an engagement, the crossing of large water obstacles and the carrying out of a series of successive offensive operations. As a result, the coordinating of the efforts

of all the armed services and branches of troops on the battlefield became the basic content in the work of the commanders and staffs to organize cooperation in an offensive.

The essence of operational cooperation between the ground forces and aviation consisted in coordinating their efforts in terms of tasks, location and time. The air forces supported the ground forces in suppressing enemy weapons and in destroying enemy personnel and equipment. They conducted air reconnaissance in the interests of combat operations of the ground forces and provided cover for them. The ground forces, in turn, in the aim of ensuring prompt air force maneuvers, captured enemy airfields, provided help in equipping the airfield bases and covered them against enemy troop actions.

During the first months of the war the designated questions were not always satisfactorily solved. One of the reasons for this was the lack of sufficient combat experience. Moreover, there was not enough communications equipment, particularly radios. In fearing to hit our own troops, aviation attacked targets which were far-distant from the front line. The choice of the objects of air operations often did not correspond to the conditions developing on the ground.

In the following periods of the war, the staffs of the fronts (armies) and air field forces jointly worked out cooperation plans to the entire depth of the operation. These defined the methods for coordinating actions, they set the procedure for calling in aviation to the battlefield, they established the recognition and target designation signals and calculated the number of aircraft sorties to be assigned for the support of the ground forces and their cover. Uniform procedure tables and coded maps were worked out. Markings which were clearly visible from the air were applied to the tanks and SAU. Air guidance officers were assigned to the tank (mechanized and rifle) corps, the tank brigades and the forward detachments of the combined-arms armies (rifle corps).

The bases for cooperation between the ground forces, frontal aviation and the navy (flotillas) were established in planning the operation. The questions were detailed in the course of jointly conducted exercises and military games by clarifying the combat tasks and the methods of carrying them out, the fire tasks of the artillery, the troops and navy, the aviation of the front and the fleet and the operational procedure for amphibious landings. In addition to the planning documents, the staff of a front frequently worked out combat instructions which defined the procedure for utilizing the diverse men and equipment.

In the planning documents for coordinating the efforts of the combined-arms field forces (formations) with paratroopers (in the zone of the Western and Kalinin fronts in the winter of 1941-1942 and the Voronezh Front in the autumn of 1943), chief attention was paid to establishing the encounter lines and times as well as the identification signals. In planning the use of an airborne force by the First Baltic Front in the region of Polotsk (November 1943), a great deal of attention was devoted to coordinating operations with the partisan brigades. For this a special operations group was set up including representatives from the airborne corps and the staff of the Belorussian partisan movement.

The significant amount of tasks to be carried out by joint efforts by the armed services and the branches of the ground troops in an offensive required a search for the most effective methods and forms of work by the commanders and staffs.

During the first period of the war, the commanders, as a rule, limited themselves to just general instructions on coordinating troop efforts. Most often this was done on a map in setting combat tasks to the depth of breaking through the tactical enemy defensive zone. Such an approach corresponded to our prewar views on the role of the operations level. Often the efforts of the formations were coordinated by a deputy commander (the Demyansk and Barvenkovo-Lozovaya operations) or by the chief of staff who, as was pointed out in the "Manual for Staff Field Service" (1935), "personally organizes the ensures troop cooperation." This was often done hurriedly and without considering the terrain conditions and their influence on the use of the branches of troops, as was pointed out in one of the directives of HqSHC (September 1941).

As combat experience was gained, the coordinating of troop efforts in the field was required for all levels of commanders. This work was carried out in reconnaissance. The commander coordinated the procedure for arriving at the jump-off position, for crossing destruction and obstacles in front of the forward edge of enemy defenses and the actions of all the branches of troops with the start of artillery softening up and in the course of the attack. All these questions could be settled only within the viewable area of terrain, that is, as a rule, to a shallow depth. The experience of the war showed the advisability of continuing the organization of cooperation on terrain mock-ups. These were made by the topographic sections and the engineer troop sections from sketches of the operations directorates (sections). The officers from the intelligence section took a most active part as with their help the enemy grouping, its weapons and other objects to be hit were reproduced. Terrain mock-ups were worked out with particular care to a depth of the immediate task; there were also plans of the major administrative centers.[39]

The method of working through situational inputs underlay the exercises conducted in the field and the terrain mock-ups. This made it possible to work out uniform views on the employment of the resources in an offensive. The officers learned to control subordinates and experience was acquired in analyzing the situation. Thorough consideration was given to the data. The best plans were found and the commanders and staffs were able to adjust the model of the forthcoming actions. An opportunity arose to check out and resolve disputed provisions and to coordinate efforts not only for the period of breaking through the enemy defenses, as was done in the preparation of operations in 1941-1942, but also to a greater depth. Cooperation began to be organized considering the possible nature of enemy operations. As a whole the practice of modeling, in the understanding in which it arose during the war years, proved effective. Such a method of a commander's work is applicable at present, as it makes it possible to bring out in detail the content of the troop combat tasks and to coordinate the methods of their actions in terms of lines and time. Experience has also shown that with the highly skilled training of a commander and staff, the organization of cooperation by playing through variations of joint operations required small time outlays (3-5 hours) and produced a significant effect. Thus, the commanders of the 63d Guards and 72d Rifle divisions carried out this task (the Vyborg Operation, June 1944) in 4 hours, while the commander of the 45th Guards Rifle Division on 13 June 1944, organized cooperation in the field, spending less than 2 hours.[40]

Characteristically, on the tactical level, during the first months of the war, the commanders and staffs, as a consequence of the short time to prepare combat operations and insufficient experience, organized cooperation usually just between the regiments, artillery, tanks and adjacent units using a map and to the depth of the immediate task. From the materials of reports from more than 12 divisions participating in the Moscow counteroffensive, only in two cases was an attempt noted to organize cooperation by playing through variations of actions. Consequently, at this time the issuing of instructions was the basic form for coordinating efforts. Such a practice was also observed in the general offensive at Moscow (January 1942). HqSHC endeavored to undertake every possible measure to improve the methods and forms of organizing cooperation and demanded that the commanders along with the artillery and tank commanders clarify the directions and objectives of the attack as well as their neutralization and destruction. The chief of the General Staff in instructions of 24 October 1942 ordered that "cooperation on all levels be worked out carefully directly in the field." The draft of the 1943 Field Manual set the necessity of "issuing all instructions for a breakthrough in such a manner that prior to the start of the offensive at least one day remains so as to provide the commanders of the divisions (brigades) with at least 12 hours of daylight and the battalion commanders with at least 3 hours."

During the second period of the war, cooperation began to be planned to the depth of breaking through the first enemy defensive zone. This was more often organized within the range of visibility in the field and later on a map or mock-ups. For example, this is how the questions were resolved in the 83d Guards Rifle Division of the 11th Guards Army during the summer of 1943 in advancing in the Volkhov sector (Orel Operation), when the division commander decided to carry out the basic work of organizing cooperation at three points. Included in the reconnaissance group were the commanders of the regiments which had been attached to and were supporting the units (subunits). Having listened to the reports of his subordinates, the division commander indicated the sequence for the troops to take up the jump-off position, the goal and the methods of actions of the subunits to be involved in conducting the reconnaissance in force, he brought out the questions of coordinating infantry efforts with the NPP tanks and clarified the schedule for artillery softening up and the procedure for supporting the attack. After this at each of the points he played through with the commanders the possible variations for the actions of friendly and enemy troops to the depth of the day's task and listened to their situational plans. On 9 July exercises were conducted for the rifle battalions and tank companies. In them they worked on the passage of the tanks through the battle formations, the building of passageways through minefields, the repelling of possible counterattacks and cooperation with aviation. On 10 July, that is, 2 days before going over to the offensive, the combat planning table was approved and issued to subordinates.[41]

In the third period of the war, the divisions began to work out a combat plan (breakthrough plan) the purpose of which was to provide a detailed organization of cooperation between the branches of troops for the period of breaking through the first two positions. This plan was approved by the corps commander. Cooperation began to be worked out to the depth of the day's task. This was the case in a majority of formations in the preparations for the Belorussian, Iasi-Kishinev and other operations. Battle drill exercises, exercises with field firing and bombing, command-staff exercises and radio drill for staff officers held an ever-larger

place in improving combat skill, in shaping up the units and in coordinating the efforts of the troops. This was particularly characteristic for the formations of the 37th Army in the preparations for the Iasi-Kishinev Operation, for the 8th Guards Army in the Vistula-Oder Operation and the 65th Army for the Berlin Operation. In them, in accord with the plans worked out by the staffs and made as close as possible to a combat situation, the unit and subunit commanders gained experience in organizing and maintaining cooperation in combat.

The work of coordinating efforts in the armored forces formations had specific features since the corps and brigade commanders, even in preparing for the offensive, were interested primarily in the questions of cooperation in entering battle, that is, in the depth of the enemy defenses, chiefly with the infantry which had reached the deployment line, with the artillery and aviation which were supporting the attack and with the engineer units which had equipped the routes. A large portion of these questions in organizing combat was solved during a visit by the commanders with a group of officers to the formations with which they were to operate jointly. The tank commanders and drivers were called in to study the routes from the jump-off position to the forward edge of our defenses. A new feature from the autumn of 1942 was the practice of having air representatives in the tank (mechanized) corps and artillery observers in the brigades.

The contents of the work to coordinate troop efforts can be traced in greater detail from certain examples from the experience of preparing an offensive during the third period of the war.

In preparing to go over to the offensive in the Iasi sector during the summer of 1944, the staff of the 37th Army, for example, upon instructions from the commander to organize cooperation, planned for 8 days. Four days were allocated for the corps and division commanders, 1 day for the regiments and battalions and 2 days for the company commanders. Prior to traveling to the field, the staff operations section drew up a draft planning table for cooperation as well as an orientation diagram and a table of cooperation signals. On 9 August reconnaissance conducted for the purposes of working out the questions of joint actions of the infantry, tanks, artillery, engineer troops and aviation for the stages of the operation was attended by the commanders and chiefs of staff of the corps and divisions, the chiefs of the branches of troops of the army, the commander and chief of staff of the VII Mechanized Corps, the chief of staff of the 17th Air Army and the commander of the IX Combined Air Corps. The work started with a clarification of the enemy grouping, its defenses and the organization of the fire plan. Then the chief of staff acquainted those present with the task of the army and the methods for carrying it out during the first stage (the breaking through of the tactical enemy defensive zone) and he informed the formation commanders about the tasks of the adjacent units. The commander clarified the combat tasks for the corps.

Basic attention was given to coordinating infantry operations with the NPP tanks and the artillery. According to the commander's plan, two army artillery subgroups were to be organized for supporting the offensive of the rifle corps. The howitzer, mortar and light artillery brigades which were part of the group were given the mission of supporting the first echelon rifle divisions of the corps while the cannon brigades would be used to suppress and destroy the enemy artillery batteries. The rocket launcher regiments and brigades existing in the army were reduced to an army

rocket group. The high level of centralization on the army scale of artillery fire control created better opportunities for its massing and power fire effect. At that time the formation commanders were given instructions that all the tanks and SAU were to be used in the breakthrough areas of only those rifle regiments which would advance in the sector of the main thrust. Here a number of lines were set for coordinating the efforts and for them their actions were planned jointly with the infantry and the combat engineer subunits.

On the next day the commander conducted a military game in the sandbox with the corps commanders and the commanders (chiefs) of the branches of troops. By playing through the actions of the troops following the surprise inputs, they worked out the questions of engineer support and the prompt freeing of the routes of advance by the rifle formations leading to the attack lines of the VII Mechanized Corps considering two possible variations.

It was planned that the first echelon divisions of the corps, having carried out their immediate tasks ("H"+5), should free the routes of combat equipment and all types of transport as these routes would be used by the brigades of the mechanized corps for moving up to the attack line. From "H"+5 to "H"+7, the rifle divisions should move up to the attack line. During this time the engineer troops had the task of making passages through the enemy obstacles. The army artillery was to shift to supporting the engagement and combat operations of the VII Mechanized Corps. The fire of the five artillery brigades was planned in terms of four lines. For fire correction, one or two officers with communications equipment were sent from each brigade to the corps.

On 13 August, that is, 5 days before the offensive, the commander approved the cooperation planning table and excerpts of this were sent out to the formations. In the following days, exercises were organized in the formations and units of the army. The commander conducted a demonstration exercise with one of the regiments from the 28th Guards Rifle Division. This was attended by all the commanders of the corps, divisions and regiments as well as by the artillery formation commanders. Then there was an exercise with the 195th Rifle Division reinforced by tanks and artillery and supported by ground-attack aviation with live bombing.[42]

Cooperation was organized under unique conditions in the 65th Army in April 1945, on the eve of the Berlin Operation. The army field headquarters had 3 days to prepare the operation. The troops carried out a regrouping using the combined method over a distance of 250-300 km. They were to break through the enemy defenses in crossing the mouth of the Oder River.

Proceeding from the situation, the commander started work by traveling to the jump-off area for the offensive with the corps commanders and a group of generals. Here formations of the 61st Army were on the defensive ready to give up the area. He conducted reconnaissance, adopted a plan and gave tasks to the corps commanders and the commanders (chiefs) of the branches of troops and he also indicated the basic stages of cooperation. Having given the corps commanders an opportunity to work with their subordinates, the commander with a group of officers traveled to the command posts of the adjacent 2d Assault and 70th armies and coordinated with their commanders the questions of securing the boundaries and flanks. By this time the deputy commander of the 4th Air Army had arrived at the army's command post to

coordinate the tasks to be carried out in the forthcoming air offensive in the interests of the formations of the 65th Army. These tasks were clarified with particular care for the first day of the operation. During this time the army staff drew up and issued two subordinates a combat planning table to a depth of the immediate task. This reflected the tasks to be carried out by the rifle corps, aviation, artillery and the special troops as well as the control signals. A cooperation plan in crossing the Oder River was worked out as a separate document.

During the remaining 2 days before going over to the offensive (18 and 19 April), cooperation in the field was organized in the formations, units and subunits both by the issuing of instructions as well as in the form of playing through variations of joint operations. Particular attention was given by the commanders of the 354th and 37th Guards Rifle divisions to organizing cooperation in the regiments assigned as forward detachments which were to operate along the Retzowsfelde--Kolbitzow Autobahn. A command-staff exercise and a battle drill exercise were conducted with the commanders of these units as well as of the reinforcement units of the forward detachments. As a consequence of the limited time, the questions of coordinating efforts in the formations were reflected in the working maps of their commanders and the chiefs of staff.[43]

Experience shows that the work carried out to organize cooperation on all levels of command contributed decisively to the achieving of the set aims in the offensive. It provided the best effect in coordinating efforts in the field in the most active form, that is, by playing through the possible variations of actions. Unity in combined-arms combat was ensured by the careful preparation of the troops and the staffs for the offensive.

6. The Preparation of Troops and Staffs

The start of going over to an offensive was preceded by extensive work by all control bodies in the area of organizing the combat training of the troops and the staffs, in generalizing and issuing combat experience to the troops and in carrying out party political measures.

During the first period of the war, when the draft of recruits arrived at the front after 2 or 3 weeks of training in the rear and up to 60 percent of the officers had been called up from the reserves, troop training was particularly essential. "The bitter experience," commented K. A. Meretskov, "...taught us much. Even then we made it a rule that no matter how great the need for troops, the arriving recruits and the newly arrived units passed through the training centers before battle or were acquainted with the particular features of conducting combat directly in the formations...."[44] In the autumn of 1941, the work of the commanders and staffs in organizing troop combat training picked up sharply. In rail movements, the basic form of training was speeches by frontline veterans and the reading of pamphlets and instructions; in marches there were battle drill exercises in the areas of daytime rest. With the arrival of the troops in the concentration area, planned exercises were organized. In the formations and units of the 37th Army of the Southern Front these were conducted for 3 days and in the 54th Army of the Leningrad Front for 2 days. In training the basic emphasis was put on the actual working out of the questions of moving up to the attack line, rapid deployment into the battle formation, the attack on the forward edge and an engagement to take a strongpoint.

In no less than 50 percent of the formations of the 52d Army (the counteroffensive at Tikhvin), in addition the troops underwent exercises in having tanks pass over them. The subunits were also trained in salvo firing at enemy aircraft.

The troops were carefully prepared for the Moscow counteroffensive. In drawing attention to this, A. M. Vasilevskiy transmitted to the commander of the Kalinin Front the demand of I. V. Stalin "to provide an opportunity for Maslennikov's formations (the 29th Army) which had not come under fire to get the feel of the front's situation for at least 2 days."[45] On the basis of these instructions, exercises were conducted in the army's units in studying the weapons, operating equipment under wintertime conditions, shooting and grenade throwing. Daytime and nighttime tactical exercises were conducted in the companies, and firing of antitank rifles were held in a number of subunits. Captured tanks were used as targets. In the divisions of the first Assault and 16th armies of this front, demonstration exercises were organized for the commanders of platoons, companies and battalions in troop control in combat. With the personnel the actions were worked through in attacking the forward edge of enemy defenses. There was extensive popularizing of the experience of soldiers and sergeants who had excelled in previous battles in the press, leaflets as well as in talks.

Combat training was improved qualitatively before an offensive in the second period of the war. By this time there had been a certain increase in the system of the deputy front (army) commander for combat training. The work assumed a centralized, planned and effective nature. The front's commander determined the goal, the tasks, the time to be allocated for combat training as well as the procedure and sequence for organizing training. The army staff and sections planned the subjects, they issued instructions to the army commander on organizing training and provided supervision. In the formations and units exercise plans were drawn up for a certain time interval (month or 10-day period) and in the subunits there were exercise schedules.

On the eve of the Stalingrad offensive (November 1942), in the formations of the 21st Army, for example, 240 hours were allocated for troop training. By 24 October, individual training of the arrived recruits had been completed. The units began to develop coordination among the squads (crews and teams) and the platoons. During the first days of November, battle drill exercises were conducted for the companies and battalions. On 3 November, the army's commander conducted a demonstration regimental tactical exercise. In command-staff exercises and radio drills the division and regiment staffs worked out the questions of troop control in combat.

In preparing to break through the Leningrad blockade (January 1943), the nature of the forthcoming troop operations was the basis of the combat training. In units of the 86th, 136th and 168th Rifle divisions of the Leningrad Front, under the leadership of their deputy commanders, in specially equipped training fields 25-30 km from from the forward edge, around 10 battle drill exercises were conducted on crossing water obstacles under wintertime conditions with the subsequent attack of enemy strongpoints (the troops were to cross the Neva River). Training ended with battalion exercises and field firing.[46] In the 128th, 372d and 327th Rifle divisions of the Volkhov Front, particular attention was given to training the assault detachments in taking population points which had been prepared by the enemy for all-round defense. The officer personnel trained in moving through the woods using compasses, including under conditions of limited visibility. The tank troops of the 122d, 16th, 98th and 185th Tank brigades trained in driving tanks through the forest and across swamps.[47]

A specific approach was particularly apparent in training the troops for actions under special situational conditions, in particular for landing operations. For example, in the region of Gelendzhik, in the autumn of 1943, on the eve of the Novorosskiysk Operation, fortifications were specially made similar in type to the enemy defenses. For a week and a half the landing units prepared to break through strongly reinforced enemy positions. The subunits which were to participate in the landing trained along with the ships of the Black Sea Fleet. Each night the infantrymen worked out precise and rapid actions involved in loading into the ships and landing on the shore. Great attention was given to the engineer training of the troops. All the formations had mine-clearing detachments and detachments for reinforcing captured lines while the breakthrough units and subunits had assault groups. In the rifle subunits they worked through the questions of detecting and deactivating mines and crossing man-made obstacles. Each landing group had assault foot bridges, hooks and special light bridges for quickly crossing the shore fortifications and minefields. Due to the fact that the operation was to start at night, the participants in the landing spent more than 50 percent of the training time working under conditions of limited visibility.

In the following years of the war significant experience was gained by all levels of staffs in organizing troop combat training.

In preparing for the Belorussian Operation, the staffs from the formations of the First Baltic Front planned 20 days of combat training (from the 1st through the 20th of June 1944). The units and subunits which were on the defensive were pulled back into the second echelon and trained in a 5-day program while those which had completed the regrouping trained for 10 days in the concentration areas. At the same time the armies held 2- or 3-day assemblies for the division and regiment commanders and chiefs of staffs, in the corps there were assemblies for the battalion commanders and in the divisions for the company (battery) commanders. Command-staff exercises were conducted in the commander training system. Specialists were trained in assemblies in the units. The former commander of the 43d Army remembered that "officers were sent to each division from the army to help the troops in preparing for the operation.... Exercises were conducted with the staffs of the rifle corps, divisions and regiments...and forms were sought for cooperation which conformed most to the conditions of combat in forested, swampy terrain.... The exercises ended by a demonstration of practical actions by the rifle battalions...."[48]

Significant attention was given to the troop combat training in the units and formations of the 3d Belorussian Front. This was extremely essential as the archival documents show that of the arriving recruits only 33-35 percent of the soldiers, sergeants and officers had combat experience. For this reason, according to the commander training plan, on the army-regiment level, a number of subjects relating to troop control in combined-arms combat were gone through on the maps, using sandboxes and in the field. The subunits and units worked through a program for individual training and the coordinating of the squads (crews, teams), platoons, companies and battalions.

In the First Belorussian Front the basic form of exercises for command personnel was the playing through of different variations of the forthcoming operations on maps and terrain mock-ups. As G. K. Zhukov pointed out, "on 14 and 15 June the commander of the First Belorussian Front held exercises to play through the forthcoming

operation in the 65th and 28th armies.... Present at the playthrough were the corps commanders, the division commanders, the artillery commanders and the chiefs of the branches of troops from the armies. In the course of these exercises they worked out in detail the tasks of the rifle and tank formations as well as the plan of the artillery offensive and cooperation with the air. Basic attention was focused on a careful study of the particular features of the terrain in the area of the forthcoming troop operations and the organization of enemy defenses.... During the following 3 days similar exercises were held in the 3d, 48th and 49th armies."[49]

In preparing the troops to conduct the Lwow-Sandomierz Operation (July 1944) the commanders, staffs and other control bodies carried out the tasks in an unique manner. This was explained by the fact that in the rifle subunits, from 60 to 90 percent of the personnel was made up by soldiers who had been inducted from territory liberated from the enemy and who previously had not served in the army. These men for an extended time had been isolated from Soviet reality and had experienced the pernicious influence of Nazi and bourgeois nationalistic propaganda. On the one hand, it was essential to organize more intensive combat training (the exercises were held for 12-14 hours) and on the other, to skillfully conduct explanatory work and for this special agitation groups were set up in the formations. In particular in the 13th and 58th Guards Rifle divisions, they widely used such a form of work as meeting with former soldiers. The instructions and combat leaflets provided great help in improving the combat skills of the personnel. In a popular form they told about the combat capabilities of the basic types of weapons and explained the provisions of the field manuals. In the units for the arrived recruits they demonstrated the weapons showing the tactical and technical capabilities of the guns, tanks and SAU.

In preparing for the East Prussian Operation, the commander of the 11th Guards Army conducted exercises with the division and corps commanders, the chiefs of staff, the commanders of the branches of troops and the chiefs of services to organize the committing of the second echelons to battle. The commander of the I Tank Corps and the deputy commander of the first Air Army were also called in as leaders. A staff exercise was conducted in the field using communications equipment. For this the staffs of the army, the corps and the divisions were pulled back into the rear some 60-80 km from the forward edge. The army exercise was conducted against the background of the specific operational situation. This helped clarify the procedure for employing the men and equipment on the offensive, in carrying out cooperation and logistical support and to work out the methods of troop control. In addition, week-long assemblies following an 86-hour program were held for the specialist officers from the branches of troops.

On the eve of the Vistula-Oder and Berlin operations, command-staff exercises (games) became the basic form of staff training. These were conducted in the fronts, armies and formations. At the staff of the First Belorussian Front, at the end of December 1944, for 3 days a military game was conducted on maps. In addition to the front's command, participating in it were all the army commanders, the artillery commanders and chiefs of staff from the armies and commanders of individual corps. On the first day, the army commanders provided briefings on the tasks and the overall concept of the operation, the procedure for utilizing tanks and organizing cooperation with the tank armies and the plan of the artillery offensive. In the second day, in following unannounced inputs, they played through the

breakthrough of the stationary defenses with the subsequent exploitation of the success. In the third day, they worked through the questions of organizing troop control. Cooperation among the subunits and units was provided in troop exercises. Here special attention was given to training the forward battalions which were to be used for conducting reconnaissance in force and the assault detachments. Prior to the start of the Berlin Operation up to ten exercises were conducted with them using the attached and supporting resources and in a number of instances aviation as well.

Considering the particular features of the theater of military operations, much attention was given to the special training of the troops and staffs in July-August 1945 in the Far East and the Transbaykal Area. In the 300th Rifle Division of the 1st Red Banner Army, for example, its commander conducted a command-staff exercise with the unit commanders on the organizing of combat operations under the conditions of a mountain tayga terrain. Several radio drills were conducted by the chief of staff for the staff officers. The subunits and units using a schedule worked out by the staff learned to make extended marches over roadless terrain with the laying of column tracks. The regiment and battalion officers trained in controlling their subordinates at night, including following a compass. At specially equipped training fields, the assault groups set up in the rifle companies were given further training.[50]

A certain uniqueness was characteristic of the organization of combat training in the tank (mechanized) corps and tank armies. This was determined, in the first place, by the position (a tank army was usually in a concentration area 40-50 km away from the forward edge), secondly by the tasks which they had to carry out and thirdly by the composition (tank and mechanized formations comprise the basis of the army). Finally, in preparing for a majority of operations in 1944-1945, the tank armies had from 15 to 40 days to carry out combat training. This made it possible to prepare training fields and plan the consecutive training of the men and the development of cooperation between the subunits, units and control bodies.

Thus, in the preparation of the 2d Guards Tank Army for the Vistula-Oder Operation, 30 days were assigned for the training of the troops and staffs. On 25 November 1944, the army commander issued an order which set the dates, tasks and forms of instruction as well as the subjects of the troop and command-staff exercises. The commanders (chiefs) of the branches of troops had to work out detailed instructions on the combat training of subordinate units, while the corps commanders had to submit by 30 November a combat training plan for December and a summary schedule of exercises for the units and officer personnel for the first 10-day period.[51] The army staff together with the political section and the staffs of the commanders (chiefs) of the branches of troops (special troops), worked out a combat training calendar plan and a subject plan. Around 70 percent of the time was allocated for improving the field skills and marksmanship of the men while the remaining training hours were allocated between such subjects as political, drill, engineer, chemical and technical training and topography. Two- or three-day assemblies were set for the specialists. Command-staff exercises were planned using communications equipment, including 50 percent at night, as well as daily 2-hour staff training for the purposes of the individual training of staff officers in their activities.

An analysis of the calendar plan and other planning documents makes it possible to note certain combat training planning principles in the army: ensuring constant combat readiness of the troops, a successive rise in knowledge, the subordination of all training subjects to tactical training, the organization of training both during the day and at night, and the maintaining of the organizational composition of the subunits and units in the course of training. One of the important planning principles was the instructing of the officers and sergeants ahead of the subject to be studied by the subordinate subunits.

Different forms of instruction were employed proceeding from the conditions, aims and tasks. It must be particularly emphasized that here extensive use was made of the assault training areas, tank driving ranges and training fields set up in the rear. As a whole the organizational role of the commander, staffs and other control bodies in carrying out troop training was manifested primarily in their personal involvement in all the conducted measures as well as in all-round control over the course of combat training in the formations, units and subunits.

In the course of troop combat training, the military councils of the fronts and armies and the political sections of the formations devoted a great deal of attention to the question of maintaining a high political-moral state and an offensive zeal among the men. This was a natural phenomenon as there is the universal law of armed combat formulated by V. I. Lenin that "in any war, victory ultimately is determined by the morale of those masses who are shedding their blood on the battlefield."[52] The experience of the war demonstrated that a high level of the political and moral state of the troops, as an important criterion in their battleworthiness, did not develop spontaneously. It depended upon the activities of the commanders, political bodies and the party and Komsomol organizations in carrying out the psychological and moral-political training of the troops.

Of primary importance in carrying out these tasks was the strengthening of the inferior party and Komsomol organizations by admitting the best soldiers to the party and the Komsomol as well as by redistributing the group of communists and Komsomol members within the formations and units. The necessity of this arose as a consequence of the fact that a large number of communists and Komsomol members who fought courageously had been put out of action. In the units of the Second Belorussian Front alone, in 1944 25,000 party members and candidate members were killed. During this period more than 87,000 communists were wounded. While by the start of the Belorussian Operation the 49th Army had 1,228 company or equal party organizations, after a month of the offensive battles only 661 remained. In July 1943, more than 76,000 communist soldiers from the units and formations of the Voronezh, Steppe and Southwestern fronts were out of commission while 131,430 soldiers and officers were admitted to the party. In September 1943, the party organizations from the units of the Voronezh Front admitted 11,781 soldiers and officers to their ranks, and in the First Belorussian Front 90,000 men were admitted in the preparations for the Belorussian Operation.

The work in the troops of informing and explaining the combat tasks and carrying out party organizational measures produced a significant effect.

In preparing for the Moscow counteroffensive the political directorate of the Western Front set up operations groups which traveled to the formations which were to

be part of the assault groupings. There they organized party and Komsomol conferences, meetings, political information sessions and readings of summaries of Sovinformburo [Soviet Information Bureau]. The Political Directorate of the Volkhov Front on the eve of breaking through the Leningrad blockade sent 75 political officers to the troops of the 2d Assault Army. At the same time A. A. Zhdanov, A. A. Kuznetsov, Ya. F. Kapustin, P. S. Popkov and other leaders of the Leningrad party organization spoke at conferences, meetings and talks in the 67th Army.[53]

An important place was held by the work conducted with the party aktiv. From the autumn of 1942, special subunits were operating in the front and army courses, where they trained regimental-level party organizers. The training of party organizers for the company party organizations was carried out under the political sections of the formations usually in assemblies. These were most often conducted for 8-10 days or once a week for 24 hours, as was done in the second Belorussian Front in the winter of 1944. Experience shows that instruction sessions, meetings and conferences. There was also the practice of issuing instructions, leaflets and various sorts of procedural literature. Upon the instructions of the chief of the Political Directorate of the First Ukrainian Front, for example, the editors of the front newspaper ZA CHEST' RODINY [For the Honor of the Motherland], in September-October 1943 alone published up to 20 articles under the heading "Party Life."

In the second period of the war, the Main Political Directorate introduced a unified training system for the communists. Under the political sections of the fronts, schools were organized for the party aktiv, and under the political sections of the armies, courses for the training of party and Komsomol organizers. In the troops of the second Ukrainian Front alone, in the autumn of 1944, there were 58 daytime divisional schools, 20 affiliates and 74 groups. These trained around 2,000 communists of whom over 600 men were party organizers of the primary party organizations. In addition, 135 evening divisional party schools, 27 affiliates and 162 groups were set up. These trained around 3,000 communists and Komsomol members, including 36 party organizers of the primary organizations, 901 company party and Komsomol organizers and 443 members of party bureaus.

During the preparations for the Vistula-Oder Operation the party organizers (of the companies) in the First Ukrainian Front underwent 2-month training. They studied the experience of party political work (159 hours), tactics (70 hours), weapon (56 hours), drill (24 hours) and antichemical (6 hours) training, the regulations and topography.[54] During the tactical exercises and drills which were often conducted with field firing, the student party organizers studied the organization of party political work in the subunits.

Attention should also be given to the experience of organizing party political work for the purposes of highly effective troop control by establishing close contacts of the political directorates (political sections) with the staffs and other control bodies.

They jointly solved the questions of maintaining the secrecy of the operation's plan and misleading the enemy, as well as the allocating of communists and Komsomol members to the units and subunits. Measures were planned to inform the personnel of the contents of the combat tasks. Forms were chosen for generalizing combat experience and the means to be used for disseminating it. Measures were discussed for

maintaining military discipline in the troops and their logistical support. Along with the staffs, the political bodies organized the uninterrupted delivery of periodicals and letters to the personnel.

Fruitful work was carried out by the political section, the staffs and the various directorates (sections) in military technical propaganda, the working out of instructions and leaflets, the holding of conferences and the putting out of technical information bulletins. Recommendations were worked out on the methods of conducting combat operations under special conditions, as follows: in countering bazookas and conducting street battles in the Berlin Operation and for operating equipment in roadless, muddy conditions in the Uman'-Botosani Operation. In the 69th Army in January 1945, in considering the unusual conditions of the forthcoming operations, the military council approved instructions on "Troop Actions in a Forested Swampy Terrain." In preparing to storm Berlin, the political section of the same army together with the deputy commander for technical affairs, on 10 April held a technical conference for military repairmen. It summed up the results of their labor. Here also decorations were presented for courage and for the ability to rebuild combat vehicles under difficult conditions.

In party political work an important place was given over to organizing checks on the readiness of the units to carry out combat missions and their material support. Individual work with the personnel was the basic form of holding checks. Taking an active part in it were the command and political personnel, the communists and Komsomol members. This brought about a lively contact with the men and a close tie with the subunits.

Significant work was carried out by the political bodies to break down the spirit of the enemy troops in carrying out the task of reducing their battleworthiness. The putting out of leaflets was a most important form. In addition, widely used, particularly from 1944 on, were broadcasts over loudspeakers using prisoners of war and active members of the Free Germany Organization. As a result of the work done in the area of the Third Belorussian Front, for example, of the 230,000 prisoners of war (January-May 1945), 105,560 soldiers and officers had surrendered.[55]

The enormous amount and diverse content of the joint work carried out by the command, the political bodies, the party and Komsomol organizations ensured a high level of troop morale on an offensive, in acting as a major factor for victory over a strong and experienced enemy under the complex conditions of armed combat and simultaneously for achieving effective troop control in combat.

During the years of the Great Patriotic War great attention was given to generalizing combat experience and also to promptly informing the troops and staffs of this. This largely contributed to a better organization of combat and troop control in the course of an offensive.

During the first months of the war, the basic form for carrying out this task was the publishing of directives by the HqSHC, the General Staff, the central directorates of the NKO and the military councils of the fronts. An important role in the dissemination of combat experience was played by the following: the directive letter of HqSHC on improving troop organization (July 1941); the order from Headquarters of 6 July on measures to improve the countering of enemy tanks; the

Headquarters directive of 11 July on surprise nighttime operations and improving air strikes against enemy tank groupings; the order of HqSHC of 28 November on improving engineer support for combat, as well as a number of other documents. In July-September 1941, the military council of the Western Front sent to the troops more than ten directives generalizing the experience of combat operations during the first weeks of the war, including on the use of tanks, artillery and the other branches of troops.[56]

In the autumn of 1942, sections (departments) for studying the experience of the war were set up in the fronts and armies. In the formations the position of senior assistant chief of the operations section (department) was created. His duties included organizing the collection and analysis of materials on troop combat operations. The combined-arms staff under the direct leadership of the commander became the center for generalizing experience and issuing it to the troops. Its efforts were aimed at disclosing the positive aspects of troop activities and their shortcomings as well as new methods employed by the enemy in conducting combat operations. It was important to promptly give up the obsolete and unusable and to synthesize the most useful and instructive aspects of combat experience. In the order of 23 February 1944, the Supreme Commander-in-Chief demanded that "combat experience and the achievements of the advanced units (formations) in the Red Army become available to all the forces so that the entire Red Army, all its fighters and officers learn to defeat the enemy using all the rules of modern science."

Trips by officers to the troops were the basic method of studying combat experience. The results of combat operations were shown in a special log and in a report chart. There was also an analysis of the combat documents, reports and summaries in generalizing the combat experience of the staffs and other control bodies. The intelligence sections (departments) drew up information statements. They described the actions of the enemy troops in previous operations, they drew conclusions and defined practical recommendations.

The generalized experience was presented in verbal instructions by the commanders, in reports on the results of conducted exercises, by written directives and orders and in conducted exercises. Very frequently the results of this work were given in instructions and memorandums. Thus, in February 1944, the directorate of the commander of armored and mechanized troops of the 51st Army issued a Memorandum to the Commander of a Rifle Battalion on Joint Operations with Tanks. It gave the tasks of the tanks in combat and the duties of the rifle battalion commander in controlling his subordinates and provided specific recommendations on the use of terrain conditions, the organization of cooperation and the pursuit of the enemy.[57] In the course of the Lower Silesian Operation (February 1945), the staff of the 6th Army on the basis of the experience studied in previous engagements worked out the Instructions on Conducting Street Battles. These were sent out to the units and subunits, providing substantial aid to the troops in carry ing out the tasks of destroying the enemy in Breslau.[58] Enemy equipment and the bases of its combat use were studied at special conferences organized in the formations and sometimes in the divisions. Conferences on the generalizing of experience held by the central directorates also proved effective.

With the start of 1944, field trips to the sites of engagements were organized, as was done in the 3d Guards Tank Army in September 1944 for the results of the Lwow-Sandomierz Operation. Also greatly effective were conferences (meetings) of

command personnel on the level of a front (in the First Ukrainian Front, 6-8 June 1944) and the army level (in the 1st Guards and 2d Tank armies in October 1944, in the 1st Guards Army in June 1944 and in the 3d Guards Tank army in May 1944). In a number of fronts and armies, collections were put out on generalizing experience (in the 3d Guards Tank Army in April 1944).

A significant contribution to generalizing and making available experience to the troops was made by the publishing in 1944-1945 of the manuals, regulations and orders of HqSHC on the employment of the branches of troops as well as by the sending to the troops of materials from military-scientific conferences held by military academies and of reports on the results of stays by academy instructors in the operational army. Thus, in July 1943, a group of instructors from the Armored and Mechanized Troops Academy was with the staff of the XXIII Tank Corps. From the results of the trip a report was presented which was then sent out to the troops for detailed study. On the basis of the generalized materials, memorandums and special instructions were published on operations under special conditions (at night, in cities and so forth).

In the formations and units the generalized experience was made available to the personnel at demonstration exercises and drills, in leaflets and conducted talks. In the tank and mechanized corps, in preparing for the Lwow-Sandomeriz Operation, for example, technical conferences for driver personnel were conducted to increase the combat capability of the units. Here the best drivers shared their experience. Army staff officers gave reports to the commanders of the rifle subunits. Conferences were also held in the artillery units. Work was organized in an analogous manner in the preparations for other operations of the third period of the war.

An analysis of the work done by the commanders and staffs in preparing for an offensive during the years of the Great Patriotic War provides grounds to draw certain generalizations and conclusions.

The experience shows primarily that the main aim of all activities carried out by control bodies at this stage was to achieve the most effective employment of the men and equipment and to carefully organize the forthcoming operations at the established times. The basic act in preparations was the adopting of a plan and the planning of the offensive on the basis of the thorough analysis of the situation, the calculations made and the skillful use of the principles of military art. The organizational activities of all the control bodies under the leadership of the commander and the combined-arms staff were aimed at carrying out this plan. The basic content of these activities was the giving (issuing) of tasks, the providing of cooperation and the preparation of the troops and staffs for the forthcoming operations.

Experience teaches that the basic ways by which the art of troop control can be improved in our times and in the future are: a rise in the soundness of the plans, the employment of diverse methods of work considering the specific preparatory conditions and the improving of the style of activities. The trends apparent in the war years of the centralizing of control and the wide use of the forms of the personal involvement of commanders in planning and organizing combat operations, including in the field and using mock-ups, having showed their effectiveness, can and should be creatively applied in the training practices of the troops and staffs.

FOOTNOTES

[1]K. K. Rokossovskiy, "Soldatskiy Dolg" [A Soldier's Duty], Moscow, 1972, pp 324-325.

[2]K. Marx and F. Engels, "Soch.," 2d Edition, Vol 14, p 47.

[3]V. A. Belyavskiy, "Strely Skrestilis' na Shpree" [Shots Crossed on the Spree], Moscow, 1973, pp 83-84.

[4]"Osvobozhdeniye Belorussii. 1944" [The Liberation of Belorussia. 1944], Moscow, 1970, p 270.

[5]K. K. Rokossovskiy, "Soldatskiy Dolg," p 301.

[6]P. I. Batov, "V Pokhodakh i Boyakh" [In Campaigns and Battles], Moscow, 1962, p 8.

[7]See: Osvobozhdeniye Belorussii. 1944," pp 138, 252, 343, 557-558, 605.

[8]V. I. Lenin, PSS, Vol 36, p 193.

[9]In the book: M. Tsunts, "V Ogne Chetyrekh Voyn" [In the Flames of Four Wars], Moscow, 1972, p 47.

[10]TsAMO, folio 213, inv. 2002, file 21, sheet 44.

[11]TsAMO, folio 132, inv. 2642, file 41, sheet 76.

[12]TsAMO, folio 251, inv. 646, file 47, sheet 16.

[13]TsAMO, folio 208, inv. 2511, file 1087, sheet 70.

[14]TsAMO, folio 48, inv. 1161, file 6, sheets 259-260.

[15]See: Muller-Hillebrand, "Sukhoputnaya Armiya Germanii" [The German Ground Army], translated from the German, Moscow, 1976, Vol 3, pp 74, 84, 127, 147.

[16]TsAMO, folio 358, inv. 12808, file 4, sheets 25-27.

[17]TsAMO, folio 316, inv. 4306, file 158, sheet 11.

[18]TsAMO, folio 424, inv. 15898, file 26, sheets 2-3.

[19]TsAMO, folio 217, inv. 3006, file 3, sheets 51-52.

[20]TsAMO, folio 208, inv. 2511, file 2511, sheet 12; file 1143, sheet 93.

[21]TsAMO, folio 233, inv. 2356, file 1, sheet 58.

[22]TsAMO, folio 382, inv. 2465, file 205, sheets 3-5.

[23]TsAMO, folio 48A, inv. 1554, file 92, sheet 171.

[24]See: "Obshchevoyskovaya Armiya v Nastuplenii" [Combined-Arms Army on the Offensive], Moscow, Voyenizdat, 1968, pp 42-45.

[25]TsAMO, folio 233, inv. 2372, file 275, sheet 85.

[26]TsAMO, inv. 2323, file 90, sheets 10, 30-36.

[27]TsAMO, folio 209, inv. 1185, file 1, sheets 17-18; folio 48A, inv. 1166, file 12, sheets 42-48.

[28]TsAMO, folio 332, inv. 4960, file 53, sheets 16-20; folio 233, inv. 2356, file 431, sheets 84-85; folio 235, inv. 2096, file 44, sheets 15-20.

[29]TsAMO, folio 1693, inv. 1, file 8, sheet 8.

[30]"Polevoy Ustav Krasnoy Armii. Proyekt (PU-43)" [Red Army Field Manual. Draft (FM-43)], Moscow, 1943, Article 53.

[31]TsAMO, folio 233, inv. 2356, file 1, sheets 44-46.

[32]K. N. Galitskiy, "V Boyakh za Vostochnuyu Prussiyu" [In the Battles for East Prussia], Moscow, 1970, p 33.

[33]TsAMO, folio 1693, inv. 1, file 8, sheet 46.

[34]TsAMO, folio 299, inv. 3074, file 147, sheets 16-17.

[35]A particular operation order (war-years terminology) was given to only one of the field forces (formations). Its volume was 350-400 words, that is, it was 3-4-fold less than the volume of an operation order.

[36]TsAMO, folio 309, inv. 4073, file 172, sheets 14-18.

[37]The operations directives were worked by the front's staff. An operation order was drawn up in the armies and formations. It was issued to subordinate commanders in full text or excerpts from it were sent out.

[38]TsAMO, folio 217, inv. 3006, file 3, sheet 54.

[39]A terrain mock-up, that is, a three-dimensional model of it, was most often made with a size of 3 x 1.5 x 0.2 m. Washed sand was the material. The models depicting terrain markers and tactical objects were made from wood, wire, tape and other materials. Use was also made of moss, branches, glass and colored paper. The mock-up was prepared using a large-scale map (not smaller than 1:10,000). In preparing for the storm of Konigsberg (April 1945), the mock-up was made on a scale of 1:3,000 (see: I. Kh. Bagramyan, "Tak Shli My k Pobede" [So We Marched To Victory], Moscow, 1977, p 525).

[40]TsAMO, folio 217, inv. 3006, file 4, sheet 57.

[41]TsAMO, folio 358, inv. 264714, file 1, sheets 21-25.

[42]TsAMO, folio 381, inv. 8378, file 383, sheets 2-6.

[43]TsAMO, sheet 3.

[44]K. A. Meretskov, "Na Sluzhbe Narodu" [In Service of the People], Moscow, 1971, p 237.

[45]TsAMO, folio 213, inv. 2002, file 21, sheet 76.

[46]TsAMO, folio 424, inv. 15898, file 26, sheets 4-5.

[47]TsAMO, folio 309, inv. 4073, file 171, sheets 18-20.

[48]"Osvobozhdeniye Belorussii. 1944," p 309.

[49]G. K. Zhukov, "Vospominaniya i Razmyshleniya" [Remembrances and Reflections], Moscow, 1969, pp 559-560.

[50]TsAMO, folio 1605, inv. 1, file 5, sheet 18.

[51]TsAMO, folio 307, inv. 4148, file 191, sheets 181-185.

[52]V. I. Lenin, PSS, Vol 41, p 121.

[53]TsAMO, folio 32, inv. 440031, file 10, sheet 320.

[54]TsAMO, folio 32, inv. 22152, file 3, sheet 142.

[55]TsAMO, folio 32, inv. 64603, file 70, sheet 212.

[56]TsAMO, folio 208, inv. 2454, file 32, sheet 112; folio 246, inv. 12928, file 2, sheets 86-89; folio 208, inv. 33783, file 1, sheets 51-60.

[57]TsAMO, folio 407, inv. 51681, file 2, sheets 54-57.

[58]TsAMO, folio 334, inv. 5252, file 564, sheets 67-70.

CHAPTER 3: TROOP CONTROL IN THE COURSE OF AN OFFENSIVE

The measures conducted by the commanders, the staffs and the other control bodies in the preparations for an offensive created the prerequisites for successfully carrying out the tasks in the course of conducting combat in carrying out the missions of breaking through enemy defenses, routing opposing enemy groupings as well as exploiting the success.

The breakthrough, as the first and most complicated stage of an offensive, was aimed at crushing the solid engineer-equipped enemy defensive front by creating a breach in it for subsequent maneuvering in depth and toward the flanks. Under these conditions the troops had to carry out a number of tasks and the control bodies had to ensure their fulfillment. The most important of them were: dependable firing for effect against the defending enemy and breaking through the main and second tactical zones and the tactical defenses as a whole occupied by the enemy divisions of the first and second echelons of an army corps to a depth up to 20-25 km.

In the course of conducting operations in the operational depth, all levels of control bodies were confronted with the tasks of organizing the pursuit of the enemy, the breaking through of intermediate defensive lines, the crossing of water obstacles, the repelling of counterattacks and counterstrikes and the conducting of meeting encounters and engagements. Here the extremely diverse nature of enemy actions was taken into account. The enemy often intentionally pulled back its troops in conducting holding operations. This was the case in the spring and summer of 1943 in the region of Rzhev and Demyansk, in the Northern Caucasus and the Orel Operation. More often the advancing troops had to successively cross several enemy defensive lines. In the Vistula-Oder and East Prussian operations there were seven or eight such lines. A portion of them represented a system of fortified areas and fortress cities.

Consequently, in the course of an offensive the commanders, the combined arms staffs and other control bodies were confronted with the necessity of organizing troop operations under the most diverse conditions as well as respond promptly to all changes in it. This required the effective collection and profound analysis of the situational data, the constant adjustment of the accepted plan and the making of corrections in the combat missions given to subordinates. An important place was also held by the questions of maintaining cooperation with the men and equipment involved in the offensive, restoring the battleworthiness of the troops and achieving a dependable functioning of the control systems on the battlefield.

1. Organizational and Creative Activities of Commanders and Staffs

The great dynamicness of the occurring events, the complexity of the combat tasks and the necessity of a direct and effective impact on the outcome of an offensive predetermined the methods and forms of work by the commanders and staffs in the course of conducting combat operations during the years of the Great Patriotic War. This experience merits the closest attention in our days, as it gives the commander an opportunity in modern combat to more thoroughly understand the scope and content of his activities as well as adopt certain of the procedures for achieving success in combat.

As is known the relieving of the troops fighting in front, as a rule, preceded the going over of the troops to the offensive in the war years. For example, in the formations of the 21st Army of the Leningrad Front (Vyborg Operation, June 1944), this task was carried out in accord with the schedule elaborated by the army staff in the following sequence. The artillery took up the readied firing positions 6 or 7 days prior to the offensive. The first echelon rifle battalions during the night of 8-9 June moved one company into the first two trenches and up to 60 percent of the medium machine guns, antitank rifles, mortars and guns designed for direct laying. During the night of 10 June, the remaining subunits moved up. The tanks took up the jump-off areas during the artillery softening up. The commanders of the divisions, units and subunits from 9 June were located at the observation posts, in controlling subordinates by using both wire and mobile communications equipment. Up to 70 percent of the staff officers were in the first echelon units and subunits. The advisability for such an organization of troop control during the period of troop relief can be seen from the fact that the task was carried out in a similar manner in all the formations of the assault grouping of the 60th Army in relieving the units of the 370th Rifle Division on the eve of going over to the offensive in January 1945 (Vistula-Oder Operation). Characteristically, an operations group consisting of six officers was assigned from the army staff for quality control over the precise fulfillment of the troop relief schedule and the moving of the assault grouping up into the jump-off position for the attack.[1] The question was resolved in an analogous manner in the other seven armies of the First Belorussian Front.

During the night prior to the offensive, the commander of the front (army) visited the observation post of the front (army). Here he heard a brief report by the intelligence chief on the enemy's condition and grouping as well as the changes which had occurred in the situation over the last 24 hours. The necessity of such a trip was obvious. Mar SU I. S. Konev pointed out: "In addition to a natural desire to see the start of the offensive with my own eyes, I went...in order to take the necessary decisions on the spot in the event that the actions of the forward battalions indicated that the enemy had retreated.... In a word, a situation might arise whereby I, as the commander of the front, would have to take immediate decisions, desirably by checking in the field, in order to give the appropriate instructions without error."[2]

At the observation post of the front (army) the artillery commander, the commander of the armored and mechanized troops and the chiefs of the branches of troops (special troops) reported on the condition of their subordinate formations and units. Then the commander of the front (army) checked the readiness of his

subordinates to conduct combat operations. This was done most often by telephone. The army commanders spoke in sequence with the corps, division and even the regiment commanders who were at their observation posts. The obtained data were generalized and reported to the front commander. All this work was carried out by a relatively small group of generals and officers.

Thus, on the eve of the Kiev Offensive Operation (November 1943) traveling along with the front commander to the observation post which was located 2-3 km from the observation post of the 38th and 3d Guards Tank armies which were operating in the sector of the main thrust were the military council members, the artillery commander, the air army commander, the chief of the rocket units with a group of officers, the deputy chief of staff with the staff workers and the deputy air defense artillery commander. At the observation post of the 3d Guards Tank Army were the commander of the armored and mechanized troops of the front and his deputy, the army commander with a group of officers (a total of 15 men) and at the observation post of the 38th Army were the front's deputy commander and the army commander with the operations group consisting of ten officers. At the observation posts of the rifle corps, divisions and regiments, working along with the commanders were the chiefs of staff, the chiefs of the branches of troops (special troops) and a group of staff officers (a total of six-eight men). Here also were located the commanders of the commanders of the tank corps (brigades) which were to be committed to battle.

The breakthrough of the main enemy defensive zone was entrusted chiefly to the combined-arms armies and for this reason the work of their field headquarters bodies, primarily the commanders and the combined-arms staffs, is of the greatest practical interest.

At this stage of the offensive, the army commanders every 30-40 minutes personally or sometimes through staff officers heard reports from the formation commanders, they clarified individual combat details and reported to the front commander on the state of affairs. In the event of a slowdown in the pace of the breakthrough, immediate measures were undertaken.

Thus, with the start of the Gumbinnen Operation, during the first 3 hours of combat, the formations of the 11th Guards Army had advanced only 1.5-2 km. The developing situation worried the commander. With a group of staff officers he traveled to the observation post of the VIII Guards Rifle Corps and from there to the 5th Guards Rifle Division (it was fighting in the sector of the main thrust). Here he learned that the units which had captured the first position had been halted by massed enemy artillery fire and by tank counterattacks. Having heard the report of the division commander, the army commander ordered that the useless attacks be called off and a stronger grouping created on the left flank from the division's second echelon. From the corps commander he demanded a careful analysis of the enemy's forces and the reporting on a system of targets. The deputy commander of the 1st Air Army who was present was given the mission of making an air strike. Some 20-30 minutes later, around 70 aircraft bombed the enemy artillery batteries and tank concentrations. Then followed concentrated artillery fire against the enemy's second position and its strongpoints in the immediate depth. Infantry with tanks rushed into the attack behind the rolling barrage. Enemy resistance was crushed.[3]

In approaching the second zone, the advancing troops very often had to repel strong enemy counterstrikes (counterattacks). Under these conditions the army commander through the staffs of the artillery commander adjusted primarily the tasks for the fire weapons, that is, the artillery and the supporting aviation. The army commander traveled frequently to the observation posts of the formations which were repelling counterstrikes (counterattacks). Sometimes a temporary control post was set up where the deputy army commander with a group of officers (six-seven men) remained a rather long time in carrying out the commander's plan and in providing help to the formation commanders in repelling the enemy counterattacks. This was the case, for example, in the 39th Army during the first 2 days of the Vitebsk Offensive Operation (June 1944).

The formation commanders during this stage of the offensive controlled their subordinates from their observation posts in employing radio, wire and mobile means of communications. The combined-arms staffs carried out the main task of collecting and analyzing the situational data working for the direct and accurate receipt of information. With justification the commander of the 372d Rifle Division in an operation order of 14 January 1943, that is, on the second day of the offensive to break through the blockade of Leningrad, emphasized: "...I draw the attention of regiment commanders and staffs to the punctuality and correctness of reports."[4] Experience showed that the successful carrying out of the tasks involved in collecting the situational data was aided by the practice of constant observance of the course of battle by the commander as well as by the sending of staff officers to the subordinate units as was done in the morning of the offensive's third day upon the commander's order in all the formations of the 2d Assault Army.

The prompt increasing of troop efforts in the sector of the planned success was a special concern for the commanders and staffs in an offensive.

In the Nevel' Operation (September 1943), in the 3d Assault Army, for example, success seemed imminent in the area of the 28th Rifle Division. It had been rather quick to break through the first enemy position. The army commander at 0900 hours on 21 September decided to commit the 21st Rifle Division and the 78th Tank Brigade to the engagement in its area [of the 28th Rifle Division] for increasing the momentum of advance. Their commanders were given combat tasks by radio. The staff officers traveled to the attack line from whence they reported to the army commander on the course of carrying out the set tasks. At 1230 hours the army artillery and assigned aviation (fighter and ground attack air divisions) were switched to their support. The enemy began to retreat. The forward detachments created in the rifle divisions and tank brigade began pursuit.

In the exploitation of a tactical success into an operational one, an important role was played by the front and army mobile groups. Naturally under these conditions the questions of organizing support for the committing of the mobile groups to the engagement and close cooperation among the men and equipment involved in this comprised a significant place in the work of the front and army commanders and also their staffs. For this reason, having taken the decision to commit the troops, a front commander almost always personally gave the tasks to the tank army commander (mobile group commander), to the artillery commander, to the chief of the engineer troops and to the air army commander (representative). Since the questions of support of the committing to battle had been worked out ahead of time in planning the

offensive, in the course of conducting it usually only the line and the time for reaching it were adjusted and instructions were issued to the commanders of the combined-arms armies and the rifle formation commanders to free the routes. Staff officers were sent to the formations where a mobile group was to be committed to battle in order to provide control and help. The tasks were carried out in an analogous manner in committing the army mobile groups to an engagement.

For increasing the stability of troop control, the commander of a front directed the committing of mobile groups to battle more often from the front's observation post. This was the case in all the fronts participating in the Belorussian, Vistula-Oder and Berlin operations. The commander of a combined-arms army traveled to the previously prepared army observation post or to the command post of one of the divisions. The commander of the tank army to be committed to the engagement or the commander of a tank or mechanized corps were close to the attack line, heading the operations group assigned from the command post. Sometimes he remained at the observation post of the commander of the combined-arms army or the commanders of a rifle corps or division where the committing to battle was to be made.

Thus, at 1300 hours on 24 June 1944, the commander of the 65th Army, having assessed the situation, decided to commit the I Guards Tank Corps to the engagement. He summoned its commander to the army observation post and set the combat mission for him. Here he also gave instructions to the artillery commander and the chief of the engineer troops to support the committing to battle. Then the army commander spoke with the commander of the 16th Air Army on the procedure of support for the mobile group and traveled to the observation post of the 37th Guards Rifle Division from whence he directed the further actions of the troops. The army chief of staff drew up the task for the committing to battle in an operation instruction and sent out officers from the operations department with radios connected to the network of the tank corps staff to the routes of advance. The organized committing of the mobile group ensured the rapid advance of the army troops.[5]

A definite understanding of the content and forms of work carried out by the control bodies can be gained also from the experience of committing the mobile group of the 69th Army consisting of the XI Tank Corps in the Vistula-Oder Operation and made in the sector of the main thrust during the first day of the offensive. Support for the committing to battle was carried out by the men and equipment of the army according to a plan elaborated previously by the staff. Artillery support was to be provided during the attack and to the immediate depth, antiaircraft artillery on the line of attack and engineer support on the routes of advance and on the attack line. Air support was organized under a plan of the front's commander by the 3d Guards Ground Attack Air Division which had been put under the corps commander as well as by the 287th Fighter Air Division. Having assessed the situation from the map and having heard the proposals of the chief of staff, the corps commander decided to bring up the brigades along two routes in an area of 8-9 km, keeping reconnaissance groups, the traffic support detachments and the forward detachments ahead and on the flanks. The depth of the columns of the main forces reached 20-22 km. The questions of cooperation with the commanders of the first echelon rifle corps were taken up previously on the day preceding the going over to the offensive. At that time a reconnaissance of the routes of advance was also conducted with the brigade commanders. The personnel of a motorcycle battalion was used to organize a commendant [traffic control] service and for this an operations group was assigned

from the staff consisting of three officers from the operations section and two officers from the signals section. With the start of the offensive the corps commander with a group of officers moved to the observation post of the 69th Army, and with the receiving of the signal for the attack, to the observation post of the commander of the CXI Rifle Corps where the committing to battle was to be made. Dependable fire neutralization of the enemy, the prompt freeing of the routes by the army formations, the proper configuration of the approach march and battle formation as well as effective work by the corps staff ensured its prompt committing to battle and successful operations in the offensive. During the following 20 days the corps fought its way over 650 km.

Approximately the same picture can be seen in the work of the commander in committing the second echelons and reserves to an engagement (battle). Experience showed that the effective carrying out of the tasks to a significant degree depended upon how carefully these actions were planned for during the preparatory period of the offensive.

Considering this, the plan of the front's staff for committing the 11th Guards Army to the engagement in the Insterburg-Konigsberg Operation (January 1945) envisaged two possible variations for carrying out the task, without a halt, that is, directly from the starting positions (12-20 km from the forward edge) or after relieving the first echelon formations on the front at the attack line. This made it possible in the course of the engagement to rather quickly organize the committing of the front's second echelon. Having received the task at the front's command post in the morning of 19 January, the army commander for a period of 3 hours conducted a reconnaissance of the intended attack line with the corps and division commanders. At 1600 hours, the forward detachments of the first echelon divisions went into the attack and the main forces at 2000 hours.[6]

In the course of the Iasi-Kishinev Operation (August 1944), in committing the second echelon of the 37th Army to the engagement, the commander gave the task to the commander of the CXXXII Rifle Corps by radio, after which, having moved to the attack line, he clarified it in the field. Here also he issued instructions to coordinate efforts with the first echelon formations and the army artillery group. The committing to battle was carried out in the center of the army's operational configuration in the space between the CXVI and VI Guards Corps after a 15-minute heavy artillery shelling and a bomb strike against the enemy strongpoints. The army staff had organized a commandant service. As the divisions reached the attack line, under the cover of the forward detachments consisting of reinforced rifle battalions, the corps commander on the spot clarified the combat tasks for the formation commanders. Here also he issued instructions on cooperation. As a result of the organized committing to battle the units of the divisions successfully crossed the enemy defensive line without a halt, advancing up to 25 km in 24 hours.

In a number of instances the commanders of second echelon formations perceived tasks for commitment to battle at an army command post. In the Sinyavin Operation (October 1942), for example, the commander of the IV Guards Rifle Corps received the task to enter battle at the command post of the 8th Army. This was a consequence of the difficult situation in the zone of advance and the business of the army commander in solving other, equally important problems. The corps commander was close to the army command post and it did not take him much time to arrive.

Often deputy commanders were involved in giving tasks and they traveled to the subordinate formations, as was done in the course of the Vistula-Oder Operation in the 13th Army.[7]

In the issuing of tasks, in controlling the accurate execution of the issued orders and in providing help to the troops a primary role was assigned to the combined-arms staff as well as to the control bodies of the chiefs of the branches of troops (special troops). A front staff drew up a plan for commitment to battle usually as an operations directive and an army staff as an operations order. A cooperation table was worked out and issued to subordinates, a commendant service and traffic control service were organized and groups of officers with radios were sent out to the routes and line of attack.

The second echelons of the fronts (the armies arriving from the RVGK), under the plans of the commanders, were committed to battle for broadening the zone of advance toward one of the flanks (the 11th Army in the Orel Operation), for repelling enemy counterstrikes (the 4th Guards Army in the Belgorod-Khar'khov Operation), for crossing a water obstacle and capturing a bridgehead (the 37th Army in the battle for the Dnepr), for cutting off a maritime enemy grouping from the main forces (the 51st Army in the operation to liberate the Soviet Baltic) and for surrounding and destroying the enemy (the 28th and 3d armies in the Berlin Operation).

The committing of the second echelons of the combined-arms armies was carried out to increase the efforts in the struggle for the main enemy defensive area or for breaking through an army area without a halt. This was characteristic for operations in the third period of the war. At times the task of reinforcing the success of a mobile group was carried out by them. The second echelons of tank armies were used for the purposes of the more rapid shifting of the basic efforts of an army to a new sector (the II Mechanized Corps of the 3d Guards Tank Army in the Orel Operation) and for increasing the rate of pursuing the enemy and repelling its counterstrikes (the XVIII Tank Corps of the 5th Guards Tank Army in the Korsun'-Shevchenkovskiy Operation).

The reserves of the fronts and the armies were employed by the commanders for carrying out suddenly arising tasks such as destroying an enemy grouping which had been left in the rear of the advancing troops, eliminating enemy units which had broken out of an encirclement and a number of others.

The second echelons of the rifle corps, divisions and regiments were most often committed to battle for increasing efforts in breaking through the tactical enemy defensive zone. Such a solution was determined primarily by the nature of the enemy defenses (particularly from the summer of 1943). Often a division commander committed the second echelon for the purposes of increasing the pace of pursuing the enemy. Reserves were most often employed for repelling enemy counterattacks. For example, the reserve (a reinforced rifle battalion) was employed in this manner by the commander of the 72d Rifle Division on 15 June 1944 (the Vyborg Operation) in an enemy counterattack by the forces of a tank battalion from the Lagus Armored Division in the region of Laykol (in the second defensive zone).

The experience of the war teaches that the committing of the second echelons and reserves provided an opportunity to significantly alter the situation and create

favorable conditions for the further development of the offensive. This task was carried out by the commanders and staffs depending upon the situational conditions using various means.

During the first period of the war, the second echelons (few in number) were most often committed successively or piecemeal by the commander's plan. Subsequently there was a tendency for the massed use of men and equipment in the second echelons. This made it possible to make a strong attack against the enemy which was endeavoring to alter the situation in its favor. Here dependable fire support for the committing to battle was achieved. In the 1944 operations, in carrying out the designated task, for example, in comparison with 1941, artillery densities had increased by more than 5-fold.

In the third period of the war the massing principle became typical in the employment of reserves. Characteristic in this regard was the decision of the commander of the First Ukrainian Front in the course of the Lwow-Sandomierz Operation. For repelling an enemy counterstrike made between the 38th and 60th armies, he used the following: the reserve of the 3d Guards Tank Army, the artillery and antitank reserves of the 60th Army and the XV Rifle Corps, the army mobile obstacle construction detachment, a portion of the front's reserve (a rifle division) and a portion of the aviation from the 2d Air Army.

The tasks of promptly increasing the efforts in the chosen sector very often, particularly from the middle of 1943, were carried out by the commanders in maneuvering the field forces (formations or units) into the area of combat operations where a favorable situation had developed for achieving the goal of the offensive or where there was a crisis situation.

Thus, in the second half of August 1943, considering that the 10-day battles in the center of the zone of advance of the Western Front had not produced tangible results, the commander decided to focus basic efforts on the right wing. For this the 10th Army had to be regrouped over a distance of 100-120 km, and it was not possible to conceal this from the enemy. Then the front's commander began to search for a new plan which would bring success. This was found. In less than 2 days, the 10th Army, in observing camouflage measures, carried out a new regrouping. According to a plan specially worked out by the staff of the front's artillery commander, seven rocket regiments and five artillery regiments were to be concentrated in its zone. The surprise attack made on 7 September ensured the implementation of the plan. For increasing the effort, the II Guards Cavalry Corps was committed to the breach. The enemy began to retreat. The front's troops crossed the Sozh River by 2 October, precisely on the date set by the directive of HqSHC.

The task of increasing the efforts in the sector where success was imminent was successfully carried out in this manner by the regrouping and committing to battle of the 51st Army in the Crimean Operation, by the 11th Guards Army in the Vitebsk-Orsha Operation and by the 3d Army in the Bobruysk Operation. The shifting of efforts was successfully carried out in the Orel, Gomel'-Rechitsa, Kirovograd, Belorussian and other operations. In the Vistula-Oder Operation a good result was achieved by the regrouping of troops on the right wing of the First Belorussian Front to seize the Warsaw enemy grouping and by the troops on the left front of the First Ukrainian Front to envelop the 17th Nazi Army. By the maneuvering of troops on the adjacent wings of these fronts, the Ostrowiec enemy grouping was enveloped.

The experience of the conducted operations showed the great importance of concealing troop maneuvers. In this regard it is wise to recall the course of events in the Kalinin and Western fronts during the first period of the Smolensk Offensive Operation in August 1943, when the absence of proper camouflage discipline and the unsatisfactory organization of troop control in the regrouping of large masses of troops made it possible for the enemy to learn the area where the efforts of these fronts were to be concentrated. As a result the Nazi command regrouped three divisions from the Orel sector by 6 August 1943 and another ten divisions, including six tank ones, by 20 August. As a result, in being deprived of the element of surprise, our command did not ensure good conditions for itself to conduct the offensive. The task was carried out much more effectively by the staff of the Leningrad Front in the interests of ensuring the secret regrouping in the course of the Vyborg Operation (June 1944), when after the breaking through of the first defensive zone, the commander of the Leningrad Front adopted the plan to shift the basic efforts to the maritime sector. By organizing the committing of the LX Rifle Corps to the engagement and by regrouping during the night the artillery breakthrough corps as well as more than ten large-caliber artillery battalions, effective fire neutralization of the enemy was achieved in breaking through the second enemy defensive zone.

We should also note the examples showing the flexibility of control in an offensive in shifting efforts with the simultaneous achieving of surprise of actions in the Korsun'Shevchenkovskiy, Uman'-Botosani and Memel' operations. In the last of the designated operations, in a short period of time (from 24 September through 4 October), the 4th Assault, the 43d, 51st, 6th Guards and 5th Guards tank armies, two tank and one mechanized corps and all the artillery reinforcements were regrouped to the area of Shaulyay. As a consequence of organizing careful camouflage by the staff of the First Baltic Front and by its carrying out of a whole range of disinformation measures, the enemy did not promptly detect the shift of efforts by the Soviet troops.[8]

Equally effective was the maneuver executed upon the decisions of the formation and unit commanders.

Thus, in the course of the Krasnoye Selo-Ropsha Operation (January 1944), the formations of the XXX Guards Rifle Corps reached Krasnoye Selo. Simultaneously battles commenced for Mount Voron'ya [Crow] (elev. 172.3), a strong enemy center of resistance, which, according to intelligence data, was defended by the enemy 13th Infantry Regiment of the 170th Infantry Division supported by two artillery battalions. Pillboxes had been built on the heights and their slopes. All the approaches to them had been mined. The population points of Gorskaya and Murilovo had been prepared for all-round defense. The steep, densely-forested Mount Voron'ya dominated all the terrain around for several-score kilometers. Here the Nazis had set up the command post of the 170th Infantry Division and a network of observation posts and had pulled heavy guns firing on Leningrad up onto the mountain. Only by capturing Mount Voron'ya could one secure Krasnoye Selo and thereby carry out the task of encircling the Petergof-Strel'nya enemy grouping.

The offensive by the 63d Guards Division against Mount Voron'ya during the day of 18 January was unsuccessful. Then the division commander decided to tie down the enemy on the front by bringing up in darkness the 190th Guards Rifle Regiment and with two regiments (the 192d and 188th) to skirt the elevation on the northwest and

southeast. In carrying out this plan, the company of submachine gunners led by Capt V. G. Massal'skiy (who was awarded the title of Hero of the Soviet Union) particularly distinguished itself. At night, in complete darkness it made its way across a swamp through cold water into the enemy rear, it sealed off a pillbox on elev. 172.3 and thereby ensured the subsequent success. At dawn, 30 bombers attacked the enemy strongpoints. The artillery carried out a 20-minute heavy shelling. The regiments began to storm the heights. Particularly effective were the actions of the assault groups (a reinforced rifle company) from the directions of Pikkola and Murilovo and which attacked the enemy with fire support from direct laying guns. The combat engineers also provided substantial help to the rifle subunits. By the morning of 19 January, the enemy garrison of Mount Voron'ya was surrounded and was destroyed by attacks from the front and rear.

Aviation played an important role in achieving the goal of promptly increasing troop efforts. An example of its able maneuvering in a situation where it was impossible to use ground troops for this was the plan of the commander of the First Belorussian Front for the 16th Air Army on 27 June 1944 to make a raid to destroy the surrounded Bobruysk enemy grouping. Four air corps participated in eliminating the Brody enemy grouping (Lwow-Sandomierz Operation) upon the decision of the commander of the First Ukrainian Front. For defeating the enemy grouping in the Shaulyay sector (August 19[illegible], the 3d and 1st air armies were called in. The task was carried out in a similar manner in making a series of attacks by six air corps (more than 1,000 aircraft) against the Frankfurt-Guben enemy grouping in the Berlin Operation. Aviation was used very effectively in the course of defeating the enemy counterstrike groupings in the Lwow-Sandomierz (15 July 1944), Berlin (20-21 April 1945) and other operations.[9]

A decisive massing of artillery and its fire was also achieved by maneuvers carried out under the plans of the commanders of the fronts and armies. In the course of the Belorussian Operation, there was the noteworthy maneuver of the IV Artillery Breakthrough Corps and a number of separate units carried out from the right to the left wing in accord with the order of the commander of the First Belorussian Front (over a distance of 600-660 km in 8 days) and in the course of the Berlin Operation the maneuver of the artillery from the First Ukrainian Front to the Teltow Canal (a distance of 100-180 km in 15-25 hours).

The field force and formation commanders used the maneuvering of antitank artillery particularly widely for repelling enemy counterstrikes (counterattacks). In the Belgorod-Khar'kov Operation to the south of Bogodukhov, this task was carried out by the forces of two brigades, to the west of Akhtyrka by nine brigades, in the Lwow-Sandomierz Operation to the west of Zborow by four brigades and in the East Prussian Operation to the west of Heilsberg by up to five brigades. In the course of the Vyborg Offensive Operation (June 1944), for repelling a counterstrike by the Lagus Armored Division under a decision by the commander of the LIX Rifle Corps, up to 90 percent of all the antitank artillery was regrouped into the area of the 72d Rifle Division. The regrouping of large masses of artillery made it possible to sharply increase the force of firing for effect against the enemy, often making fundamental changes in the situation and creating a turning point in an operation and engagement.

Thus, experience teaches that the increasing of efforts in the course of an offensive by regrouping the units, formations and field forces of the different branches of troops was very effective. In the absence (expenditure) of reserves, such a method was often the only one making it possible to change the balance of forces in the selected sectors. Under these conditions, the control bodies and primarily the combined-arms staff was confronted with the need to carry out a number of tasks, including the organization of shipments, a commendant service, the working out and execution of measures for operations camouflage as well as for other types of support and the organization of control.

In carrying out the tasks of maintaining a high rate of advance and the continuity of troop combat operations (chiefly for control bodies in the course of an offensive), a particular role was assigned to organizing nighttime operations, to the crossing of water obstacles without a halt and to the operations of the forward detachments.

The most effective were the actions of the forward detachments assigned from the field forces and formations of the armored and mechanized troops. In actuality, from the experience of 30 offensive operations conducted by the tank armies in 1943-1945, the forward detachments carried out the most diverse tasks. They supported the committing of the main forces to an engagement (the 1st Tank Army in the Belgorod-Khar'kov Operation), they broke through the enemy intermediate defensive lines (the 3d Tank Army in the Ostrogozhsk-Rossosh' Operation), they rapidly reached a river and crossed it (the 3d Guards Tank Army in the battle for the Dnepr), they captured major road junctions (the 1st Tank Army, the Proskurovsko-Chernovtsy Operation), they repelled enemy counterattacks (the 1st Tank Army on 7 August 1943 in the Belgorod-Khar'kov Operation) and carried out an offensive with a fuel shortage for the main forces of an army (the Vistula-Oder Operation). Equally diverse tasks were carried out by the forward detachments of the tank (mechanized) corps.

The continuity of their combat operations was aided by their rather strong composition including a tank brigade reinforced by artillery, engineer subunits and antiaircraft weapons as well as by the practice which became widespread in the operations of 1945 of periodically relieving the forward detachments for bringing up to strength, rest and the rebuilding of damaged equipment. In the Vistula-Oder Operation, 90 percent of the forward detachments was relieved every 1-4 days. As a result, as are shown by the data on combat operations of 28 tank and mechanized corps in 1944-1945 (Table 8), the average rates of advance were 12-40 km a day while the rate of pursuit reached up to 50-55 km.

Considering the high results of combat operations by the forward detachments, the commanders and staffs for ensuring their independent operations away from the main forces, took every measure to reinforce them with weapons, to establish dependable communications, primarily by radio, as well as organize the prompt delivery of fuel and ammunition.

In the combined-arms armies the forward detachments were assigned, as a rule, from the rifle formations. Their composition considering the attached equipment (tank and artillery subunits) during the various periods of the war is shown in Table 9. They successfully carried out the tasks of capturing strongpoints in the second enemy defensive zone (the 27th Army in the Iasi-Kishinev Operation), of pursuing

Table 8

Basic Indicators for Combat Operations in Operational Depth of Tank (Mechanized) Corps in 1944-1945

Name of Operation	Number of Counted Corps	Depth of Offensive (km)	Duration (days)	Average Rate (km/day)	
				of pursuit	of advance
Proskurovsko-Chernovtsy	5	250-300	23-27	30-33	12-15
Belorussian	7	240-500	10-27	20-50	18-24
Iasi-Kishinev	5	100-400	3-10	30-55	30-40
Vistula-Oder	8	470-700	17-20	40-55	22-35
Berlin	3	130-200	7-17	25-36	12-17

the enemy after breaking through its tactical defensive zone (in a majority of operations in 1944-1945) as well as capturing and holding crossings, bridges and bridgeheads. From the summer of 1943, a rather widespread phenomenon was the assigning of two or three forward detachments from each rifle corps. This was the case in the corps of the 65th Army in crossing the Desna River (September 1943).

Table 9

Composition of Forward Detachments from Rifle Formations

Period of War	Rifle Corps	Rifle Divisions
First	--	Rifle battalion (horse detachment, ski battalion)
Second	Tank battalion, mounted rifle battalion, antitank battery, combat engineer company	Tank battalion, mounted rifle battalion, antitank battery, combat engineer company
Third	Tank brigade, mounted rifle battalion, artillery battalion, combat engineer company, rocket battery	Tank battalion (up to tank brigade), medical battalion, artillery battalion, combat engineer company, antiaircraft battery

The formation of the forward detachments was planned on the eve of an offensive and sometimes in the course of it.

The army commander determined the composition, tasks and the readiness deadline. The general task was set for 3-5 days. This was concretized for the individual days with the setting of the lines (objectives) to be taken. The staff issued the tasks

and carried out the specific preparations of the forward detachments as well as control of them in the course of the offensive. In a number of operations the staff representatives carried out the duties of the chief of staff of the detachment while officers from the political section acted as deputy commanders for political affairs. In individual instances a detachment was headed by an army deputy chief of staff, for example, in the 3d Guards Tank Army in the course of the Prague Operation.

The formation commanders designated the assembly areas, the reinforcements, the jump-off lines, the routes of advance, the methods of operations, the support measures and the procedure for organizing control. Their staffs acted in the role of the immediate organizers for readying the forward detachments for the forthcoming operations. This was done in the first period of the war most often after or in the course of breaking through the tactical defensive zone (in the counteroffensive at Moscow and in the Toropets-Kholm Operation) and in the subsequent periods of the war, in the very preparations for the offensive. For example, the order of the commander of the 8th Army (October 1943) emphasized that "in the divisions there should be specially prepared forward detachments which, as soon as the enemy retreat is spotted, should immediately move forward."[10] In the preparations for the east Prussian Operation (December 1944), in the divisions of the 11th Guards Army an exercise and battle drill exercises were conducted with the forward detachments with the reinforcements involved as well. The rifle subunits trained in the rapid deployment and reorganization of the battle formation, the tank troops worked on firing underway and from brief halts while the artillery troops practiced quickly taking up firing positions and opening aimed fire.

In the interests of achieving a continuous offensive, great attention was given by the commanders, staffs and other control bodies to the organizing of troop nighttime operations.

During the first period of the war, these operations had a very limited nature and this was employed by the enemy for the regrouping of its troops. In particular, this is how it carried out the tasks in the area of the Kalinin Front in December 1941 and on the Western Front in January 1942. Subsequently the commanders and staffs began to provide ahead of time for an organized transition from daylight troop operations to nighttime ones. The formations of the combined-arms armies under the conditions of limited visibility broke through the intermediate defensive lines (the 3d Guards Army in the Zaporozh'ye Operation of 14 December 1943), they crossed water obstacles (the 8th Guards Army in the Bereznigovato-Snigirevka Operation of 7 March 1944) and pursued the enemy (the rifle divisions of the 5th Army in the Crimean Operation of 13 April 1944).

Experience shows that the night contributed to the surprise factor of combat operations. At the same time the night complicated troop control as there were poorer conditions for the maintaining of cooperation, orientation and recognition. The amount of work carried out by all levels of staffs increased as the need arose to carry out additional measures for the all-round support of nighttime combat operations. While any type of combat required the most careful preparations, preparations were all the more essential in organizing nighttime combat.

A particular feature of determining the tasks for the formations in their nighttime operations was the fact that the plan of the operations became simpler to carry out.

The commanders to a greater degree considered the nature of the terrain from the viewpoint of its passability and the presence of markers. For this reason the zones of advance were designated proceeding from the presence of roads which were the shortest route to the designated objectives. A more significant reserve was also created. In conducting nighttime combat with the formations of the 5th Guards Tank Army in the area of Tanneberg (East Prussian Operation), the reserve was one-half of the men and equipment. Particular attention was paid by the staffs to organizing the commendant service and particularly to designating difficult or dangerous areas from the jump-off line to the attack line.

The staffs of the formations and field forces organized light support for nighttime combat. In the course of the Budapest Offensive Operation, with the going over to nighttime operations, the directorate of the artillery commander from the 6th Guards Tank Army and the staffs of the air divisions worked out a terrain illuminating plan. The plan provided for the procedure of illuminating the objects of attack and the placing of shields. Measures were also planned to blind the enemy observation posts and gun crews. The direction of the attacks was traced and marked with stakes with white arrows which were clearly visible at night. The mounted troops were assigned to tanks. For better recognition the tanks and SAU had signs in white paint on their hatches and sides. Artillery officers were with the commanders of the tank subunits to correct artillery fire. The forward edge of the ground troops was designated by a series of different colored rockets for the aviation. Starting with the evening, bombers dropped illuminating flares over the designated points every 25-30 minutes.

Experience shows that organizing a transition from night operations to daytime ones was a complicated task confronting the control bodies. The staffs of the armies, corps and divisions conducted additional measures to strengthen reconnaissance (groups were assigned from the intelligence reserve, air tasks were set and so forth) as well as for raising the directness and reliability of the data collected on the situation and position of the formations (including by sending officers with radios to the troops and tapping the networks of subordinate levels).

The commanders of formations devoted a great deal of attention to securing the flanks and maintaining cooperation as well as supplying the units with ammunition, fuel and other supplies. The evacuation of sick and wounded was organized during the night. In the aim of increasing the effort and achieving continuous combat operations the second echelons and reserves were committed to battle at dawn.

Very instructive was the example of organizing a nighttime offensive by the formations of the 8th Guards Army which were carrying out a task in cooperation with the I Mechanized Corps as well as by the formations of the 3d Guards Army together with the XXIII Tank Corps in the course of the Zaporozh'ye Operation on 13 October 1943. The commanders of the rifle and tank formations, in having around 5 hours of daylight and 2 hours of darkness, made their plan using the map, they set the tasks for subordinates by summoning them to the command posts and organized cooperation. The staffs worked out procedure charts. The unit commanders on the spot established common markers with the tank battalions. The direction of the attack by the tank subunits and rifle units was designated by stakes with white arrows. In each tank company a column leader was assigned from among the officers of the rifle battalions. The reaching of the designated line by the tanks was marked by stop

signals and by the brief flashing of lights under way. The forward edge of the ground troops was designated for the aviation by a series of different colored rockets. The successful troop operations were the result of this diverse and extensive work.

A significant amount of work in the area of troop control was carried out by the commanders and staffs in organizing and implementing the crossing of water obstacles. The most characteristic traits can be traced from the experience of the crossing of the Dnepr, Svir', Vistula and Oder rivers.

After the liberation of the city of Khar'kov, the troops of the 7th Guards Army of the Steppe Front went over to pursuing the retreating formations of the 8th Nazi Army. By the end of 23 September 1943, their forward units had reached the Dnepr River. After reconnaissance with the corps commanders conducted in the morning of 24 September in the aim of determining the crossing conditions and areas and for locating the crossing points, the points for concentrating the crossing equipment and the jump-off position for the troops, the army commander took the decision to cross the Dnepr River on a broad front, having a single-echelon operational configuration. At 2300 hours an operation order was issued to the army command posts and according to this the troops during the night of 25 September were to cross the river with their forward detachments, to capture the nameless islands and at the same time send out reconnaissance groups to the population points on the western bank. The main forces were ordered to execute the crossing during the night of 26 September.

The crossing procedure on each of the three areas was outlined in the planning table worked out by the army staff together with the chief of the engineer troops. The organization of a commendant service was entrusted to the formation staffs. The measures carried out contributed to a situation where during the night of 25 September the forward detachments of the rifle divisions consisting of from a company to a battalion, basically on fishing boats, crossed the Dnepr River, seized the islands and small bridgeheads. The combat engineer units which were brought up began to organize the crossing. With the onset of darkness, in employing smokescreens in individual areas, the main forces of the army crossed the river.

The task of crossing water obstacles was carried out in an unique manner in another sector of the Soviet-German Front.

Proceeding from the plan of the commander of the Karelian Front, the formations of the 7th Army were to cross the Svir' River, to break through the enemy defenses of the Olonets group and subsequently advance toward Petrozavodsk. In adopting the plan, the army commander took into account the presence in the zone of advance of a deeply echeloned and well-equipped enemy defense along the water line. For this reason he set three stages in achieving the designated goal. In accord with the plan worked out by the staff, the first stage was to start with artillery and air softening up and would end with the launching of the crossing equipment. The second stage included the crossing of the unit by the forward units and the capturing of bridgeheads. The third provided for the crossing of the subsequent waves and the going over to the offensive on the opposite bank.

In the morning of 21 June 1944, the main forces of the army went over to the offensive. The aviation and artillery attacked the enemy strongpoints on the northern

bank of the Svir' River. Rafts with dummies were sent down the river. The enemy fire against them helped our artillery spot and destroy the surviving enemy weapons. The scouts and support detachments dashed to the northern bank followed by the first echelon units on amphibious vehicles, landing craft and tenders. The battles started up for the bridgeheads. The units were controlled by radio from the observation posts by the giving of combat instructions. In the interests of a code command system, procedure tables drawn up by the division staffs were employed. The combat engineers began to erect the crossings and by 1300 hours 11 ferry crossings were already in operation and by the end of the day 12 of them. During the first day of the offensive, the army assault grouping crossed the Svir' River and broke through the main defensive zone, advancing 6-8 km in depth. By the end of the second day of combat, the bridgehead had been widened to 50-60 km along the front and 12-15 km in depth. Here was located the VPU [auxiliary control post] headed by the deputy army commander.

In preparing to cross the Vistula River, the commander of the 8th Guards Army devoted particular attention to organizing reconnaissance. This was carried out from five working points at three places where, in the staff's opinion, it would be advisable to deploy the divisional crossing points. The reconnaissance group included the army chief of staff, the artillery commander with the chief of staff, the chief of the engineer troops with two assistants, the chief of the operations section with the corps representative officers, the chief of intelligence with two officers, the signals chief as well as the commanders of the three rifle corps with the chiefs of staff.

At each of the points, for 40-50 minutes, the areas in the field were determined for the rifle corps, the crossing areas and the areas for erecting the crossing points, the approach routes to the river, the artillery firing positions, the areas for deploying the control posts and the tasks for capturing bridgeheads on the western bank. Not more than 8 hours was spent on all this work. "After the reconnaissance," recalled Col Gen V. A. Belyavskiy, the former army chief of staff, "everyone assembled in the forest which was at the center of the army's zone of advance for hearing the plan of the army commander.... By the morning of 31 July, the crossing plan had been fully worked out. ...The intelligence section compiled an intelligence plan.... The signals chief...together with the commander of the 91st Signals Regiment...conducted special reconnaissance in the course of which the locations of elements for the command post, the communications center and the support point were determined."[11] The conducted measures made it possible to successfully carry out the task of crossing the Vistula River by the army's formations.

Also instructive was the experience of the commanders and staffs in organizing the crossing of a major water obstacle by the formations of the 13th Army in the Vistula-Oder Operation. Having commenced the offensive from the bridgehead on the Vistula River in the middle of January 1945, by 24 January the forward units had drawn close to the Oder River, a major obstacle on the path to the vital centers of Germany. Some 30-50 km remained to the river. By this time, the army staff, on the basis of the directive received from the front and the preliminary plan of the army commander, together with the section of the chief of the engineer troops, had worked out a crossing plan. It designated the tasks of the corps, it gave an approximate calculation of the reinforcements and set the time the troops were to reach the jump-off position for the crossing. Intelligence data showed that the

enemy had succeeded in occupying not more than 30 percent of the permanent structures with its troops. The arrival of enemy reserves was expected in 2 or 3 days. Having assessed the developing situation and considering the successful operations by the adjacent unit on the left, the 4th Tank Army, the commander took a decision to make a crossing with the forward detachments which had been sent out in a zone 50-70 km from the rifle divisions for the purposes of achieving surprise and capturing the enemy unaware. Having set the missions on the map, he issued them through the liaison officers in written instructions. In the evening of 24 January, the member of the army's military council visited the first-echelon formations for aiding the troops.

In the morning of 25 January, the forward detachments, each consisting of a rifle battalion, a tank killing artillery regiment (battalion), up to a company of tanks (SAU) and a combat engineer company, began to carry out the set missions. The reconnaissance groups were operating in front. Control over the forward detachments was carried out by the chief of staff. Moreover, a mobile forward engineer detachment had been sent out from the army (a company of the 281st Combat Engineer Battalion with bridging pontoons and a company of the 282d Combat Engineer Battalion with four vehicles). In moring in columns, in the evening the forward detachments reached the river and under the cover of darkness began the crossing. In the northern sector this was carried out on boats and ferries and in the southern over the ice which had been reinforced with planking. The success of the forward detachments was reinforced by the main forces of the army. In the course of the offensive, the forward detachments frequently captured in-tact bridges without halting.

Attention should also be paid to the actions of the forward detachment from the XXVI Tank Corps under the command of Lt Col G. N. Filippov in the course of the Stalingrad counteroffensive in November 1942. In maneuvering skillfully, the forward detachment outflanked the enemy strongpoints and at dawn of 22 November reached the bridge over the Don River at Berezovskiy Farm. The detachment's commander decided to advance with the vehicle and tank headlights on in order to catch the vigilance of the German security off guard. The trick worked. The Nazis took the column of the forward detachment as one of its own and did not put up any resistance. In a short period of time the enemy subunits on the bridge were destroyed. The detachment's commander organized all-round defense of the bridge. In fighting surrounded by superior Nazi forces, the forward detachment held on to the captured bridge from 0600 to 1600 hours on 22 November, that is, until the arrival of the main forces of the corps.

Also effective were the actions of the 61st Guards Tank Brigade from the X Tank Corps in capturing a bridge on the Warta River in January 1945. In using surprise, the battalion's commander, Capt V. G. Skryn'ko, adopted a plan, in cooperating with a group of submachine gunners and combat engineers, to cross the bridge at a high speed, to destroy the security and deactivate the explosives on the bridge. The plan worked. As a result the arriving main forces of the brigade, having crossed the river over the bridge rapidly attacked the enemy and completely destroyed it in the town of Bruzhenin.

In a number of instances, when reconnaissance and the forward detachments did not succeed in capturing crossings prior to the arrival of the main forces of the corps, their commanders undertook measures to cross the water obstacle along a broad front, frequently by fording. Thus, the commander of the XI Tank Corps in the course of

the Lublin-Brest Operation during the night of 20 July 1944, organized the crossing of the Western Bug River in a zone 18 miles wide across five fords. The improved organizing activities of the commanders and staffs were expressed in the fact that the water obstacles were frequently crossed by the tanks along the bottom. The first such experience was acquired on the Desna River in October 1943, when over 60 tanks, including 50 T-34, from the V Guards Tank Corps successfully carried out this task. The crossing of the Southern Bug River in March 1944 by the 25th Tank Regiment was another example of such actions. The crossing of the rivers along the bottom required the carrying out of a significant amount of preparatory work. The hatches and louvres of the tanks were plugged with oakum with solidol and tarred canvas mats. The route was marked with poles. An evacuation and rescue service was organized. Repair and operating groups were manned. Engineer works were carried out on the crossings (the building of ramps, the digging of shelters and so forth). The staffs organized a commendant service, security and the defense of the jump-off areas and crossings.

The commanders and staffs made maximum use of the surprise factor in achieving success in a crossing. For these purposes the rivers were often crossed at night, in bad weather, often without artillery softening up. Troop actions were marked by decisiveness. For example, when the 93d Rifle Division of the 57th Army (April 1944) reached the Dnestr River, reconnaissance had established that there was no enemy on the opposite bank. The commander of the 266th Rifle Regiment sent out a reinforced rifle company which crossed to the western bank on boats. In a population point (1 km from the bank), the company which had deployed into an extended line destroyed the enemy battle outposts. The effectiveness of surprise actions is also demonstrated by the example when during the night of 25 June 1944, the forward detachment of the XCII Rifle Corps, having deceived the enemy by feints in a spurious sector, broke through the enemy battle formations, crossed the Dnepr River 20 km to the north of Mogilev and captured a bridgehead up to 3 km along the front and in depth. A pontoon bridge battalion was immediately sent here. Four hours later it had put up a 30-ton bridge. The main forces of three corps of the 49th Army crossed over it.

As we can see, the specific activities of the commanders and staffs in directing the combat activities of troops crossing water obstacles were expressed chiefly in the fact that the plan for the crossing was adopted stage-by-stage, that is, initially with the receiving of the task and finally with the approach of the troops to the river. The plan of actions was worked out on a map and clarified in reconnaissance. For working out the crossing plan the situation required close contacts between the combined-arms staffs and the chiefs of the engineer and chemical troops. Holding a significant place in the work was the question of organizing all types of reconnaissance. In the plans adopted by the commanders for crossing water obstacles one can clearly trace the skillful use of the conditions of the developing situation and in troop actions, skill, boldness and mass heroism.

In examining the *methods of the work of the commanders and staffs* in the course of an offensive under various situational conditions, it is essential to emphasize that during the war they were continuously improved. A number of directions in this process became apparent.

Thus, while in 1941, control in the course of the conducted operations was carried out mainly by written instructions, in the subsequent years there was the wider practice of holding direct talks between the commander and subordinates over the communications equipment. As a result the directness, stability and truthfulness of the information were increased.

In the work of the commanders and his subordinate control bodies an important place was given to organizing the carrying out of the tasks set by the plan. For this purpose the commanders during particularly intense moments of combat operations visited the formations (units) or sent their deputies there. This was the case in the course of the Uman'-Botosani Operation, when the commander of the First Ukrainian Front, I. S. Konev, during a period of 5 days (from 10 through 14 March 1944) flew two or three times to each of the command posts of the 5th Guards Tank Army, the 4th Guards Army, the 27th, 52d and 53d armies for clarifying individual questions of the plan on the spot. In October 1944, the commander of the 5th Guards Tank Army for organizing the repelling of a counterstrike by the Klaypeda enemy grouping visited the threatened sector. Here he directed combat operations. The military council member of the 1st Guards Tank Army in the Lwow-Sandomierz Operation, upon instructions of the commander, headed the crossing of the San River by the first echelon of the army. In the East Prussian Operation, when the Mlawa enemy fortified area had been surrounded and sealed off by the troops of the 5th Guards Tank Army by the evening of 18 January 1945, the success of the attack depended largely upon the coordinated actions of the X Tank Corps and the rifle formations of the 48th Army. This task was entrusted to an operations group headed by Gen M. D. Sinenko (deputy commander of the 5th Guards Tank Army).

In describing the work in a field headquarters it is essential to point out that the operations directorate (section) of the combined-arms staff was the center for collecting incoming information on the situation. The officers of the intelligence section, from the staff of the directorate of the artillery commander and the engineer troops informed the chief of the operations directorate (section) on new information. In order to increase the directness of staff information on the questions of rear support, one of the officers from the operations section kept a map for the positions of the army, corps and divisional rear units (facilities) as well as accounting of logistical support. He also compiled the necessary reports. Information on the situation was plotted on the map of the chief of the operations section and reported to the chief of staff or directly to the commander. The chief of staff usually reported personally to the commander on the generalized data obtained from various sources (Diagram 8) and the conclusions from them as well as proposals on the plan stemming from the situation. At the end of the briefing the prepared orders, reports or corresponding operation instructions to the troops were appended for the commander's signature.

The experience of the conducted offensive operations disclosed the important place of control exercised by the commander and the combined-arms staff. Most often this was carried out by a tour of the commander. For this purpose staff officers were also involved. A careful analysis was also run on information obtained by the staff.

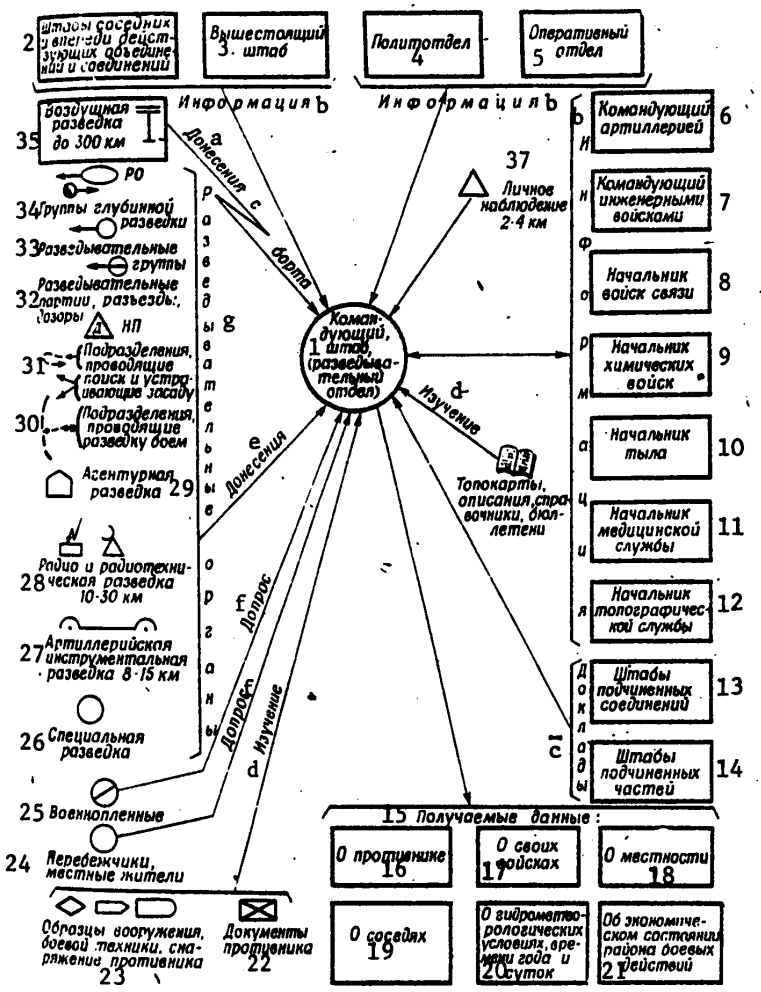

Diagram 8. Organization of the Collection of Situational Data on an Offensive

Key: 1--Commander, staff (intelligence section); 2--Staffs of adjacent field forces and formations and of those fighting in front; 3--Superior staff; 4--Political section; 5--Operations section; 6--Artillery commander; 7--Commander of engineer troops; 8--Chief of signal troops; 9--Chief of chemical troops; 10--Chief of rear; 11--Chief of medical service; 12--Chief of topographic service; 13--Staffs of subordinate formations; 14--Staffs of subordinate units; 15--Obtained data; 16--On the enemy; 17--On own troops; 18--On the terrain; 19--On adjacent units; 20--On hydrometeorological conditions, season and time of day; 21--On the economic state of the area of combat operations; 22--Enemy documents; 23--Samples of enemy weapons, military equipment and supply; 24--Refugees, natives; 25--Prisoners of war; 26--Special intelligence; 27--Artillery reccnnaissance and observation; 28--Radio and radar reconnaissance; 29--Reconnaissance by agents; 30--Subunits conducting reconnaissance in force;
[continued on following page]

[continuation of Key for Diagram 8 on preceding page]

31--Subunits conducting searches and ambushes; 32--Reconnaissance parties, detachments and patrols; 33--Reconnaissance groups; 34--Deep reconnaissance groups; 35--Air reconnaissance up to 300 km; 36--Topographic maps, descriptions, references and documents; 37--Personal observation; a--Report from the air; b--Information; c--Briefings; d--Study; e--Reports; f--Interrogation; g--Intelligence bodies.

At times the situation required the taking of emergency measures. This was the case in the Lyuban' Operation (January 1942), when the commander, the military council member, the artillery commander and the commander of the armored and mechanized troops of the Leningrad Front arrived at the command post of the 2d Assault Army. By joint efforts work was carried out to disclose the basic reasons for the ineffective combat operations. The army commander and chief of staff were summoned to the front's military council. The military council substantiated a lack of coordination in the work of the army field headquarters and, as a consequence, the absence of firm troop leadership. The chief of staff and the chief of the operations section were removed from their positions. In the Eastern Pomeranian Operation, the commander and military council member of the Second Belorussian Front having established the reasons for the nonfulfillment of tasks by the formations of the 19th Army, in the aim of rectifying the developing situation, were forced to remove the commander. A group of officers headed by the front deputy commander and the chief of the political directorate provided practical help on the spot in organizing the subsequent troop actions.

Starting in 1943, a majority of the commanders began to make it a practice to have a daily summary of the operation (engagement) calling upon the staff officers and the chiefs of the branches of troops to analyze the occurred events. For this, the military council, with the onset of darkness when the intensity of the offensive declined, usually assembled at the command post. Reasons for various failures were established and the positive experience was generalized. In instances when a field force (formation) did not carry out a task or reached an area before the designated time, the commander, after an exchange of opinions with the chief of staff and the other officials, corrected the previously issued instructions for the troops and gave instructions on the methods of operations. Subordinate commanders were also present here. Brief reports were heard by the chief of staff, the chief of the rear and the artillery commander. As I. S. Konev recalls, "toward the end of each day... each commander, as a rule, personally reported the situation to me and we jointly outlined the plans of operations for the next day. Then the front's staff duplicated my verbal instructions in the corresponding instructions by telegraph or radio...by liaison aircraft or officers...."[12]

When the situation did not permit the commanders of the formations (units) to be at a command post, after clarifying the plan and drawing it up on a map, the commander visited his subordinates with a small group of officers. When the formations of the 37th Army had reached the Southern Bug River in March 1944, for example, after a session of the military council, the army commander and chief of staff visited the first echelon corps (the CXXXII and VI Guards) in order to concretize the tasks. The deputy chief of staff of the I Combined Air Corps as well as the chief of staff of the tank corps operating in the army's zone of advance came to the command post to coordinate questions with the aviation.

The questions were solved analogously in the formations.

Thus, during the first day of combat in breaking through the blockade of Leningrad, the 136th Rifle Division did not carry out its set task. Its advance was 1.5 km (on the left flank) and 3.5 km (on the right flank) instead of the planned 4-5 km. The basic reason for the slow advance of the advancing units was that support from the NPP tanks was lacking (they had been held up in a crossing). This greatly restricted the strike capacity of the division. There was also an acute need to secure the exposed flanks of the division and this demanded that the regiment commanders each put one company in the reserve. These companies were given the task of repelling possible enemy counterattacks. At 2300 hours, the division commander, having summoned the unit commanders to the command post (the area of Mar'ino), summed up the results of the first day and clarified the tasks for the following 24 hours. He ordered the commander of the 270th Rifle Regiment during the night to capture the strongpoint on elev. 20.4 and in the morning of 13 January to advance in the direction of the Worker Settlement No 5. The 269th Rifle Regiment was reinforced by two companies from the 548th Separate Tank Battalion. Here the division chief of staff handed over the operation order to the regiment commanders. The division commander, his deputies and the artillery chief visited the subordinate units to provide help.[13]

The practice of troop control during the Great Patriotic War shows that the organizational and creative activities of the commanders and staffs in the course of an offensive had a diverse nature. The main questions in the work of the commanders of all levels were those of a prompt and effective response to a change in the situation. This necessitated a profound analysis of it. For this reason the commanders endeavored to get closer to the troops conducting combat operations. The combined-arms staff had the job of collecting the necessary operational-tactical information. Experience shows that under the complex conditions of a highly dynamic situation the commanders and staffs had to carry out many tasks, including: making corrections in previously adopted plans considering changes in the situation, the issuing of combat tasks, providing control and help in carrying out the plan. An important role was given to achieving coordination in terms of target, the place and time of operations for the men and equipment involved in the offensive.

2. Achieving Coordinated Actions of the Troops in Carrying Out Combat Missions

The forms of work by the commanders and staffs in maintaining coordination during an offensive varied. They were determined by the available time, by the nature of the tasks to be carried out and by the other factors, aiming chiefly at attaining a unity of actions in carrying out the combat task.

Very often the commanders and staffs had to coordinate efforts of the basic grouping with newly arrived formations and units (subunits). For example, in the course of the Berlin Operation, during the night of 22 April 1945, the X Artillery Breakthrough Corps and the 25th Artillery and 48th Guards Rifle divisions were sent as reinforcements to the commander of the 3d Guards Tank Army. The staff of the front in issuing tasks to these formations determined also the bases of cooperation, that is: with whom efforts were to be coordinated, at what time and for what purpose. The staff of the tank army provided them with a combat planning table and established communications. The instructions issued gave the routes and the time for arriving at the designated areas. Officers were sent out to meet the arriving units.

In a rifle division the actions of its units with the arrival of reinforcements (support) in the course of an offensive were most often coordinated by operation instructions, by the commander or upon his authorization by staff officers. Often this was done in the field. The commander of the 372d Rifle Division during the second day of the offensive of 14 January 1943 in an operation instruction indicated the bases of cooperation between the 1238th and 1240th Rifle regiments as well as with the ski battalion which had arrived from the reserve of the army commander. The task of coordinating efforts in the field was entrusted to the chief of the operations department of the division staff.[14]

Very frequently the formation commanders and staffs had to coordinate the actions of subordinate units with the tank formations (subunits) operating in front of the rifle troops. This was particularly characteristic in breaking through intermediate defensive lines, in capturing population points and in crossing water obstacles. The task was carried out, as a rule, by a personal meeting of the commanders and sometimes by clarifying the tasks over the radio or through staff officers. The formations of the 5th Guards and 1st Tank armies operated in this manner during the Belgorod-Khar'kov Operation in defeating the enemy in Tomarovka, Borisovka and other centers of resistance. In the course of the Vyborg Operation, in organizing combat for the strongpoint of Maynil, the commander of the 63d Guards Rifle Division during the night of 22 June 1944, coordinated the efforts of his subordinate units with the subunits of the 31st Guards Tank Regiment in the field and this ensured the successful carrying out of the combat task.

When the field forces (formations, units) were given new tasks, the commander coordinated the efforts of his subordinates most often on the map and only sometimes in the field. Because of the speed of events, cooperation was organized differently than during the breakthrough preparatory period, that is, not by playing out probable actions but rather by giving cooperation instructions. These reflected primarily the methods of troop actions in the joint carrying out of a specific combat task, signals and the reciprocal information procedures. Often officers with operation instructions were sent to the formations (units). This method was, as experience shows, very effective in achieving uniform goals by different men and equipment with a limited time for organizing troop combat operations.

For organizing cooperation with adjacent units or for restoring it in the event of disruption, the deputy commander was often sent to the area of combat operations. This was done in the course of the Proskurovsko-Chernovtsy Operation for coordinating the actions of the 4th Tank and 60th armies. Sometimes these functions were assumed by the commander personally. The commander of the First Baltic Front in the course of the Belorussian Operation, in order to coordinate the actions of the formations from the 6th Guards and 4th Assault armies advancing on Polotsk, with an operations group graveled to the positions of the XXII Rifle Corps. Having inspected the eastern and southeastern approaches to the city, in the field he concretized the tasks and gave cooperation instructions. For coordinating the questions of joint operations, in the course of the Belorussian Operation the commander of the 5th Guards Tank Army traveled three times to the command post of the 43d Army while the chief of staff of the 3d Guards Tank Army repeatedly went to the staff of the 28th Army in the course of the Belin Operation.

Cooperation was also maintained by the exchanging of reciprocal information. The commander of the First Belorussian Front in the summer of 1944, in summing up the

results of the Belorussian Operation, noted that a unique feature in cooperation with the Third Belorussian Front in encircling the Minsk enemy grouping was that the assault groupings were separated by the Second Belorussian Front and they had to act across it. Representatives from the adjacent fronts were sent to the staff of the Third Belorussian Front for the purposes of providing better information.

The task was carried out approximately in the same manner on the tactical levels. In destroying the Shlissel'burg-Sinyavin enemy grouping, for example, staff officers were sent from the 372d Rifle Division to the neighboring 128th Rifle Division and the 123d Rifle Brigade which was moving toward them. They were given the task of providing information on the state of affairs every hour of combat.[15] The presence of radios for these officers made it possible to successfully carry out the task of coordinating the efforts.

Experience shows that the questions of maintaining cooperation between the ground forces and the aviation were the most difficult to solve in the course of an offensive. This can be seen from the experience of the carrying out of these tasks by the commanders and staffs in the Moscow counteroffensive, when one of the main reasons for a lack of coordination was that the air control posts were a significant distance away from the battlefield. The aviation representatives in a majority of instances merely carried out the function of informing their commanders about the ground and air situation.

Conditions changed in the autumn of 1942. In the Stalingrad counteroffensive, the air army commanders began to set up temporary control posts [VPU] near the front command posts. The air representatives in the combined-arms and tank armies (in 8 out of the 11 participating in the "Uran" Operation), in having direct communications with the air army VPU, not only provided information about the situation but also requested air operations. Moreover, a mixed air corps was operationally subordinate to the V Tank Army and the corps commander was at the army's command post. Operations groups (two-three officers) headed by the chiefs of staff of the air formations were sent to all the mechanized (tank) corps. They had one or two radios. They were given the right to summon from the airfields those air units which were operationally subordinate to the corps commanders for operating over the battlefield.

How cooperation was achieved between the ground attack aviation and the ground troops in the Belgorod-Khar'kov Operation in August 1943 has been described by the former commander of the I Guards Ground Attack Air Corps, Lt Gen Avn V. G. Ryazanov: "The rapidly changing situation over the battlefield required extremely flexible leadership of operations by the ground attack planes from the ground. From our own experience we were convinced that close cooperation with the troops could be ensured only with a clear system of aircraft guidance to ground targets which could check the advance of the infantry and tanks. For precisely this reason the command post of our corps was moved up to the observation post of the commander of the 53d Army the troops of which were supported by us. The commander had an opportunity to constantly see the battlefield in front of him, to know the ground situation down to the last detail, together with the command of the ground troops to select the most important targets and to determine the moment of attacking the enemy. To a significant degree this determined the nature of the use and the effectiveness of operations by the ground attack aviation. Its efforts, as a rule, were focused precisely at that point and at that time which the situation required."[16]

The importance of coordinated operations by the formations and units with aviation can be seen from the example of the storming of the heavily fortified center of resistance at Kutersel'ka by units of the 72d Rifle Division in the course of the Vyborg Operation, when the division's commander decided to break through the enemy defenses, having the 133d and 187th Rifle regiments in the first echelon and the 14th Rifle Regiment in the second. For sealing off the strongpoints, a previously prepared assault detachment (a reinforced rifle battalion) was sent out from the 133d Rifle Regiment. By dawn of 14 June, the units had taken up the jump-off position for the attack. The aviation made a divebombing attack. Chief Mar Avn A. A. Novikov recalled: "...Over Kutersel'ka the skies began to rumble and the Il-2 dove toward the prevailing height which was the key position of the fortified area. The Ils came into the attack head-on, with their wings almost touching the tops of the pines and spruces. There was no other possibility as the low clouds and poor visibility held the aircraft down to the very peak of the hills and the pilots bombed the enemy positions using a very risky maneuver, that is, in pulling out of the dive. Only in this manner could they avoid being hit by their own bombs and rockets.... For 6 hours running the ground attack planes pulverized Kutersel'ka. For 6 hours running the pilots did not leave their cockpits. There were neither pauses nor breaks. As soon as the aircraft had landed it was again refueled, loaded with bombs and rockets and sent out on a combat mission. One wave of Il-2 replaced another. The only things remaining on the ground was a bullet-scarred aircraft which could not fly and the wounded."[17]

During the third period of the war there was an active search for the most effective organization of air control, particularly in the tank formations and field forces (Diagram 9).

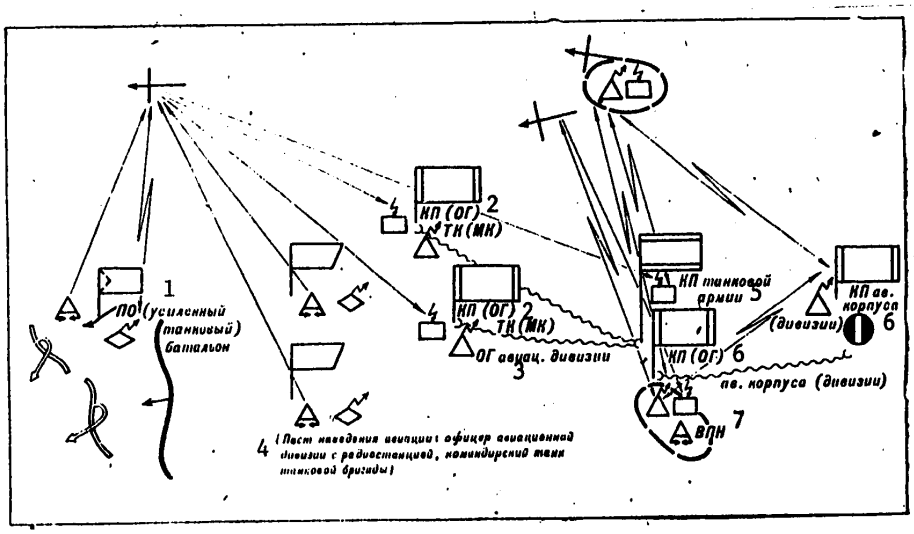

Diagram 9. Schematic Diagram of Air Control in a Tank Army

Key: 1--Forward detachment (a reinforced tank battalion); 2--Command post (operations group) of tank (mechanized) corps; 3--Operations group of air division; 4--Air guidance post: officer of air division with radio, commander's tank of tank brigade; 5--Command post of tank army; 6--Command post (operations group) of air corps (division); 7--Auxiliary observation post.

In the Vitebsk-Orsha Operation of the Third Belorussian Front, the air guidance officers[18] were assigned to the rifle corps (divisions) and to the tank (mechanized) brigades while in the Budapest Operation even two battalions. In this manner great flexibility of control and more coordinated actions by diverse forces were achieved. In the Vistula-Oder Operation, for the first time they began employing constant two-way communications between the tank (mechanized) corps and air divisions and between the tank units and subunits with the air groups. In the Berlin Operation a new feature in the organizing of air control was the creation of a centralized radar system in the 16th Air Army and this consisted of an army and two corps guidance centers. With its aid they were able to carry out the tasks of observing the air situation, guiding the fighters and warning of the approach of Nazi aviation. Two control and check points [KPP] the northern and eastern (main one), were organized for air control. The air formations, units, groups and individual crews were obliged to establish contact with the KPP chief and to attack objectives in Berlin only with his permission. Air spotters were on the roofs of houses and by radio and light signals they marked the front line and helped the crews locate the targets. In making a nighttime raid, for the purposes of supporting the advancing troops in breaking through the Oder-Neisse defensive line, a single starting point of the route, the light beacon in the area of Poznan, was established for all the air corps. From it the aircraft traveled to the combat deployment point and then the crews independently made their way to the objectives of the attack.[19]

In coordinating the efforts of the ground troops with the navy (flotillas), particular attention was given to organizing joint control posts. In the Novorossiysk Landing Operation (September 1943), the command posts of the commander of the Black Sea Fleet who was directing the operation, the commander of the 18th Army and the commanders of the naval air force and artillery of the 18th Army were located on Mount Markotkh while those of the landing party's commander and the commander of the artillery base were on Cape Doob. Directly at the front line on one of the hills was an officer from the air force staff who provided target designation for the aircraft and their guidance to the objectives. In the Moonzund Operation (October 1944), the command posts of the commanders of the naval forces and naval aviation were located in the immediate proximity of the command post of the commander of the 8th Army. In the Belgrad Operation, control over the actions of the Danube Flotilla was organized considering leadership over the formations, units and ships carrying out the tasks of assisting the ground troops. An auxiliary post with an operations group from the staff was organized near the areas of combat operations of the ship brigades, the field forces and formations of the ground troops. This created an opportunity to maintain steady radio and wire communications with them. Liaison officers from the flotilla staff were constantly at the staffs of the Third Ukrainian Front as well as the 57th Army and the LXVIII and LXXV Rifle corps for the purposes of coordinating efforts.

The coordinating of the actions of the various branches of the ground troops with the aviation and fleet provided a positive result in carrying out the combat tasks of the advancing troops. Precisely this explains the attention which was given by all levels of staffs to organizing cooperation in combat and an operation.

3. Maintaining Troop Battleworthiness

In the work of the commanders and staffs, in the course of an offensive, an important place was given to the questions of maintaining troop battleworthiness,

that is, their ability to conduct combat operations and achieve the set goals in accord with their operational-tactical purpose. The closest attention was paid to replenishing the losses of personnel and military equipment as well as to carrying out organizational measures to bring troop structure into accord with their combat capabilities. The tasks were also carried out of achieving high political morale among the troops as well as prompt and complete logistical support.

The most complex situation for resolving the problem of manning the units and formations was in the first period of the war. This was the consequence of a number of factors, the main one being that the forced, not always organized retreat of the troops led to a loss of their battleworthiness.[20] As a result, by August 1941, a majority of the rifle divisions were less than 50 percent of the full strength. The actual numerical strength of the rifle divisions by the start of a majority of operations conducted in 1942 was also low: some 3.7 percent of the formations had from 1,000 to 3,000 while 26.7 percent had over 7,000. By the end of the offensive in 1943, the divisions often had 500-700 men and less (the Donets Basin Operation and the crossing of the Dnepr).

In the second and third periods of the war, casualties declined somewhat. In the divisions of the 42d Army in January 1944 (the Krasnoye Selo-Ropsha Operation) they were 3-6 percent on a daily basis, and in the divisions of the 69th Army in January 1945 (the Vistula-Oder Operation), less than 4 percent. From the experience of the formations of the tank armies involved in 21 operations of 1944-1945, personnel casualties numbered from 10 to 30 percent of the initial strength, and in the combined-arms armies went up to 20-60 percent.[21]

A great unevenness in personnel losses could be observed in the individual days of an offensive.

Thus, in the corps of the 2d Tank Army from 14 July through 10 August 1943 (Orel Operation), the average daily casualties were 160 soldiers and officers. However in just one day, on 17 July, they reached 282 men.[22] On this day the army repelled a counterstrike made by the forces of the enemy 10th Motorized and 292d Infantry divisions. Enemy aviation in two groups of 50 aircraft each bombed the troop battle formations while our aviation was virtually idle as it was being rebased to new airfields. The army's formations suffered even higher casualties (over 450 men) on 22 July when independently, without support from the infantry of the combined-arms armies, they broke through deeply echeloned enemy defenses. In breaking through the Leningrad blockade (January 1943) in the 128th and 256th Rifle divisions of the 2d Assault Army and in the 86th and 136th Rifle divisions of the 67th Army during the first 2 days of the offensive (the breaking through of the defenses and the crossing of the Neva River), casualties were up to 40 percent of the initial number and in the following days declined to 5-7 percent.[23]

Particularly significant were the casualties in breaking through the enemy fortified areas and in conducting combat operations in cities. The 63d Rifle Division of the 21st Army, in breaking through the second defensive zone (the former Mannerheim Line, the Vyborg Operation) lost up to 35 percent of the personnel. In the Berlin Operation, the formations of the 1st Guards Tank Army had average daily casualties of 590 men. On 19 April, when the battles developed to capture the major enemy defensive center of Müchenberg, and on 20 April, in breaking through the third defensive line, casualties rose up to 800 men, that is, by 1.5-fold.

Statistics show that the proportional amount of irrecoverable casualties varied from 10-20 to 30 percent. In the rifle divisions and motorized rifle brigades, 70 percent of the casualties were medical, that is, the soldiers out of commission required treatment, while in the tank units the figure was 70-80 percent. Wounds in terms of severity were distributed approximately in the following manner: 32 percent severe wounds, 37 percent average wounds and around 40 percent light wounds.[24]

Consequently, losses in personnel during the war years depended upon the missions being carried out, the dependable fire neutralization and the nature of using the formations in the offensive. The rifle (motorized rifle) formations suffered the highest casualties. In a number of instances they were very significant. This demanded that the control bodwes take all of the possible measures to immediately restore the battleworthiness of the troops.

In the first period of the war the draft of recruits were the basic source of replenishing losses and these troops usually arrived as companies and battalions after brief training in the interior of the nation or in the reserve units of the fronts and armies. From the spring of 1942, as a result of changes in the situation, there was a changeover to a new system of making up losses. This began to be carried out by putting the formations which had lost their battleworthiness in the reserves for bringing up to strength (for reforming). The Directive of HqSHC of 16 March 1942 demanded the reorganization of the formations "without bringing them to a point of complete exhaustion." The experience of following years showed the wisdom of such an approach to solving the question.

Another source of replenishing losses was the returning of sick and wounded to battle after their treatment in hospitals as well as the shifting of a portion of personnel from the rear units (subunits) to line ones. Characteristic in this regard was the fact that in December 1942, of the 11,000 men sent to the 5th Tank Army, more than 4,500 were wounded returning to battle.[25] In the formations of the Kalinin Front, from 13 August through 30 September 1943, 23,800 wounded soldiers and officers were returned to service, 7,700 were taken from the rear units and 4,300 arrived from the draft of recruits, that is, only 11 percent of the total number of personnel making up for losses. In the troops of the First Baltic and Belorussian fronts during the winter of 1943-1944, the draft of recruits covered just 10-15 percent of the needs.[26]

A very significant percentage of losses was made up by inducting citizens from the liberated oblasts and former partisans. The problem was solved in this manner in the Proskurovsko-Chernovtsy, Belorussian, Lwow-Sandomierz and a number of other operations. There were also instances when the replenishment was carried out from the Soviet soldiers who had been taken prisoner and were liberated in the course of battles. Internal resources were also used. For example, according to the decision of the Western Front military council, in July 1941, the soldiers and sergeants who had served in the rear units were sent to the rifle troops. Around 800 signal troops were transferred from the front's air forces here. The regiments of the 29th Guards Rifle Division of the 5th Army in May 1942 were brought up to strength from the rear subunits.

It was more difficult to solve the question of replenishing losses in specialist personnel, including in the tank formations and units and, in particular, the drivers, gunners and radio operators. Such a phenomenon was a consequence of the fact that the tanks received for bringing up to strength very rarely had trained crews. Actually this was an exception to the general rule and was done only in those instances when tank columns arrived which had been made up from the rear servicemen. The basic source of replacements was the reserve army battalion where drivers, gunners, signal troops as well as soldiers and sergeants of other specialties underwent training. Moreover, a certain reserve of drivers was created in the formations. From 1944, the solution to the problem was somewhat eased due to the fact that the subunits and units more and more often made it a practice for the crews (teams) to master related specialties and to learn their actions in combat with a reduced crew.

Also requiring a solution was the question of providing officer personnel for the formations, units and subunits in the course of an offensive. How great was the demand for them can be seen from the fact that in 1942, around 36,000 commanders and political workers were needed to cover the shortage and 136,000 for new formations. From the report of the staff of the Voronezh Front on 20 September 1942, it can be seen that more than 300 officers were lacking in the army field headquarters.[27] In the formations of the 39th Army (Belorussian Operation) on the 10th day of the offensive the shortage of platoon and company commanders was 38 percent and for battalion commanders 33 percent.

The problem was basically solved by using officers from the front reserve regiments (battalions) and officers from the army reserve battalions and also courses.[28] In truth, in a regiment (battalion) there were only officers of the tactical level and they could not effectively make up the losses in the control bodies of the superior command and staff levels. Moreover, they did not always realize the preassignment of officers to take over vacant positions. They rarely had experience in their direct job. This told on the quality of the work done by the officers when they assumed positions in the course of an offensive.

The control bodies of the fronts and armies, under the leadership of the combined-arms staff, carried out a significant amount of work for the purposes of promptly and effectively replacing the personnel losses. Two main tasks were carried out. The first was to prepare the necessary calculations and proposals for the adopting of the commander's plan. The second was to carry out the organizational activities in implementing it. The staff through the manning section determined the need to replace losses in the operating groups and branches of troops as well as the most rational ways for solving the questions. The necessary instructions were given and control exercised over their fulfillment. Practical aid was given to the troops. The personnel department on the eve of an operation drew up a plan for bringing the formations up to strength in terms of officer personnel as well as an order to the chief of the reserve (the commander of the reserve regiment) proceeding from the calculation of assumed casualties. The representative of the personnel section, in being constantly in the reserve, monitored the selection and dispatching of officers to the formations. Sometimes special transport was assigned to the chief of reserves for accelerating their delivery, as was the case in the summer of 1942 on the Western Front and in the winter of 1943 on the Southwestern Front.

The experience of the war showed the advisability of setting up temporary operations groups consisting of officers from the various directorates (sections) headed by the deputy commander. These in a skilled and immediate manner solved the problems of replacing the losses. This was done most often when the numerical strength of the formations had declined to 40-60 percent and lower.

Thus, upon receiving instructions from the Western Front staff to receive recruits at the end of July 1943, the commander of the 11th Guards Army ordered that an operations group be set up consisting of the deputy chief of staff with three officers, the chiefs of the manning and personnel sections with officers from the section as well as representatives from the directorates (sections) of the commanders (chiefs) of the branches of troops and services. This group, in numbering 18 officers, immediately set to work. It clarified the data on the need of the formations for personnel and made targets for the allocation of the arriving replacements considering the importance of the tasks being carried out by each of the rifle corps and divisions. On the basis of the calculations made, an order was drawn up. It designated the areas where the representatives of the formations should be for the replacements, a time was designated, the principles for bringing up to strength were pointed out as well as the minimum of questions which must be worked through with the replacements to train them. The order signed by the commander was issued by the officers from the operations group which visited the formations. The deputy chief of staff with the chiefs of the sections and their officers traveled to the arrival area of the replacements. The army staff issued instructions for organizing a commendant service using the forces of the division in reserve.

As a whole the personnel policy carried out by the Communist Party and the Soviet government and the ably organized work in the training and retraining of officer personnel in the fronts, armies and divisions made it possible to successfully solve the personnel question. Even by the middle of 1943, an officer reserve of almost 100,000 men had been created in the operational army.[29]

In the course of an offensive the battleworthiness of a formation was frequently maintained by the creation of temporary formations such as operations groups of troops and composite detachments. This solved the problem of bringing the troop organizational structure into conformity with their combat capabilities under the conditions of significant losses. An analysis of the combat experience of 1941-1942 shows that in defensive operations, when the troops went over to offensive operations in one of the sectors, the troop operations groups were most often organized on an army scale, as was done in July 1941 in the region of Smolensk in the 30th Army. Operations groups were organized under approximately the same conditions at the end of November 1941 in the region of Serebryanyye Prudy (near Moscow), in December 1941 to the southwest of Moscow, and then in the 10th Army from the divisions advancing on the flanks of its assault grouping. In the 20th Army (January 1942), in an offensive along a broad front, three operations groups were even organized (each consisting of two or three divisions). In the course of the counteroffensive at Tikhvin, northern, southern and eastern groups were formed in the 4th Army. In May 1942, an operations group was created to relieve the surrounded troops of the 6th Army. It was under the command of Gen G. I. Sherstyuk and consisted of a rifle division and the remnants of three tank brigades.[30]

As a whole, in a situation where the army commander had to lead troops which had taken up the offensive as well as formations which were on the offensive (and they, together with the individual units, numbered from 10 to 24), in the absence of a corps element of control and a limited number of communications, the formation of such troop groups was a compulsory phenomenon. It helped to bring control closer to the troops and to raise their operational-tactical independence.

In the following years, the troop operations groups were also employed on the front level: on the Voronezh Front by Maj Gen D. T. Kozlov, on the Kalinin Front by Maj Gen V. Ya. Kolpakchi, on the Southern Front by Lt Gen F. V. Komkov, on the Southwestern Front by Lt Gen M. M. Popov and on the Third Baltic Front (the area of Tartu) by Maj Gen A. A. Rechkin. The purpose of these formations was to unify the efforts of a portion of the troops in one of the sectors and to achieve a more rational organization of combat operations under special conditions (in the muddy season, in forested swampy terrain, in mountains and in storming cities). Often they brought together reserve units for increasing the efforts in one of the sectors (the Berlin and other operations). In a number of cases the troop groups were organized for the purposes of carrying out a suddenly arising task. In particular, for developing the offensive toward Bryansk in the course of the Orel Operation (July 1943), the group of Maj Gen V. V. Kryukov was organized consisting of the XVI Guards Rifle, the II Guards Cavalry and the I Tank corps.

The operations groups were headed, as a rule, by deputy commanders with a small number of officers from the various sections of the field headquarters. They were assigned two or three radios. The control bodies were formed using this principle in organizing and carrying out the counteroffensive at Rostov and Tikhvin. In a number of operations (in the 10th Army, the counteroffensive at Moscow, and in the 43d Army on its right flank in the Vitebsk Operation), control of subordinates was exercised through the staff of one of the formations.

It is right to feel that along with the positive aspects in the creation of improvised control bodies (the bringing of leadership closer to the troops and the involvement of more skilled personnel) there were also negative aspects as the hurriedly created leadership bodies did not have sufficient equipment for controlling the subordinates. Moreover, they restricted the possibility of utilizing communications by subordinate levels which were of a limited number in 1941-1942. The basic strength of the staff was weakened. At the same time, such an approach was advisable under the designated conditions.

Composite detachments were organized for carrying out tactical tasks. Table 10 shows the indicators which to a definite degree describe the conditions under which the composite detachments were made up. Common to all of them was the fact that the combat units (formations) of an army had a relatively low manning strength with private and sergeant personnel (from 7-10 to 40-50 percent), officer personnel (25-50 percent) as well as armored equipment (from 66 up to 372 tanks and SAU available). In a number of instances, for example, in the 1st Tank Army in the Zhitomir-Berdichev Operation, such formations were organized to carry out suddenly arising tasks, in particular, for repelling enemy counterstrikes and maneuvering to a new sector in the absence of reserves and second echelons. In the 2d Guards Tank Army (Vistula-Oder Operation) and in the 6th Guards Tank Army (Khingan-Mukden Operation), the composite detachments were created as a consequence of interruptions in fuel deliveries.

Table 10

Basic Indicators for the Manning of Composite Detachments in the Course of Offensive Operations by Tank Armies

1	2	3	4	5	6	7	8
Drive to Dnepr (Aug 1943)	5h Guards TA	Jointly with forces of 5h Guards Army to throw back enemy from Khar'kov to SW	66	7-10	18 & 29 tk 25-30, 5 mk 45-50	18 & 29 tk, 5 mk: 18 tk; tbr--3 msbr--1; 19 tk: tbr--3 msbr--1; 5 mk: tbr--1, mekhbr--3	composite army detachment: 181 tbr, 25 tbr, mekhbr
Drive to Dnepr (Sep 1943)	1st TA	To pursue enemy as forwards detachments of 27, 4 & 6 guards armies	141	17-20	31 & 6 tk 20-30, 3 mk 10	6 & 31 tk, 3 mk: 6 tk: tbr--3, msbr--1; 31 tk: tbr--3, msbr--1; 3 mk; tbr--2, mekhbr--3	6 tk: 112 tbr, 8 msbr 31 tk: 237 tbr, 10 msbr 3 mk: 1 tbr, 3 mekhbr
Korsun'-Shevchenkovskiy (Jan-Feb 1944)	2d TA	To eliminate enemy breakthrough	372	40-50	40-50 (army aver.)	3 & 16 tk: (each with 3 tbr & 1 msbr)	No 1--11 tbr, army SAU regiment No 2--two tbr from 3 tk No 3--197 tbr, part of 164 tbr No 4--msbr, 164 tbr No 5--hq. 16 tk, 109 tbr

Key: 1--operation: 2--tank armies; 3--tasks confronting armies; 4--available tanks and SAU in tank armies; 5--numerical strength of combat units in armies (in % of TOE strength); 6--numerical strength of front control bodies (in %); 7--composition of army before forming the composite detachments; 8--composition of composite detachments formed in armies; tk--tank corps; mk--mechanized corps; tbr--tank brigade; msbr--mechanized rifle brigade; mekhbr--mechanized brigade

TsAMO, folio 223, inv. 50664, file 9, sheets 272-273; folio 332, inv. 4948, file 5, sheets 156-160; folio 229, inv. 131147, file 1, sheet 28; folio 307, inv. 4148, file 209, sheets 30-31; folio 236, inv. 13428, file 6, sheet 34.

Composite detachments were widely used when created in rifle divisions in the course of the offensive on the southwestern strategic sector in February-March 1943 when the rifle battalions and artillery regiments were 12-20 percent of their numerical strength. The question was solved in an analogous manner in many divisions of the 67th Army in breaking through the Leningrad blockade in January 1943.

Thus, during the night of 18 January, the commander of the 372d Rifle Division issued the order: "All the personnel of the rifle battalions from the 1238th Rifle Regiment is to be transferred to the 1236th Rifle Regiment, having first formed a composite detachment. The organization is to be carried out prior to 0600 hours on 18 January."[31] By this same order a ski battalion was reformed into a company and put under the commander of the 1240th Rifle Regiment, where two composite detachments (battalions) were organized.

In each specific instance the commanders and staffs employed those methods of manning the composite detachments which met the situational conditions and the combat tasks confronting them.

In August-October 1943, in the 5th Tank Army, proceeding from the nature of the task (the pursuit of the enemy in a zone of 10-12 km) and the availability of a limited number of tanks, in each corps composite brigades were created consisting of two or three tank battalions and one motorized rifle battalion. These were combined into an army detachment. In the 1st Tank Army the formations of which were to fight as forward detachments (tank groups, using the terminology of those times) of the three combined-arms armies, corps composite detachments were created. In the corps the number of brigades was reduced and a portion of them was transferred to a lower TOE basis, that is, they were temporarily reformed into battalions.

In February 1944 (the Korsun'-Shevchenkovskiy Operation), in the 2d Tank Army, as a consequence of the crisis situation and due to the fact that its units and formations were arriving successively by rail in the concentration area, several detachments were organized with the putting of the unloaded subunits, units and formations under a unified command. There was an analogous approach in the first Tank Army in the course of the Zhitomir-Berdichev Operation.

In the 2d and 6th Guards Tank armies (Vistula-Oder and Khingan-Mukden operations), temporary formations were set up on the basis of one of the tank brigades, the tanks of which received all the fuel of the other formations. These composite detachments were reinforced by artillery, motorized infantry and combat engineers.

In the rifle formations, the composite detachments (sometimes they were called combat groups) were most often created in the course of an offensive by forming one or two regiments in the divisions or one or two battalions in regiments instead of the regulation three. Often the remaining personnel of the battalions was reduced to one or two companies. In the same manner composite detachments were organized in the artillery units and the subunits of the special branches of troops.

Various methods were employed to restore the battleworthiness of control bodies.

In the 5th Guards Tank Army the formation of the basic control body of a composite army detachment was carried out on the basis of the staff of the V Mechanized Corps which had the greatest numerical strength. It received two high-powered radios and

three medium-powered ones from the XVIII and XXIX Tank corps. The operations and intelligence sections were reinforced by officers from the appropriate sections of the army staff. The control bodies of the composite brigades were created by unifying several staffs which had lost a significant portion of their men and equipment. For example, the commander of the 25th Guards Tank Brigade headed the composite brigade of the XXIX Tank Corps. Its staff had been formed from the staff officers of two other brigades. The operations and intelligence sections had been transferred from the staff of the XXIX Tank Corps to the staff of the composite detachment. Engineer support was directed by the chief of the engineer troops from this corps.[32]

In the 1st Tank Army, proceeding from the purpose of the composite detachments, the corps headquarters were maintained and reinforced from officers of the army field headquarters. The surviving brigade control bodies were temporarily reduced to the staff of one brigade. A portion of the officer personnel from the brigade staffs went to bring the battalion control bodies up to strength.

In the 2d Tank Army in 1944, the staffs of the formations which had received the army and corps units were strengthened by officers from the army field headquarters and corps.[33] The army SAU regiment and a number of other units were shifted to the command of the 11th Tank Brigade. A similar principle was employed for improving control in the 64th and 65th as well as in other armies of the Southwestern Front in the "Uran" Operation, where, in the aim of rapid maneuver and massing of fire, the artillery regiments of the rifle divisions which were not part of the army artillery groups were united into temporary tactical formations for carrying out particular tasks. The staff of one of the artillery regiments carried out the role of the basic control body. In the East Prussian Operation, in the storming of Konigsberg, a rather frequent phenomenon was the subordinating of the rifle regiments which had suffered high casualties to those regiments which had a relatively high numerical strength.

The extensive amount of work carried out for the purposes of creating battleworthy composite detachments, as a rule, was carried out in the following sequence. The commander, on the basis of data prepared by the staff on the condition of the troops and proceeding from the pending task, adopted a plan in which he determined the composition, organizational structure and the manning procedures for the summary detachments and the organizing of control. The operations section (department) prepared an order which stated what formations (units or subunits) and what equipment were to be turned over to whom and by what date and who was responsible for the organizing of the composite detachments. A list of officials for the directorates to be set up served as an appendix to the order.

The staff set to work to carry out the plan. It sent officers to the areas where the detachments were to be organized and here they provided help and carried out control and inspections of the created formations for their readiness for combat operations. In the 5th Guards Tank Army these officers temporarily headed the staffs of the composite detachments. A portion of the army field headquarters at the same time solved the tasks of receiving the replacements and organizing the return of damaged equipment to combat. For example, in the 1st Tank Army under these conditions an operations group was organized consisting of the basic army sections, staffs and directorates.

The importance of the measures carried out to replace the losses of military equipment was determined primarily by the fact that its quantitative and qualitative indicators comprise the basis of the fire, strike and maneuvering capabilities of the troops. This question was particularly acute in the tank and mechanized corps (brigades) where tank losses during an operation comprised up to 90 percent of their initial number, including 25-30 percent irreparable losses.[34] This also predetermined the nature of activities carried out by all control bodies to rebuild the military equipment.

In the course of an offensive, the use procedure and the working methods of various repair and evacuation elements called upon to carry out the task of repairing combat equipment were determined by the particular features of the operation carried out, its scope and pace as well as by the composition and technical state of the tank fleet. In 1942-1943, the repair facilities of the tank armies during the first days of operations, as a rule, were not deployed but rather performed the functions of a technical maintenance echelon. Subsequently they rebuilt the tanks requiring chiefly a medium overhaul. In the committing of the tank armies to an engagement and during their operations in the operational depth, all the repair facilities drew closer to the troops and with the arrival of the units at assembly areas to carry out the day's task they were often with them. This was possible only with a pace of advance of 15-20 km a day. But a sharp increase in the momentum of troop advance, characteristic for the offensive operations during the concluding period of the war, demanded that the control bodies revise the adopted organization for troop technical support. Due to the lag of the rear bodies, including the repair units (subunits), the established procedure for utilizing the repair facilities did not produce good results.

In the course of the offensive in January-February 1945, in the 1st Guards Tank Army, for example, by a decision of the commander all medium repairs on tanks and SAU were entrusted to the army units. The corps repair facilities were put under the army directorate for tank repairs and supply and these carried out routine repairs. The battalion and brigade facilities were concerned with maintenance. The assembly points for faulty vehicles were deployed in the basic sectors of the offensive of the corps some 40-50 km apart. Moving in short jumps, they could be up to 6-9 days at one place, that is, until completing all the repair work on the tanks assembled here. Such a method for using the repair facilities made it possible in the course of combat operations to repair and return to combat all the armored equipment which was to be repaired in the troops. The centralized leadership of the work carried out by the corps repair bases also simplified the organized return of the repaired vehicles to combat. In groups of 5-10 units, after receiving skilled technical aid and maintenance, they were returned to their units. As a result, on 1 February 1945, of the 758 listed tanks and SAU, 577 (76 percent) were fighting.[35]

The control bodies carried out a number of organizational measures which helped to return the equipment to combat. For example, in the 2d Guards Tank Army, from the summer of 1944, additional means were sought to increase the number of repair and evacuation subunits. Evacuation platoons were set up using written-off tanks and captured tractors under the mobile tank repair bases of the corps. The technical training of the personnel was improved. By the start of the Lublin-Brest Operation, in the formations of this same army, 425 drivers were awarded various skill

categories. By the commander's decision in the course of the offensive personnel from the rifle subunits were assigned to maintain the equipment.

Consequently, an analysis of certain aspect in the activities of control bodies in maintaining the battleworthiness of the troops during an offensive in the years of the Great Patriotic War shows that this task was carried out by implementing a range of measures. The purpose was to create conditions whereby the existing troop capabilities would be fully utilized.

4. Ensuring the Dependable Functioning of the Control System

During the entire war, the enemy endeavored to effect the control system of the Soviet troops for the purposes of disorganizing it. In June 1941, its aviation knocked out up to 40 percent of the communications centers and lines. Enemy sabotage operations were also characteristic for the initial period of the war. Massed raids against control posts were made by enemy aviation in the Orel, Zhitomir-Berdichev, Lublin0Brest and Iasi-Kishinev operations. Instances of direction finding and artillery shelling of communications centers were noted in the Korsun'-Shevchenkovskiy Operation. Attempts were made to attack control posts in the course of the Lwow-Sandomierz, Berlin and other operations.

The enemy also actively monitored the operational-tactical information that was passed back and forth. For decoding and processing the intercepted radio messages even in 1939, Nazi Germany had set up a special body, the Scientific Research Directorate. According to information of the Amsterdam State Military Documentation Institute, "it (that is, the directorate) each day succeeded in decoding 20,000 of the 100,000 radiograms which were exchanged between the Russian High Command, the commands of the fronts, armies, corps and divisions as well as the commanders of smaller subunits."[36] The Chief of the General Staff of the Ground Troops of the Nazi Army, Gen F. Halder, emphasized that "the decoding of enemy radio broadcasts was of exceptional value and for this reason required a serious approach." Approximately the same assessment of signals intelligence was given in his evidence by Col Gen Jodl and in the memoirs published in the West by Col Gen (Ret) L. Rendulich.[37]

In the aim of effectively carrying out the signals intelligence tasks, a Nazi field (tank) army was assigned one or two signals intelligence companies with ten direction finders each. Their task was to monitor the work of the ground and air communications and intercept operational-tactical information. "Monitoring," commented Gen I. N. Artem'yev, "was possible for the enemy both on lines with a normal sound frequency as well as those equipped with high frequency devices...."[38] Moreover, from the middle of 1944, on the Soviet-German Front there were six special-purpose regiments each of which consisted of two stationary signals intelligence groups and a company of distant and close intelligence. The direction-finding tasks were entrusted to artillery reconnaissance and observation (AIR) subunits. While on 22 June 1941 there were 34 AIR battalions, 12 stationary and 10 mobile monitoring stations, in 1944, each enemy corps (division) had an AIR battalion, while the corps and armies had special intercept and jamming subunits. In a signals battalion of a division there was an intelligence platoon (3 radios, 6 receivers and equipment for monitoring wire calls).[39]

The condition of the communications equipment and the composition and equipping of the control posts also influenced the functioning of the troop control systems.

At the outset of the war, the existing control equipment in terms of its tactical and technical performance did not fully meet the demands made. The capability of radios in operating on the move, for example, were restricted to 10-20 km. Moreover there was a great shortage of this equipment. In the formations of the Western and Southwestern fronts, there was not more than 30 percent of the regulation. The speed of laying wire lines during the entire war did not exceed 25-35 km a day. But the momentum of advance of the tank troops was 40-50 km and more in 1943-1945.

At the control posts there was a large number of personnel with a limited number of means of transport. Thus, there were up to 400 soldiers and officers at an army command post. They were supported by 15-20 cars and transports. There were even fewer vehicles at the rear control post where the number of personnel was twice as much. The vehicles, and particularly those carrying high- and medium-power radios, possessed poor cross-country capability. As a result the mobility of control posts was very limited.

The designated phenomena forced the staffs of all levels to pay more attention to improving the system of control posts and demanded a creative approach to determining the communications system and composition, to the placement and movement of the control posts and to the organization of security, defense and their protection. During the first period of the war this problem was definitely underestimated. The measures were poorly carried out. This was the reason that the Main Signals Directorate of the Red Army in the Directive of 24 June 1942 pointed out that "the control posts are not echeloned in depth.... Their security and defense are not organized. There is clearly unsatisfactory camouflaging of the communications, particularly radios."[40] Subsequently, for maintaining the stable functioning of control systems the commanders and staffs adopted a number of measures to eliminate the designated shortcomings.

A more effective approach was worked out for the deployment of control posts.

For the purposes of less vulnerability, a command post began to be dispersed in several areas. The control group was made up of the military council members, the chiefs and officers from the leading sections of the field headquarters and the commanders (representatives) of the air formations. The officers from the sections of the engineer troops, chemical, personnel and political and the operations group of the rear directorate and technical services were located a certain distance from the control group. The communications center and the report gathering point were located separately. Areas for liaison aircraft were built a distance of 3-5 km away. This was done so that the take-off and landing of the liaison aircraft did not give away the position of the command post. For the same purpose the high- and medium-powered radio transmitters were moved 2-3 km away from it. The support and service subunits were located separately.

A variation of the placement of a divisional command post is shown in Diagram 10.

The experience of the war disclosed the need to locate a control post outside of population points, predominantly in a forest with convenient accesses and exits to the sector of the planned move. Its location was known only by those officials who had to know this for carrying out their official duties. No markings or signs were permitted.

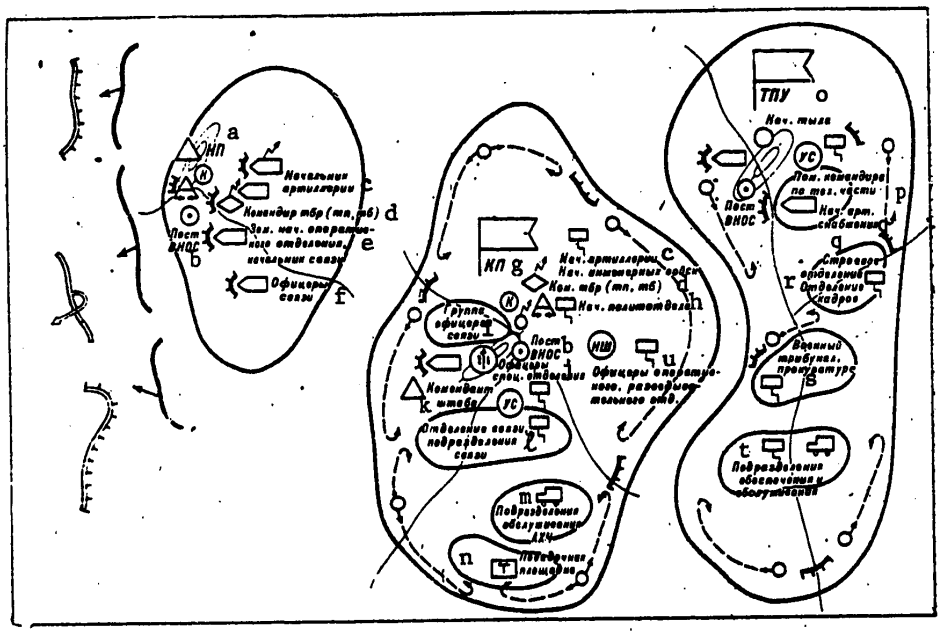

Diagram 10. Placement of Elements of Control Posts of a Rifle Division in Combat

Key: a--Observation post; b--VNOS post; c--Chief of artillery; d--Commander of tank brigade (tank regiment, tank battalion); e--Deputy chief of operations department, signals chief; f--Liaison officers; g--Command post; h--Chief of political section; i--Group of lisiaon officers; j--Officers of special department; k--Staff commendant; ℓ--signals squad, signals subunits; m--Service subunits of administrative unit; n--Landing strip; o--Rear control post, chief of rear; p--Deputy commander for technical affairs; q--Chief of artillery supply; r--Records department; personnel department; s--Military tribunal, judge advocate's office; t--Support and service subunits; u--Officers of operations and intelligence sections.

In the achieving of steady troop control, one of the central places was held by the question of the security and defense of control posts. This problem was solved by locating them in areas with natural screens and covered by obstacles which were inaccessible for enemy tanks, with prompt detection and destruction of enemy sabotage and reconnaissance groups as well as enemy troops remaining in the rear and with the organizing of defense against surprise attacks by enemy tanks and aviation. The chiefs of staff provided specific tasks for the personnel at each control post. The necessary men and equipment were assigned and warning signals were set in the event of an enemy attack. The actions of the personnel were designated for these signals and measures were also outlined to combat fires if the control posts were located in a forest.

The direct security and defense of control posts were provided basically by the subunits under the staff (for the rear control posts by the rear subunits). Training

units were also involved, as was done in the 372d Rifle Division in January 1943. Sometimes there were also combat subunits, usually from the second echelons and reserves. Officers from headquarters also participated in the defense as well as the crews of command, staff and other vehicles. At the end of April 1945 (Berlin Operation), for example, a large enemy group under the cover of darkness broke through to the staff of the 4th Guards Tank Army. Upon the alert, all the officers of the field headquarters took up arms. Combat operations were directed by the army commander, Gen D. D. Lelyushenko, and by the chief of staff, Gen K. I. Upman. The arriving 7th Guards Motorcycle Regiment (the army reserve) and other units routed the enemy grouping and took prisoners.[41]

The plans for the security and defense of command posts in the field forces and formations were worked out by the operations sections (departments) and in units by the deputy chief of staff with the involvement of the staff commendant, usually in the form of a diagram or on a map with a scale of 1:25,000. It gave the locations of the control group, the communications center and the service group, the approaches and exits from the location of the control post, the parking areas for vehicles arriving at the control post, the location of man-made shelters, the positions of fixed and the routes of mobile battle outposts, their composition, tasks and procedure of relief. Also given were the warning signals, the actions of the personnel, the composition and tasks of the air defense resources assigned for cover as well as other means used to repel the ground enemy and measures to camouflage the control posts. Experience showed that the designated measures provided a positive result. For precisely this reason it can be considered in the work of the commanders (staffs) even now.

The protection against jamming for radios located at control posts was achieved by carrying out a number of organizational and technical measures.

Control over the operation of radios was strengthened. Sabotage and reconnaissance groups for destroying enemy radio jammers were sent out as was done in the formations of the 4th Tank Army in the course of the Proskurovsko-Chernovtsy Operation. Active tasks were set for the troops, the aviation and artillery. In the directive of the commander of the Southwestern Front of 19 November 1942, the commander of the 5th Tank Army was required "for disorganizing enemy control to create detachments which should capture its command posts, staffs, destroy communications lines..., having trained ahead of time groups of bold soldiers and commanders. With the first opportunity they should be mounted on vehicles."[42]

The choice and equipping of the locations of communications centers were made considering the screening properties of the terrain. Directional antennas were used. There was also the practice of maneuvering transmitter capacity. Of important significance was the observance of airwaves discipline, and for this reason under certain situational conditions the operation of radios was limited, even to the point of complete radio silence. Often for communications over a separate radio link, one call number was used or the work was carried out without the call numbers by using an authentication signal. Permanent pole communications lines were built between the receiving and transmitting centers which were organized a distance of 3-4 to 8-10 km apart.

Experience showed the great effectiveness of countering enemy signals intelligence by using various wave systems, by the functioning of reserve (duty) networks, by periodically changing the code designation of signals, and by excluding work in the so-called clear (in semi-coded text). Radio deception was used to confuse the enemy. False data were also broadcast. At the end of 1942, our radio operators, in acting as the radio called by the staff of the 6th Nazi Army, established contact with it and for 24 hours received 16 radio messages from it totaling over 1,500 groups. Signals security and deception were carried out in the Barenkovo-Lozovaya, Rzhev-Sychev, Belgorod-Khar'kov, Korsun'-Shevchenkovskiy and a number of other operations. As a whole the enemy recognized the high effectiveness of our signals intelligence.[43]

The stable functioning of control systems was also influenced by an effective procedure for moving the control posts.

During the first periods of the war, as experience shows, up to 80 percent of the interruptions in the operations of communications was a consequence of failures in solving this question. In the course of the Kalinin Operation, the attempt by the front's commander to respond effectively to the situation on 9 December 1941 was not crowned with success as the changing of the command post of the 29th Army had started, the new area of its location was not known at the front's staff and it was impossible to establish contact by radio. As a result it took up to 5 hours to issue orders by transport. Analogous cases occurred in the area of the Western Front in January 1942, in particular in the 10th Army.

The statistical data on 20 front and more than 50 army operations provide justification to note that the command post of a front during the first two periods of the war moved most often two or three times in the operation every 5-7 days and for the combined-arms armies it was every 2 or 4 days. In 1944-1945, the staff of a front moved an average of 80-120 km and an army staff 40-60 km. The duration of the stay at one place was 3-5 days for a front and 1-3 days for an army. From the experience of 25 offensive operations by tank armies, with an average duration of continuous combat operations of 12-13 days, the command post changed its position 10-12 times, that is, almost daily, the OG 2 or 3 times a day, and the second control echelon every 2 or 3 days.

Consequently, while the frequent changing of positions was a rather rare phenomenon for the front and combined-arms armies, it was characteristic for the tank armies. With a momentum of advance of 60-80 km and more, the command post was forced to move at least twice a day and this required spending up to 48-50 percent of the time of the day. In this instance control had to be carried out on the move and the performance of the communications equipment did not fully conform to this. The stability of control dropped sharply.

The way out of the situation was found in creating two positions for communications equipment in the tank armies from the summer of 1944 onwards. This was done in order to exclude the time losses on setting up and taking down the control posts from the total time of their move. Time was also reduced by ferrying the basic officials on PO-2 to the new area to a previously set up control post. This question was carried out in this manner during the night of 20-21 July 1944 in the 3d Guards Tank Army in the Lwow-Sandomierz Operation (July 1944), in the 20th Army in

the course of the Rzhev-Sychev Operation (August 1942) and in the 8th Guards Army in the Nikopol'-Krivoy Rog Operation (September 1943). However, the shortage of aviation in the army and the insignificant carrying capacity of the existing aircraft did not make it possible to utilize the advantages of this type of transport fully and systematically.

The changing of position of control posts during the war years was carried out by various methods. In 1941-1942, this was most often done in a single echelon as a consequence of the limited amount of communications and in the third period of the war by two echelons by assigning a portion of the communications to the new position. Frequently the control posts changed locations by leap-frogging, that is, the command post to the place of the OG across one position and the second control echelon to the place of the command also across one position (typical for tank armies). The change was also made by alternating the location of the army command post to the place of one of the first echelon corps. This was more typical for the combined-arms armies. Experience taught that the most effective from the viewpoint of stable control were the methods of moving the control posts by leap-frogging and in two echelons. During the war years the demand was worked out that the regions be changed with permission from the superior staff and, as a rule, at night, during the least intense periods of combat operations. The subordinates and staffs of adjacent field forces (formations) were informed of the time and the route of the move. From the middle of 1944, a specially promulgated directive of HqSHC established the practice of working out a special plan (diagram) for the movement of the basic control posts on the eve of the offensive. A group of officers headed by the deputy chief of staff with the forward communications group were sent ahead of time to the new locations.

The control posts of the armored formations were made in large jumps (15-30 km) and the areas of the command posts were changed most often simultaneously on several levels. The existing communications restricted the number of command post moves to not more than two or three a day. A corps operations group was more mobile (Diagram 11). Its move did not involve the time of changing the location of the command post. Thus, the operations group of the IX Tank Corps in the Vistula-Oder Operation halted for 20-30 minutes every 1.5 hours of movement.

The speed of deploying and taking down the control posts depended largely upon the teamwork of the staffs and the prompt preparation of the equipment and communications. The practice of setting up control posts according to a previously elaborated scheme proved effective. In this instance, 15-30 minutes were spent in a brigade and 40-60 minutes in a corps.

In organizing control, consideration was also given to the specific combat operations of troops under different conditions, the particular features of the theater of military operations and the weather.

With the going over to pursuit, the moving of all control posts in the direction of the planned success became characteristic. The commander, as a rule, controlled the troops while being part of the operations groups. In a number of operations, temporary control posts were also created. In the Prague Offensive Operation an auxiliary troop control post was organized in the 6th Guards Tank Army in the area of Jihlava (May 1945) because of the rapid advance of the troops. It was entrusted with collecting reports, receiving data on the situation and transmitting them to the front's staff.

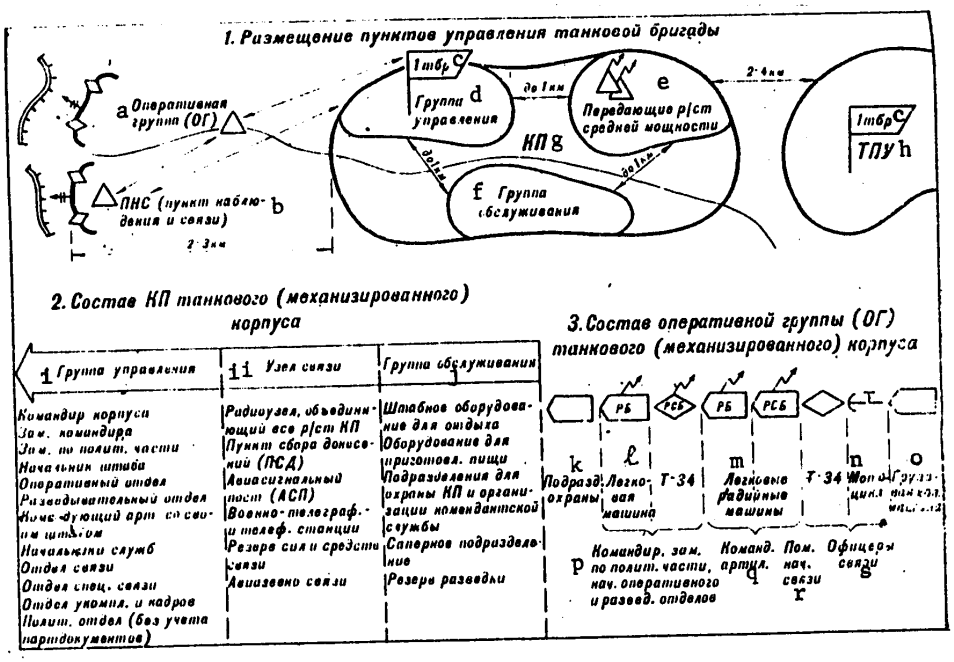

Diagram 11. Organization of Control Points in the Formations of Armored and Mechanized Troops

Key: 1--Placement of control points of tank brigade; 2--Composition of command post of tank (mechanized) corps; 3--Composition of operations group (OG) of tank (mechanized) corps; a--Operations group (OG); b--PNS (observation and communications post); c--First tank brigade; d--Control group; e--Medium-power radio transmitters; f--Service group; g--Command post; h--Rear control post; i--Control group, consisting of: corps commander, deputy commander, deputy for political affairs, chief of staff, operations section, intelligence section; artillery commander with his staff; chiefs of services; signals section; special signals section; manning and personnel section; political section (without party records); ii--Communications center, consisting of: radio center uniting all the radios of command post; report collection post (PSD); air signal post (ASD); military telegraph and telephone exchanges; reserve of communications resources; air liaison flight; j--Service group, consisting of: staff equipment for recreation; equipment for preparation of food; subunits for security of command post and organization of commendant service; combat engineer subunit; reconnaissance reserve; k--Security subunit; ℓ--Car; m--Radio cars; n--Motorcycle; o--Truck; p--Commander, deputy for political affairs, chiefs of operations and intelligence section; q--Artillery commander; r--Deputy signals chief; s--Liaison officers.

In the crossing of rivers, control posts were most often brought somewhat closer to the troops and the command post was also echeloned. That is, along with the operations group, a temporary control post was created both for organizing the crossing (in the formations of the 3d Guards Tank Army in the Orel and Berlin operations)

as well as for controlling combat operations on the opposite bank (in a majority of the rifle divisions in the battle for the Dnepr). Moreover, there was a developed network of control posts of the crossing commendants as well as forward artillery observation posts.

The echeloning and dispersion of control posts and the bringing of them as close as possible to the troops were the main principles in organizing the control posts in conducting combat operations in mountains. It was also necessary to more frequently assign forward, side and alternate observation posts. These were created in the approach of the 6th Guards Tank Army to the Transylvanian Alps, when its formations were up to 40-60 km apart along the front. The presence of a VPU (seven officers, two medium- and high-powered radios)[44] in one of the sectors improved control, in helping to maintain its centralization and at the same time to increase the survival of the system.

In those instances when the control posts because of terrain conditions could not directly follow the troops, a well-thought-out system for organizing operations groups assumed particular significance. In the Khingan-Mukden Operation, the operations group assumed basic leadership of the troops, in following behind the first echelon of the 6th Guards Tank Army. In the dropping of a landing force in Mukden, in the VII Mechanized Corps an operations group was set up and this was assigned a group of aircraft with radios to relay signals. For the purpose of increasing the mobility of the control posts and communications centers virtually all the radios were transferred to motor vehicles which possessed better cross-country capability.

The control posts were brought as close as possible to the troops in conducting combat operations in major administrative centers. From the experience of the battles in Berlin, the army command post was 4-10 km away, that of a corps up to 2 km and that of a division up to 1 km. The army operations group was 1-2 km from the troops while the division observation post was often in their battle formations. A more diverse network of temporary control posts was set up. Here it was considered that in conducting battles in a city, the use of communications equipment became more complicated. The absence of landing strips virtually excluded the use of liaison aircraft. The use of local communications lines was difficult as a result of their destruction.

The carrying out of control was complicated by the spring muddy season, for example, in conducting combat operations in the Uman'-Botosani Operation (March-April 1944), when motor transport was completely halted or advanced at an extremely slow speed. There were instances when the staffs left almost 100 percent of the radios on the roads. This was the case in the formations of the 5th Guards Tank Army as it approached the Bug River. As a result communications by air remained virtually the sole means of control. Under these conditions a particular feature of the organization of control was that the operations groups moved along with the tanks, having two or three radios. A large portion of them was mounted on tank chassis. In order to prevent the falling behind of staff vehicles with radios, they were assigned ahead of time to certain tanks and it was their task to ensure their unobstructed movement over the roads which had been washed out by the spring waters.

The organization of communications during the years of the war was determined by the aim of the operation (engagement), by the scope of the offensive, by the

sequence of carrying out the tasks, by the effective fighting strength, by the operational configuration (battle formation) as well as by the state of the means of communications.

On the eve of the war, preference had been given to wire and mobile means of communications, particularly on the operational level. The transmitting of orders by radio was permitted only if it was fully impossible to use other means. Particular attention was paid to achieving covert troop control (SUV) and secret instructions could be transmitted only orally, and in an extreme case, using equipment of guaranteed security and in cipher.

During the first offensive operations, with an average momentum of advance for the formations and units of 3-5 km and a maximum of 8-20 km a day, considering the availability of the limited amount of radios, wire communications was the basic means of control. Transport was also widely used. According to information from the staff of the Western Front, the average daily exchange of correspondence handled by the liaison officers in September 1941 increased by more than double in comparison with July.

The increase in the momentum of advance in 1943 (in the Belgorod-Khar'kov Operation up to 10-30 km per day, in the Kiev Operation up to 15-40 and in the Krivoy Rog Operation up to 35-40) required a revision of the existing principles. At the same time, the insufficient number of radios and the limited experience in organizing radio communications made it possible to give preference to the radio only as of the middle of 1944 and then only in the armored formations. This can be seen from the data of reports filed by the signals directorate of the First Belorussian Front. In the Belorussian Operation 1-2 percent of the information was handled over the radio channels of the combined-arms armies, up to 1 percent in the Vistula-Oder, and 0.5-1 percent in the Berlin Operation, while from 2-3 to 10-15 percent was handled over the radio channels of the tank armies and up to 35-40 percent in the tank (mechanized) corps.[45]

For the purpose of more widely using radio communications, HqSHC under certain conditions permitted radio traffic "in the clear," and for this the army staffs worked out a unified coded map and code table. At the same time, such an approach to transmitting information somewhat reduced the degree of SUV, as the enemy rather quickly figured out the simple system of semi-secret calls as the formations of the Nazi Army had special manuals which made it possible to decode the text rather quickly.

The measures carried out made it possible in 1943-1944 to change over to a comprehensive use of all types of communications.

Radio communications quickly made it possible to establish contact with the control posts which were moving or a significant distance apart, thereby passing data over impassable obstacles as well as across enemy-occupied territory.

The largest number of radios was at the command posts and this made it possible to organize communications not only in the radio networks but also for the radio links, and from 1943, to have duplicate (alternate and emergency) channels which provided communications over a distance from 30 to 600 km. The operations groups had basicalky medium-power radios. These ensured an exchange of information over 15-20 km,

providing radio communications over 2-5 radio networks and 1-3 radio links, that is, in an army with the first echelon formations. The presence of one or two high-powered radios in the second control echelon ensured communications with the superior level and the command post while two or three medium-power radios created an opportunity to contact the rear units (subunits) over two or three nets.

Wire communications were provided in the dispositions of an army in preparing operations, in the course of an offensive with a momentum of less than 3 km per hour and inside the control posts.

Transport was employed in all stages of an operation, and from 1943, not only along a circular route but also along axes. This sped up the delivery of documents to the addressees and increased the reliability of communications. Some 15-20 minutes were spent on a trip of a liaison aircraft. Using motor vehicles and motorcycles information could be delivered in 20-40 minutes. Moreover, transport was virtually the sole means of control for a number of chiefs of the special troops.

The experience of offensive operations disclosed the important role of the effective handling of information.

Statistics show that the army staffs each day handled from 80 to 150 different documents. Average daily exchange on the army--front and army--subordinate formations level was: over wires, 110-115 telegrams of 70-80 groups each and by radio, 160-170 radio messages with a volume of 60-65 groups. The staffs of the combined-arms armies, moreover, in collecting information about the enemy, were in a very difficult situation as they possessed only close reconnaissance equipment. The tank army staffs were under somewhat better conditions as they had an opportunity to obtain data from the more mobile means of ground and sometimes air reconnaissance. The staff of a front received the fullest information on the enemy which was in the operational depth. The men and equipment of ground, air, agent and radar reconnaissance were available to it.

Thus, the significant flow of information, on the one hand, and its shortage, on the other (particularly from the viewpoint of the receipt of information on the enemy, and chiefly on the army level) demanded a creative approach to the organizing of communications on the part of the commanders and the staffs.

An analysis of the time indicators for the handling of basic data shows that an average of up to 40 percent of the time was spent on receiving and transmission, up to 20 percent on encoding and decoding and up to 40 percent on delivering the documents. This means that the improvement in the organization of the information process and control and the use of promising means of communication could lead to very tangible results.

In actuality, as was reported on 1 August 1941 by the signals chief of the Western Front, "the communications centers are loaded down with numerous coded messages... in one day, 31 July, 50,000 words were transmitted by telegraph with a normal load of 20,000-25,000...there are continuous extended calls over the wires."

The signals chief of the Northwestern Front in a report of 26 July emphasized that "radio messages are sent out with 100 and more groups...the service of liaison

officers in the field works sporadially...."[46] The commander of the 19th Rifle Division in December 1941 gave the chief of staff the task of "checking why the operation Order No 11 of 10 December was received by the units only at 1430 hours on 11 December, that is, only an hour before the attack."[47]

In the course of an offensive in 1943-1945, the front commanders talked directly with the army commanders using high frequence communications equipment. This became an important form of exchanging information. The advantage of this form of communications was that in a majority of instances from 10 to 30 minutes were spent. Of the 120 calls made by the signals directorate of the Stalingrad Front in November-December 1942, 70 percent was not more than 20 minutes, 20 percent was not more than 30 minutes, and 10 percent was around 45 minutes.[48]

Starting with the second period of the war, the organizational level of information processing increased. The orders of commanders prohibited the transmitting of information by radio of more than 50 groups. Information of a report nature began to be transmitted basically by courier service. Procedure charts (code names) were introduced for control. For regulating the work of communications centers and the duty shifts, the signals directorates (sections) worked out tables for the standard time to be spent on receiving and transmitting documents (information) over communications equipment. In 1945, to a greater degree than before, the compiling of graphic documents such as order maps, diagrams, graphs and tables began to be practiced.

Functional duties were more clearly allocated, On the front and army staffs, groups of officers were created in terms of their specific purpose, including: the collection and processing of information, with representatives from the operations and intelligence sections and staffs of the branches of troops. As a result the work began to have a more skilled and organized nature. Duplication was excluded. The effective handling of the data was increased.

For the purposes of organizing the more effective handling of information, as pary of an operations directorate (section) in 1943-1945, groups of representative officers were set up. Their functions included the constant study of the situation in the area of one or another field force (formation), the supervising of the prompt receipt of operation orders and their execution and the reporting of their considerations on the employment of the troops in the given sector as well as their needs. Such an allocating of workers from the leading staff section made it possible to accelerate an analysis of data for decision taking as well as the preparation and sending out of preliminary and operation instructions.

With the introduction in the spring of 1943 of a TOE position of duty officer at the communications center, control over the handling of information was improved. The responsibility of officials for the promptness of reports was increased as in a number of operations this has been one of the reasons for a delay in information. For example, in the Lwow-Sandomierz Operation, due to the lack of discipline on the part of individual staff officers from the corps of the 1st Tank Army, in a number of instances situational information had been received for transmission to the army staff some 12-13 hours after the events occurred. The inept use of the diverse communications equipment also contributed to this. From the experience of the same operation, the lack of wire communications in individual stages of the offensive was responsible for the fact that up to 42 percent of the documents received at the

communications center had been transmitted 3-6 hours later than the established deadline. Up to 20 percent of the documents arrived 1-2 hours late as a result of static in the airwaves.[49]

The changes which occurred in the organization of communications on an offensive also contributed to the solving of information problems. These became possible due to the improved technical performance of the communications equipment, to the greater availability for the control bodies and to the acquired experience.

There was an increase in the number of radio networks: in an army, from 4-5 during the first period up to 12-16 in the third. Radio links began to be more widely used and in 1945 from 3 to 6 of them were established from an army command post. A system for backing up certain means of communications with others was also introduced. Reserve and emergency nets began to be created. This was done in 18 armies out of the 35 in the Vistula-Oder and Berlin operations. In the tank armies, from the middle of 1944, the idea arose of transmitting information down and up two levels. This was realized by the creation of commander radio centers.

In the different stages of an operation, preference began to be given to the types of communications which were marked by greater reliability: to wire and transport in the jump-off position, to radios with going over to pursuit and in crossing rivers, to radios and wire in conducting combat operations on the opposite bank, and to transport in the battle for a city. Of important significance was the assigning of a portion of the communications as a reserve as this guaranteed the prompt reinforcing of the formations with them in the course of an offensive, including those arriving from the reserve of the fronts (armies).

In organizing communications in 1944-1945, in particular in the course of the offensive in Belorussia, one can clearly see the desire to mass the communications resources in the sector of the main thrust and the centralization of the communications construction units on the front level. Mobile communications centers were organized, for example in the First Belorussian Front and as a result of this the time for deploying them was reduced by 3-4-fold. The radio equipment in the fronts, armies and sometimes in the tank (mechanized) corps was echeloned in three positions.[50] In the Berlin Operation, at the command post of the First Belorussian Front, a special radio exchange was set up making it possible to simultaneously have calls with three users and receive any transmitter of the front's radio center by a main distribution frame. In the same operation a system of a ring line around Berlin was created and this made it possible to quickly organize wire communications with the moving staffs.

The designated measures made it possible in the offensive operations of 1944-1945, in comparison with 1943, to somewhat increase the continuity and reliability of communications. This can be seen from the following data: the stability of communications from the experience of 15 front offensive operations reached 82-99 percent by wife (that is, communications interruptions did not exceed 11-18 percent of the total time), and 75-100 percent by radio; according to the experience of 20 offensive operations by tank armies the rate was 81-82 percent by radio in 1943 and 94-97 percent in 1945. Such indicators were achieved by the effective use of all types of communications, by the high level of organizational activities carried out by the control bodies and by the creative approach to the organization of

communications under the various situational conditions considering the nature of the tasks being carried out by the troops and the theater of war.

A number of particular features can be traced in the organizing of radio communications on the tactical control level.

In a rifle corps, communications with an army was maintained in the army net as well as by links (with the commander and sometimes with the staff). A commanders' network also functioned. In 1944-1945, a radio net was also organized for the artillery commander and radio links with the tank formation (unit) and the divisions carrying out the main tasks. Using a receiver data were collected from an aircraft. For ensuring more dependable radio communications with aviation, starting from 1945, at the command post, in addition to the RSB [a type of radio] which operated on the wavelength of the aviation in the air, an additional receiver was provided tuned to the wavelength of the airfield net. In conducting combat operations during the third period of the war, communications with the staffs of adjacent formations were now maintained over several channels.

In a rifle division, a command radio net and a cooperation radio net were usually organized. In organizing control with the observation post, in addition to the commander's personal radio, a receiver was provided tuned to the wavelength of the division's radio net. In these instances the division's commander had an opportunity to talk with the regiment commanders, in switching for this time the receiver to the net of the personal radios of the corps commander (army commander). For communications with the commander of a tank brigade and for receiving signals from the regiments, in the division's staff a radio was assigned operating on the wavelength of the tank net. Often the radio of a tank brigade connected to the division's net was used as a second communications channel. In the Belorussian and Vistula-Oder operations there was also the practice of assigning a liaison officer on a radio tank to the division's commander. Communications with ground reconnaissance bodies sent out by the division's staff were provided usually by radio links. Communications were also organized with a division of an adjacent army (on the boundary of armies). In the Iasi-Kishinev Operation in the formations of the 27th Army and in the Berlin Operation in the 8th Guards Army, a separate radio link was provided even with the rifle (tank) battalions carrying out the most important tasks, including with the forward and assault detachments.[51]

It has already been pointed out that during the years of the war there was a sharp rise in the possibility of establishing radio contact in the tank (mechanized) corps and brigades. This made it possible to make substantial changes in the organization of communications in the armored troops.

Thus, in the Belgorod-Khar'kov Operation (August 1943) in the formations of the 1st Tank Army, communications on the corps--army level were provided over a radio link and a radio net and cooperation communications over a separate net. It handled all intelligence information. Communications between the corps staffs and the brigade staffs were provided over a radio net. The command and cooperation nets were organized in the brigades, battalions and companies. The aviation representatives in the brigades had radio communications over the air formation net.

In the formations of the 2d Tank Army in the Lublin-Brest Operation (August 1944), an additional one or two nets of brigade commanders and a link with the army were organized from the command post of the corps commanders. At the command and observation posts of the brigade commanders there were radio nets with the battalion commanders and a link with the corps commander. All the commanders of the formations and the chiefs of staff in addition had radio communications over the net of personal radios. Such a diverse net of radio communications ensured the dependable and immediate handling of operational and tactical information on an offensive.

Communications on the tactical level using wire communications were established using a main artery and links.

Experience has shown that with a momentum of advance up to 15-20 km per day, there was a real opportunity to have an extensive network of wire communications with two posts, the command post and the observation post. In the jump-off position the individual communications lines were organized in each formation (unit) of the first and second echelons of a corps and division by building separate cable-pole or surrogate lines according to the links. With the going over to the offensive, the communications main artery and lines for the links were built along the routes that the command posts were to move.

During the first period of the war the greatest difficulties arose in the establishing contact with newly arrived units (formations) as the limited supply of communications equipment did not make it possible to solve this problem directly and effectively. There were also difficulties in rebuilding the communications lines which had been destroyed by the enemy by air strikes, artillery fire and the actions of sabotage groups. In organizing communications in the operations of the second and third periods of the war (the battle for the Dnepr, the Belorussian Operation and others), there was the practice in the divisions and corps of setting up non-T/O teams and groups with the job of rebuilding the wire communications lines. Combat practice showed that the greater survival of wire communications lines depended largely upon how skillfully they were laid (the digging of the holes, the correct reinforcing, the building of bypass lines and so forth).

In an offensive a very crucial role was assigned to communications transport.

In addition to the regulation equipment, that is, motorcycles and armored vehicles, mounted and foot messengers were used, particularly on the lower tactical levels (battalions, companies), and in the winter skiiers. In the first and second periods of the war, for the dispatching and receiving of correspondence in the formations they usually organized two report collection posts (PSD) at the command post and the second control echelon. A new feature in 1944 was the fact that a PSD was frequently organized also at the observation post of a division (corps) commander. Communications by transport more often was carried out along routes. As a result, its stability as well as the efficient transmitting of information were increased.

Thus, in the course of the war one can note a number of trends in carrying out the tasks of ensuring the continuous functioning of control systems.

In the location of control posts there was a desire to spread out the component elements and bring them closer to the troops. In the moving of control bodies there

was an effort to observe the principles which would ensure continuous control (according to a previously elaborated scheme, during the least tense periods of combat and so forth), in the organization of communications there was a push to fully utilize all equipment, primarily the radio, with the essential considering of the particular features of the combat tasks and nature of operations. In troop control there was a sharp rise in the role of the combined-arms staffs and the chiefs of the branches of troops (special troops). Functions began to be more clearly defined in the staffs and sections (directorates) in the collection, analysis and generalization of the situational data, in assigning combat tasks and in organizing support for combat operations. All of this helped to achieve continuity and efficiency of troop control on an offensive. In the offensive operations of the Great Patriotic War the commanders and their subordinate control bodies had to carry out a whole series of very complex tasks, and primarily the breaking through of enemy defenses as well as the achieving of continuous combat operations. The prompt adopting of a plan and the adjusting of tasks for the troops and the cooperation procedures under a changing situation were the basic content of the work carried out by the commanders and staffs on an offensive.

Experience shows that no matter how complex the situation was, in a critical situation any commander must endeavor to see the battle (the most important stage of an engagement) in its crucial sector (axis). This helps to respond quickly to all the changes in the situation and has a moral and psychological impact on subordinates. Greater reliability and efficiency in the handling of situational data were achieved by better work in the staffs, by a clear defining of functional duties between the officials of control bodies, by making up temporary specific-purpose groups, by carrying out organizational and technical measures to rationally utilize the means of communications as well as by the more effective working out of documents both in terms of their content and form.

During the war years the control bodies were largely confronted with the question of seeking out effective ways to maintain the battleworthiness of the troops, to replace losses in personnel and equipment and to carry out the tasks of bringing the organizational structure of the troops into conformity with their combat capabilities in an offensive along a broad front, along axes and under conditions of significant losses. The choice of the most acceptable forms for organizing control was made by setting up temporary operations groups for the troops brought together to carry out a single task as well as by forming composite detachments from the formations (units) which had, as a consequence of a number of factors, a relatively low numerical strength.

Proceeding from the war's experience, there is the valid conclusion that the stability of troop control is achieved by a range of measures related to the rational placement and moving of control posts, their echeloning along the front and in depth, and the ensuring of defense, security and protection. The invulnerability of the control posts was increased by their dispersed and concealed placement, by engineer work on the positions, by organized moves and a well-thought-out communications system.

Combat practice, thus, shows that an improvement in troop control in the course of an offensive can be achieved by the more careful assessment of the situation, by increasing the level of the care and soundness of the adopted decisions, by improving

the organization of work on the staffs (directorates, sections) and by seeking out a more effective organization of the control and communications posts. The experience of the Great Patriotic War teaches that the designated areas for improving troop control on an offensive can provide substantial aid to the commanders in achieving victory in an operation and combat, a victory which, as the USSR Minister of Defense, Mar SU D. F. Ustinov, has pointed out, depends primarily "upon the ability of the commanders to skillfully lead their subordinates..., upon the farsightedness of their operational and tactical forecasts, the realisticness of concepts and plans, and upon the ability to flexibly and nobly maneuver the men and equipment."[52]

FOOTNOTES

[1]TsAMO, folio 233, inv. 2356, file 427, sheet 20.

[2]I. S. Konev, "Sorok Pyatyy" [Forty-Five], Moscow, 1966, pp 18-19.

[3]TsAMO, folio 241, inv. 2593, file 487, sheet 124.

[4]TsAMO, folio 1693, inv. 1, file 8, sheet 27.

[5]TsAMO, folio 422, inv. 213277, file 15, sheets 80-81.

[6]TsAMO, folio 358, inv. 2593, file 752, sheet 77.

[7]TsAMO, folio 361, inv. 71761, file 1, sheets 4-5.

[8]See V. A. Matsulenko, "Operativnaya Maskirovka Voysk" [Operational Camouflage of Troops], Moscow, 1975, pp 134-135.

[9]See: I. V. Timokhovich, "Operativnoye Iskusstvo Sovetskikh VVS v Velikoy Otechestvennoy Voyne" [Operational Art of the Soviet Air Force in the Great Patriotic War], Moscow, 1976, pp 132-171.

[10]TsAMO, folio 344, inv. 9430, file 15, sheet 5.

[11]VOYENNO-ISTORICHESKIY ZHURNAL, No 9, 1977, pp 57, 59, 60.

[12]I. S. Konev, "Sorok Pyatyy," pp 138-139.

[13]TsAMO, folio 424, inv. 15898, file 26, sheet 14.

[14]TsAMO, folio 1693, inv. 1, file 7, sheet 50.

[15]TsAMO, folio 308, inv. 4073, file 171, sheets 8-9.

[16]STALINSKIY SOKOL, 28 September 1943.

[17]A. A. Novikov, "V Nebe Leningrada" [In the Skies of Leningrad], Moscow, 1970, p 296.

[18]The Instructions on Cooperation of Aviation with the Ground Troops issued by the staff of the 1st Air Army indicate the tasks entrusted to the air guidance officer:
a) To follow the ground and air situation and promptly inform the air army's staff about all changes in it;
b) To help the combined-arms commanders in correctly using aviation;
c) To inform the ground commanders of the air situation ahead of the front and in the enemy's operational depth, obtaining this information from the air staffs;
d) To obtain the tasks from the ground commanders and transmit them to the air commanders, and when necessary, upon the request of the combined-arms commander, to call aviation to the battlefield directly from the airfields ("Sbornik Boyevykh Dokumentov" [Collection of Combat Documents], No 7, 1963, p 79).

[19]TsAMO, folio 299, inv. 3070, file 712, sheets 14-18.

[20]See: "Istoriya Vtoroy Mirovoy Voyny 1939-1945" [History of World War II of 1939-1945], Vol 4, p 358.

[21]VOYENNO-ISTORICHESKIY ZHURNAL, No 3, 1976, p 15; No 11, 1978, p 29.

[22]See: N. F. Krasitskiy, "2-ya Tankovaya Armiya v Orlovskoy Nastupatel'noy Operatsii" [The 2d Tank Army in the Orel Offensive Operation], Moscow, 1947, p 13.

[23]TsAMO, folio 309, inv. 4073, file 172, sheets 28-31.

[24]See: A. I. Radziyevskiy, "Tankovyy Udar" [Tank Strike], Moscow, 1977, pp 242-243.

[25]See: VOYENNO-ISTORICHESKIY ZHURNAL, No 11, 1978, p 30.

[26]TsAMO, folio 32, inv. 4756, file 36, sheet 12.

[27]TsAMO, folio 203, inv. 2851, file 3, sheet 125.

[28]In 1941, courses for junior lieutenants (platoon commanders) were organized in the armies, and in 1942, front courses.

[29]See: "Istoriya Vtoroy Mirovoy Voyny 1939-1945," Vol 6, p 192.

[30]See: K. S. Moskalenko, "Na Yugo-Zapadnom Napravlenii" [In the Southwestern Sector], Moscow, 1960, pp 206, 210.

[31]TsAMO, folio 1693, inv. 1, file 8, sheet 61.

[32]TsAMO, folio 223, inv. 50664, file 9, sheet 273.

[33]TsAMO, folio 307, inv. 4148, file 209, sheets 30-31.

[34]See: VOYENNO-ISTORICHESKIY ZHURNAL, No 3, 1976, p 16.

[35]TsAMO, folio 47, inv. 352785, file 76, sheet 26.

[36]Louis de Jong, "Nemetskaya Pyataya Kolonna vo Vtoroy Mirovoy Voyne" [The German Fifth Column in World War II], translated from the English, Moscow, 1958, p 424.

[37]See: "Strategiya Fashistskoy Germanii v Voyne Protiv SSSR" [The Stretagy of Nazi Germany in the War Against the USSR], Moscow, 1967, p 29; L. Rendulich, "Upravleniye Voyskami" [Troop Control], translated from the German, Moscow, 1974, p 166.

[38]I. N. Artem'yev, "V Efire Partizany" [Partisans on the Airwaves], Moscow, 1971, p 89.

[39]See: Muller-Hillebrand, "Sukhoputnaya Armiya Germanii 1933-1945," translated from the German, Moscow, 1958, Vol 2, pp 182, 195, 218, 216; "Voyna na Dva Fronta" [War on Two Fronts], translated from the German, Moscow, 1977; K. Teppelskirk, "Istoriya Vtoroy Mirovoy Voyny" [The History of World War II], translated from the German, Moscow, 1956, p 317.

[40]TsAMO, folio 208, inv. 2617, file 10, sheet 239.

[41]See: K. V. Kraynyukov, "Oruzhiye Osobogo Roda" [A Special Type of Weapon], Moscow, 1977, p 201.

[42]TsAMO, folio 229, inv. 590, file 10, sheet 27.

[43]See: H. Guderian, "Tanki--Vpered!" [Tanks Forward!], translated from the German, Moscow, 1957, p 173; L. Rendulich, "Upravleniye Voyskami," p 132.

[44]TsAMO, folio 617, inv. 463739, file 1, sheet 7.

[45]TsAMO, folio 71, inv. 12191, file 70, sheets 19-26, 226-241.

[46]TsAMO, folio 208, inv. 2454, file 33, sheet 306; folio 71, inv. 296521, file 28, sheet 63.

[47]TsAMO, folio 19sd, inv. 12670, file 2, sheet 227.

[48]TsAMO, folio 220, inv. 451, file 166, sheets 13-17.

[49]TsAMO, folio 299, inv. 3074, file 147, sheets 4-7.

[50]TsAMO, folio 71, inv. 12191, file 70, sheet 226.

[51]TsAMO, folio 233, inv. 2372, file 62, sheets 4-12; folio 236, inv. 2706, file 258, sheets 190-201.

[52]D. F. Ustinov, "Izbrannyye Rechi i Stat'i" [Selected Speeches and Articles], Moscow, 1979, pp 395-396.

CHAPTER 4: BASIC CONCLUSIONS FROM THE EXPERIENCE OF TROOP CONTROL IN THE WAR YEARS AND THE MOST IMPORTANT WAYS FOR INCREASING ITS EFFICIENCY UNDER PRESENT-DAY CONDITIONS

The Great Patriotic War was marked by a large number of engagements and encounters. The Soviet troops conducted 51 strategic operations, including 35 offensive ones,[1] more than 100 offensive operations by fronts, several hundred by armies and thousands of engagements. In the counteroffensive at Moscow, the myth of the invincibility of the fascist army was dispelled. The fiercest blow not only against the aggressor's military might but also its entire sociopolitical system was dealt to the enemy at Leningrad, in a battle the scale and intensity of which have no equal in military history. The Soviet troops went over to a counteroffensive at Kursk, having crushed the deeply encheloned enemy defenses, they crossed the Dnepr, having accomplished a fundamental change in the war and thereby bringing closer the inevitable defeat of Nazi Germany and the entire bloc of fascist states. The year 1944 was marked by a broad offensive along the entire Soviet-German Front. The concluding operations of 1945 in Europe brought the world liberation from hated fascism.

The Soviet command successfully carried out the task of achieving highly effective troop control on the offensive. The mastery of the commanders and the staffs was honed under the complex conditions of the situation and in unequal battles against the enemy.

1. Characteristic Traits of Troop Control as Evidenced in the Great Patriotic War

An analysis of the activities carried out by the commanders and their subordinate control bodies in preparing and conducting combat operations makes it possible to point to the most characteristic traits of troop control in an offensive engagement and operation as evidenced during the years of the last war.

The principle of centralized control was fundamental in the *structuring* of troop control and the *functioning* of the bodies which directed military activities.

The designated principle derived from the nature of the socialist society which develops on a planned basis as outlined and directed by the Communist Party. This was realized in the creation at the very outset of the war of the Headquarters Supreme High Command [Hq SHC], the unified center of strategic leadership, as well as in a precise allocating of functions between the central executive bodies in terms of the types of their work with the strictest centralization in each of the areas of activity. Also vital was the Leninist thesis that "irresponsibility covered up by references to collectivism...in military affairs leads inevitably to

a catastrophe, to chaos, panic, multiple centers of power and defeat."[2] V. I. Lenin also emphasized the necessity of "unconditional and strictest unity of will...the unswerving obedience of the masses to the unified will of the leaders...."[3]

The experience of the war shows that democratic centralism on the operational levels evidenced its rationality in the form of activity carried out by the military councils of the fronts and armies. This made it possible to harmoniously combine the demands of collectivism and one-man leadership. At one time the famous military theoretician A. M. Zayonchkovskiy emphasized that a military leader has nothing to fear from military meetings, but on the contrary, should resort to them as often as possible but under the condition that he is an able master of them who knows why he has assembled them and not the dilitant who is looking for some idea to latch on to. The centralization of control was expressed in the fact that although a significant number of officials, as a rule, participated in the preparation of initial data for the adoption of a plan, the right to approve it belonged only to one person, the commander of the front (army).

On the tactical level, the solely responsible commander (from October 1942) was the representative of the Communist Party and the Soviet government, their authorized representative, combining in himself all the power and responsibility to them.

Experience teaches that the control bodies, as a component part of the troop control system, in terms of their composition should conform to the nature and scope of the combat tasks to be carried out. This situation required a reorganization which the control bodies of various levels underwent during all the war years. Those that were unnecessary were abolished. New ones were created, for example, the centralized leadership bodies for rear support. The composition of the control bodies was broadened and on them rested the basic burden in planning and organizing the use of the resources on the battlefields as well as all-round support for the combat operations of the troops. Practice suggested the necessity of a differentiated approach to determining the TOE of the field headquarters of the fronts depending upon the number of army formations comprising them both in terms of structure and in terms of the number of personnel in the various sections, headquarters and staffs. They also realized the demand of considering the specific tasks and the nature of combat operations carried out by the tank armies and the tank (mechanized) corps in relation to the combined-arms armies and the rifle corps.

During the war years there was a special need to clearly delimit the functions of the headquarters bodies which were on the various levels of the hierarchical ladder of the system as a whole. This ensured a high degree of centralization and at the same time the more rational use of the skills of the command personnel and their competence.

At the same time there was a revision of the prewar views on the role of the various levels in carrying out the tasks of preparing for an offensive. The commanders of the fronts and armies and not only the commanders of the formations and units began to act in the role of the immediate organizers in the area of breaking through enemy defenses as well as during the individual stages of an offensive in the operational depth. They were given the functions of coordinating the efforts of the various branches of troops (special troops) with the aviation and navy.

In increasing the efficiency of control during the war years a positive role was played by the specializing of the control bodies both on the operational and tactical level, that is, the establishing of the responsibility of a group of persons on the staff (headquarters or section) for a strictly determined area of work on the basis of the necessity of performing operational and support functions. This was manifested in the assigning of autonomous rear control bodies from the personnel of the combined-arms staff, in setting up groups of officers for the planning of forthcoming operations and conducting informational work as well as in the organizing of camouflage, troop regrouping and the commandant [provost] service. All of this helped to increase the efficiency and flexibility of troop control and the more rational organization of the labor of the officials.

Even in the prewar years there was a tendency for a greater role to be played by the combined-arms staff in troop control. The experience of the war showed that the combined-arms staff is the basic body by which the commander adopts and carries out the plan which is the basis of troop control in an operation and combat. The staffs (sections) of the branches of troops, special troops, various services and the rear worked under the leadership of the corresponding chiefs, in simultaneously carrying out all the instructions of the combined-arms staff. Coordination in their work was achieved by providing reciprocal information on the situation, by the joint elaboration of the most important documents related to the organization and support of combat operations, by the prompt providing of information on the situation and the actions of one's troops and the enemy groupings, and by organizing control over the carrying out of orders (instructions) as well as providing aid to the troops under the plan worked out by the combined-arms staff.

As the troops gained combat experience, evermore attention was paid to the activities of the combined-arms staff. The best trained officers with a broad background who had proven themselves under combat conditions were selected for staff work. The special training of staff officers was also of important significance. Incompetence by officers never causes as much harm as it does on staff service," emphasized the great expert of military affairs, F. Engels.[4] The war confirmed these words. The precise service of the staffs largely determined the success of an offensive. It is no accident that virtually all authors of memoirs had high regard for the role of the staffs during the Great Patriotic War. The staff could be likened to the human central nervous system as was the conclusion of the chief of staff of a number of field forces during those years, Mar SU S. S. Biryuzov.

During the war years it was judged advisable to have identically functioning control bodies on the various command and staff levels. Such a situation contributed to the systematizing of the information process, to the efficient and high quality carrying out of organizational activities and to the achieving of clear cooperation between the staffs (the other control bodies) of all levels and the adjacent field forces (formations). It was easier to solve the problem of the interchangeability of the control bodies and the officials inside them. The designated necessity was realized in the creation of a functionally uniform structure of control bodies both on the operational and tactical level (down to the regiment inclusively). The difference was only in the amount of personnel of the corresponding staffs, headquarters, sections, departments and services and this was determined by the scale of their work.

The effective functioning of the troop control system was substantially influenced also by the object of control, that is, by the subordinate troops, primarily from the viewpoint of the conformity of the commander's opportunities (in terms of the scope of events) to control a definite number of troop organisms directly subordinate to him (the inferior control bodies). The violating of this principle (and this was characteristic for the first period of the war) led to the loss of control stability and to a sharp decline in the effective response to the situation. The optimum were the conditions when the officials directed four or five subordinate field forces (formations, units, elements of the operational configuration or battle formation). This guaranteed the collecting of data and an analysis of the situation within the area of each of the field forces (formations) with a periodicity of one or two hours.

The experience of the war provided much that was new in the effective solving of problems relating to the *organization, placement and movement of control posts.*

It became a widespread practice to set up a system of control posts with the dividing of the basic field headquarters bodies into the first and second echelons (the command and rear control posts) as well as to establish auxiliary (temporary) control posts and operational groups (observation posts).

The control posts were located primarily in the sector of the main thrust close to those field forces (formations) which they had been organized to control. As a rule, at them were located only those officials which directly led the troops or supported their control. Careful camouflaging, the organization of the areas where the control posts were deployed in engineer terms, the protection of them against an airborne enemy, reliable security and defense, dispersion and mobility were those major demands without which a high degree of control stability was inconceivable.

Also valid was the rule which had appeared even in prewar years that the commander should personally observe the course of combat in the sector of the main thrust or where the most important tasks were being carried out at the given moment. This made it possible to organize the combat operations of the troops, particularly the breakthrough of enemy defenses, considering the terrain conditions and in the course of an offensive to respond quickly to changes in the situation and to have the necessary moral and psychological effect on one's subordinates. The practice of the constant traveling by the commander to the troops in the course of an offensive had, however, negative consequences as well. During the war years the chief of staff of a number of fronts, Arm Gen M. I. Kazakov, on this question emphasized that very frequently "being totally occupied with the affairs of one army, we (that is, the command of the front) overlooked the needs and possiblities of the front as a whole."[5] The commander of many army and front field forces, Mar SU K. K. Rokossovskiy, repeatedly pointed to the necessity of adhering to one rule: "...The place of the commander is where it is more convenient and best to control the troops.... Any trips to the troops in such a complex and rapidly changing situation for a certain time could distract the commander from the overall picture of the engagement and as a result he would be unable to correctly maneuver the forces and this could mean defeat.... The presence of a commander in the troops is of enormous significance. But everything depends upon the time and the situation."[6]

Combat practice disclosed a need in organizing the control posts to consider the specific features of conducting an offensive under the various conditions of the theater of war, the season, the time of day and the weather. In particular there was a need to bring the control posts closer to the troops in conducting combat in a city, at night, under the conditions of the spring thaw or significant echeloning along the front and in depth with combat operations in the mountains.

A series of requirements were also set for the moving of control posts. Here one would put first of all the moving of the locations following a unified plan, concealment from the enemy, rapid and organized movement, at the least intense moment of combat, only with permission from the senior chief with the immediate informing of adjacent units on the move made and only when the new region was prepared in communications terms. The failure to observe these sharply reduced troop control stability.

The experience of the war showed that *control functions*, that is, that work which is performed by the commander and his personnel, *hold the determining place in the process of control.*

The adoption of a plan is the chief element in control activity. A knowledge of the basic principles of military art, that is, the corresponding of the aim set for the offensive to the conditions of the situation, the concentrating of the basic efforts on the selected sector of the main thrust, high combat activeness and the achieving of surprise, as well as the skillful use of these principles to a significant degree guaranteed the effectiveness of the plan adopted by the commander and helped ascertain what was necessary and possible to undertake for successful troop actions. This was the main conclusion from the practice of organizing an offensive during the Great Patriotic War. The plan was based on consideration of permanent factors although it could not exclude a degree of risk as experience taught.

The choice of the direction of the main thrust was one of the basic questions in the plan for the offensive. The most typical was a desire to select it where the enemy defenses were the most vulnerable, that is, less prepared in engineer terms and occupied by troops which possessed poorer moral and combat qualities. Consideration was also given to the possibility of the troops coming out at the operational depth at the flanks and in the rear of the basic enemy grouping. However, it was also possible to attack against the strongest enemy grouping. This was done with a sufficient amount of resources available and, as a rule, in a situation when it was impossible or ill-advised to regroup the troops.

The selected direction of the main thrust was always secured by the massing of resources, as a result of which in the breakthrough sectors a substantial (by an average of 3-5-fold) superiority over the enemy was achieved. For precisely this reason in 93-95 percent of the front operations of 1944-1945, up to 65-70 percent of the infantry, up to 90-95 percent of the tanks and artillery and up to 100 percent of the aviation were massed in the sectors of the main thrusts which comprised an average of 5-10 percent of the zone of advance. Experience taught that the resources could be massed by various methods: by concentrating them in a narrow zone (in the breakthrough sector), by echeloning in depth, by making the main thrust with the adjacent flanks of the formations and by the broad use of forward detachments, assault detachments and groups.

During the war years the weapons for causing fire damage to the enemy (aviation and artillery) were the most concentrated. This provides reason to feel that under present-day conditions of armed combat, it is essential first of all to mass the weapons capable of carrying out the task of destroying the strongest enemy groupings.

The question of increasing the efforts of the troops held an important place in the work of the commanders in troop control during an offensive. This expressed the essence of their influence on the development of the offensive at a high pace. Here three basic principles were crucial.

The first was to increase the efforts primarily in the sector of the main thrust or where success was likely. It was essential to mass the men and equipment committed to the engagement and to use them as a surprise for the enemy.

The second was in selecting the best time for committing fresh troops. The premature committing of second echelons and mobile groups led to the wasting of forces while a delay in doing this was one of the reasons for a decline in the troop momentum of advance. It was advisable to increase the efforts following the previously planned variations. This made it easier to coordinate the efforts of the troops in critical and dynamic situations. The essence of the third principle was a demand to dependably support the committing of second echelons and mobile groups as well as the maintaining of close cooperation with the first echelon troops in the sector where the new troops were to be committed.

During the war years an offensive was planned, as a rule, on the front level under the leadership of Hq SHC (often through its representatives) and the General Staff. This made it possible to utilize the men and equipment in the most organized and maximally effective way for achieving the objectives of the operations carried out to a great depth and at a high pace in breaking through the deeply echeloned enemy trench defenses. As was emphasized at one time by N. M. Tukhachevskiy, "conscious leading of the troops, the assessment and prediction of the development of operations necessitate firm and precise troop leadership. There is no room for any plans of independence for the junior chiefs. Without knowing the overall situation, the junior chiefs could always take decisions which do not conform to it and this could lead to a catastrophe...."[7] For this reason, the commanders of field forces often set the tasks to one or two levels below, with great detailing and concretization, particularly in the first stage of an offensive involving the breakthrough of the enemy defenses when there had to be a high degree of weapons concentration and coordinated actions in a relatively narrow zone. In this manner the best opportunities were created for the long-range planning of forthcoming operations as well as for maintaining the overall plan of the offensive a secret.

Experience has shown that one of the demands made on the plan, the basic planning document, was its elaboration on a basis of the commander's decision and a thorough consideration of the specific situation proceeding from careful calculations of the combat capabilities and the balance of forces of the sides as well as a detailed study of the terrain conditions. In this regard of interest is the opinion of Mar SU G. K. Zhukov who felt that "most often failures befell those commanders who were not personally present in the area where the forthcoming troop operations were to happen but limited themselves to studying this from the map...."[8]

A study of the plans for front and army offensive operations makes it possible to conclude that the most effective form for working them out was graphically on a map with a brief explanatory note and with the necessary background studies and calculations for it. Combat practice shows that as a whole over the war years the planning for the employment of various men and equipment on maps and diagrams as well as in the form of tables was more and more widely used in the activities of the staffs, particularly in the formations and units. Also very effective was the use of previously elaborated reference materials as well as various sorts of formalized blanks, tables and model copies. All of this made it possible in a more effective and accurate manner to analyze the situational data and to carry out various calculations including the expected result of employing the men and equipment, their required amount for achieving the set result of the actions, for optimizing the plan and for a rational allocation of time for organizing combat operations.

In planning the offensive, great attention was given to forecasting the events. The concern of forecasting was the various situational parameters which either directly or indirectly influenced the plan, that is, the composition and capabilities of the enemy, the nature of its actions, the consequences of the combat operations of one's own troops, the hydrometeorological and other conditions. The desire if possible to avoid unexpected and undesirable situations was the objective of the forecasting. For this it was necessary to consider the essential variations for the development of the situation. The planning of combat operations without consideration of the changes in the situation most often led to undesirable consequences. It is valid to consider such a phenomenon as a regular one, since the planning of an operation (engagement) or its individual stages on the basis of one variation of the situation did not make it possible to assess what was the share of chance in carrying out the set missions. Such a possibility arose only when planning was carried out on the basis of a multivariant forecasting of the course of the engagements (battles) or their individual stages, in particular the committing of the mobile groups and second echelons to the engagement, the use of aviation and the carrying out of artillery softening up. Only in this instance was it possible to objectively assess to what degree one or another variation of the actions was adequate for the various ambiguities of the situation.

Combat practice shows that in setting the tasks it was important to have terseness and clarity in the orders and instructions given. At the same time the last war repudiated mere routine, rote decisions and sketchiness in setting combat missions. Very effective was the method of personal contact between chiefs and subordinates as well as the method of issuing tasks through the staff officers and the liaison delegates. Preliminary orientation of subordinates on the nature of the forthcoming tasks also was effective. This made it possible to more rationally use the time for organizing combat operations and simplified subsequent work. A definite psychological effect was achieved in troop control as subordinates felt the continuity of leadership by the superior level and endeavored to work more effectively.

During the years of the last war there was an active search for a way to optimize the information process. The necessity of this was determined by the fact that year after year the scale of an offensive grew. It was characterized by a great spatial scope, by great dynamicness and by frequent and abrupt changes in the situation. Armed combat was carried out against an experienced and perfidious enemy. All of this demanded that the offensive be supported with objective, reliable, and clear

(excluding contradictoriness) operational-tactical information at the needed time and on the necessary level. Both an insufficiency as well as redundancy of information had a negative effect on the quality and directness of troop control. This affirmed Lenin's thesis that only objective, true, complete and prompt information can ensure the taking of a correct decision and determine the effective measures for implementing it. A reduction in the amount of information circulating in the troop control system was achieved by selecting the most essential and at the same time sufficient for taking a sound decision as well as the detailing of it in terms of the level of each command and staff group.

To choose one or another method of work means to settle the question in what sequence, by what methods and in what form the objects of control are to be effected, that is, to control subordinates in the preparations for and in the course of the offensive. The combining of control methods and their correct choice is a real art for a commander and the key for ensuring success in carrying out the combat tasks.

Depending upon the time available during the war years they made it a practice to combine the methods of successive and simultaneous (according to modern terminology, parallel) work from the top to the bottom. The latter method was particularly characteristic for the work of the control bodies of tank field forces and formations. This achieved a high level of labor intensity and an opportunity appeared for solving the arising tasks in a short period of time. Combat practice showed that a mastery of the parallel work method by the commanders and staffs made it possible to increase the teamwork and work efficiency of the control bodies. However, experience also disclosed negative aspects of the designated method. The desire to accelerate events often led to a situation where the subordinates, in essence, were given working versions of the plans which subsequently were adjusted and sometimes fundamentally changed. As a result the work of subordinates was in vain and there was no expected gain in time.

In terms of content the work methods expressed the aggregate of one-man leadership and collective forms of activity. This ensured thoroughness of assessing the situation and the taking of an effective decision. Control assumed a clearly expressed collective nature. Here there was a desire to clearly define the scope of work and the duties for each of the officials (control bodies) within the limits of their competence. There was the well-proven rule that the commander settled the main questions while the staff, the deputy commanders and the chiefs of the branches of troops detailed them.

The experience of offensive operations in the Great Patriotic War showed the ever-increasing significance of the tasks of the control bodies in maintaining a high level of combat capability among the formations. The contents of these tasks involved a range of measures which differed in form but were united by a common objective and the most important of them were related to the moral-psychological and combat training of the troops, to the prompt manning of the troop formations and the high-quality logistical support for combat operations.

Moral and psychological training was carried out considering the primary solution to the tasks in the political area, communist ideological and party loyalty and the close link of ideological indoctrination with the life and specific tasks of the troops. This was carried out by the political bodies, the commanders, the communists and Komsomol members and was characterized by purposefulness, efficiency, continuity and truthfulness.

The organization and implementation of troop combat training and staff operational training during the war years disclosed the particularly important significance of teaching the troops and staffs what was essential under the combat conditions and considering the new means and methods of combat which appeared on the battlefields. Exercises on terrain analogous to where combat operations were to be carried out became the basic forms of troop training. Starting with the autumn of 1942, troop exercises, battle drill and special tactical exercises, command-staff exercises and military gains, field trips and various conferences and courses began to hold an important place in troop practices.

During the war years there was an abandoning of the system for receiving recruits which existed in 1941-1942 in the form of draft formations, most often consisting of companies. A transition was made to a manning (manning up) principle for the field forces with formations (units) which had been trained in the rear of the nation or a front (army). The demand of maintaining military traditions necessitated the disengaging of the formations (field forces) as they partially lost their battleworthiness, moving them to the second echelon (reserve) for bringing into order and up to strength. From 1943, it also became a rule to send the officers, sergeants and soldiers back to their units (formations) after being treated in hospitals. In the course of an offensive losses were replaced also by the redistribution of personnel, in particular by shifting soldiers and officers from the rear units (subunits) to the line ones.

As one of the ways for solving the problem of conducting combat operations under the conditions of significant losses, the experience of the war brought forward the organizing of operational troop groups and composite detachments.

Operational groups were set up for solving operational tasks by reducing several formations to a unified command of a temporary staff.

The composite detachments were organized on the tactical levels on a basis of formations (units) and subunits which had better battleworthiness, with the maintaining of the organizational integrity and structure for those which had suffered the least losses. They included units (subunits) for combat and logistical support, including resources of a senior chief, in contributing to the autonomy of the formations in carrying out their combat tasks. They were also set up by reducing the number of previous units (subunits) with the shifting of some of them to a lower level or by a fundamental reorganization in the organizational basis of the units (formations) by reducing several subunits (units or formations) to one for carrying out the arising tasks.

The battleworthiness of troop control bodies was usually restored by uniting several staffs which had lost a significant portion of the personnel into one as well as by turning over the control functions to an inferior command-staff level or by the direct subordination of certain control bodies which had suffered high losses to others which at least were equal in terms of their place in the structure of initial subordination. The task of making up losses in the officials of field headquarters was solved by manning them with officers from the superior control bodies.

Supervision was an important organizational function of all bodies exercising troop leadership. "To check people and to check the actual carrying out of a task--this,

again this and only this...is the crux of all the work...," taught V. I. Lenin.[9] Supervision brought the greatest benefit when it was characterized by purposefulness, planning, by continuity, by publicity and was directed primarily at checking those questions which played the crucial role in achieving the aim of an operation (combat). Violation of the designated principles led to a decline in the results of troop combat operations.

Supervision was carried out by the combined-arms staff together with the other control bodies. The forms of check varied and the most effective form was the personal involvement of the commanders in a check or the conducting of this work by a skilled group of officials upon the orders of the commanders. In this instance an opportunity was created to gain the most correct idea of how subordinates understood and were carrying out the given order or instruction. This did not exclude a check on various questions during talks over communications equipment as well as an analysis of the submitted report documents.

A demand made on supervision was that it be combined with the giving of practical aid and with the prompt generalizing of the experience and making it available to the troops. The war also showed that supervision should not be turned into interference with subordinates, impede their initiative and independence in carrying out the set tasks or divert the leadership for an extended time from the troops. The effectiveness of supervision, in addition, depended largely upon the skills of those officers who carried this out. Under these conditions supervision ensured a constant knowledge of a true state of affairs in the subordinate units and subunits and inculcated in subordinates such qualities as efficiency, organization and a sense of responsibility for the assigned job.

2. Ways for Further Increasing Efficiency of Troop Control

At present troop control on the battlefield has assumed the significance of a factor which is of crucial importance in achieving victory over the enemy. This is explained by the broad introduction of modern weapons and military equipment into the troops. There has been an increase in the value of time as well as the commanders' responsibility for the decision taken. As a result we have begun to reassess the demands made upon troop control, primarily from the viewpoint of its continuity, firmness, efficiency and flexibility.

The quantitative and qualitative changes caused by the scientific and technical revolution in the means and methods of conducting warfare have also posed the basic task of *improving the quality and effectiveness of troop control*, that is, the ability of the control systems to ensure that the troops will carry out their given combat tasks at the designated time and with the least expenditure of resources. The degree of control effectiveness ultimately is determined by the quality of carrying out all the tasks and measures which comprise the contents of the process. The higher the quality of each control job the more efficient troop control and the results of troop operations. Consequently, effectiveness operates as a qualitative characteristic of the troop control process indicating the relationship of the achieved result and the expenditure of resources and determining the degree of conformity of this result to the interests of achieving the designated aim. The art of a commander is most fully reflected in the effectiveness of control.

The experience of the Great Patriotic War as well as the local wars and conducted exercises makes it possible to determine certain ways for resolving the task of achieving high effectiveness of troop control. The first is an improvement in the structure of the bodies, the equipment and organization of troop control. The second is the optimizing of the work methods in carrying out the range of measures related to control activities. The third is increasing the ideological-theoretical, military-technical and operational-tactical training of the officer personnel and improving the work style of the commanders and staffs.

The question of improving the structure of the control bodies has recently been at the center of attention of military thought, including foreign. It is considered advisable to seek out ways for a maximum simplification of the control body structure and the achieving of high mobility for these bodies.

As a variation it has been proposed that similar types of activities be unified for the two basic functions of operations and support. Each of the groups is formed from the officials in the appropriate work area and is headed by a chief who is subordinate directly to the formation's commander. In the foreign press[10] an opinion has been stated on this issue of creating single-tiered special problem collectives which would be directly subordinate to the chief of staff (Table 11). Such an organization based upon the principle of a functional division, in the opinion of specialists, could help to improve the quality of control activity.

Table 11

Allocation of Officers in Control Groups
(variation)

Groups	Purpose	Officers from Staff Sections and Services
Planning	Planning combat operations	Operations department, chiefs of artillery and air defense, organizational-planning department
Intelligence-information	Collection, processing and reporting of information	Operations and reconnaissance departments, engineer and rear services
Control (subgroups of basic and alternative command posts)	Preparation of data for decisions, transmission of orders and instructions	Operations and reconnaissance departments, communications, chief of artillery, rear
Duty operations service	Keeping of situational map, exercising of supervision	Operations department, communications
Auxiliary	Organization of commandant service, carrying out of other tasks	Operations department, communications

At a number of experimental troop exercises conducted by foreign armies, the question was also worked out of the functional synchronizing of the specialized elements of command for the branches of troops and rear services in a direction of a closer combination of their structure with the structure of the combined-arms staff. Here the aim was better coordination of efforts and greater efficiency in the work of the interdependent bodies which control the troops in combat.

There is also the practice, including in the U.S. Army, of setting up operational-tactical centers (control centers) with the dividing of them into a number of groups: operations-intelligence, fire coordination, tactical air control, communications, chemical, biological and radiological defense.

To make the control bodies high mobile is a demand which, in the opinion of foreign researchers, can be carried out, on the one hand, by "purging" the staffs of a large amount of equipment and motor vehicles used for administrative purposes, with the simultaneous standardization of the equipping of the staffs, and on the other, by minimizing the subunits which provide the service facilities for the staffs. In solving this question a significant place should also be assigned to the ability of the commanders and staffs to control from armored vehicles using brief halts and on the move, to the simplifying of staff paperwork and to the use of high frequency communications equipment.

One of the main ways for increasing the efficiency and reliability of troop control on an offensive is to equip the control bodies with modern control equipment, including automation and mechanization as well as communications. Under the conditions of rapid scientific and technical progress, such an opinion is completely objective. The necessity of this is determined by many factors. One of them is the overloading of the control bodies with operational-tactical information. According to the data of foreign specialists, up to 60-70 percent of the time is spent on processing and assessing the incoming situational data, and up to 25 percent on making operational and tactical calculations.[12] It has been pointed out that the existing equipment (the classification of it is shown in Table 12) makes it possible to significantly accelerate these processes and improve their accuracy. A combination of human logic with the operation of various automated devices thus leads to a maximum effect.

Close attention should be paid to the question of organizing the control posts and the communications system. The experience of such exercises as "Dnepr," "Dvina," "Yug" and others shows the positive results from the echeloning of control posts.[13] In this manner the problem is solved of dispersing the control posts and providing an opportunity for the commander to observe the battlefield at the most critical moments and in that sector where the success of the operation (engagement) is being determined. Many staffs, proceeding from the experience of the war, have established the practice of working out ahead of time the scheme for moving control posts on two or three levels.

Ways are also being sought to achieve flexibility and reliability of control under the conditions of high casualties by turning it over to the subordinate staffs, by bringing the control bodies up to full strength or by creating new ones by reducing several staffs to one. In the unified system of measures to improve troop control, an important place should be given to developing the work methods of the commanders

Table 12

Classification of Modern Control Equipment
(according to data of foreign press)

Communications and Data Transmission Scrambling Equipment [1]	Equipment for Securing Data [2]	Data Processing and Computing Equipment [3]	Documentation and Display Equipment [4]	Other Equipment [5]
1. Radios and receivers	1. Automated sensors	1. Keyboard calculators (small adding and tabulating computers)	1. Sound recording equipment	1. Command-staff machines
2. Radio relay equipment	2. Observation instruments	2. Specialized electronic machines	2. Standard and electronic typewriters	2. Special (control room) machines
3. Wire equipment	3. Radiation, chemical and bacteriological reconnaissance instruments	3. Punch card equipment	3. Copiers	3. Equipment for full automation of control processes
4. Mobile equipment (including helicopters, compound helicopters and liaison aircraft)	4. Sensors for fixing coordinates and power of nuclear explosions	4. Analogue computers	4. Thermocopy equipment	4. Warning and monitoring equipment (tape recorders, cameras, electric monitoring devices, equipment for monitoring the time parameters of a data flow and so forth
5. Signaling devices	5. Radars	5. Sliderules, tables, graphs and nomograms, various types of templates	5. Displays, screens and panels	5. Foreign language machine translation equipment
6. Exchange and switching equipment (including telephone and telegraph sets, amplifiers, electric power plants, multiplexing equipment and switchboards)	6. Infrared equipment	6. Document processing equipment	6. Blueprint reproducers	
7. Equipment for encoding data transmission (high frequency communications, telegraph and telephone scrambling equipment, ciphers and codes, signal tables and so forth)	7. Navigation equipment		7. Standard document forms (formalized blanks, pads and so forth)	
	8. Instrument and sound reconnaissance equipment		8. Dictaphones, equipment for carrying out blueprint and graphic work	
	9. Internal communications and signaling equipment			

and the staffs and to achieving teamwork among the control bodies. This task predetermines the necessity of rationalizing the traditional forms of work and employing qualitatively new ones.

The parallel work method has become one of the common methods which has recently become widespread. It is applicable primarily with limited time available to prepare for combat operations and this is characteristic for modern conditions. Its mastery by the commanders and staffs can provide a significant effect. The particular control methods, that is, those inherent to the carrying out of each of the control tasks, also need continuous upgrading.

The working out of the methods for the commander's adoption of the battle plan requires particular attention. The practice of working out several variations of the plan has proven effective, and here the commander mentally compares them, he discards the clearly disadvantageous ones, he compares the remaining ones with combat experience, he varifies them by calculation, he selects the most effective variation and draws up the plan. With the designated procedure the commander's thoughts are aimed at the shortest way of choosing the best variation of the plan, as a consequence of which he spends less time on making it. At the same time such an approach requires constant knowledge of the situation and the ability to anticipate possible changes in it. The adopting of a plan, as is known, is the result of the commander's creativity. It combines his intuition on the basis of previous experience, conclusions from the observed phenomena, including as a result of work on the terrain, and professional knowledge. At the same time scientific soundness relying on mathematical calculations is assuming an ever-greater place.[14]

During the years of the Great Patriotic War, a tendency could be noticed to work through the course of the future operation (engagement) with the leadership of the formations (field forces) in command-staff exercises on a map or on the terrain (on mock-ups). These were the first attempts to clarify the model of forthcoming combat operations. The practice of modeling using mathematical methods should rightly be employed at present and in the future, as it makes it possible to anticipate possible plans considering enemy operations and to make the best use of the available resources on the battlefield.

The diversity of information sources, its enormous volume and the increased demands on efficiency, completeness and reliability of the information have necessitated a search for the rational methods to organize the collection and processing of situational data. For this reason, in the conducted exercises they have begun to centralize the designated processes. A periodicity is established for the receipt of data considering their importance. This problem is often solved by the staffs of formations and units by working out a schedule for the transmission of data to the other services. A real opportunity has appeared to reduce the information circulating in the control systems by 15-30 percent by selecting that portion which is extremely necessary and at the same time sufficient for adopting the plan. The flow of information is reduced by at least 25-30 percent with the extensive use of formalized documents. The designated and a number of other measures make it possible, in addition, to avoid data duplication, to reduce the time on various types of coordination and to exclude the practice of requesting information, in other words, the "forcing out" of information.

There is no doubt that under present-day conditions troop control has assumed a clearly expressed collective nature. A large collective of officers is involved in performing a majority of the control tasks. Success in the work depends largely upon how smoothly this collective works and how efficiently it responds to the requests and demands of the commander. Consequently, ever-greater attention should be given to the psychological aspects of control work as during it definite relationships arise between the subjects and objects of control and these ties are complex relationships of individual persons and entire collectives.

Proceeding from this, recently recognition has been given to the well tested practice from the years of the Great Patriotic War of dividing the labor and specializing the officers from the various control bodies, in combining this with their interchangeability as well as the organizing of shift work. A shortening of time required to carry out the range of measures to organize combat is achieved also by regulating this time using network schedules. The experience of exercises shows that in this instance an opportunity appears to disclose and mobilize a concealed reserve of time and to improve the quality of the work with a clear allocation of responsibility between the commanders of different levels and their staffs. The system of network planning and control forces the commander to focus his attention and efforts on those areas which at the given moment put in jeopardy the final time for carrying out one or another task.

There must be a careful study of the question of determining the quantity, volume, content and procedure for working out documents and the replacement of some of them by less labor-intensive and easier to use. For example, in the U.S. Army this problem has been settled by working out first just one document, the battle order, and indicating only the new (unknown) information. Subsequently (with time available) the subordinates are sent other documents of a concretizing and complementary nature.[15]

With the greater complexity of control, one of the essential demands placed upon the officers is a rise in their staff skills which reflect the specific nature of the professional training for command personnel in the area of troop control and include profound and complete military-theoretical knowledge and practical skills, organization, the ability to rapidly analyze and generalize the situational data, to clearly report conclusions from an assessment of it, to prepare various operational and tactical calculations, to skillfully work out combat documents, to independently operate the control equipment and to give the troops the combat tasks set by the commander without delay.

Very important indicators of high staff skills include the ability of the officers to plot the situation on a working map quickly and correctly, to dictate the contents of any combat document directly in using the map, and to correctly orient himself in the terrain in a difficult operational-tactical situation. But the main thing in staff skills is all the creative and organizational activities of an officer in the process of troop control. It is rightly felt that the basic factors which determine this are the higher education and overall culture of officer personnel, the constant study of the new military equipment, the control equipment and military art and the continuous improving of work methods.

A correct work style by the commanders and staffs significantly helps to improve the efficiency of troop control. The timeliness of working out the question of improving the style of troop leadership at present is obvious. It is determined by the increased scale and complexity of the tasks, by the revolution in military affairs and by the necessity of raising the combat readiness of all the branches of troops and Armed Services.

An imperative task is a profound generalization, study, dissemination and introduction into the troops of advanced troop control experience of the best officers, generals and staffs in the course of tactical exercises and maneuvers as well as the mastery of the experience of famous military leaders of the past and the outstanding Soviet military leaders from the period of the Great Patriotic War considering present-day requirements.

Each exercise should provide the staffs with material for elaborating recommendations and conclusions on the basis of which it would be possible subsequently to improve staff work and better troop control. Here of important significance is the collection and accumulation of statistical material making it possible to provide an objective assessment of the effectiveness of the work (actions) of certain control systems and devices, as well as of the staff and individual officials. Such material can be the numerical data on the data handling time, the duration for carrying out various measures, the time for working out documents and so forth. Special scientific research groups should be set up for collecting and processing these data.

Proceeding from the experience acquired by the troops, it is advisable to isolate a number of interrelated elements in the organization of staff preparations in the formations and units.

In the first place, the clear definition and establishing of the goal of the preparations and training, the optimum volume and content of the training material and the most acceptable forms and methods of instruction.

Secondly, the creation of the necessary material facilities and situation corresponding to the actual working conditions of the staff.

Thirdly, a skillful combination of individual and integrated training in the system of commander exercises in conducting various drills, special courses and exercises.

As practice has shown, the best result comes from the independent work by an officer under the condition of a specific task and obligatory supervision of its execution, separate and joint staff training, operational-tactical quizzes and staff and command-staff exercises in the field. Recently technical training has begun to hold an ever-greater place.

The socialist competition also plays an important role in staff training. It is organized by the chief of staff in defining the areas of the individual socialist obligations for the officers in such a manner that the contents of each obligation as fully as possible corresponds to the tasks of the officer's further growth and a rise in the training level of the entire staff. The effectiveness of such a competition is achieved primarily by publicity and a systematic check on the course of carrying out the adopted obligations.

Each historical age creates its own type of military leader (commander) with his inherent definite qualities. These qualities are decisively shaped by the specific sociopolitical conditions, the nature of a war and the methods of waging it. The experience of the last war shows that a military leader from the army of a socialist state is a loyal son of his people and the proponent of CPSU ideology and policy in the troops. Among his personal qualities we must put military erudition, a developed intellect, a flexibility of thought, the capacity for prediction, organizational abilities, firmness of will, courage, decisiveness, reasonable risk and so forth. A Soviet military leader is also marked by such moral qualities as ideological conviction, political maturity, justness, honesty and humility.

In a concentrated form the demands placed on the cadres in the present stage of development of our society have been given in the party documents: "A modern leader should organically combine party loyalty with profound competence, discipline with initiative and a creative approach to the job. At the same time in any area a leader should also consider the sociopolitical and indoctrinational aspects, be responsive to people, to their needs and requests, and serve as an example in work and everyday life."[16]

FOOTNOTES

[1]See: "Partiya i Armiya" [The Party and the Army], Moscow, 1977, p 186.

[2]V. I. Lenin, PSS [Complete Collected Works], Vol 39, p 46.

[3]Ibid., Vol 36, p 200.

[4]K. Marx and F. Engels, "Soch." [Works], 2d Edition, Vol 11, p 456.

[5]M. I. Kazakov, "Nad Kartoy Bylykh Srazheniy" [Over the Map of Past Engagements], Moscow, 1971, p 87.

[6]K. K. Rokossovskiy, "Soldatskiy Dolg" [A Soldier's Duty], p 223.

[7]M. N. Tukhachevskiy, "Izbrannyye Proizvedeniya" [Selected Works], Moscow, 1964, Vol 1, p 194.

[8]G. K. Zhukov, "Vospominaniya i Razmyshleniya" [Remembrances and Reflections], Moscow, 1974, Vol 1, pp 390-391.

[9]V. I. Lenin, PSS, Vol 45, p 16.

[10]See: MYSL WOJSKOWA, No 4, 1971, p 8.

[11]See: KAMPFTRUPPEN, No 2, 1975.

[12]See: MILITÄRWESEN, No 8, 1975.

[13]See: VOYENNO-ISTORICHESKIY ZHURNAL, No 12, 1978, p 65; ZARUBEZHNOYE OBOZRENIYE, No 8, 1976, p 55, and others.

[14]For the methods of carrying out various sorts of calculations, see the book: A. Ya. Vayner, "Takticheskiye Raschety" [Tactical Calculations], Moscow, 1977.

[15]See NEWSWEEK, 5 November 1976.

[16]"Materialy XXV S"yezda KPSS" [Materials of the 25th CPSU Congress], Moscow, 1976, p 70.

CONCLUSION

During the period of the establishment of the Soviet state, V. I. Lenin elaborated the underlying principles for the leadership of social production and armed combat. He devoted particular attention to the necessity of mastering scientific control principles. Proceeding from this, the CPSU and the Soviet government have always devoted great attention to continuously improving control in all areas of social life, including leadership over the Armed Forces. This problem was posed very sharply by the 26th CPSU Congress. The party documents outline the basic ways for solving it.

Under the conditions of the existing threat of a new war, the commanders of the Soviet Army are confronted with difficult tasks. The search for a rational approach to troop control in an operation and combat and for improving its efficiency is a primary task, as the solution to it helps to maximize the existing combat capabilities of the troops and their moral-combat qualities.

Control in modern combat and an operation is one of the most difficult areas in the organized activity of people. The problem is that the content of control activity presupposes the necessity of carrying out an entire range of measures at a stipulated time and the scope of these measures has been continuously rising. The nature of armed combat has also become more complex. Consequently, the need has arisen for improving both the quality as well as the efficiency of leadership in their unity, for improving the style of activities carried out by the officials and thereby carrying out the tasks outlined by the USSR Minister of Defense in the area of eliminating the shortcomings which exist in this area and bringing control into full conformity with modern demands.

Troop control is the art of employing men and equipment on the battlefield. In being concerned with the problems of the effect on subordinate troops and the interaction of the latter with the control bodies, troop control is inseparable from military art. An improvement in it is possible only under the condition of a comprehensive approach to solving the problems considering the political and technical, economic and organizational, social and psychological aspects.

In achieving the designated goals, substantial help can be gained from the experience of the past, primarily the experience of the Great Patriotic War where mass armies equipped with advanced equipment were employed on the battlefields. This experience is valuable primarily in the fact that it makes it possible to conceive of the entire complexity and scope of activity, the role and place of the commander

in combat, and as well his subordinate control bodies. It provides an opportunity to disclose patterns and trends which appeared in combat activities, being simultaneously a basis for reflection, critical analysis and for thinking out possible ways for solving analogous problems in the future.

The experience teaches one main thing, the necessity of a commander's creativity. It cautions against routine, in convincing one that only a profound understanding of the situation, knowledge and professional skill, and the ability to apply the principles of military art under concrete conditions lead to victory. In the course of the war the most effective methods and procedures were found for solving many complex questions. Among them we must put the breaking through of deeply echeloned enemy defenses, the development of the success in the operational depth, the defeat of the enemy under the conditions of a relative equality of forces and a whole series of others. A knowledge of the ways to achieve success in an operation and combat to a significant degree broadens the overall and professional viewpoint of those who must carry out the task of securely defending the socialist fatherland as defined by the USSR Constitution. "We perceive the past," emphasized L. I. Brezhnev, "as a very rich reservoir of experience, as material for reflection and for a critical analysis of our own decisions and actions. We draw from the past inspiration for our present and future concerns."[1]

FOOTNOTE

[1]PRAVDA, 22 March 1977.

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