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USSR Report

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No 11, November 1985

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Except where indicated otherwise in the table of contents the following is a complete translation of the Russian-language monthly journal VOYENNO-ISTORICHESKIY ZHURNAL.

CONTENTS

CHANGING SUBSTANCE AND NATURE OF INITIAL PERIOD OF WAR

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 11, Nov 85 (signed to press 24 Oct 85) pp 10-20

[Article by Lt Gen A.I. Yevseyev, Candidate of Military Sciences, Docent: "On Certain Trends in the Changing Substance and Nature of the Initial Period of a War (Based on the Experience of World Wars I and II)"; passages enclosed in slantlines printed in boldface]

[Text] In the last two wars, the entry of the opposing sides into the war and the conduct of military operations at the beginning of the war comprised a specific period, which differed significantly in substance from subsequent periods and had a number of unique features. The beginning of the war marked a transition from peaceful, political forms of struggle to the use of force. After that only the forms and methods of warfare changed. Along with the beginning of military operations during that period, an entire system of political, ideological, economic and actual military measures were carried out, there was a readjustment in the perception of the people, and all forces were mobilized for combatting the enemy. The warring parties attempted to implement plans devised in peacetime and to employ means of warfare unknown to the enemy and new methods of conducting combat operations. And experience showed that the interweaving of numerous political, economic, military and other factors made that period extremely complex. It was particularly complex in World War II, which involved many dozens of nations on various continents and affected the vital interests of almost all of the world's peoples.

Questions pertaining to the initial period of the war were discussed in a number of works and articles by Soviet and foreign authors. (Footnote 1) (Ye.A. Shilovskiy, "The Initial Period of the War" in VOYNA I REVOLUTSIYA, October 1933; "Nachalnyy period voyny" [The Initial Period of the War], under the general editorship of S.P. Ivanov, Moscow, Voyenizdat, 1974; VOYENNO-ISTORICHESKIY ZHURNAL, No 10, 1959; Nos 8, 9, 1960. Problems pertaining to the initial period have also been discussed in the works of V.A. Melikov, A.M. Zayonchikovskiy and R.P. Eydeman, in the Works of Foch Kuhlman, Ludendorff and a number of other military theoreticians.) The experience acquired in this area is also highly important today for the continuing study of a large group of problems.

The initial period of a war, which came into being with the appearance of large-scale armies requiring mobilization, assembling and deployment, subsequently continued to change. The changes in its substance and its nature were influenced by many factors. In our opinion, the employment of new types of weapons and combat equipment by the warring parties and changing methods of unleashing wars should be considered to be the main ones. Specific, fairly stable trends took shape in the process of change.

The /trend of change in the substance of the initial period/ was manifested most vividly in the past two world wars. This is graphically depicted in Table 1.

The table shows that the initial period of World War I mainly involved mobilization, assembly and deployment of forces, and conversion of the economy from peacetime to wartime footing. Until these measures were completed, combat operations were conducted by relatively small groupings and with the limited objectives of covering the strategic deployment of the armed forces for conducting military operations in accordance with plans for the first operations, and frustrating planned implementation of mobilization and deployment of forces by the opposing side.

In order to forestall the enemy in preparing for active combat operations, however, in World War I, even before it was declared, the parties secretly placed part of their armed forces onto wartime status, made preparations for general mobilization and deployed forces in regions adjacent to borders.

The combat characteristics of the weapons and military equipment were greatly enhanced during the period between the wars, and the improved economic capabilities of the developed nations created the situation for maintaining air forces and formations of tank, motorized and other branches of troops in a state of mobilizational readiness in peacetime, which could be used for a surprise attack and the conduct of active combat operations from the beginning of a war. It was primarily the military-political leadership of fascist Germany which took advantage of this. When it prepared for its predacious wars, it planned and implemented most of the preparatory steps pertaining to the conversion of the national economy onto a war footing and the concentration and deployment of its armed forces prior to the war. This was done in order to simultaneously commit to battle the main forces of its army and to conduct extensive offensive operations from the very beginning in the interest of achieving important strategic results. "An operation will only make sense," Hitler maintained, "if we totally defeat a state with a single thrust." (Footnote 1) ("'Sovershenno sekretno! Tolko dlya komandovaniy !': Dokumenty i materialy" ["Top Secret! Only For Command!": Documents and Materials], Moscow, Nauka, 1967, p 143)

Soviet military thought during that period, although proceeding from the assumption that war between such states as Germany and the USSR would begin without advanced declaration with operations by large groupings of troops, accepted the possibility that the initial period would develop in approximately the same manner as in World War I. It was assumed that the main forces would go into action after border engagements and after the strategic deployment of the armed forces of the parties had been completed. It was

Table 1. Changes in the Substance of the Initial Period Based on the Experience of World Wars I and II*

War	Nations Taking Part in War	Substance	Duration	Results of Combat Operations by the Parties
1	2	3	4	5
		World War I, 1914-1918		
World War I, 1914-1918	Germany, Austria-Hungary, France, Russia	Mobilization, assembly and deployment of forces by parties; conduct of combat operations with limited forces for covering strategic deployment of armed forces in theatre of military operations and for detecting mobilization and deployment of enemy troops	15-16 days in West, 18-21 days in East	In West European theatre of military operations; occupation of Luxemburg and capture of Liege by German forces; capture of Muhlhausen by French forces, front of offensive around 120 km; depth of advance 35-40 km--in East European theatre of military operations; combat operations by small cavalry groups for reconnaissance purposes
		World War II, 1931-1945		
German-Polish War of 1939	Germany	Suprise attack on Polish territory by Wehrmacht; concentric strikes from Silesia and East Prussia with mission of routing main forces of Polish Army located west of Vistula and Narew rivers	1 Sep-2 Oct 1939	Routing of Polish Army, defeat of bourgeois-landowner Poland and occupation of its territory by German fascist forces; front of offensive 700 km; depth of advance 350-400 km; duration 17 days; average rate of advance 20-24 km per day
	Poland	Mobilization and deployment of armed forces; strategic forces; strategic defense for purposes of halting enemy's advance and gaining time to prepare for offensive by allied Anglo-French forces	1 Sep-2 Oct 1939	
Great Patriotic War of 1941-1945	Germany	Strategic offensive by main forces mobilized and deployed in advance with the objective of defeating the Soviet Army in the border regions and setting the stage for unhindered advance toward extremely important political and industrial centers of USSR		Advance by German fascist forces on main strategic axes temporarily halted by mid-July; main forces of Soviet Army suffered extensive losses but preserved fighting efficiency and stabilized defensive front

1	2	3	4	5
	Soviet Union	Forced strategic defense by troops of first strategic echelon for repelling enemy aggression and defeating enemy's assault groupings; simultaneous execution of mobilization, advancement and commitment to battle of strategic reserves, conversion of national economy to wartime footing	22 June-Middle of July 1941	Aggressor still succeeded in achieving important operational-strategic results; enemy's ground troops advanced up to 400-450 km to northwest, from 450 to 600 km to west and 300-350 km to southwest; military operations developed on front of more than 3000 km; average rate of advance by German forces was 20-30 km per day
War in Pacific and in Southeast Asia	Japan	General strategic offensive by Japanese forces on vast areas of Pacific and Southeast Asia	December 1941-April 1942	Philippines, Indochina, Thailand, Burma, Malaysia, Singapore and Indonesia under Japanese control by summer of 1942; Japanese forces approached India, Australia and Alaska; their swift advance frustrated all attempts by allies to organize resistance on important strategic lines
	USA	Strategic defense, mobilization and preparation of forces for switching to offensive		

*"Istoriya pervoy mirovoy voyny 1914-1918," Moscow, Nauka, Vol 1, 1975, pp 273-276; "Sovetskaya voyennaya entsiklopediya" [Soviet Military Encyclopedia], Moscow, Voyenizdat, Vol 2, 1976, pp 55-56; Vol 5, 1978, pp 554-557; "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II, 1939-1945], Moscow, Voyenizdat, Vol 3, 1974, pp 16-22; Vol 4, 1975, pp 34, 35, 58.

therefore believed that the initial period would include mobilization, border engagements for covering the concentration and deployment of troops, the deployment of the main forces under the plan for the war and their occupation of the forming-up position for conducting the first decisive operations. (Footnote 1) ("Vtoraya mirovaya voyna. 1939-1945" [World War II, 1939-1945], under the general editorship of S.P. Platonov, Moscow, Voyenizdat, 1958, p 170 In this case fascist Germany would be operating under the same conditions as the Soviet Union.

World War II was begun and conducted entirely differently than World War I, however. The aggressor's capability for unexpected and concentrated employment of such types of weapons and branches of troops as the aviation and tanks, as well as large motorized formations, permitted him to simultaneously destroy troops and extremely important installations to a relatively great depth. This drastically altered the conditions for the strategic deployment of armed forces by the nations subjected to attack and the nature of their operations, and consequently, also the substance of the initial period.

From the very beginning of its aggression, fascist Germany carried out extensive offensive operations with powerful groupings of troops created in advance and deployed in secret. The immediate objective was to route the first echelon of the opposing side's armed forces, to frustrate the deployment of its main forces and set the stage for a victorious conclusion of the war. As a result, the states which were subjected to a surprise attack were forced, as a rule, to conduct difficult offensive battles with forces of the first strategic echelon during that period. The mobilization, concentration and deployment of forces of the second strategic echelon and the reserve continued under cover of those battles.

In its most general form, the initial period of World War II was therefore a specific segment of time during which the belligerents conducted the first (offensive and defensive) operations with groupings of armed forces deployed by the time the war began for purposes of achieving immediate strategic objectives or creating advantageous conditions for subsequent military operations. The side subjected to a surprise attack also carried out overt mobilization and internal measures to convert the nation to a wartime footing.

And so, the general trend in the change occurring in the substance of the initial period during the two past world wars was that active military operations conducted for purposes of achieving crucial strategic objectives began to dominate during that period. The aggressor conducted preparatory measures, including the mobilization and deployment of forces for conducting the first operations, during the period preceeding the war.

The objectives assigned the armed forces during the initial period differed from those of World War I, and the quantity of personnel and equipment allocated for achieving them increased. The aggressor typically attempted to apply the entire power of its armed forces during the first strike, in order to disorganize command and control, to defeat the enemy's main groupings of forces, his aviation and navy, to stun him and deprive him of the possibility of resisting and taking retaliatory steps. In the war against France in 1940,

for example, 136 of 148 divisions mobilized by fascist Germany were concentrated for the initial thrust. This was more than 90 percent of all the Wehrmacht's ground forces. (Footnote 1) ("Sovetskaya Voyennaya Entsiklopediya," Moscow, Voyenizdat, 1980, Vol 8, p 328) The German fascist command used 190 divisions, around 4,300 tanks, 47,200 guns and mortars, and 4,980 aircraft (more than 83 percent of the ground forces and 62 percent of the aviation) for the surprise attack on the USSR. (Footnote 2) (Ibid., Vol 2, p 55) The moment at which the main forces were committed to battle in World War II was moved decisively closer to its beginning as a result.

The changing substance of the initial period of a war is a trend which continues today. A war against the USSR and other socialist commonwealth nations, should imperialism's aggressive forces succeed in unleashing one, will be a crucial armed conflict between the two opposite systems, capitalism and socialism. The objective of a future war by the USA against the USSR is described with absolute clarity in Directive No. 59 signed by former U.S. President J. Carter in 1980: the destruction of socialism as a social and political system. The main concept behind the strategy of "direct confrontation" is the unlimited employment of strategic offensive forces in the first strike.

Soviet military doctrine is a defensive one. This means that the USSR will never be the first to employ nuclear weapons or military force. In the face of the real threat on the part of the imperialists, however, the Soviet Armed Forces are constantly prepared for retaliatory actions: a resolute rebuff for any aggressor and if necessary, an all-destroying strike.

All of this provides reason to assume that unlike past world wars, the main substance of the initial period in the contemporary situation may involve nuclear strikes or strikes with conventional weapons by the belligerents and the conduct of active military operations from the very beginning with strategic groupings of forces deployed in peacetime for achieving the main objectives of the war. The mobilization and deployment of the armed forces in the theaters of military operations and the conversion of the economy to a wartime footing may be completed at the same time.

World Wars I and II demonstrated with absolute clarity a stable /trend of growing importance for achieving the objective of the initial period of concentrated employment of new weaponry/. During World War I, the states in both coalitions were already intensively readying new types of weapons (aircraft, dirigibles, submarines, flame-throwers and chemical agents), with the surprise employment of which it was planned to stun the enemy and create good conditions for conducting subsequent combat operations. V.I. Lenin pointed out this trend. The German bourgeoisie, he wrote, "selected the time for the war most convenient from its standpoint, utilizing its latest improvements in military equipment and anticipating new weapons already planned and decided upon by Russia and France." (Footnote 2) (V.I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 26, p 16) As the destructive power and range of the weapons and the mobility of the troops increased, the possibilities for achieving increasingly more important strategic results during operations of the initial period also increased. Fascist Germany attempted

to utilize the factor again at the beginning of World War II. It had a powerful base of materiel and attempted to put into force its superiority in technical means of conducting warfare. The surprise and large-scale employment of those weapons permitted the German fascist command to achieve significant results within a short period of time. In the war against Poland, for example, massive strikes by German aircraft against airfields, road junctions and troops concentration sites made it possible to rapidly gain air superiority, frustrated the mobilization and strategic deployment, and disorganized control of the nation and its armed forces. The Wehrmacht's superiority in mobility and maneuverability made it possible to rapidly penetrate the Polish Army's defense and split its front into pieces, to encircle and eliminate the main groupings of forces.

At the beginning of the Great Patriotic War, as a result of the concentrated employment of aircraft, tanks and motorized formations, the German fascist army succeeded in destroying the Soviet Forces' strategic defensive front, moving deep into their rear area, preventing reserves moved up from the depth from concentrating and from occupying their designated lines, frustrating or weakening counterthrusts and in many cases, encircling large groupings of troops or cutting them off from the main forces. (Footnote 1) ("Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II, 1939-1945], Vol 4, p 489)

The employment of modern weapons can have an immeasurably greater effect upon the achievement of the objectives for the initial period of a future war. And we must not forget the fact that during the entire period since the war, the USA has been making a desperate effort to gain technical military superiority over the USSR. It has created an enormous arsenal of the latest weapons for implementing its aggressive schemes. Imperialist circles in the USA and their allies in NATO plan to use these latest weapons to inflict a "disarming" strike upon the Soviet Union and other Warsaw Pact nations, to deprive them of the possibility of taking retaliatory action, and to achieve their own objectives within a short period of time.

A /trend of growing influence of the results of the initial period upon the subsequent course of combat operations/ was extremely clearly manifested. It took shape during World War I. Although the military operations conducted during its initial period had limited objectives, they created favorable conditions for deploying groupings of armed forces and beginning the first operations. During World War II, this trend underwent further development. As a result of the large-scale use of new types of weapons and military equipment, as well as decisive methods of conducting combat operations, the German fascist army succeeded in capturing enormous territories during the initial period and defeating large groupings of armed forces, thereby creating favorable conditions for the subsequent armed conflict. Furthermore, in those case in which a nation subjected to aggression was inadequately prepared militarily and economically and occupied little territory, it suffered total defeat during the initial period (Poland, Holland and Denmark).

Even when the belligerents on both sides had considerable forces and equipment but one of them forestalled the other in deployment and execution of the strike,

the outcome of operations during the initial period placed the nation subjected to the surprise attack into an extremely difficult position and had a significant effect upon the subsequent course of the armed conflict. The unfavorable outcome of the initial period of the Great Patriotic War, for example, continued for a long time to have a negative effect upon the course of military operations and made it necessary for the Soviet people and their Armed Forces to apply enormous efforts to halt the enemy and alter the course of the struggle to their benefit.

In the Pacific theater, the American aviation on the Hawaiian and Philippine Islands was destroyed, and England's aviation and navy in Malaya suffered great damage as a result of strikes by the Japanese fleet and aviation in December of 1941. The swift advance of the Japanese, who held the initiative absolutely, frustrated all attempts by the allies to organize a defense on important strategic lines. And despite the great economic and military capabilities of the USA and England, the results of the initial period affected the subsequent course of military operations for a long time.

The constant development of weapons provides the basis for assuming that the results of the initial period in a future war can have a considerably greater affect upon the course and the outcome of military operations than in the past.

Stockpiles of nuclear ammunition and various delivery systems created in the USA and other NATO nations are perfectly adequate for rapidly destroying or damaging many times over all of the important targets to the entire depth of the nation subjected to attack. The strategic weapons presently possessed by the United States, for example, can lift more than 12,000 units of nuclear ammunition at a single launching (takeoff). The U.S. Government plans to increase its strategic first-strike capability to 20,000 nuclear charges by 1990. (Footnote 1) ("Otkuda iskhodit ugroza miru" [Whence Comes the Threat to Peace], 3rd edition, Moscow, Voyenizdat, 1984, pp 17, 31) Their total power exceeds hundreds of times over the power of all explosives and ammunition used by the warring states of the world during World War II. Plans worked out by the U.S. and NATO command set the mission of destroying both nuclear and conventional weapons of the Soviet Union, its military-economic facilities, railroad junctions, control agencies and posts, and destroying the main groupings of the armed forces. The USA, Defense Secretary C. Wineberger has stated, must acquire "the capability for delivering a nuclear strike against the Soviet Union which threatens the existence of the society itself." (Footnote 2) (PRAVDA, 3 July 1985) Objectively, the employment of the qualitatively new weapons in a future war will create the conditions necessary for achieving during its initial period, results which can in no way be compared with the results of the initial period of past wars. The importance of this period lies in the fact that the very first massive nuclear strikes can to an enormous degree predetermine the entire subsequent course of the war and result in losses in the rear area and in the forces, which can place the people and the nation into an exceptionally difficult situation. (Footnote 3) ("XII syezd Kommunisticheskoy partii Sovetskogo Soyuza. Stenograficheskiy otchet" [The 22nd Congress of the Communist Party of the Soviet Union: Stenographic Record], Vol II, Moscow, Gospolitizdat, 1962, p 112) Because of this

the initial period of a future nuclear-missile war could be the main and decisive period, which will greatly predetermine the subsequent development of the armed conflict and in certain situations, the outcome of the war. Even if the war begins with the employment of conventional weapons, which have great destructive power and considerable range, airmobile formations and powerful armored equipment, the initial period may have an enormous influence upon the subsequent course of military operations.

A /trend of increasing spacial scope for military operations/ during the initial period was clearly revealed during the two world wars. During the initial period of World War I, unlike previous wars, German forces occupied the territory of neutral Luxemburg and captured the Belgium fortress of Liege in the West European theater.

During the initial period of World War II combat operations developed simultaneously over vast areas and enveloped areas deep in the rear of the belligerents. In the war against Poland, for example, they were conducted on a front of 700 kilometers and to a depth of 350-400 kilometers. The average daily rate of advance by the German fascist forces was 20-24 kilometers. During the initial period of the Great Patriotic War the armed conflict developed on a front of more than 3,000 kilometers. By mid-July striking groups of the Wehrmacht on the western sector had advanced to a depth of 400-600 kilometers, moving at an average daily rate of 20-30 kilometers. On certain days the enemy's tank groupings advanced 40 to 60 kilometers.

The fact that the opposing sides can use modern strategic nuclear weapons, particularly missiles with unlimited range and capable of striking at targets located anywhere on the planet, assures immeasurable expansion of the borders of an armed struggle, which may embrace all of the world's continents from the very beginning and become intercontinental.

Today, it is apparent that a different approach must be taken to the assessment of the time factor. The drastically increased range and speed of action of modern weapons makes it possible to rapidly destroy targets at various depths. This is graphically depicted in Table 2.

Table 2. Approximate Data on Missile Flight Times

(1) Расстояние до объекта поражения, км	2000	4000	6000	8000	10 000	12 000
(2) Время полета ракеты, мин	6—8	15—17	20—22	30	33	35

Key:
1. Distance to target, km
2. Missile flight time, min

Since the new weapons make it possible to achieve the immediate strategic objectives far more rapidly than was the case in World War II, it is most likely that the initial period of a future war may also be briefer.

Consequently, the initial period of a future war will differ substantially from the initial periods of past wars with respect to scale of military operations. And this applies not just to a nuclear war. The new concept of the AirLand operation adopted by the Pentagon as part of the "direct confrontation" strategy, calls for the surprise launching of military operations, the infliction of maximum destruction upon the enemy with the latest weapons and determined operations into the depth by ground forces, air and naval forces, which simultaneously envelop all of the nation's territory.

The warring sides always attempted to use the element of surprise as one of the most important factors for achieving the assigned objective. /The trend toward the achievement of surprise in an attack by the aggressor was particularly vividly manifested in World War II/. The military-political leadership of fascist Germany and militaristic Japan used all possible means for achieving this: the press, radio, diplomatic channels, false documents, etc. Dissemination of false information was practiced on a large scale. Prior to an attack the aggressor would attempt to create a psychological climate in his nation and the region as a whole, which would permit him to "justify" his treachery. German fascism and Japanese militarism made extensive use of deliberate lies, blackmail and the intimidation of other nations with nonexistent danger for this purpose.

The difference in the degree of readiness of the armed forces on the opposing sides predetermined to a significant degree the aggressor's success and the unsuccessful outcome of the initial period for nations subjected to a surprise attack. Hitlerite Germany's treacherous surprise attack on the Soviet Union, for example, placed forces of the western border military districts into extremely difficult situations for conducting their initial operations. Because of the incomplete preparedness of the formations, they were committed to battle piecemeal and without essential fire and air support. The mobilization, concentration and operational deployment of the troops were carried out after combat operations had already begun, under air strikes and sometimes, under attack by enemy groupings. All of this was one of the most important reasons why events developed disadvantageously for us at the beginning of the war. In addition to this, it should be pointed out that the more the element of surprise came into play, the more effort and time were required of the nation subjected to aggression for stabilizing the front and altering the strategic situation in its favor.

In their preparations for a new war against the socialist nations, the aggressive imperialist states continue to count mainly on a surprise attack. Furthermore, the possibility of carrying out a so-called preventive strike, which is essentially an anticipatory attack, should the military-political leadership of the USA unleash a war, has been elevated to the rank of state policy. "The treacherous, predacious invasion of another's territory without a declaration of war," Marshal of the Soviet Union, Comrade S.L. Sokolov, candidate member of the Politburo of the CPSU Central Committee and Minister of Defense of the USSR, states, "has become a sort of norm for the imperialist aggressors." (Footnote 1) (KOMMUNIST, No 6, 1985, p 68)

The organizational development and the technical equipment of the armed forces of the USA and its NATO allies are being carried out, and various methods are being worked out for unleashing and conducting a war in the spirit of these aggressive designs. Large groupings capable of conducting active offensive operations for achieving the objectives of the initial operations without additional reinforcements have already been created near the borders of the socialist commonwealth nations. Strategic first-strike weapons are being developed at an accelerated pace, which can be placed into action immediately at the proper signal. Agencies and posts for troop control and command have been set up in the theaters of military operations, and a global communications system has been established. The USA with its enormous nuclear capability stubbornly resists accepting a commitment not to be the first to employ nuclear weapons.

Various types of exercises and large-scale maneuvers by groupings of NATO's armed forces are regularly conducted near the borders of the Warsaw Pact nations in a situation approaching actual combat to the maximum possible degree. Each year 300,000-350,000 soldiers and offiers, up to 15,000 units of tracked equipment, more than 2,000 combat aircraft and 300-500 ships take part in them annually. (Footnote 1) (KRASNAYA ZVEZDA, 16 January 1985) Different versions of general and "limited" wars against the socialist nations are openly practiced in these exercises. Large mobilizational activities and strategic troop movements, and joint operations involving conventional, nuclear and chemical weapons are planned and rehearsed.

The "Global Shield" exercises have been regularly conducted of late, which are unprecedented with respect to scale and the composition of the forces involved and which practice variations for conducting a strategic nuclear war against the Soviet Union. Intercontinental ballistic missiles are launched, and massive flights are made toward the USSR by strategic aircraft during these exercises. (Footnote 2) ("Otkuda iskhodit ugroza miru," p 68) This has made it more and more difficult to distinguish these exercises and maneuvers from the real initiation of aggression. They therefore make it far easier to carry out secret preparations for a war against the USSR and to achieve a surprise attack. Along with the material preparations, unceasing massive "psychological attacks" continue as in the past to be carried out against the socialist social system and Marxist-Leninist ideology. Entire streams of lies and slander sweep onto the socialist nations.

The possibility of a surprise attack by an aggressor employing all the available power of its armed forces has brought forth the requirement that the army and navy be maintained in a constant state of readiness to repel aggression and inflict powerful retaliatory strikes upon the enemy.

And so, the experience of the past two world wars makes it possible to conclude that the substance and the nature of the initial period have changed and that its influence upon the subsequent course of the war has increased. The scope of military operations has grown immeasurably. The surprise factor has assumed a greater and greater role. The likelihood of the employment of qualitatively new types of weapons with enormous destructive power and the changes which have occurred in methods of conducting military operations

provide the basis for assuming that the trends noted will retain their significance also in a future war.

The World War II experience made it perfectly apparent that the initial period had come to involve mainly extremely intensive combat operations to seize the initiative and achieve the most important strategic objectives. The change in the procedure for entering a war was brought about by qualitative changes in the entire system for preparing a nation for war, particularly in the sequence and the time involved in accomplishing the strategic deployment of the armed forces. It became imperative to take the main steps to prepare for frustrating aggression when an actual threat of attack arose. It became particularly important to reduce the amount of time required to accomplish them to the maximum possible degree.

The initial period of the Great Patriotic War demonstrated once again that it is necessary to vigilantly monitor the intrigues of the aggressive imperialist states and to always know the status of their armed forces and the possible nature of their activities. The more serious becomes the threat of the surprise unleashing of a war by an aggressor, the greater must be the combat readiness of the army and navy and the more stable must be the system of leadership of the armed forces and of the nation as a whole. The repelling of a surprise attack, the successful development of military operations and the subsequent course of a war depend to a crucial degree upon the capability of the armed forces during the very first minutes of the war to make determined and effective use of their combat strength, to employ the weapons at their disposal and immediately carry out the missions assigned to them.

Because of the increased role of new types of weapons and combat equipment in the achievement of the objectives for the initial period, it has become particularly important to maintain the technical equipment of the troops and naval forces at a high level. The lessons from the past war teach us that in order for the armed forces not to be caught unawares, they must always have the most modern types of weapons and combat equipment, which incorporate the latest scientific achievements and which are not inferior to analogous weapons systems of the armies of likely enemies with respect to tactical and technical characteristics.

The fact that questions pertaining to the initial period had not been adequately worked out theoretically prior to the war had a certain negative effect upon the course of military operations at the beginning of the Great Patriotic War. It is extremely important for military science to thoroughly study in peacetime all of the most important problems pertaining to preparations for and the conduct of the armed struggle during the initial period. It is highly important to study the initial periods of the past world wars and those of local wars and conflicts unleashed by the imperialist states.

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DEVELOPMENT OF COMBINED-ARMS TACTICS BETWEEN CIVIL AND GREAT PATRIOTIC WARS

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 11, Nov 85 (signed to press 24 Oct 85) pp 36-46

[Article by Col R.A. Savushkin, Doctor of Historical Sciences, and Col N.M. Ramanichev, Candidate of Historical Sciences: "The Development of Tactics for Combined-Arms Combat During the Period Between the Civil and Great Patriotic Wars"; passages enclosed in slantlines printed in boldface]

[Text] The development of the tactics of combined-arms combat in the period between the civil war and the Great Patriotic War, like that of Soviet military art as a whole, was determined primarily by the extensive introduction of new military equipment and the motorization and mechanization of the troops. The nature of possible actions by the likely enemy was also taken into account.

Penetration of a prepared enemy defense to the entire tactical depth and the creation of conditions for developing the success with means of the army command was considered to be the most important mission of the /offensive battle/ in the 20's. The World War I experience showed that the completion of this mission depended primarily upon achieving rates of advance which would permit forestalling the enemy in the regrouping of forces and the creation of a solid defense on the new line. The combat capabilities of our troops did not provide for such a rate of advance during that period, however, and they therefore counted on gradually overcoming the enemy's defense. Halts were permitted after a certain defensive zone or a part of it was captured. "A captured zone," one of the works on tactics popular at that time stated, "should be adapted for defense. The organization of the subsequent advance, if enemy resistance has not been broken, requires arranging for additional reconnaissance and bringing up artillery and machine gun units." (Footnote 1) (N. Kakurin, "Sovremennaya taktika" [Modern Tactics], Moscow, Voyenizdat, 1926, p 89) It was believed that under those circumstances the troops could advance an average of 5-6 kilometers per day.

In the 30's, as a result of the forces' new equipment (long-range artillery, tanks and armored vehicles, and combat aircraft) and the existance of new branches of troops (armored and airborne), it became possible to switch to more effective forms of combat operations. On the basis of this, Soviet military science worked out the /theory of the offensive battle in depth/.

The basic principles were described at the beginning of the 30's in the works of Soviet military figures and military theoreticians: M.N. Tukhachevskiy, V.K. Triandafilov, A.I. Yegorov and others. The fact should be stressed that foreign manuals of that time did not yet cover the possibility of simultaneous action to the entire depth of the enemy's defense for puposes of penetrating it.

The first document governing preparations for and the conduct of the offensive battle in depth were the "Temporary Directions for Organizing the Battle in Depth." The forces received them in February of 1933. The "Temporary Instructions for the Battle in Depth" were issued the following year. The "Instructions for the Battle in Depth," approved by the People's Commissariat of Defense of the USSR on 9 March 1935, were then issued. The results of the further development of the theory of the offensive battle in depth were reflected in the Temporary Field Manual of 1936 and in the drafts of the 1939, 1940 and 1941 Field Manuals, as well as the three-volume work "Obshchaya taktika" [General Tactics] published in 1940-1941.

The offensive battle in depth basically consisted in "overcoming the entire depth of the enemy's defensive zone without stopping to the point at which it had been completely destroyed and the positioned artillery had been captured." (Footnote 1) ("Vremennyy Polevoy ustav RKKA (PU-36)" [Temporary Field Manual of the Workers' and Peasants' Red Army (PU-36)], Moscow, Voyenizdat, 1937, p 120) The experience with maneuvers, particularly in the Kiev (1935) and Belorussian (1936) military districts, confirmed that constant combat action against the enemy's defense to its entire depth (using aircraft, artillery, long-range tanks and airborne forces) could deprive the enemy command of the possibility of employing its long-range weapons (artillery) against the attackers, of maneuvering reserves, moving forces from other sectors, executing a withdrawal in case it became impossible to hold the defended lines or at the danger of encirclement, and supplying its troops with ammunition. It was also demanded that the tactical zone of the enemy's defense, which was up to 18-20 kilometers in depth, be penetrated by rifle formations on the first day of the offensive (day's objective). (Footnote 2) ("Istoriya voyn i voyennogo iskusstva" [History of Wars and Military Art], Moscow, Voyenizdat, 1970, p 110)

In order to achieve such a rapid rate of advance, it was considered essential to have units and formations in a combat formation which would make it possible to take massed action against all elements of the enemy's defense. The battle formation of a rifle corps consisted of an assault and a holding force, a reserve, long-range artillery groups, artillery groups assigned missions of destruction (AR), an air defense corps grouping (it later came to be called an antiaircraft artillery group--ZAG), a powerful group of long-range (DD) tanks (up to a mechanized brigade) and an air group assigned for the duration of the battle. (Footnote 3) ("Instruktsiya po glubokomu boyu (1935)" [Instructions for the Battle in Depth (1935)], Moscow-Leningrad, NKO Publishing House, 1935, pp 24-28; "Vremennyy Polevoy ustav (PU-36)" [Temporary Field Manual (PU-36)], pp 56-68; "Boyevoy ustav artillerii (1937)" [Artillery Field Manual (1937)], Part 2, Moscow, Voyenizdat, 1937, pp 30-33; "Vremennoye nastavleniye po protivovozdushnoy oborne voysk (1936)" [Temporary Manual on Troop Air Defense (1935)], Moscow-Leningrad, Voyenizday, 1936, p 52) The

rifle division had the same battle formation. However, it also included groups for long-range and direct support (DPP and NPP) and artillery groups for support of infantry (PP) (see Diagram 1). When necessary an airborne force could be dropped into the enemy's rear area for the benefit of a corps (or division).

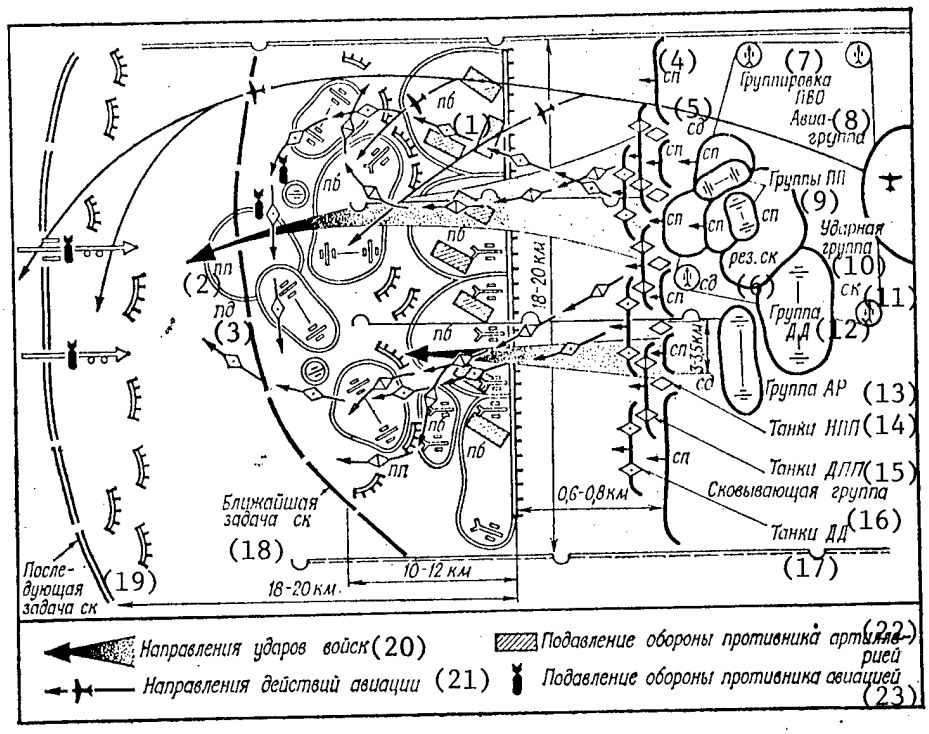

Diagram 1. Offensive By Rifle Corps and Division (according to 1936 Field Manual)

Key:

1. Infantry batallion
2. Infantry regiment
3. Infantry division
4. Rifle regiment
5. Rifle division
6. Reserve rifle corps
7. Air defense grouping
8. Air group
9. Infantry-support groups
10. Striking group
11. Rifle corps
12. Long-range group
13. Artillergy group assigned missions of destruction
14. Tanks for immediate support of infantry
15. Tanks for long-range support of infantry
16. Holding group
17. Long-range tanks
18. Immediate objective of rifle corps
19. Next mission of rifle corps
20. Axes of thrusts
21. Axes of air operations
22. Suppression of enemy defense with artillery
23. Suppression of enemy defense with aircraft

The corps (or division) assault group was designated for attacking on the main axis. It was assigned the mission of penetrating the enemy's defense

and destroying his weapons. At least two-thirds of all the formation's forces were assigned to the assault group. The holding group operated on an auxiliary axis with the mission of capturing individual strongpoints and drawing off part of the enemy forces, thereby assuring success for the assault group.

According to the theory of the offensive battle in depth, the long-range (DD) tank groups were to penetrate the enemy's defense immediately following the artillery preparation and combat the enemy's artillery and tanks in the depth. The other tank groups (DPP and NPP) were designated for operating jointly with the infantry until it had accomplished its objective of the day.

The conclusion was drawn from the results of experimental exercises conducted in the Volga, Leningrad and Belorussian military districts that "the separation of the tanks into three groups complicates interaction and control." It was therefore deemed expedient to combine the NPP and DPP groups into a single, more powerful group of tanks in support of infantry (TPP). "Depending upon their features," the PU-36 stated, "tanks attached to the troop formations are either turned over to the infantry for reinforcing the TPP groups or are used to form a group of long-range tanks (TDD) for penetrating into the enemy's depth." (Footnote 1) ("Vremennyy Polevoy ustav RKKA (PK-36), p 64) Furthermore, the number of tanks allocated for support of infantry and their density were constantly increasing. While it was considered adequate to have 15-20 tanks per kilometer of front at the beginning of the 30's, twice that density was demanded on the eve of the war. (Footnote 2) ("Voyna i revolutsiya" [War and Revolution], Book 5-6, 1936, p 82; "Istoriya voyennogo iskusstva" [History of Military Art], Moscow, Voyenizdat, 1984, p 94)

Based on the experience in the fighting on the Khalkhin-Gol in 1939 and the Karelian Isthmus in 1939-1940, it was decided to abandon the division of the battle order of attacking rifle formations and units into assault and holding groups, and tanks into TPP and TDD groups. In accordance with the draft 1941 Field Manual, the battle order of a rifle corps in an offensive battle was divided up into battle echelons, artillery groups, groups of tanks in support of infantry (TPP) and reserves (general, tank, artillery and antitank) (Diagram 2). It was recommended that a rifle division be formed into one or two echelons, a rifle regiment into two or three, and battalions and companies into two. This arrangement was more in conformity with the requirements of the offensive battle in depth.

The rate of advance could be increased by the actions of specially allocated rifle formations of forward detachments provided with tanks and artillery and designated for capturing the enemy's second defensive zone. If the rate of advance slowed, the draft Field Manual of 1941 called for committing mechanized-and-cavalry, tank and air formations at the disposal of the army or front command to the battle for purposes of completing the breakthrough or for operating in the enemy's rear area. (Footnote 3) ("Polevoy ustav Krasnoy Armii 1941 g. (proyekt)" [1941 Field Manual of the Red Army (Draft)], Moscow, Voyenizdat, 1941, p 90)

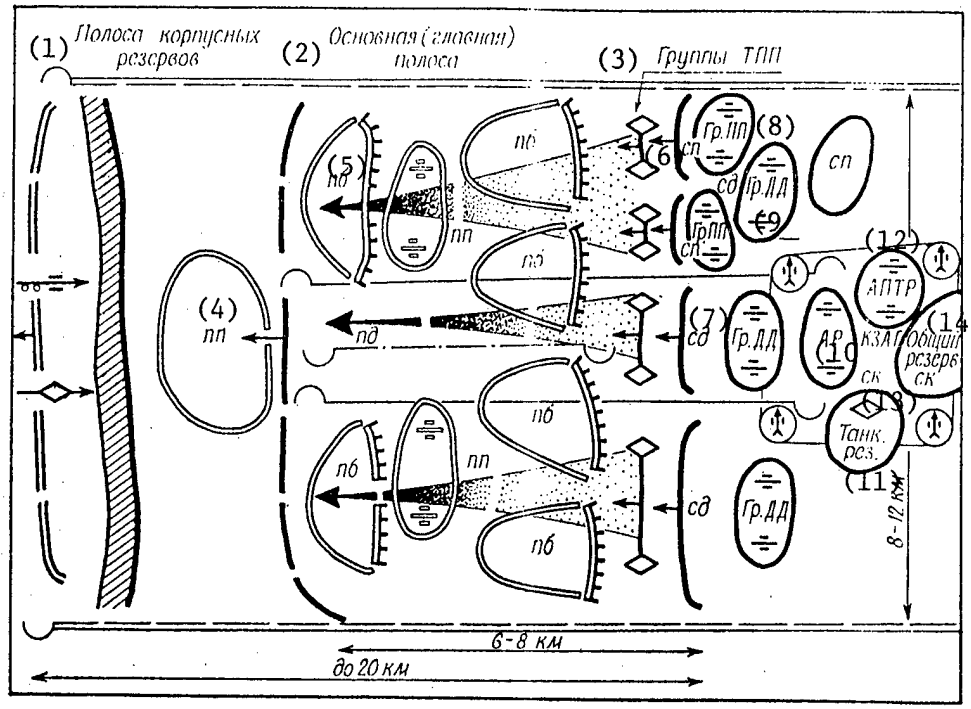

Diagram 2. Offensive by Rifle Corps According to Prewar Views

Key:

1. Corps reserves' zone of responsibility
2. Basic (main) zone
3. Groups of tanks in support of infantry
4. Infantry regiment
5. Infantry battalion
6. Rifle regiment
7. Rifle Division
8. Infantry support group
9. Long-range group
10. Artillery assigned missions of destruction
11. Tank reserves
12. Artillery antitank reserve
13. Rifle corps
14. General reserve of rifle corps

It was planned to increase the rate of advance also by enhancing the effectiveness of fire action against the enemy. This was achieved by increasing the firepower of the ground forces, particularly the artillery. The effectiveness of its fire was enhanced by increasing the density of guns and mortars. While it was considered adequate to have 30-60 guns per kilometer of breakthrough front in the 20s, a density of 50-100 guns and mortars was called for immediately prior to the war. During the period of artillery preparation it was required that the enemy be affected to maximum depth. An attack by infantry and tanks, and their offensive in the depth of the enemy's defense were to be constantly supported and accompanied with artillery fire. Methods of conducting fire were improved. On the eve of the war, for example, artillery

preparation was to be carried out in the form of a barrage or successive fire concentration (PSO), or a combination of these two types of fire.

A great deal of attention was given to the concentration of personnel, weapons and equipment on the axis of the main strike. Immediately before the Great Patriotic War it was felt that a double or triple superiority in personnel and weapons had to be created on the main axis for successfully breaking through an enemy defense prepared and occupied in advance. It was therefore assumed that a rifle corps could penetrate the enemy's defense in the defensive zone of an infantry division (8-12 kilometers) operating on the main axis, and a rifle division could effect the breakthrough on an infantry regiment's sector (2.5-3.5 kilometers).

The organization of precise interaction was extremely important in a battle involving diversified forces. The draft field manuals of 1939, 1940 and 1941 included a special section, "Interaction Among Branches of Troops," which did not exist in previous manuals. The organization of interaction among infantry, artillery, tanks, aircraft and special troops was assigned to the overall commander, who was to perform most of the work of coordinating their efforts in a battle.

/In the tactics of the defensive battle/ during the period between the wars the main problem was that of enhancing the stability of the defense, which Soviet military theory always considered together with the offensive. The stability of a defense was to be achieved by altering the width and depth of the areas of responsibility of the defending formations, increasing the tactical densities, making skillful use of the terrain and its engineer equipment, developing the fire system, the antitank and air defenses, and improving the battle formations and operating procedures of the troops.

As the striking power and offensive capabilities of our likely enemies grew, the defensive zones were narrowed and their depth increased. This trend continued throughout the entire period between the wars (see table).

Improving the layout of defense as a whole helped substantially to enhance the stability of a defense. In the 20's it was felt that the corps should equip the following for a defense: a security zone occupied by subunits of first-echelon units; a main resistance zone (the basic zone, later called the main zone) for divisions of the containment group; a zone of the reserves occupied by corps (sometimes in part by division) reserves or assault groups. The main zone was broken down into three positions (lines): a main defensive position, the position of partial reserves (the assault group's) and the artillery's position. (Footnote 1) ("Boyevaya sluzhba pekhoty" [Combat Service of the Infantry], Moscow, Publishing House of the Higher Military Editorial Council, 1924, p 120; N. Kakurin, "Sovremennaya taktika," p 60)

More precisely defined views were later developed for delineating the zones and positions, their depth, their distance one from another and their purpose. Toward the end of the 30's and just prior to the war the tactical defensive zone was made up of two zones (see Diagram 3). A security zone (no-man's land) 12-15 kilometers in depth was to be created in front of the main (basic) zone. It increased the total depth of the tactical defensive zone and

Table. Changes in the Width and Depth of the Zones of Rifle Formations in a Defense (Based on Exercises)*

(1) Период	(2) Стрелковый корпус		(3) Стрелковая дивизия	
	(4) Ширина полосы, км	(5) Глубина полосы, км	(4) Ширина полосы, км	(5) Глубина полосы, км
1921—1929 гг.	30—60	15—18	10—20	3—5
1930—1938 гг.	24—30	20	8—12	4—6
1939—1941 гг.	20—25	15—20	6—8—10	8—10

*Compiled from the following: TsGASA [Central State Archives of the Soviet Army], fund 37977, inventory 3, file 606, sheets 171, 178; file 660, sheet 542; file 604, sheet 102; fund 33988, inventory 2, file 702, sheet 644; PU-36, p 135; "Istoriya voyn i voyennogo iskusstva," Moscow, Voyenizdat, 1970, p 112; M.S. Knyazev, "Oborona strelkovogo korpusa" [The Rifle Corps' Defense], Moscow, Voyenizdat, 1940, p 27.

Key:
1. Period
2. Rifle Corps
3. Rifle division
4. Width of zone, km
5. Depth of zone, km

increased its stability. The main zone continued to consist of three positions, but their purpose and their arrangement with respect to one another were defined more specifically.

In the mid-30's and immediately prior to the war the stability of a defense was increased by creating tank and antitank reserves, an antiaircraft artillery group (ZAG) and detachments for defending the rear area against enemy airborne forces. (Footnote 1) ("Vremennyy Polevoy ustav RKKA (PU-36), p 150; "Obshchaya taktika" [General Tactics], Moscow, Voyenizdat, Vol 1, 1940, pp 20, 71; M.S. Knyazyev, "Oborona strelkovogo korpusa," pp 3, 34; P.P. Kuznetsov, "Taktika tankovykh voysk" [Tactics of Tank Troops], Moscow, Voyenizdat, 1940, pp 133, 142)

Engineer preparation of the terrain and improvement of the system of artifical obstacles were assigned an important role with respect to enhancing the stability of a defense. While the engineer preparation was based on the building of squad-platoon trenches in the 20's, in the 30's the stress was on creating battalion defensive areas provided with trenches for the rifle squad, connecting trenches and other engineer structures, and on the establishment of antitank lines and areas and antitank obstacles. Continuous trenches were built on an experimental basis in some exercises. In exercises at the Totskiy camps in September of 1933, for example, a rifle division defended on a 12-kilometer front and prepared 88 kilometers of trenches (along with other defensive structures) with machines in 5 days. (Footnote 2) (TsGASA, fund 37977, inventory 3, file 612, sheet 226) Exercises conducted in 1934 totally confirmed

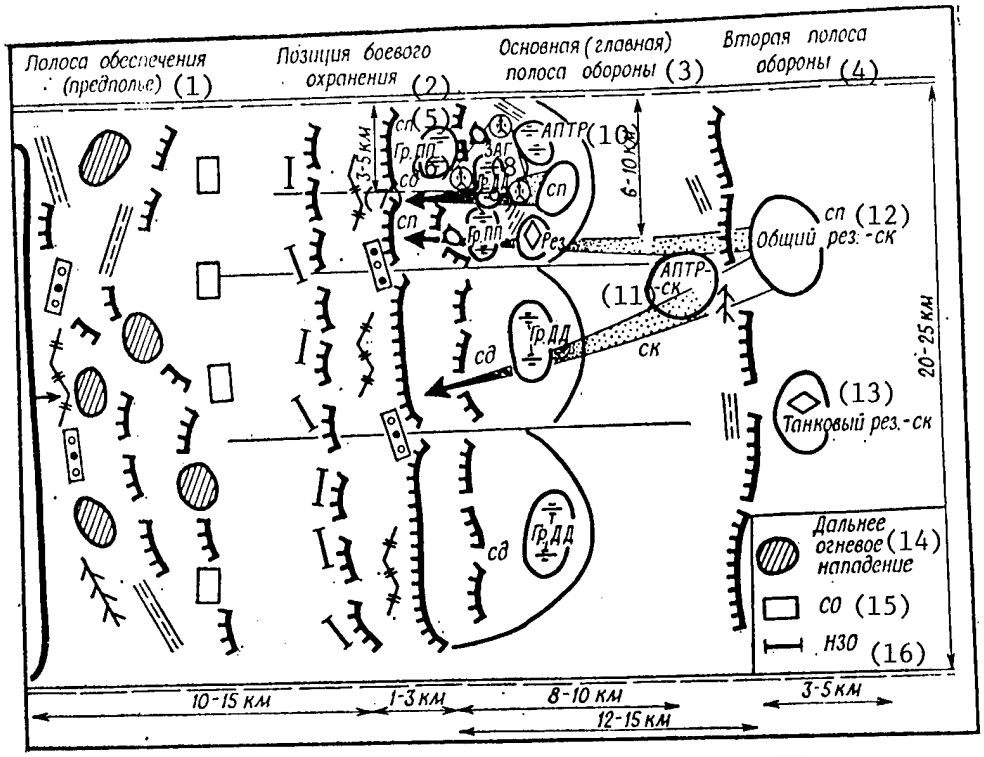

Diagram 3. Defense of a Rifle Corps According to Prewar Views

Key:

1. Security zone (no-man's land)
2. Forward edge of battle area
3. Basic (main) defensive zone
4. Second defensive zone
5. Rifle regiment
6. Group in support of infantry
7. Rifle division
8. Antiaircraft artillery group
9. Long-range group
10. Artillery antitank reserve
11. Artillery antitank reserve: rifle corps
12. General reserve: rifle corps
13. Tank reserve: rifle corps
14. Fire onslaught (long range)
15. Outposts
16. Fixed barrage

the advantages of a defense based on a system of trenches. (Footnote 1) (TsGASA, fund 37977, inventory 3, file 51, sheets 6, 22; file 659, sheets 7-23) Immediately prior to the war, the main requirement made of field fortification were described in the textbook "Obshchaya taktika" in the following manner: "The modern system of trenches is based on a network of trenches and should provide reliable protection for the soldiers and weapons located therein...." Unfortunately, these views were not put into practice. The engineer preparation of terrain in exercises and classes and in cover areas along the state border continue to be focalized. Continuous trench lines were not built in a defense.

The fire system was assigned an exceptionally important role with respect to enhancing the stablility of a defense. While medium machine guns were

the main weapon used in a defense in the 20's, the fire system became more complex and more effective as the forces became staurated with artillery, tanks and air defense weapons. Artillery was becoming the main weapon used against the enemy. At the end of the 30's a division's fire system included anti-personnel, antitank and antiaircraft fire. Fire from rifles, machine guns and mortars was the main anti-personnel fire. They were to create a zone of solid fire in front of the forward edge with a density of five bullets a second per linear meter at a distance of up to 400 meters. (Footnote 1) ("Obshchaya taktika," Moscow, Voyenizdat, 1940, p 236) Fire from these weapons was supplemented with artillery fire, which affected the enemy on the distant approaches to the defense with a fire onslaught (long range) (DON), struck at enemy troops preparing for an offensive, conducted artillery counter-preparation, supported the actions of battle outposts and counterattacks by our troops, created zones of antitank fire barrage and destroyed an attacking enemy in front of the forward defensive edge and enemy groupings which penetrated the defense.

Great importance was attached to antitank defense. "The modern defense," the Temporary Field Manual of 1936 stated, "should be primarily an /antitank/ defense consisting of fire from organic and antitank artillery in combination with a system of natural and man-made antitank obstacles, antitank mines rapidly laid and other man-made obstacles." (Footnote 2) ("Vremennyy Polevoy ustav RKKA (PU-36)," p 133)

Just prior to the war it was recommended that the antitank defense in a corps and a division be arranged on lines. Antitank areas were to be set up in the depth of the defense. It was recommmended that natural obstacles used for creating antitank lines and areas be reinforced with mine fields, antitank ditches, antitank obstacles and barriers.

Weapons for combatting an air enemy were improved for purposes of providing a reliable air defense for the troops. While small arms comprised the basis of the air defense for formations in the 20's, on the eve of the war 37mm and 76mm antiaircraft artillery systems were the main means of air defense in the division and corps. Among other things, a rifle division had one antiaircraft artillery battalion (12 37mm and 76mm guns), which could cover troops with two layers of fire on an area 2 kilometers on the front and 2.5 kilometers in depth. Army fighters and antiaircraft machine guns were also used at the end of the 30's for providing the troops with air defense. The draft Field Manual of 1941 charged the unit and formation commanders with total responsibility for organizing the air defense. Their staffs were directly in charge of organizing the air defense.

The saturation of the troops with artillery, tanks and other equipment helped to make the defense more active. This was manifested in artillery counter-preparation which the corps commander was granted authority to organize and conduct, in the enhancement of possibilities for maneuvering personnel, weapons and equipment, and in the acceptance of the need for extensive employment of counterattacks against an enemy which had penetrated the defense and when conditions were good, in front of the forward edge of the defense.

In conclusion, it must be stated that during this period Soviet military theory devoted a great deal of attention also to the development of tactics for the combined-arms battle. Among other things, questions having to do with the preparation and the conduct of the offensive battle in depth and the organization of a stable defense underwent all-around development. The Great Patriotic War confirmed the correctness of most of the premises and recommendations worked out during the prewar years.

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ARMORED AND MECHANIZED TROOP TECHNICAL RECONNAISSANCE IN GREAT PATRIOTIC WAR

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[Article by Col Ye.V. Ivanov, Candidate of Technical Sciences, Docent, and Col Yu.A. Panov, Candidate of Military Sciences, Docent: "Technical Reconnaissance in Armored and Mechanized Troops During the Years of the Great Patriotic War"]

[Text] Information on damaged military equipment is ordinarily obtained in a battle by means of technical reconnaissance. During the Great Patriotic War technical reconnaissance determined the number and the locations of armored vehicles put out of action on the battlefield and in the rear area, their condition and possibilities for their evacuation and repair at damaged vehicle collecting points (SPAM) or at nearby shelters, pinpointed the locations of the SPAM, determined what kind of equipment and materials were available and obtained other information essential for organizing and effecting technical support for troops in a battle or operation. (Footnote 1) (Since the war these have been called disabled vehicle collecting points--SPAM.) Technical reconnaissance was conducted by personnel and equipment of units, subunits and technical support establishments, as well as by specially created reconnaissance groups of the agencies for technical support management.

Technical reconnaissance was highly important for restoring equipment to action. (Footnote 2) (The term "restoration" refers to a system of interrelated processes, including technical reconnaissance, the evacuation, repair and return to action of equipment or weapons.) Suffice it to say that if for some reason a disabled tank or self-propelled artillery piece was not spotted on the battlefield or on the route of troop movement, there was every reason to consider it no longer restorable, but irretrievably lost.

We know that permanent repair facilities predominated in the Red Army's technical support system (accounting for up to 70 percent of the total) at the time of fascist Germany's treacherous attack on the Soviet Union. This made it impossible to rapidly restore armored equipment in the field. In this situation problems of technical reconnaissance and evacuation were naturally not at the forefront, although attempts were made to resolve them just prior to the war. Among other things, the Combat Manual for Tank Troops

(1940, Part II) required that forward observation and signal posts (GPNS) be set up for the duration of a battle in each tank unit. Their mission was to promptly inform the regimental commander and his staff of the number of disabled vehicles. It was recommended that the GPNS be manned by three crews and that they be located in the direct vicinity of the regimental observation post. It became clear during the very first days of the war, however, that the forward observation and signal posts were not very effective with respect to restoring disabled equipment.

The tank and mechanized formations were suffering extensive losses during the defensive battles in the initial period of the war, and it therefore became urgently necessary to take immediate steps to improve the entire system for restoring the armored equipment. Among other things, mobile repair bases (PRB) began to be set up by decision of the Soviet Government. By the second half of 1941 the People's Commissariat of Defense had created 48 PRBs. (Footnote 1) (TsAMO SSSR [Central Archives of the USSR Ministry of Defense], fund 38, inventory 11371, file 16, sheet 4. In November of 1944 the PRBs were converted to mobile tank repair bases--PTRB--and mobile motor vehicle repair bases--PARB.) Despite a considerable increase in the number of mobile repair units, however, a large number of tanks continued to be left in enemy-held territory.

In January of 1942 Headequarters, Supreme High Command, issued an order demanding an investigation of every instance of tanks being left in enemy-held territory, and those to blame were brought to strict accountability. This order forced commanders at all levels to take a new look at the timely gathering of information on disabled armored equipment. The GPNS [forward observation and signal posts] began to be replaced with observation and signal posts (PNS) in each tank brigade (or regiment) and battalion for the duration of a battle. They were made up not of three crews as previously recommended in the Combat Manual for Tank Troops, but of technical service specialists: one or two junior officers (ordinarily assistant commanders for technical affairs of tank companies), mechanics-and-traffic controllers and runners. (Footnote 2) (TsAMO, fund 38, inventory 38809, file 17, sheet 57)

The addition of technical service specialists to the PNSs made it possible not only to establish the fact that a tank had broken down on the battlefield, but also to determine its technical condition and the personnel and equipment required for evacuating and repairing it.

In addition to the absolute observance of guiding documents from the Center, beginning in 1943 a number of steps began to be taken in the forces at their own initiative to enhance the effectiveness of the technical reconnaissance. For example, Engineer-Colonel P.G. Dyner, deputy commander for technical affairs of the 1st Guards Tank Army, ordered the commanders of the army collecting points for damaged motor vehicles and evacuation companies to form special reconnaissance groups with combat engineer squads for conducting technical reconnaissance in specific areas and along the routes of troop movement. In addition, beginning in 1943, officer technical reconnaissance groups began to be set up from the staff of the army's armored supply and repair directorate. (Footnote 3) (Ibid., fund 58, inventory 38801, file 11, sheet 12; fund 38,

inventory 38806, file 18, sheet 3) Similar steps were being taken in other tank armies.

The range of technical reconnaissance missions continued to grow. Special reconnaissance groups were set up from officers of the technical unit in the 12th Tank Corps, for example. Their mission was to determine the suitability of local industrial facilities in the regions of Rossosh and Kharkov for repairing tanks and self-propelled artillery pieces. (Footnote 1) (TsAMO, fund 38, inventory 352785, file 124, p 237)

Since the spare parts were frequently unavailable in the repair units when armored equipment was repaired there, it became urgently necessary to remove serviceable parts and assemblies from vehicles to be written off. The successful accomplishment of this task depended greatly upon the organization of reconnaissance of vehicles irretrievably lost there where they had broken down and to identify serviceable assemblies and parts in them. Army and corps evacuation and repair units began to designate special reconnaissance groups, which conducted reconnaissance of irretrievably damaged vehicles and to identify parts and assemblies in them which could subsequently be dismantled by specially designated repair brigades. This made it possible for the repair units to considerably replenish their stocks of serviceable parts and assemblies. In the 1st Guards Tank Army alone during the period between 20 May and 30 June 1943, for example, ten V-2 engines, 17 gear-boxes, 15 tank guns, 11 master clutches, 20 steering clutches and many other parts and assemblies were removed from vehicles which were to be written off. (Footnote 2) (TsAMO, fund 38, inventory 38809, file 16, sheet 108)

The technical reconnaissance agencies also began to be extensively used for reconnoitering areas of deployment of repair units and the routes leading to them. Beginning in 1943 technical reconnaissance also began to be performed at the front level. In order to assure the complete "cleanup" of all repairable equipment in a front's zone of responsibility, every repair and evacuation unit subordinate to the front was assigned the mission of independently reconnoitering areas not covered by army reconnaissance, in which there were assumed to be damaged or stranded vehicles. In some cases the repair and evacuation units performed technical reconnaissance for purposes of checking on the work of the army technical reconnaissance agencies. It was headed in the fronts by repair and evacuation sections of the directorate of the commander of armored and mechanized troops. The sections compiled a chart of equipment to be evacuated and repaired on the basis of reconnaissance data coming in from the armies and the front and repair evacuation units. (Footnote 3) (Ibid., fund 239, inventory 2222, file 67, sheet 348)

And so, a fairly smoothly functioning system of technical reconnaissance developed in the fronts in 1944. Its organizational structure is shown in the chart.

Technical reconnaissance from the directorate agencies (from the front to the brigade inclusive) was performed by officer reconnaissance groups (ORG); from repair and evacuation units, by reconnaissance groups (RG); and in the brigade

(1) Звенья структуры войск	(2) Органы управления, части технического обеспечения	Выделяемые органы (силы) техн. ческой разведк
(4) Фронтовое	Отдел ремонта и (5) эвакуации Управления командующего БТ и МВ	(6) ОРГ
	(7) Ремонтный центр, прб(птрб), отрб, СПАМ, эвакорота, эвакоотряд	(8) РГ
(9) Армейское	Управление БТ (10) снабжения и ремонта	(6) ОРГ
	прб (птрб), орвб, (11) СПАМ, эвакорота	(8) РГ
(12) Корпусное	(13) Технический отдел	(6) ОРГ
	(14) прб (птрб)	(8) РГ
(15) Бригадное (полковое)	(16) Техническая часть	(6) ОРГ
	Рота технического (17) обеспечения	(8) РГ (18) НС (19) ТЗ
(20) Батальонное	(21) Взвод технического обеспечения	(18) НС (19) ТЗ

Structure of Technical Reconnaissance Agencies During Great Patriotic War

Key:

1. Level
2. Agencies of control, technical support units
3. Technical reconnaissance agencies (forces) designated
4. Front
5. Repair and evacuation section of the directorate of the commander of armored and motor vehicle troops
6. Separate reconnaissance group
7. Repair center, mobile repair base (mobile tank repair base), separate tank repair battalion, collecting point for damaged motor vehicles, evacuation company, evacuation detachment
8. Reconnaissance group
9. Army
10. Directorate of armored equipment supply and repair
11. Mobile repair base (mobile tank repair base), separate repair and refitting battalion, collecting point for damaged motor vehicles, evacuation company
12. Corps
13. Technical section
14. Mobile repair base (mobile tank repair base)
15. Brigade (regiment)
16. Technical unit
17. Technical support company
18. Observation and signal post
19. Fuel truck
20. Battalion
21. Technical support platoon

(or regiment) and battalion, by observation and signal posts (PNS) as well as by technical maintenance echelons (TZ). The number of technical reconnaissance agencies sent out depended upon the specific situation. Each repair unit (or subunit) and directorate could send out several reconnaissance agencies each, the maximum number of which is indicated on the chart by dashed lines. The functioning of the technical reconnaissance agencies was gradually altered and improved during the war, depending upon the specific characteristics of the use of tank troops in the operations. In the defensive battles of 1941-1942, tank brigades and separate tank battalions ordinarily carried out combat missions on sectors of limited depth and front. Even when completely manned and equipped, the number of tanks did not exceed 46 in a brigade and 36 in a separate tank battalion. (Footnote 1) ("Stroitelstvo i boyevoye primeneniye sovetskikh tankovykh voysk v gody Velikoy Otechestvennoy voyny" [Organizational Development and Combat Employment of Soviet Tank Troops During the Great Patriotic War], Moscow, Voyenizdat, 1979, pp 47-48) Technical reconnaissance in that situation required only visual observation of the battlefield from a distance of 300-800 meters in a brigade (or battalion), and a dismounted reconnaissance patrol was sent out from the observation and signal post in case a tank broke down.

The very first experience with the combat employment of tank and mechanized corps and tank armies formed in 1942 demonstrated that it was not very effective to conduct technical reconnaissance at the forward edge by means of observation and signal posts alone. The mobile nature of combat operations by tank formations and forces (obyedineniye) and the considerable quantity of equipment becoming inoperable on the regrouping routes made it necessary to involve additional forces in the performance of technical reconnaissance missions.

At the forward edge it continued to be conducted by forces of the observation and signal posts, but the "clean-up" of the routes during the regrouping of corps and armies, as well as when the units and formations were moving up to the starting lines for combat and during the pursuit of a retreating enemy, it began to be performed with personnel and equipment of echelons bringing up the rear of the columns.

The density of tanks and self-propelled artillery pieces in the combat formations increased steadily in all operations, beginnning in 1943, and large number of tanks executed rapid marches during regroupings. It was impossible to perform technical reconnaissance on foot in that situation. It became urgent to provide the technical reconnaissance agencies with armored means of travel with mandatory radio equipment. (Footnote 2) (TsAMO, fund 332, inventory 4948, page 441, sheet 170)

Combat vehicles equipped with radio sets began to be allocated for the observation and signal posts on the North Caucasus front in July-August of 1943. Located on the tanks were deputy company commanders for technical affairs, and there were sappers for clearing mines from the approaches to vehicles blown up by mines. With observation and signal posts equipped in this manner, the technical reconnaissance agencies could recoinnoiter all of the tanks to be restored by the end of a day of combat operations or on the morning of the next day. (Footnote 3) (Ibid., fund 38, inventory 38801, file 7, sheet 289)

Complete and prompt information on the repair pool was ordinarily transmitted only to the lower technical support elements (battalion, regiment, brigade), which used it for evacuating and repairing vehicles requiring a small amount of work. Information on equipment requiring medium or major repairs, which was so essential for repair agencies at the higher level, reached the corps, the army or the front after a considerable delay. This was caused by the lack of a special technical support radio net. Use of the technical services of the radio nets of combined-arms staffs did not provide for the efficient passage of information, since messages on losses and the technical condition of the repair pool were ordinarily transmitted through those nets on a last-priority basis. As a result of this the information was frequently held up for days, sometimes even longer. (Footnote 1) (TsAMO, inventory 38806, file 12, sheet 31) In order to reduce the time required for messages to be received from the technical reconnaissance agencies, attempts were made to detail special liaison officers for this mission, but this did not produce substantial results. A procedure for daily personal communication among technical service officers at the company-battalion, battalion-brigade, brigade-corps and corps-army levels was worked out and strictly regulated in the tank corps and armies. The personal communication among technical service officers went a long way toward achieving the timely gathering of information essential for arranging for the equipment to be restored. (Footnote 2) (Ibid., inventory 352785, file 76, sheet 13)

Agents responsible for gathering and reporting information on all damaged, stranded and malfunctioning tanks and self-propelled artillery pieces began to be assigned to the corps from the directorate of armored supply and repair of the tank armies, beginning in 1944, for coordinating technical support for the duration of operations. (Footnote 3) (Ibid., inventory 38809, file 16, sheet 144)

The technical reconnaissance agences assigned from repair and evacuation units engaged in restoring tanks providing direct support for the infantry were most frequently used for the additional inspection of irretrievably lost vehicles for purposes of removing serviceable parts and assemblies from them and for reconnoitering local industrial facilites. Technical reconnaissance during a tank breakthrough of defense lines was coordinated extremely closely with the sappers. The latter began to be included in the manning of observation and signal posts in 1943 for clearing mines from the approaches to unserviceable tanks. It was also coordinated with medics for getting medical aid to the crews. (Footnote 4) (Ibid., fund 38, inventory 38809, file 17, sheet 10)

The organization of technical reconnaissance during the large-scale use of tanks and self-propelled pieces in echelons for developing the success, and particularly when they were introduced into a breach or were operating in the operational depth, differed substantially from the organization of technical reconnaissance in the zone of advance of tanks for direct support of the infantry. The movement of tank (or mechanized) corps and armies over a broad front (up to 15 kilometers for corps and up to 40 kilometers for armies) at a rapid pace (40-60 and sometimes 70-80 kilometers per day) made it considerably more difficult to conduct technical reconnaissance.

Forces pursuing a retreating enemy operated most of the time in approach-march or march formation, and this ruled out the use of observation and signal posts in battalions, regiments and brigades. Nor could the technical maintenance echelons of battalion, regimental and brigade columns completely cope with the technical reconnaissance missions at the rapid rate of advance, since they were engaged at that time in evacuating and repairing vehicles which had broken down along the routes of movement.

The lack of regular information from the troop level on tanks and self-propelled artillery pieces which had broken down forced the army command elements to take decisive steps to organize technical reconnaissance. They did this by detailing special reconnaissance groups from the corps technical sections and the army's directorate of armored supply and repair.

During rapid combat operations conducted at a pace of 40-60 kilometers or more per day, technical reconnaissance agencies from the corps and armies performed most of the gathering of initial information on the repair and evacuation pool.

Technical reconnaissance was ordinarily organized at the front level by the repair and evacuation section. For example, the gathering of information on the location and the technical state of vehicles which had broken down was greatly complicated in the summer operations of 1944 in the 2nd Baltic Front, in which the repair pool was spread out over an area of 40,000 square kilometers. In order to increase the flow of information essential for working out the most expedient way to use the front's evaucation and repair units, Colonel Churilov, deputy commander for repair and supply of the front's armored and mechanized troops, assigned officers from the repair and evacuation section to the armies and corps. (Footnote 1) (TsAMO, fund 239, inventory 2222, file 67, sheet 348) The territory of the former battlefields was broken down into specific areas. The commanders of repair and evacuation units subordinate to the front were responsible for the technical reconnaissance in those areas. In the operations of 1944 every commander of a repair and evacuation unit in the 3rd Baltic Front was charged with conducting technical reconnaissance in his zone of responsibility. The thoroughly organized technical reconnaissance revealed 1,216 tanks and self-propelled artillery pieces in need of repair. A total of 947 were repaired by the front and returned to action, while the remainder were sent to repair facilities of the Center. (Footnote 2) (Ibid., fund 236, inventory 2704, file 194, sheet 8)

Reconnaissance groups sent out by the front repair and evacuation agencies performed additional reconnaissance of the repair pool and kept a map showing the locations of damaged or stranded vehicles. They also inspected irretrievably lost tanks and self-propelled artillery pieces and determined which parts and assemblies could subsequently be removed and used as spare parts. The repair and evacuation section used the information it received as the basis for assigning specific missions to the units for the repair and evacuation of tanks and self-propelled artillery pieces which had broken down.

The most highly skilled technical reconnaissance was organized with front repair and evacuation means when front repair centers were established. In

the Belorussian Operation, for example, the 1st Baltic Front set up two repair centers on the main axes of operations of the tank and mechanized troops. The chief of the repair center in charge of organizing technical support on a given axis bore complete responsibility for the timely and quality restoration of tanks and self-propelled artillery pieces and consequently, for the organization of technical reconnaissance. (Footnote 1) (TsAMO, fund 38, inventory 352785, file 58, sheet 26)

During the Great Patriotic War repair units and formations restored more than 400,000 tanks and self-propelled artillery pieces. Most of them were repaired in the immediate area of the battle formations. The restoration of tanks and self-propelled artillery pieces was therefore the main means of maintaining the tank units and formations at a high level of fighting efficiency.

Every tank or self-propelled artillery piece to be repaired, except for those which arrived at the repair site under their own power--that is, around 300,000--was first inspected by technical reconnaissance agencies and then evacuated to repair agencies or repaired where it broke down by a repair brigade sent out to the site. During the period from 1943 to the end of the war technical reconnaissance agencies reconnoitered 27,000 tanks and self-propelled artillery pieces which could not be restored. More than 80,000 tons of serviceable assemblies and parts were removed from them. This was an average of 3 tons from each irretrievably lost tank or self-propelled artillery piece. (Footnote 2) (Ibid., file 101, sheet 151) This was another highly important source of supply of spare parts and assemblies for the troops and repair units, items which were so essential for expanding the use of the aggregate repair method, without which the rapid restoration of armored equipment was inconceivable.

The Great Patriotic War experience demonstrated that it is impossible to rapidly restore broken-down weapons and equipment in the field without smoothly organized technical reconnaissance. Its organization therefore received a great deal of attention both at the Center and in the forces. Steps taken for this purposes involved primarily creating and improving the organizational structure of the technical reconnaissance system, developing the principles and methods for its functioning, specially training personnel and technically outfitting its agencies.

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GAREYEV REFLECTS ON IMPORTANCE, UTILITY OF MILITARY LITERATURE

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[Article by Col Gen M.A. Gareyev, Doctor of Military Sciences: "Konstantin Simonov as a Military Writer: On the 70th Anniversary of his Birth"]

[Text] There have been and still are many remarkable poets and writers in our nation whose creativity has been devoted to military subjects. There is no need to enumerate the well-known names again. At the same time, it can be said with certainty, without belittling the merits of anyone and without risk of exaggeration, that his creative works occupy a special place in the military field.

Konstantin Mikhaylovich never considered himself to be mobilized to elaborate this subject matter just during a war. He wrote about military affairs not out of duty but from a profound inner need. From a young age to the end of his life he continued to think and write about human destinies linked to war and to the military service. I. Vishnevskaya, one of the students of K. Simonov's creative works, rightly points out: "And perhaps one of the main things which comes to mind in connection with Simonov's name is the incidental nature of his civilian service and the particular naturalness of his military life, his constant readiness to don the uniform, his constant feeling of being mobilized, being called, of not belonging to himself." (Footnote 1) (I. Vishnevskaya, "Konstantin Simonov (Ocherk tvorchestva)" [Konstantin Simonov: Outline of his Creative Works], Moscow, Sovetskiy pisatel, 1966, p 4)

K.M. Simonov was one of the most profound writers on the military. He had a good understanding of military affairs and the nature of military art, particularly the moral-psychological aspects. As a rule, everything he wrote about war was distinguished by a profound military professionalism. His biographers attribute this to the fact that he grew up in the family of a career officer and that he felt closest to the military milieu. Konstantin Mikhaylovich himself said more than once that our army had been like his own home from youth on and that its people had become the people nearest to his heart. He wrote with particular warmth and insight about the restless army life, about the commanders and their families, in the poem "Ivan and Marya." K. Simonov was still a very young man when he took part in combat operations on the Khalkhin-Gol river. Prior to the war he studied in

courses for war correspondents: first at the Military Academy imeni M.V. Frunze and then at the Military-Political Academy imeni V.I. Lenin.

All of this had its effect, of course. Particularly important with respect to his grasp of the profundity of military affairs, however, was the fact that he could see such an extraordinary range of things during a war. Even the most active participants in a war, depending upon the scope of their activities, could ordinarily see only the events occurring on a certain sector or axis. Under constant pressure and engulfed in matters pertaining to preparations for and the conduct of combat operations, they did not always have the opportunity to meditate on what the people were experiencing inside, to think deeply and in human terms about all that was occurring. The situation of a war correspondent, particularly such an active and observant one as K.M. Simonov, offered extremely great opportunities in this respect. It is a well known fact that in July of 1941 he was at Mogilev in units of the 172nd Rifle Division, which engaged in heavy defensive fighting and then broke out of encirclement (he considered that period to be the most memorable of the entire war and requested that his dust be scattered in precisely those parts).

During the fighting in the Crimea, K.M. Simonov was in the counterattacking artillery lines and went on a combat cruise on a submarine. In the Far North, he was landed along with scouts in the enemy's rear area. He also spent time among the defenders of Odessa and Stalingrad, in forward units during the Battle of Kursk and the Belorussian Operation, in the concluding operations to liberate Czechoslovakia and Poland, in the taking of Berlin and at many other locations where crucial events were occurring.

In addition, both during and after the war, K.M. Simonov carefully studied the combat experience, regulations and other military documents, and read all of the war memoirs and many works on military history. He was one of the first after the war to begin carefully studying documents captured from the German fascist army. The writer had long and substantative talks with such renowned military leaders as Marshals of the Soviet Union G.S. Zhukov, I.S. Konev and K.K. Rokossovskiy, and others. Army General A.S. Zhadov, with whom he had a close friendship, obviously did a great deal to enrich the writer with specific knowledge of the war. He obtained an enormous quantity of facts and live impressions on the most important events of the war from a vast correspondence with war veterans. He greatly appreciated that source of knowledge, and literally during the last days of his life he proposed organizing the assembly and preservation of all unpublished memoirs and accounts of war veterans and their most typical letters. In those letters and documents he was able to spot and reveal many little-known facts or details which had previously been missed.

Any man who has fought knows that every day and week of a war produces powerful spiritual shocks, generates an acute vision of everything occurring and teaches that which cannot be grasped even after many years in peacetime, and sometimes not in an entire lifetime.

After spending time at the front during the first days of the war K.M. Simonov wrote the following in his diary: "These two weeks of war, which were so unlike

everything we previously thought. So unlike it that it seems to me I myself am no longer the same person who left Moscow on 24 June." (Footnote 1) (Konstantin Simonov, "Raznyye dni voyny" [Various Days of the War], Vol 1, Moscow, Molodaya gvardiya, 1978, p 88)

There were 1,418 such days. As he turned them over in his mind, the writer amalgamated in his feelings and thoughts what both he himself and thousands of other participants in the war had seen and experienced. He performed the colossal job and studied and thoroughly grasped the war experience from precisely that point of view.

This was reflected particularly clearly in his notes from the front, Raznyye dni voyny," which were unique with respect to faithfully reproducing the war. When even the most active participants in the war reads such deeply penetrating personal accounts, they are enriched with new observations and gain a more thorough understanding of events which they should have known well. Despite the long period of time which has elapsed, the rigorous days of the war are resurrected for them with all the complex and conflicting feelings which we experienced more than once but were never able to express so graphically and convincingly as did K.M. Simonov. The battles of the Great Patriotic War, for example, could only be described this way by a person who not only personally experienced all of the difficult trials but also possesses special powers of observation and a rare gift for graphically reproducing human thoughts and feelings. These distinguish the real writer from an ordinary one, even one who is very thoughtful and has seen a lot.

K.M. Simonov lived a very rich life replete with events of enormous historical importance and was a highly active participant in them. All of his consciousness was devoted to selflessly serving the people and our Lenin party. Any Soviet person who lived through those turbulent and rigorous years can look both his contemporaries and future generations boldly in the eye with a sense of pride, a sense of duty fulfilled. Even among this heroic generation of Soviet people, however, he was always in the front ranks and at the most difficult spots. This was so during a youth which was difficult but inspired with lofty feelings and during the rough years of the war, frequently spent in the very heat of things. Finally, there was his tireless craving to get to know life and his selfless work filled with energy and creativity.

Naturally, as in the life of any writer, not everything turned out well for him, and he suffered individual failures. His main creations, however, those which characterize his creative output, will always remain and serve our people and their army. The main things in Konstantin Simonov's creative work was the establishment in literature and in life of the Leninist concepts on defense of the socialist homeland and the Soviet people's profound understanding of the importance of their patriotic and military duty.

The strength of our army has always been and continues to be its inseparable unity with the people. Such a linkage is perfectly natural for a socialist state. It stems from the popular nature of the Soviet Armed Forces, since our people are vitally interested in strengthening the national defense and the combat capability of the army and navy. There are many honored professions in our nation. Military service has always occupied a special place,

however. This is because no matter how hard the agricultural workers and laborers work and no matter what important discoveries the scientists and engineers make in science and technology, all of this is of enormous importance and the peaceful labor performed for the sake of building socialism can continue only if everything created by the people is reliably defended.

This was particularly important in the 30's, when the threat of war was becoming every greater, and World War II was ultimately unleashed. It is appropriate to mention this period once more also because it is extremely important for understanding all of the writer's subsequent creative works. This is because, as K. Simonov said, the foundation for his correct understanding of these matters was laid precisely during those years.

In "Zhivyye i mertvyye" the old worker Popkov, who from the very beginning of the Great Patriotic War regretted that the Red Army did not have everything it needed, makes the following statement: "If worse came to worse, I would give up this apartment and live in a single room; I would get by with a small piece of bread, with watery soup, as we did during the civil war, if only the Red Army had everything...." (Footnote 1) (K. Simonov, "Zhivyye i mertvyye" [The Living and the Dead], Book 1, Moscow, Sovetskiy pisatel, 1971, p 261) These small episodes convey in the best possible way the feelings of most of the Soviet people during those years, which is what predetermined their steadfastness and courage during the war.

We still admire the heroism demonstrated by the defenders of the Brest Fortress, for example. We know that there were no combat units at the fortress when the war began. Servicemen who happened to remain there due to various needs joined together at their own initiative to defend it. Despite the fact that the fortress was encircled, that fascist forces had advanced far into the interior of our territory and that the situation had become hopeless, the fortress defenders continued to fight desperately. They did so because they had a profound faith that our army would return without fail and route the enemy. There were many such episodes, and they always make us think about the circumstances under which our army and people were indoctrinated in this way and about how it was achieved.

All of this was determined primarily by the nature of our social and state system, by the just objectives of the war and by the entire system of ideological and indoctrinational work performed by the Communist Party. And Soviet writers, one of the forward detachments on our ideological front, made a considerable contribution. It would be difficult to overstate the great influence which the works of A. Serafimovich, D. Furmanov, N. Ostrovskiy, A. Tolstoy, M. Sholokhov, A. Fadeyev and many other prominent Soviet writers had on the young generation. Konstantin Simonov was educated and developed as a writer under their direct influence and the influence of our entire Soviet reality. He spoke with special warmth of A. Gaydar. And there was a reason for this: their lives and creative endeavors had a great deal in common.

A. Gaydar died in the ranks of our best people, those who were the first to feel the thrust of the enemy and who defended the homeland on its foremost

lines. K.M. Simonov also believed that he remained among the living by chance and that he should remain there where his ashes now rest.

The shaping of K. Simonov as a military writer who responded vigorously to all of the most important events in the life of our nation and the Armed Forces occurred precisely under these circumstances of life. The play "A Young Man From Our City" came out following the civil war in Spain. The Great Patriotic War was underway, but life went on. The theaters were open, but there was not a single play about the most important things in the life of the Soviet people during that period. K. Simonov literally tortured himself, working almost round-the-clock. And he created the play "The Russian People" within an amazingly short period of time.

He wrote the story "Days and Nights" under the impression of the Battle of Stalingrad. Following the war, when there were fewer and fewer of the war veterans left in our army and there was an acute need for them to pass on their wartime experience, K. Simonov wrote what he called his "main" military novel, the trilogy "Zhivyye i mertvyy." It reveals with enormous artistic force the deeply rooted sources and the "secrets" of why soldiers are not born and how difficult is the development of real soldiers.

Konstantin Mikhaylovich was sometimes accused of a certain haste and of jumping ahead. His literary drive was a result of his urge to share life with the people and their army, however, to be not merely a writer but an active participant in events. There are writers who have waited aloofly for 40 years now for the end of the war to be distanced in time until it takes on the necessary dimensions for them and they can assess it all more objectively and unerringly. There is no question that as time passes works are published which reproduce the events of the past war even more thoroughly and convincingly. Life cannot wait, however. In the climate in which we now live the missions involved in protecting the socialist homeland are still urgent. Moreover, they are becoming even more complex. V.I. Lenin stated the following: "We have repeatedly declared our desire for peace, that we must have peace.... We do not intend to permit ourselves to be stifled for the sake of peace, however." (Footnote 1) (V.I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 40, page 152)

One of the most important things learned from the war is the fact that only through the efforts of the entire people led by the party is it possible to prepare for and ensure victory in a modern war, should the imperialists succeed in unleashing one contrary to the interests of all mankind. With this in mind, the 26th CPSU Congress defined the tasks involved in further strengthening our state's defense capability and the fighting strength of the Soviet Armed Forces. Today as in the past, no honorable writer and patriot can therefore fail to understand that he cannot stand aside from the accomplishment of those important tasks having to do with our homeland's security. In light of this, K. Simonov's so-called "vanguardism" can only serve as a good example. And this is not "purely" a literary matter but one involving political principle.

It should be born in mind that the organizational development and the training of the Armed Forces in the contemporary situation are occurring in a

climate in which certain advances have been made in international relations in recent years, on the one hand, and the aggressive nature of the policy of the USA and other NATO nations is intensifying and the threat of war is growing, on the other. In this dynamic and contradictory situation, the organic unification and the successful accomplishment of the dual task of struggling for peace and strengthening the nation's defense capability is taking on new features and becoming more complex. Because of this, all of the work involved in preparing the youth to serve in the Armed Forces and the military-patriotic indoctrination must be considerably more extensive, well reasoned and convincing.

In this important and diversified work, we cannot get by without new Gaydars, Fadeyevs and Simonovs even today. Today, when Konstantin Mikhaylovich is no longer with us, it is particularly important for us to value every talented writer who deals with military subjects. Creative works which authentically depict the shaping of a soldier or an officer in combat and his grasping of the secrets of military art, which is sometimes quite simple in theory and easy to say but whose practical accomplishment is extremely difficult, are greatly needed also today, particularly for the military indoctrination of the young officers.

It is obvious that we now need not just writers who took part in the war. Young writers should also be involved in this patriotic matter. We know that L.N. Tolstoy, who wrote "War and Peace," did not take part in the War of 1812. And today we have relatively young writers who did not take part in the Great Patriotic War. However, this has not prevented them from convincingly describing many battle scenes and the attitudes behind the people's conduct in the war, (A. Ivanov in the novel "Vechnyy zov" [The Eternal Call], for example).

At the same time, the continuation of Soviet literature's rich traditions in the military area requires Simonov's selflessness, his devotion to and love for this cause, and naturally, a profound grasp of the specific nature of military affairs.

K.M. Simonov's elaboration of the military subject is distinguished first of all by a subtle understanding of the extremely complex problems involved in the military indoctrination and the development of a high level of military art in the military cadres. This understanding was embodied most fully in the trilogy "Zhivyye i mertvyye" and particularly in the books "Soldatami ne rozhdayutsya" [Soldiers Are Not Born] and "Posledneye leto" [The Last Summer]. The "military kernel" of the author of these books is also apparent in "Tovarishchi po oruzhiyu" [Comrades in Arms], however, in the story "Days and Nights" and the aforementioned diaries. An episode which occurred during his first visit to the front near Mogilev in 1941 is extremely characteristic. We know what kind of difficult climate surrounded the front at that time. And in the midst of those stupefying events and military failures, in the personal grief and concern of every Soviet person for the fate of his homeland, it was not difficult to see also confusion and all sorts of disorder in the actions of many units and formations and in the troop command and control. Only a very talented writer, however, one who understood well what was needed to beat the enemy and what it consisted of, was able to locate and discern in that complex interweaving of events (not

just in general form, but in specific people and episodes) the profound sources of that which predetermined our future victories in both the moral-political and the purely military respects.

Some critics have accused K. Simonov of painting the events of 1941 in overly gloomy colors. It would have been strange to depict them differently. However, the attentive reader will not fail to notice that there are no signs of permanence in the pictures he drew of the withdrawal and the first failures. In the skillful actions of the 172nd Division, other units and formations and commanders like Kutepov, the young writer saw also military skill not inferior to that of the fascists and one of the most important components of military success, organization and firm command and control of the people. Obviously, anybody can understand the importance of discipline and military order when the concept is treated as an abstract, a generality. When it comes to a specific individual experiencing inconvenience and certain deprivations because of this, however, it is frequently felt that they could have been avoided. I believe that there were numerous staff officers arriving from "higher up" and correspondents, who were incensed or at least offended by the fact that they were treated so rudely and unceremoniously: they were detained, threatened with being forced to lie on the ground and kept there until dawn, taken to headquarters under escort. When K.M. Simonov arrived in the 172nd Rifle Division and was treated in this manner, however, he was actually glad. He immediately had a sense of discipline, order and confidence. He understood that the war was not going the way the enemy had planned by far, and he could see many other prerequisites for our ultimate overcoming of the enemy. We find this kind of subtle understanding of the military "spirit," of military art, in many of his other reports and works.

This aspect of the matter must be discussed separately also because, unfortunately, one most frequently encounters a lack of understanding of precisely this diversity of the essence of military art, which is defined as the most complex matter in a war. This is true, not just of creative literature, but also of literature on military history.

The war experience demonstrated that in order to demonstrate real military art, commanders at all levels must possess, in addition to profound military knowledge and political conviction, also a developed thought process, a creative approach to the work and the ability to rapidly assess and thoroughly analyze a situation, as well as such volitional and organizational qualities as courage, boldness, determination, initiative, independence, firmness and persistence in working toward the objective. And all of the personnel must have good moral qualities and fighting efficiency, military skill and enormous physical stamina. The need for all of these qualities is steadily increasing as military affairs develop, and the conditions for their manifestation are becoming increasingly more complex. Even ordinary self-possession on the battlefield requires a totally different level of exertion of mental and physical effort than was required in past wars. One can therefore only be amazed at the naivete of certain writers who sometimes indicate that any intelligent civilian could arrive in the army during a war and simply take over troop command and control. We will not see this in the works of K. Simonov.

Reference is sometimes made to the journalist Sintsov, who became a fair battalion commander. He had the year 1941 behind him, however. He was hospitalized twice in 1942, he studied in courses for junior lieutenants for 3 months and commanded a platoon, a company and a battalion in extremely difficult and fierce combat operations. The practical conduct of combat operations was itself a rigorous experience during the war, but it provided indispensable schooling and developed the needed combat qualities. This art was studied without letup during the entire war not only by the newcomers, but also by people who had acquired considerable experience in World War I and the civil war. We can see the difficult cost of that combat training in almost all of K. Simonov's works. He understood the full complexity of military art particularly profoundly, however, when he studied operational documents and descriptions of various military operations after the war. This was most graphically and convincingly reflected in the book "Posledneye leto." That novel is apparently the first creative work which describes the vast and diversified work involved in preparing for a large offensive operation. It is perfectly clear that a newspaper correspondent could not know all of the details involved in the planning and preparation of an operation during the war, particularly in the work of the command element and staffs. Once, after working a week in the Podolsk archives, Konstantin Mikhaylovich told how amazed he was by the enormous scale of the preparatory measures. He was able to communicate all of this graphically and eloquently, with a thorough knowledge of the matter, through the thoughts, feelings, the characters and the behavior of people, and not simply by describing in detail the infinite number of deeds large and small which his heroes performed during preparations for an operation.

At the center of events were army commander Serpilin, military council member Zakharov and chief of staff Boyko. They had to perform a great deal of intense mental work in order to carefully plan the forthcoming combat operations and to use all available personnel, weapons and equipment with maximum effectiveness; to calculate everything in detail and coordinate the operations of a large number of units and formations of various branches of troops with respect to missions, time and positions; to omit nothing, to look ahead with respect both to their own troops and to the enemy, since the other side was working no less intensively to frustrate and overturn everything we were planning. Despite all of the importance and the complexity of planning, however, it is only the beginning of preparations for an operation. A large number of practical steps, enormous will, persistence and a vast amount of organizational work at the headquarters and in the troops were also required in order to gain a correct understanding of the missions which had been assigned, in order to organize and prepare the troops. This exhausting work would not tolerate any breaks, any rest or any possibility of the slightest letup.

In this war, unlike past ones, even the most outstanding military leader could not begin such an operation at his own initiative. The entire nation, all of the people, had to work in order for the operation to take place. The fronts received more than 75,000 carloads of troops, equipment, ammunition and other supplies during preparations for the Belorussian Operation just in June of 1944. According to the calculations of General N.A. Antipenko, chief of rear services for the 1st Belorussian Front, an average of 250 tons

of ammunition and 333 tons of fuel were used for each kilometer covered by the forces of that front in the Vistula-Oder Operation. The corresponding figures for the Berlin Operation were 2,000 and 1,320 tons.

Not everyone knew the extent of these material outlays at that time, but they could not fail to understand the incredible efforts all of that was costing our people. Serpilin had the following to say about the matter: "Did you think that only those who have epaulets on their shoulders are military? No, all of those who bear the war on their shoulders are military."

During preparations for the Belorussian Operation, Serpilin himself and the commanders under him were not the same people they had been in 1941. When they inwardly analyze the difficult path to the development of military man, they find themselves thinking of the fact that at the beginning of the war there was no commander who did not theoretically understand the need to focus the main efforts on the crucial axes or the need to reliably suppress the enemy with fire. Despite this, a considerable amount of time passed before they learned the art of implementing at the practical level the tenets of military theory known to everyone.

The very best theoretical views only become the real strength of military art when they are assimilated not just by individual military chiefs and commanders, but by the bulk of the officer corps. This is extremely well illustrated by an incident observed by K. Simonov at Tarnopol. "This is just the impression Colonel K. made on me: a very ordinary individual not distinguished, it seemed to me, by either great military talent or preternatural, devastating will power. He is the one who stormed the most difficult sector in the defense of Tarnopol, however.... The most important thing was that there was nothing surprising about this, and it seemed to me from the time I first came into contact with him that this was how it should be. Precisely in such people is reflected... the overall average level of an army in which not all of the commanders are highly talented or infallible, but which keeps going resolutely and calmly to win the war." (Footnote 1) (Konstantin Simonov, "V eti gody," Moscow, State Publishing House of Creative Literature, 1951, p 109)

The most widespread flaw in this respect in our literature on history is the fact that it ordinarily discusses mainly theoretical views on various methods of conducting the battle and operation prior to and during a war. The complex and torturous process of developing the practical side of military skill and its mastery by the military cadres is not fully revealed. The works of K. Simonov attach acute importance to the demands made of commanders, political workers and staff officers, of military leaders in general. Among the heroes in his works there are no outstanding personalities, no heroic characters. Lukonin, Serpilin, Safonov, Saburov, Panteleyev, Sintsov and Klimovich are our ordinary commanders and political workers with all the merits and deficiences characteristic of all living people. They are particularly distinguished, however, by their profoundly progressive attitude and their devotion to our cause. This progressive attitude is not simply learned but is the result of many convictions mulled over and personally developed. The writer's sympathy lies with people who thoroughly

understand and love military affairs, people who give themselves over entirely to the military service. He highly values their natural simplicity, their efficiency, organizational skills, firmness of character, determination and principle. There can be no such thing as a good commander who fears taking responsibility for his own decisions more than he fears the enemy.

Simonov believed that for the career officer war is a test whose timing no one knows but for which he must prepare all of his life.

There is no sphere of activity in which it is considered fitting to know and perform one's job poorly. It borders on the criminal in a combat situation, however, because the work of the commander or of any military leader involves responsibility for many other people. He must look after them prudently while at the same time accomplishing the assigned mission no matter what. It is very important for people to have faith in their commanders. We know how fighting morale and confidence were raised just by the appearance of such military leaders as G.K. Zhukov, K.K. Rokossovskiy, I.D. Chernyakhovskiy and others at this or that front.

At the end of the novel "Soldatami ne rozhdayutsya," when Sintsov learns that Serpilin has been appointed army commander, he thinks with a sense of satisfaction: "...it is good that a man like this is going to command the army, because a person like this will really draw people forward...." (Footnote 1) (K. Simonov, "Zhivyye i mertvyye," Book 2: "Soldatami ne rozhdayutsya," Moscow, Sovetskiy pisatel, 1972, p 719)

The military chief or commander has to overcome more than just enemy resistance to earn this kind of confidence on the part of the troops and to gain victories. During a war, when extremely complex situations develop and responsibility for adopting decisions and for their implementation is heightened to the maximum degree, conflicts of opinion, strivings and characters cannot be avoided. Under these circumstances Simonov's heroes find themselves more than once in situations in which it is sometimes more difficult to demonstrate the courage of an ordinary citizen than the most desparate bravery and determination in combat.

In the novel "Soldatami ne rozhdayutsya," Ivan Alekseyevich has the following thought: "But for people not to be afraid to give advice to anyone--no matter how highly placed!--not to feel the need to guess his opinion, so that such a need does not gradually become a requirement which turns even the very best people into worthless individuals--this is the question of questions, as they say. This does depend upon those who are giving the advice, of course, but it also depends to a far greater degree upon who is receiving it." (Footnote 2) (Ibid.,)

In his novels K. Simonov does not skirt many other complex problems which are encountered in time of war and which continue to trouble our military community after a war.

I recall a debate in which Konstantin Mikhaylovich was told that extreme military professionalism is not necessary in creative literature, that this

is not a question about which public opinion should be aroused. He replied by citing "War and Peace" and "Sevastopol Stories" by L.N. Tolstoy, whose military professionalism could be envied by any contemporary writer. But it is not just a matter of military-history analogies such as these. Creative literature dealing with military subjects is expected to truthfully reproduce the individual's highly diverse work in a war in the process of developing in him--and this includes the officers--those fighting qualities without which it is impossible for even the most devoted and well armed people to overcome the enemy. Ye.N. Noskov's marvelous story, "On The Orlov Axis," which was published in the number 5 issue of NOVYY MIR for 1979, convincingly demonstrated once more the fact that this noble subject has not yet been exhausted by far, particularly from the standpoint of revealing man's inner strengths making it possible for him to bear the most incredible hardships of war and demonstrating ways to shape these qualities in peacetime. This has always been and still is our army's most important and difficult task, in the accomplishment of which literature and public opinion as a whole have an extremely great role. A.S. Makarenko once made the following very wise comment: "In order to develop courage in an individual, he must be placed into a situation in which he can demonstrate that courage." (Footnote 1) ("Soch" [Works], Vol 5, Moscow, Publishing House of the Academy of Pedagogical Sciences of the RSFSR, 1958, p 424) This applies also to other moral and combat qualities of the soldier and the commander. The necessary volitional and organizational abilities cannot come about on their own or as a result of verbal explanation of their importance and significance alone. They must be developed day after day in the routine combat training and military service.

War has always been a rigorous experience and has demanded maximum exertion of all moral and physical strengths of the fightingmen. Everyone has understood that the troops need to be taught that which is required in a war. It has not been a simple matter to maintain the intensity of a war, however, even temporarily, in exercises conducted as part of the combat training.

It is understandable why even what would appear to be such obvious requirements as the conducting of exercises in the winter or at night and the arrangement of messing for the troops in exercises in accordance with the demands of the combat situation, and others have become accepted with great difficulty not only among backward generals and officers of the past, but frequently also among such well-known military chiefs as Dragomirov.

The Red Army engaged in a great deal of intensive combat training in the 30's. Following the Soviet-Finnish conflict, however, S.K. Timoshenko was forced to admit: "We had spent a great deal of time in the classrooms and were accustomed to train by means of verbal explanations, without troubling ourselves with the complex circumstances of a combat situation...--in short, all that which falls onto the shoulders of the soldier, the commander and the political worker during a war...." (Footnote 2) (PRAVDA, 25 August 1940) Emergency steps were subsequently taken to bring the troop training into conformity with the conditions of combat reality. The war demonstrated that even this had not been enough, however.

And the more complex combat operations become, the more difficult it becomes to implement in peacetime the universally known principle of teaching the troops that which is required in a war. Failure to do so costs dearly in a war. As military affairs develop, we must therefore constantly improve the forms and methods of training for the troops and seek new ways to bring it into conformity with the circumstances of combat reality, taking the nature of modern warfare into account.

It is not difficult to see from this what a poor service is rendered by the author of a book, a film, a radio or television broadcast, in which under this or that pretext he casts doubt upon certain of the requirements contained in military regulations or on the need for rigorous military training and indoctrination conditions in peacetime, or when the matter is described as though the maintaining of discipline and military order is not the job of the entire military collective but that of the senior chiefs alone.

Unfortunately, this approach is sometimes found in certain generally good books on war. The "truth" of war depicted by certain writers is sometimes one-sided, because they view it only through the firing slit of the "private" and consciously or subconsciously place the "upper" and "lower" levels into contrast, as though they were not performing a single job in the war and there were not diverse people at all the different levels of military service.

It is not just a matter of objectivity or fairness. This approach distorts a more complex and real truth of war. K. Simonov also writes a great deal about the particular responsibility of the senior chiefs. As he discusses all of this straightforwardly and without embellishment, however, he does not forget also to focus on the other side of the coin: success or failure in a combat situation is determined not just by the commander's decision or order, but also by how it is executed at all levels. He therefore thoroughly stresses the significance of every individual's work in a war and his personal responsibility for protecting the homeland.

L. Lazarev saw the success of the story "Before the Attack," as due to the fact that "by that time the writer had an acute feeling for and an awareness of the significance of what the soldiers would have to accomplish when they entered into combat for a small village or defended a nameless hill, because on the path to victory and peace that little village must be taken and that hill must not be relinquished to the enemy no matter what; and of that unnoticed but absolutely irreplaceable routine contribution made to the common effort to conquer the enemy by 'one of thousands'--the ordinary soldier or officer. And the writer succeeded in revealing all of this from within: Simonov acknowledges that he did not encounter a more difficult task or subject during the war" (Footnote 1) (L. Lazarev, "Voyennaya proza K. Simonova" [K. Simonov's Military Prose], Moscow, Khudozhestvennaya literatura, 1974, p 73)

This same idea runs through the story "The Infantrymen." We learn from the diaries that the subject of infantrymen was suggested to him by General N.P. Pukhov: "He crawls though mud, moves through dust, freezes, becomes soaked, bears hardships about which no one knows. Why don't you write about him"?

The reproach was justified. Everyone understands that the war was won by fightingmen of all services of the Armed Forces and branches of troops with close cooperation and interaction, that each of them made a worthy contribution to the achievement of victory. This is the main thing. A great deal has been written about it, and written well. For the sake of fairness, however, it must be said that the main brunt of the war, the dirtiest and most exhausting part, was borne by the rifle units and formations and the infantrymen who formed their backbone. All branches of troops, all special subunits, were permitted to remain certain established distances from the forward edge, and there were rules as to when and under what circumstances they could be used or could be withdrawn to the rear area at the end of active combat operations. Only for the infantryman did none of this exist. Day and night, no matter what the weather was like, during every type of combat operations, he always stayed at the forward edge, in direct proximity to the enemy. He was the first to absorb the enemy's strikes in a defense and the first to enter the attack behind the tankmen, sometimes even without them. It was the infantryman who created the vital and main line of the front, which was designated by arbitrary symbols on maps at headquarters at all levels and by little flags in all the nooks and crannies of our nation. Not a single meter of land could be considered liberated until his firm tread had passed over it.

And these feelings of respect for the modest and selfless toiler of the war, which were earned, gained by suffering the deprivations of war, were well expressed in one of Simonov's most powerful stories, "The Infantrymen." The birth of that story was influenced by the Battle of Kursk and the fighting at Kromy. The idea had been incubating for a long time, however. At the beginning of 1943 he uttered the now well-known words: "If we were to erect a monument to the greatest force in the world, the strength of the people's soul, that monument should be a sculpture of a Russian infantryman moving through the snow, cap pulled down over his ears, somewhat stooped, with a pack and his rifle on his back."

An understanding of combat and war as a two-sided phenonomon and of the need to soberly assess one's own forces and those of the enemy is organically present in K. Simonov's description of all the most important events. In the play "The Russian People," which was written at the beginning of the war, he already showed an intelligent, powerful and treacherous enemy which the Soviet people not only needed to know how to fight: they also needed to know how to give their all for the sake of victory, to fulfill their duty with extraordinary exertion of all human strengths. There were no easy victories in his subsequent works, just as there were none during the war. In the book "Soldatami ne rozhdayutsya," K. Simonov says through the mouth of Levashov: "What I sometimes dislike in the newspapers is the fact that sometimes... Germans fall like chips. One man kills as many as 30, another up to 40, and then a third will kill as many as a hundred.... But if each of us had killed one German since the war began, what would remain of their forces would not be worth a fig." (Footnote 1) (K. Simonov, "Zhivyye i mertvyye," Book 2: "Soldatami ne rozhdayutsya," 1972)

Mass heroism was unquestionably the most characteristic feature of our people during the war, and the depiction of this authentic truth comprises the main

substance of K. Simonov's creative works. At the same time, he does not close his eyes to the fact that unfortunately, there were cases of both cowardliness and betrayal, albeit rarely, during the war. As we indoctrinate the youth primarily with the positive examples, we must also not forget about why it was possible for there to be such flaws in the indoctrination of individual people. Not all of them set out on that path with aforethought. Perhaps some of them were thinking about performing real feats. Most frequently, those people simply lacked that vital moral and physical tempering without which even the individual with good intentions cannot always withstand the serious ordeals of war.

War is more than just endless feats surrounded by glory. Furthermore, feats are performed most frequently where there are few to see them. War and combat are primarily difficult, multifaceted labor, exhaustive work without let up, beginning with the command element, the political organs and staffs and ending with the rank-and-file pilot, seaman, combat engineer, tankman, artilleryman or infantryman. Labor indoctrination, good tempering in life and "the embellishment of life with anxieties" and with hard work are the most important requirements for preparing young people for the military service and for life's trials.

The Accountability Report of the CPSU Central Committee to the 26th Party Congress contained the following statement: "Lofty revolutionary motifs continue to be heard in the creative works of our masters. The images of Marx, Engels, Lenin and of many fervent revolutionaries and the homeland's heroic history inspire them to produce interesting new works in the most diverse forms of art. The works of authors loyal to the military subject teach love for the homeland and steadfastness in time of trials." (Footnote 1) ("Materialy XXVI syezda KPSS" [Materials of the 26th CPSU Congress], Moscow, Politizdat, 1981, p 62)

K.M. Simonov was one such writer. He particularly did a great deal to thoroughly and eloquently reveal the importance and the meaning of the individual's most difficult profession, that of defending the homeland.

The literary merits of his creative works can be regarded variously, and there is no need to be surprised at the fact that there are different opinions on this matter. We need only to recall that I.S. Turgenev did not read N.A. Nekrasov and that L.N. Tolstoy had the following to say about Chekhov's plays: "Very bad. Worse even than Shakespeare's."

K. Simonov said "something all his own," something characteristic only of him, the writer, and no one can deny his merits with respect to the truthful and profoundly patriotic depiction of the Soviet people in the war. Like any truly talented and original person, he had a great many friends. But he also had ill-wishers. No one was indifferent toward him, however. He was not regarded with favor mainly by those who when the war was over, wanted to look considerably better than they managed to appear during the war--that is, people who were attempting "to refight the war on paper."

K.M. Simonov never compromised with his conscience, and his genuine party principle in such matters has served our literature well. He loved the homeland. He valued his affiliation with the Soviet Army immensely, and in his heart he was a fervent patriot and a good communist. And for all of this we render our profound respect.

11499
CSO: 1801/82

PROVISION OF FRONTS WITH WEAPONS AND AMMUNITION

Moscow VOYENNO-ISTORISCHESKIY ZHURNAL in Russian No 11, Nov 85 (signed to press 24 Oct 85) pp 51-52

[Article by Col Gen (Ret) I.I. Volkotrubenko: "Provision of Fronts With Weapons and Ammunition"]

[Text] Marshal of Artillery N.D. Yakovlev, chief of the GAU [Main Directorate of Artillery], returned from Headquarters late one evening during the last part of February 1945. As usual, I dropped by for instructions. Nikolay Dmitriyevich told me that Headquarters, Supreme High Command, had decided to bring forces of the Far East and the Transbaykal up to scale with respect to weapons and ammunition. "The work has to be done," he stressed, "in strict secrecy. At the GAU only you and I are to know about it. You personally figure out the quantity of weapons and ammunition needed for the Transbaykal and Far East fronts. The People's Commissariate of Railroads has established a special group responsible for rail shipments to the Far East. VOSO [military transportation] representatives have been assigned to the group from the rear service staff. You will personally send requisitions for transport to them. Monitor the movement of transports. Fill out all of the documents by hand, and do not enter into any kind of talks or correspondence with the Far East on this matter. Inform the chiefs of artillery supply for the Far East and Transbaykal fronts of shipments in route to them inwriting, by courier."

Upon receiving the instructions, I immediately set to work. It was not an especially difficult matter to make the calculations for bringing the fronts up to scale: the GAU had complete information on the availability of weapons and ammunition in the forces and on their needs. It was planned to ship a large number of sub-machine guns, large-caliber machine guns, antitank guns, antiaircraft and ground artillery guns to the Far East. The GAU began dispatching transports in accordance with their availability. The weapons and ammunition were loaded into enclosed cars, and large pieces were loaded onto flat cars and boarded over.

During those first months the GAU shipped to two places, the Far East and Transbaykal fronts. The front chiefs of artillery supply received notices (letters from the GAU chief) about the beginning of the shipments and the

designation of the weapons received from Major Kazakov, the GAU representative, who had been specially assigned to temporary duty in the Far East along with an escort officer. The personnel guarding the transports of weapons and ammunition for purposes of protecting military security, did not return but remained in the fronts. Trains for the Far East Front (2nd Far East Front as of 5 August 1945) were sent under travel warrant "A," trains for the Transbaykal Front were sent under travel warrant "B," and those for the Primorskaya Group of Forces (the 1st Far East Front as of 5 August 1945) were sent under travel warrant "L2."

The GAU shipped a total of 200,330 submachine guns, 154,000 rifles, 26,000 machine guns and antitank guns, 8,219 guns and mortars to the Far East from March to July of 1945. (Footnote 1) (TsAMO SSSR [Central Archives of the Ministry of Defense of the USSR[, fund 238, inventory 1611, file 391, sheets 13, 15, 20) By the beginning of operations the 1st and 2nd Far East Fronts and the Transbaykal Front had more than one million rifles and submachine guns, around 58,000 machine guns and 24,380 guns and mortars. (Footnote 2) ("Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II, 1939-1945], Vol II, Moscow, Voyenizdat, 1980, p 197, Table 9) The fronts were provided with 100-150 percent of all their authorized weapons.

A total of 7,181 carloads of ammunition were shipped to the fronts. As of 1 August 1945 they had 25,239,000 shells and mines, 1.3 billion cartridges and 7.5 million hand grenades. The forces were provided with more shells for the ground artillery than specified, with the exception of antiaircraft rounds. Most of them were still en route when the operation began. (Footnote 3) (TsAMO, fund 238, inventory 1611, file 391, page 85)

The Transbaykal Front (Colonel M.I. Khalaburdin, chief of artillery supply) had nine front artillery depots. Seven of them were located on the Ulan-Ude-Ksenyevskaya and Karymskaya-Borzya-Solovyevsk sections of the East Siberian and Transbaykal railroads. They were designated for supplying the 17th Army and the Mongolian People's Army.

The 2nd Far East Front (Major General D.K. Deminov, chief of artillery supply) had 11 artillery depots located on the Svobodny-Blagoveshchensk-Birobidzhan and Khabarovsk-Guberovo sections of the Amur and Far East railroads.

The 1st Far East Front (Major General S.F. Vasilenko, chief of artillery supply) had 11 artillery depots located on the Primorskaya railroad.

The front artillery depots set up mobile sections for supplying the forces with ammunition during the operation.

Each army had three artillery repair workshops and one tractor repair workshop. The Transbaykal and 2nd Far East Fronts had permanent repair workshops, while the 1st Far East Front had a mobile artillery workshop on railroad cars (PAM).

During the operation the fronts used 492,000 shells and mines, 47 million cartridges and 478,000 hand grenades. In terms of bulk, the three fronts

used 568 carloads of ammunition. Broken down by front, it amounted to 92 carloads (16.2%) for the Transbaykal Front, 31 carloads (5.5%) for the 2nd Far East Front, and 445 carloads (78.3%) for the 1st Far East Front. (Footnote 1) (TsAMO, fund 236, inventory 1611, file 391, sheet 20)

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LOCAL WAR: DIRECT AIR SUPPORT TO GROUND FORCES

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 11, Nov 85 (signed to press 24 Oct 85) pp 53-59

[Article by Col V.K. Babich, Candidate of Military Sciences: "Direct Air Support for Ground Forces (based on experience in local wars)"; passages enclosed in slantlines printed in boldface]

[Text] In local wars unleashed by the imperialist states since the war, the ground forces have been provided with direct air support for the destruction or suppression of the enemy's most important facilities in the tactical and immediate operational depth. The methods used for providing it, the operating tactics of the aircraft and the kinds of interaction in each of the wars discussed had certain distinguishing features.

/In the Korean War/ (1950-1953), fighter-bombers which became a part of the U.S. Air Force after World War II had the main role with respect to providing direct air support for ground forces on the battlefield. Prior to the beginning of combat operations in June of 1950, two groups of F-80 Shooting Star jet aircraft were based in Japan and one was located in the Philippine Islands.

The American command has acknowledged that the flight personnel and jet aircraft were not prepared to handle this mission at that time. (Footnote 1) (Dzh. Styuart, "Vozdushnaya moshch--reshayushchaya sila v Koreye" [Air power: The Crucial Force in Korea], Moscow, Izd-vo inostrannoy literatury, 1959, page 123) Air navigation was conducted over shortened routes, between familiar bases with the complete support of radio navigation facilities. In the real situation, it was necessary to fly over areas with no ground radio-electronic systems, and the flight personnel had forgotten how to independently determine the flight route and to get their bearings visually. Furthermore, they had poor skills in using the weapons, particularly the firing of rocket projectiles, because of indadequate training. The air fields where the fighter-bombers were based were a considerable distance from the battle area. This increased the time required to respond to a request from ground subunits. After flying a long distance, the aircraft could only spend a limited amount of time in the target area.

One of the factors contributing to the inadequacy of jet fighter-bombers for operating over a battlefield was the high flight speed, which made it difficult for the pilot to seek small mobile targets and to orient himself in a dynamic ground situation. It therefore became necessary to set up a special support system, which provided for more reliable interaction with the units and subunits of ground forces in the area of joint fire, for controlling the high-speed aircraft and directing them to the targets. The Center for Joint Operations by the Army and Air Force and 18 tactical aircraft guidance posts were set up, which helped the aircraft crews reach the assigned target and informed them of changes in the situations.

The American Air Force used 75, 127 and 155mm rocket projectiles, a new weapon, for combatting tanks. The latter could pierce armor 280mm thick (a tank was seriously damaged by a direct hit). Napalm incendiary bombs were also used for the first time in a combat situation. They could put a tank out of action by striking at a point up to 24 meters away.

There was a high intensity of sorties flown to provide direct air support. Between 28 November and 20 December of 1950, for example, American fighter-bombers flew 736 combat sorties just to assist the retreating 7th Infantry Division. The increase in the number of sorties could not completely make up for the poor support results, however. With combat operations under way, the airmen took a special training course involving 30-40 flying hours. They were only permitted to carry outcombat missions after completing it. The poor level of training of the flight personnel and inadequacies in control resulted in cases of weapons being dropped on their own positions.

Steps taken to reduce the number of battle casualties also proved ineffective. An analysis of combat operations showed that aircraft were suffering the most casualties at altitudes of 400-900 meters on the second and third approaches to the target. Antiaircraft artillery was being readied and greeting the aircraft with aimed fire.

Typical targets on the battlefield (guns, tanks and troops) were considered to be "rapidly disappearing." Even if they were detected by ground reconnaissance, the transmission of information for the aircraft was delayed due to a lack of direct, special communications channels.

In order to enhance the effectiveness of air support and reduce battle casualties, it was decided to update the aircraft pool with improved versions of the F-86 Sabre attack aircraft, which had modern navigational and sighting equipment. This step did not have a perceptible effect upon the casualty level, however.

By the end of the war, fighter-bombers under the USA's Far East Air Force and the 5th Air Army had made 352,023 combat sorties. This was approximately one-third of the total number of sorties flown. They accounted for half of all the casualties suffered by aircraft, however.

It appeared that the introduction of jet aircraft with greatly increased maximum flight speeds and altitudes would open up broad horizons. The tactics

of high-altitude intercepts and the high-speed penetration of air defenses moved the process of improving methods of conducting joint operations by air units and formations and the ground forces into the background, however. The jet aircraft supporting the troops were forced to descend from high altitudes closer to the earth and to fly at moderate speeds making it easier to seek out and attack mobile targets. It was noted that inadequate use was made of single aircraft for executing perceptible strikes against columns of troops and enemy lines of communication at night and in inclement weather.

In the /Vietnam War/ (1960-1973), questions pertaining to the organization and the execution of direct air support underwent further development. Its conduct was influenced by specific conditions: the absence of a solid front line and the "concealed" terrain.

After just 1 year of combat operations in South Vietnam, it became clear to the American command that not one of the aircraft in the arsenal of the U.S. Tactical Air Command was suited for providing direct support to the troops. This was particularly true of the second generation of fighter-bombers. The new aircraft had all of the shortcomings of the old ones. Their speed, which had been increased to the supersonic level, only made it more difficult to seek mobile and camouflaged ground targets. In addition, most of the targets were low-contrast targets, which complicated their detection by means of airborne radar.

The combat operations demonstrated that direct air support requires precise organization, which is impossible without a stable system based on modern control centers, warning posts, guidance posts, control and communications facilities.

The radar monitoring system in existence prior to this had covered almost all of the air space over an area of combat operations (utilizing information from forward radar sites). The ground and air forces exchanged representatives at the formation level and compiled interaction plans. Everything was done in accordance with a system worked out in command-staff exercises in peacetime. The combat situation made it necessary to substantially adjust the system which had been adopted, however.

During the execution of punitive operations, the aircraft would not arrive at the battlefield at the required time. The aircraft would appear over the forward edge of their troops after the latter had already begun feeling the bullets. The delay was caused by many factors: the long flying time for aircraft based at distant airfields; the prolonged periods of preparation for departure; the unreliability of lines for transmitting the requests and the multistage process of coordinating them.

In the execution of direct air support, flights were broken down into scheduled and requested flights. The former were carried out in accordance with requests sent by ground force units the previous day. The latter were urgent flights, for which the aircraft took off immediately after receiving a request from the forward edge (the mission could also be assigned in the air by radio). The number of urgent flights increased from 15 percent in 1965 to 50 percent in 1966 and remained at that level up to the end of war.

The semiautomatic 407L tactical air control system was placed into operation in South Vietnam at the end of 1966. It consisted of functional warning, control and homing subsystems; a subsystem for air traffic control in the area of combat operations; a subsystem for communication between the air command and subordinate units; and a subsystem for control of aircraft providing direct air support (see diagram).

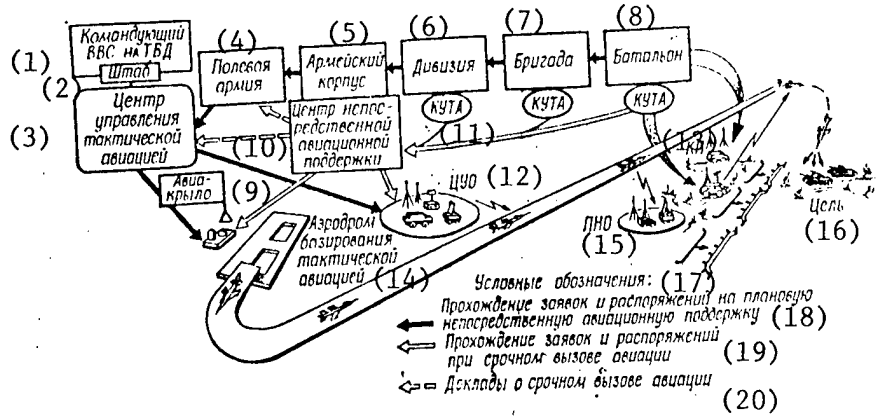

Diagram Showing Organization of Direct Air Support in Theater of Military Operations (one version)

Key:

1. Air force commander in theat of military operations
2. Headquarters
3. Tactical air control center
4. Field army
5. Army corps
6. Division
7. Brigade
8. Battalion
9. Air wing
10. Direct air support center
11. Tactical air control team
12. Control and warning center
13. Command post
14. Tactical air base
15. Observation and warning post
16. Target
17. Legend
18. Route of requests and instructions for scheduled direct air support
19. Route of requests and instructions for urgent air strikes
20. Reports on urgent air strikes

An urgent request, which was issued by a forward air controller (PAN) together with the ground force battalion commander, would be transmitted to the direct air support center (TsNAP). The tactical air control teams (KUTA) were monitored in the brigade and division, but their command elements intervened in a transmission only when it was necessary to cancel a request. The direct air support center reported the request to the tactical air control center (TsUTA), received permission and issued a request to the air wing commander (at the air field where the aircraft were based). After takeoff, the group commander successively contacted the tactical air control center, the control and warning center (TsUO), the observation and warning post (PNO) and then the forward air controller. When time was short and the weather was good, the warning centers were "omitted," and after reporting to the tactical air control center the aircraft immediately began to be directed by a controller at the forward edge. In bad weather final control was turned over to a vectoring post with

a mobile double-coordinate radar station (in this case targets with radar contrast were designated for the air attack, and the bomb-release line was at least 50-80 kilometers from the forward edge of the forces). With the start up of the U.S. tactical air control system, the direct air support flights were improved, but there were still many unresolved problems.

Target indication was one of these problems. The dense tropical forests and the "concealed" terrain reliably covered targets on the battlefield. The great maneuverability of the patriot detachments made it impossible to determine which direction the danger came from and where to send the support aircraft. In this situation the aircraft controller on the ground also needed additional reconnaissance information. It became necessary to combine the missions of reconnoitering the battlefield and issuing target indications to the combat aircraft.

The area of combat operations in South Vietnam was broken down into 214 visual reconnaissance sectors, each of which had an airborne vectoring post on a Cessna O-1 aircraft. Making flights in his sector each day and studying the terrain well, the aircraft controller could rapidly detect changes occurring in the situation and any stepped-up activity on the part of the enemy. The slow speed and great maneuverability of the aircraft and the open view from its cockpit enhanced the visual search. After summoning support aircraft and directing them "to himself" after takeoff (his flight was marked by a trail of smoke), the aircraft controller would issue the target designation by radio, duplicating it with signal flares.

The provision of direct air support at night continued to be an important problem. The patriot detachments preferred to operate in the dark, thereby achieving maximum concealment of movement and the element of surprise in their strikes against the interventionists. American aircraft were unable to actively support their troops in this situation. The aircraft being used did not have equipment or sighting systems making it possible to carry out combat missions at night (the airborne radar on the fighter-bombers was ineffectual). The pilots needed auxiliary facilities for lighting up the battlefield. This mission was assigned to transport (AC-47) transports with searchlights on board. The latter also dropped illumination aerial bombs (SABs), which permitted the crews on the combat aircraft to visually search for targets. According to foreign experts, the involvement of transport aircraft in operations over the battlefield was a forced move and could only be carried out in an area with air defenses.

It became highly important to ensure the safety of their own forces. In the war in Vietnam (and also in Korea) it was not a rarity for American aircraft to attack their own positions. This was due to the fact that when carrying out support missions the aircraft were operating against targets located immediately in front of troops who did not designate their positions (or it was impossible to make out the markers from the air).

It seemed to the army command that it would be easy to mark the forward edge of the troops, especially after the development of responder beacons, which subunits in the first echelon used for marking their positions. The beacon

signals were received by equipment aboard the aircraft, which "informed" the pilot when the aircraft was approaching the frontline and when it had passed over the line. Experience proved that this system was only reliable for the B-52 strategic bombers, however, which flew over the forward edge of their troops at a high altitude. Tactical aircraft, which operated at low altitudes, could not receive signals from the responder beacons at optimal distances. Smoke pots and grenades, illuminating rockets, panels and boards painted in bright colors and highly distinguishable against the background, as well as burning kegs of sand onto which kerosene had been poured, were used most frequently for marking the forward edge.

During the war it was revealed that the capabilities of the aircraft and weapons did not measure up to the missions they were performing. It had been necessary to use obsolete piston-engine aircraft and bold-generation jet fighters for providing direct air support. A special-purpose aircraft was needed. Experience showed that this should be a ground-attack aircraft of simple design, reliable, maneuverable, with diverse weapons and requiring little time to be prepared for flights. Supersonic speeds, complex sighting and navigational equipment and a high ceiling had practically no importance for a ground-attack aircraft.

The subsonic A-4 Skyhawk ground-attack aircraft were used by the Israeli Air Force in combat operations / in the October 1973 war/ in the Near East. Their particular tactics included the following: they struck at targets in areas in which the air defenses had been suppressed and made several approaches to a target from different directions; the bombs were dropped from large diving angles; and fighter "screens" were set up during attacks against targets on the battlefield. Since the Israeli Air Force was unable to completely suppress the Arabs' troop air defense, the A-4 aircraft suffered their greatest losses from low-altitude antiaircraft missile systems and 23mm self-propelled antiaircraft artillery pieces.

Combatting tanks was an important part of the operations of ground-attack aircraft. In the concluding phase of the war, the Israeli Air Force began to use air-to-ground Maverick guided missiles with a television homing system, which they received from the USA, along with the 30mm Aden guns, for attacking armored targets. Around 50 of these missiles were launched, and 40 of them struck the target. According to information in the foreign press, up to 150 Egyptian tanks were put out of action by means of the new types of weapons--Hobos and Rockeye guided bombs and Maverick guided missiles. (Footnote 1) (AVIATION WEEK AND SPACE TECHNOLOGY, 8 December 1974, page 19) During their launching and guidance to the target, the aircraft were to maintain the same flight conditions and not take evasive action against antiaircraft weapons. This accelerated the adoption of a guidance system which operated on the "launch-forget" principle (an immediate turn by the aircraft away from the bombing course after the missile had "locked onto" the target).

The Israeli Air Force used more than half of the total number of sorties to provide direct support for ground forces in the October war of 1973.

/During the combat operations in Lebanon in 1982/ direct air support for the aggressor's troops was again provided by the Skyhawk attack aircraft, as well as the F-4 Phantom and Kfir. Support subunits standing alert duty in a state of readiness at airfields were summoned by forward air controllers. During crucial periods of combat operations the aircraft operated from a status of "airborne alert duty." Vectoring posts were located in the battle formations of tank and infantry battalions at the forward edge. Target designation was transmitted by radio and duplicated with marking devices (signal flare rockets, tracer shells and colored smoke).

Despite attempts to suppress air defenses prior to attacks, the Skyhawk aircraft suffered large casualties. This demonstrated the vulnerability of attack aircraft forced to pass over a target protected by antiaircraft fire at relatively low speeds during the employment of conventional weapons. The need to further develop guided projectiles or bombs dropped outside the firing range of a facility's air defense fire was also confirmed.

The practice of immediately turning away from the target after the weapons had been used, which demonstrated its validity in the 1973 war, had to do with the need to obtain information on important targets on the battlefield in real time and the need for precise guidance of the attack aircraft.

The Israeli system of prestrike reconnissance and target designation was tested in a combat situation. It included six of the small, low-speed Mastiff reconnaissance drones (BSR) and a ground control post housed in a van. The Mastiff reconnaissance drone's on-board equipment consisted of a miniature television camera with transmitter and a panoramic aerial camera. The television and photographic information received at the control post was plotted on a special illuminated board depicting the terrain. The coordinates of a target were recorded semi-automatically and transmitted to the attack aircraft and then fed into the navagational and sighting system by the pilot. According to the foreign press, the new target designation system made it possible to enhance the effectiveness of direct air support. (Footnote 1) (AVIATION WEEK AND SPACE TECHNOLOGY, June 1982, pp 16, 17)

In local wars in the Near East direct air support was organized according to a simplified plan, with direct contact between the forward aircraft controllers and the operational control elements and airfields at which the attack aircraft were based.

/In the Anglo-Argentine Armed Conflict of 1982/ Argentine aircraft operated against the enemy from two airfields on the continent. For the Pucara and Skyhawk attack aircraft, the targets were at maximum range (even with the most suitable flight path) as a result of which the aircraft spent only a few minutes over the target. The British received intelligence on the take-off of Argentine aircraft by means of a reconnaissance satellite, and the element of surprise was therefore totally lost.

British aircraft supported their landing forces in a situation in which they had air superiority. Operating at maximum range and without proper fighter cover, the Argentine attack aircraft suffered their greatest losses from

attacks by Harrier aircraft. The latter were superior with respect to conducting maneuvering aerial combat and carried more advanced air-to-air missiles.

Experience in local wars has demonstrated that direct air support is one of the main combat missions of the tactical aviation. At least half of the total number of sorties flown were used to provide this support. According to the foreign experts, however, the support was not always highly effective. They concluded that it is not possible to greatly enhance the effectiveness of air support just by increasing the number of aircraft involved. The timeliness and accuracy of the air strike and selection of the correct weapon are highly important. A system of control with elements for planning, monitoring and guidance, for designating the forward edge and for attack aircraft traffic control must be set up in order to increase the precision and timeliness of the attacks and to ensure the safety of one's own troops. Without such a system it is impossible to reduce the time required for aircraft to respond to a summons from the forward edge or to enhance the effectiveness of troop support while still making efficient use of capabilities.

The extensive losses of aircraft performing missions in direct support of the troops made it necessary to gain air superiority in the area of combat operations in advance for purposes of reducing counteraction by ground air defenses and enemy fighters. Long-range guided weapons employed by aircraft beyond the range of low-altitude antiaircraft systems were made necessary by the rapid development of troop air defenses and the greatly increased danger posed by them. There arose the question of equipping the aircraft (particularly the attack aircraft) with instruments simplifying visual and instrument flight, target location and sighting for the pilot.

The aviation greatly limited its operations because it lacked night-vision devices and work was therefore begun to develop infrared and laser search and target indication systems, in order for the corresponding equipment to be installed on the attack aircraft and at ground air control posts.

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COMMUNIST PARTY'S IMPLEMENTATION OF 1924-1925 MILITARY REFORM

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 11, Nov 85 (signed to press 24 Oct 85) pp 60-64

[Article by Col (Res) A.D. Samoylov, Doctor of Historical Sciences, Professor: "The Communist Party's Work to Implement the Military Reform of 1924-1925"]

[Text] The military reform of 1924-1925, which was carried out at the Communist Party's initiative and under its leadership, was an extremely important historical stage in the organizational development of the Soviet Armed Forces and the strengthening of the USSR's defense capability.

As it began carrying out extensive military reforms in peacetime, the party proceeded primarily on the basis of V.I. Lenin's instructions on this matter. "...Having set about our peaceful development," Lenin said, "we shall make every effort to continue it without letup. At the same time, comrades, be on on the alert and guard the defense capability of our nation and our Red Army as you would a most treasured possession...." (Footnote 1) (V.I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 44, p 300)

In accordance with Lenin's instructions, the following main tasks were set for the military reform: the reorganization of agencies of command and control of the Armed Forces; the combining of territorial development with cadre development; the establishment of national formations; improvement of the functioning of troop logistics; alteration of the organization and establishment of the forces; restructuring of the training system for military cadres; the introduction of one-man command; and improvement of the ideological-political indoctrination of army and navy personnel. Another purpose of the military reform was to bring the Armed Forces into conformity with the military-political situation which had developed, with the nation's economic capabilities and the state of technology.

At the very beginning of the reform it became clear that the practical accomplishment of the tasks involved in military organizational development and the strengthening of the army and navy's combat efficiency would be complicated not only by management and economic difficulties in the nation, but also by the unsatisfactory performance of the war department, which was headed by Trotskiy. (Footnote 2) (Trotskiy at that time occupied the posts of Chairman of the Revolutionary Military Council of the USSR and People's

Commissariat for Military and Naval Affairs.) Taking advantage of the illness and then the death of V.I. Lenin, Trotskiy and his supporters attempted to remove the Armed Forces from under party leadership and did everything possible to hinder the strengthening of the forces.

The situation which had developed in January of 1924 was discussed at a plenum of the RKP(b) [Russian Communist Party (of Bolsheviks)] Central Committee, which charged a special commission consisting of A.A. Andreyev, A.S. Bubnov, K.Ye. Voroshilov, S.I. Gusev (commission chairman), G.K. Ordzhonikidze, I.S. Unshlikht, M.V. Frunze, N.M. Shvernik and others with examining the state of the Armed Forces and working out the steps necessary to enhance their combat efficiency.

An inspection was conducted in four military districts--the Western, Ukranian, Moscow and North Caucasus districts--as well as the Baltic Fleet. The commission concluded that "at the present time we do not have a Red Army as an organized, trained, politically indoctrinated force provided with mobilization reserves. In its present condition the Red Army is not fit for combat." (Footnote 1) (I.B. Verkhin, "Voyennaya reforma v SSSR (1924-1925)" [Military Reform in the USSR (1924-1925)], Moscow, Voyenizdat, 1958, p 60) It was also pointed out that there was a large turnover of command personnel, which made it impossible to organize normal training for the troops and reduced their combat efficiency. The forces did not have regulations conforming to the nature of the Red Army and its new missions, nor standardized training programs. The commission established the fact that there was a discrepancy between the mobilization plan for a war and the actual mobilization reserves of weapons, equipment and food.

The plenum of the party Central Committee held in February of 1924 discussed the conclusions drawn by the military commission from its study and ordered the implementation of an extensive group of measures aimed at normalizing and strengthening the Armed Forces. At the instructions of the RKP(b) Central Committee, the military commission and the Revolutionary Military Council of the USSR worked out recommendations for improving the condition of the army and navy. They were approved by the party Central Committee in March of 1924 and became the basis for the military reform. The party Central Committee directed the overall leadership of the reform, and a special commission headed by M.V. Frunze, who became Deputy Chairman of the Revolutional Military Council of the USSR and the People's Commissariat for Military and Naval Affairs in March of 1924, was charged with directly overseeing the development and implementation of its main measures. In January of 1924, when a plenum of the RKP(b) Central Committee relieved Trotskiy of his duties as Chairman of the Revolutionary Military Council and People's Commissar for Military and Naval Affairs, M.V. Frunze was appointed to those important posts. (Footnote 2) ("KPSS i stroitelstvo Sovetskikh vooruzhennykh sil" [The CPSU and the Organizational Development of the Soviet Armed Forces], Moscow, Voyenizdat, 1967, p 14)

The plan for the military reforms, which was worked out by a commission of the Revolutionary Military Council of the USSR under M.V. Frunze's leadership and was approved by the party Central Committee, was an important program

document for the military reform. Its implementation was begun by reorganizing the central apparatus of military administration. Among other things, the position of commander in chief was abolished, since the need for it had ceased when the civil war ended; the Political Directorate of the Revolutionary Military Council was converted into the Political Directorate of the RKKA [Workers' and Peasants' Red Army]; the staff of the RKKA was broken down into smaller units, and so forth. All of these reforms were accompanied by a reduction in the numerical strength of the central apparatus (it was cut by 22.7% between 1 October 1923 and 1 October 1924) (Footnote 1) ("KPSS i stroitelstvo Sovetskikh Vooruzhennykh Sil" [The CPSU and the Organizational Development of the Soviet Armed Forces], p140), and a renewal of the staff. Young commanders and political workers, mainly those who came from the working class, were devoted to the Communist Party's cause and had gone through the rigorous schooling of the civil war, were appointed to leading positions. There was a growth of the party stratum among workers in the central apparatus.

As it exercised leadership over the military reform, the party Central Committee periodically heard reports from the Revolutionary Military Council of the USSR on this matter at its plenums and adopted appropriate decisions. A decree passed at the March-April 1924 Plenum of the RKP(b) Central Committee on reforms in the central apparatus of the RKKA stated the following: "The plenum approves the reform carried out by the Revolutionary Military Council of the Union with respect to the reorganization and simplification of the administrative apparatus of the War Department and particularly underscores the correctness of the determined steps outlined by the War Department with respect to advancing party command and administrative personnel to responsible positions in the army, both in the line units and at headquarters.

"The plenum considers it essential to continue reinforcing the Red Army with Communists and orders the Organizational Bureau to take the appropriate steps." (Footnote 2) ("Kommunisticheskaya partiya Sovetskogo Soyuza v rezolyutsiyakh i resheniyakh syezdov, konferentsiy i plenumov TsK" [The Communist Party of the Soviet Union in Resolutions and Decisions of Congresses, Conferences and Central Committee Plenums], 7th Edition, Part I, Moscow, Politizdat, 1954, p 813)

A number of legislative acts pertaining to the Armed Forces, which were passed by the party Central Committee and the Soviet Government and were implemented, were an extremely important factor contributing to the successful implementation of the military reforms. On 21 March 1924, for example, the Central Executive Committee and the Council of People's Commissars of the USSR passed a decree on service terms in the RKKA, the RKKF [Workers' and Peasants' Red Navy] and OGPU [United State Political Directorate] troops. (Footnote 3) (VESNIK TsIK, SNK i STO SSSS,No 4, 1924, p 116) It defined the new service procedure, the term of which was set at 2 years for all branches of the ground forces, 3 years for specialists in the air forces and 4 years in the navy. The draft was performed once a year in the fall.

The very first steps taken in the military reform received complete approval at the 13th Party Congress in May of 1924. Congress resolutions on the Central Committee's Accountability Report stated the following: "The congress

welcomes the steps undertaken by the Central Committee to implement the very timely reform in the war department and to reinforce it with political workers." (Footnote 1) ("Kommunisticheskaya partiya Sovetskogo soyuza v rezolyutsiyakh i resheniyakh syezdov, konferentsiy i plenumov TsK," Vol. 3, Moscow, Politizdat, 1970, p 41) The congress worked out some very important and precise instructions on further military reform measures for 1924-1925. Many of them continued during the period 1926-1928, when "the main questions of military reform were being precisely defined and expanded in accordance with the specific conditions of the Soviet State's development." (Footnote 2) ("Sovetskiye Vooruzhennyye Sily. Istoriya stroitelstva" [The Soviet Armed Forces: History of Their Organizational Development], Moscow, Voyenizdat, 1978, p 150)

The Law on Mandatory Military Duty adopted by the Central Executive Committee and the Council of People's Commissars of the USSR on 18 September 1925 played an important role with respect to the further strengthening of the Red Army and Navy. It established a precisely defined procedure for the performance of military duty by all male citizens between the ages of 19 and 40 years inclusive. This helped to strengthen regulation order in the military units and to organize planned combat and political training for personnel of the Armed Forces.

The extensive adoption of the territorial-militia principle for manning the Red Army in combination with the cadre principle was one of the most important measures in the military reform. The fact was that in the 20's the Communist Party and the Soviet Government had been forced by economic difficulties to accomplish the national defense tasks with a limited number of cadres in the Red Army in peacetime (in accordance with the new manning tables, this was 562,000 men as of 1 October 1924). (Footnote 3) (I.B. Berkhin, op. cit., p 78) In that situation the stress was on developing and strengthening the combination system for building up the Armed Forces (the establishment of cadre and territorial-militia formations), the introduction of which had been approved at the 12th RKP(b) Congress in 1923. The territorial manning principle extended only to rifle and cavalry divisions. The Navy and technical troops continued to be regular forces.

By the end of 1924 the quantity of personnel in the territorial formations had increased to 52.4 percent of the Red Army's total numerical strength. The specific portion accounted for by these formations continued to grow in the following years: it was 56% in 1928 and 58% in 1930. (Footnote 4) ("50 let Vooruzhennykh Sil SSSR" [Fifty Years of the Armed Forces of the USSR], Moscow, Voyenizdat, 1968, p 174)

The national formations were assigned an important place in the military reform. Their organizational development was begun immediately after the founding of the USSR in accordance with the 12th RKP(b) Congress' decisions on the national question. Because of opposition by Trotskiy and his supporters, however, who opposed enlisting the national minorities into the army, the establishment of national military units proceeded extremely slowly right up to mid-1924. M.V. Frunze exposed the baselessness of the Trotskyites' views. In his report at a conference of leading political

workers of the army and navy on 17 November 1924, he commented: "The national formations are not an idle amusement for us, not a game played for the sake of gratifying the national pride of individual peoples in the Union. This is a serious task, which stems from the entire nature of our state and is defined by the main principles underlying our domestic and international (mezhdunarodnaya) national policy." (Footnote 1) (M.V. Frunze, "Izbrannyye proizvedeniya" [Selected Works], Moscow, Voyenizdat, 1965, p 215)

Four Ukranian divisions, a Belorussian, two Georgian, an Azerbaijani and an Armenian division had been formed by the end of 1924. Rifle and cavalry divisions were formed in the Uzbek SSR, and one cavalry division in the Turkmen SSR. The following were formed in autonomous republics of the Russian Federation: a rifle regiment in the Yakut ASSR, a cavalry regiment in the Buryat-Mongolian ASSR, and one rifle division each in the Bashkir and Tatar ASSR's. (Footnote 2) (Frunze M.V. Voyennaya i politicheskaya deyatelnost" [M.V. Frunze: Military and Political Work], Moscow, Voyenizdat, 1984, p 200) An order passed by the Revolutionary Military Council of the USSR on 9 June 1924 and signed by M.V. Frunze called for the establishment of a number of new national military schools for training national command cadres. This was in addition to the six already in existence.

Political organs in the Red Army worked extensively to explain the Communist Party's national policy and to develop political education among the national formations and the local population. The texts of the "Red Oath" and military regulations were translated into the languages of peoples of the USSR whose members were inducted into the military service, and training aids, Red Army newspapers etc., were published in those languages.

The national organizational development initiated in the Soviet Armed Forces during the military reform played a large role with respect to strengthening the national defense, the shaping of the Soviet socialist nations and the strengthening of friendship and fraternity among peoples of the USSR.

Necessary refinements were made in the organizational structure of all branches of troops during the military reform of 1924-1925. It was brought into greater conformity with both the nation's material possibilities and the requirements which would be made of it by a future war. There was an organizational strengthening of the Ground Forces, and their technical equipment, their mobilizational readiness and combat efficiency were improved. The portion of the Ground Forces accounted for by the infantry and cavalry was reduced from 74 percent to 62 percent between 1924 and 1928, for example, and the total relative portion of artillery and technical troops (armored forces, engineer troops, signal and railroad troops) rose from 26 to 38 percent. (Footnote 3) ("Sovetskiye Vooruzhennyye Sily. Istoriya stroitelstva," pp 164, 166) Along with the organizational strengthening of the troops, the Communist Party took steps to raise the general technical level of the Red Army. While the Military Air Fleet had 341 combat aircraft (not counting trainers) at the beginning of 1924, the number had risen to 1400 by the end of 1928.

The important matter of reducing the cumbersome army rear services was also accomplished in the reform. The intermediate, division and corps elements

were eliminated from the troop supply system. Logistical support for the troops was organized on a center-district-unit-fighter basis. The Central Supply Directorate of the RKKA was reorganized as the Supply Directorate of the RKKA, which was smaller in size but more flexible in structure. The position of assistant deputy commander for supply was introduced in July of 1924. All of this considerably improved the RKKA's supply system.

Guided by the Marxist-Leninist principle that the command cadres are the army's backbone, the party and government took steps to replenish the Red Army's command and political corps primarily with members of the working class and the poorer segments of the peasantry, and to provide it with good organizational capabilities and a profound understanding of military theory. During the military reform, the abbreviated training courses for commanders were eliminated, and junior command personnel began to be trained at regimental schools, middle-level commanders at normal military schools and naval schools, and senior commanders at military academies. The system of training and indoctrination there was being improved by the year. While only 56.6 percent of the command personnel had a military education in 1922, the figure had risen to 90.5 percent in 1925. Their social and party makeup was improving. By the Red Army's 10th anniversary 72 percent of the command personnel consisted of workers and peasants, and 52.9 percent of them were Communists or Komsomol members. (Footnote 1) ("50 let Vooruzhennykh Sil SSSR," p 185)

The introduction of one-man command was one of the most important measures of the military reform. As early as 1920, when V.I. Lenin summarized the organizational leadership in the Red Army, he stated that the general trend of this experience had led to one-man command as the only correct arrangement. (Footnote 2) (V.I. Lenin, "Poln. sobr. soch.," Vol. 40, p 77) New command cadres had developed by 1924, and their social and party composition had changed. In June of 1924 the Organizational Bureau of the RKP(b) Central Committee passed a decree which acknowledged one-man command as the expedient principle on which to base the Red Army's organizational development.

On 2 March 1924 People's Commissar for Military and Naval Affairs M.V. Frunze signed an order issued by the Revolutionary Military Council of the USSR, "On the Establishment of One-Man Command in the Army." It set forth the objectives, the tasks and the procedure for implementing this principle. One-man command was introduced in two forms. In one form, the sole commander, who was a Communist, combined direction of the combat training, administrative and management functions, and all of the party-political work. He was at the same time commander and commissar. In the second form, the commander was not a party member and could not direct the party organization. He was the sole commander only in the operational and the administrative and mangement areas, while party-political work was performed by a commissar.

The RKP(b) Central Committee attached great importance to achieving an effective and organized transition to the new command and control principles, and it stated the following in a letter of instruction dated 6 March 1925: "Completely suitable conditions for implementing the principle of one-man command have been created as a result of all the work performed by the party and military organs, with respect to both the general strengthening of the Red Army and the strengthening of command cadres (by selecting the best

elements, by extensively involving command personnel in the political and educational work and by steadily increasing the size and role of their party and Komsomol membership)." (Footnote 1) ("KPSS o Vooruzhennykh Silakh Sovetskogo Soyuza. Dokumenty 1917-1981." [The CPSU on the Armed Forces of the Soviet Union: Documents, 1917-1981], Moscow, Voyenizdat, 1981, p 227) By September of 1927 84.2 percent of the corps commanders, 73.9 percent of the division and brigade commanders, and 48.2 percent of the regimental commanders were exercising complete one-man command. (Footnote 2) ("KPSS i stroitelstvo Sovetskikh Vooruzhennykh Sil" [The CPSU and the Organizational Development of the Soviet Armed Forces], Moscow, Voyenizdat, 1967, p 148)

The development and adoption of new military regulations was an important event in the Red Army's life during the military reform. They played an important role with respect to organizing planned and goal-oriented training and indoctrination for the personnel of all branches of troops, and in the strengthening of military discipline. The Soviet Armed Forces received new regulations for almost all branches of troops as early as 1925. Manuals and instructions had also been issued at that time. They included manuals and instructions on camouflage, pontoon work, the combat employment of the Air Forces of the USSR, the conduct of war games, etc.

During the military reform, the party Central Committee devoted unweakened attention to the strengthening of political work in the Red Army, particularly after the introduction of one-man command, and took steps to strengthen the party-political organs and improve their functioning. The Political Directorate of the RKKA, which had the status of military department of the Central Committee, began to exercise overall leadership of party-political work in the Armed Forces. Prominent party and military figure A.S. Bubnov was appointed to the position of Chief of the Political Directorate of the RKKA in January of 1924. In April of 1925, he was elected to simultaneously serve as secretary of the RKP(b) Central Committee. At that same time the Central Committee passed a special decree: "On Relations Between Political Organs of the Red Army and Navy and Local Party Organizations." The section "On Party Organizations in the Red Army" was added to the party Charter at the 14th RKP(b) Congress. It stressed the need to establish close contact with local party organizations. In December of 1924 the party Central Committee approved new instructions for party cells in the Red Army and Navy, which helped to strengthen the army and navy party organizations.

Fulfilling V.I. Lenin's precepts with respect to strengthening the Red Army and Navy, the Communist Party successfully implemented the military reform under extremely difficult conditions caused by both internal and external factors. It played a large role in the history of Soviet military organizational development.

The work performed by the CPSU to strengthen the nation's defense capability continued during the first five-year periods. This permitted the Soviet Union to become a mighty power both economically and militarily. It made it possible for the Soviet people and their Armed Forces to gain a victory of worldwide historical importance over fascist Germany in the Great Patriotic War.

Relying on past experience, the CPSU continues in the contemporary situation to devote unweakened attention to the development and strengthening of the Soviet Armed Forces.

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OPERATIONAL TROOP MOVEMENTS IN OPERATIONS DURING FIRST PERIOD OF WAR

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 11, Nov 85 (signed to press 24 Oct 85) pp 67-72

[Article by Maj Gen N.D. Popov, Candidate of Military Sciences, and Col G.M. Feller, Candidate of Military Sciences: "Operational Movements of Troops in Operations During First Period of War"]

[Text] In the last war operational transport operations included the movement of military subunits, units, formations and establishments from their permanent basing areas to new locations and to areas of combat operations. During the first period of the war the Soviet command successfully moved large groupings of troops from the nation's interior and carried out considerable regroupings along the front by means of railroad and other types of transport.

During the first period of the Great Patriotic War, as we know, the operational movements were carried out in a complex situation. To a significant degree the difficulties were due to the need to effect large shipments within a short period of time. They were exacerbated by the fact that most of the transport system in the western part of the nation had been captured by facist troops. The stream of counterhauls increased significantly when industrial facilities began to be evacuated from the zone near the front to the nation's interior. In addition to this, enemy aircraft systematically bombed railroad junctions and stations.

Sudden changes were frequently made in the train routes, and troops had to be unloaded in unprepared areas. The route of the 16th Army (Lieutenant General M.F. Lukin, commander), for example, was suddenly altered due to a change in the operational situation in the area of Smolensk. Its first 98 trains had already unloaded in the area of Shepetovka, Izyaslavl and Zhitomir, but the remaining 115 were rerouted to a new area (Smolensk and Gusino) by order of the General Staff. The army formations unloaded in the Ukraine were reloaded onto trains and sent to the Western Front at the beginning of July.

The problem of rapidly dispersing trains accumulated at railroad junctions was especially acute. A considerable part of the railroad system which had prepared unloading areas was inside territory captured by the enemy, and most of the burden of unloading the trains fell to the railroad junctions. Suffice it to say that 40 to 45 trains had to be unloaded every day at the

Smolensk junction, including the Krasnyy Bor Station. To prevent the accumulation of trains, they began to be dispersed to intermediate stations and individual trains were even taken out onto the lines.

Operational hauls were especially intensive and large during the fighting at Moscow. The concentration of large groupings of forces on the threatened sectors and the creation of considerable reserves for conducting the counteroffensive required undetected organization of troop movements within relatively short periods of time.

Only five railroad lines leading to the capital from the east and the southeast were in use in the area adjacent to the Moscow railroad junction. The rest were held by the enemy. Many trains stood idle at railroad stations and junctions, waiting to be unloaded. The Gorkiy and Moscow-Ryazan main railroad lines were almost totally filled with evacuation countertraffic. There was not enough rolling stock or fuel, and enemy aircraft continued to inflict palpable strikes upon the railways. Nonetheless, large-scale troop movements were carried out during the defensive fighting near Moscow. Seven rifle divisions (the 32nd, 78th, 93rd, 316th and 332nd rifle divisions, the 7th and 1st Guards motorized rifle divisions) and one tank division (the 108th) were delivered from Kazakhstan, the Far East and other areas of the nation to the Western Front by railroad in October of 1941 alone. Eight combined-arms armies were moved to Moscow in November and the beginning of December. A total of 2,258 trains arrived in the Moscow area during that period. (Footnote 1) ("Ukhodili na front eshelony" [The Trains Were Leaving for the Front], Moscow, Voyenizdat, 1974, p 122). They travelled at high speeds. Trains moved at express speed from the Far East, for example, covering 800-900 kilometers in a 24-hour period. Army General A.P. Beloborodov, former commander of the 78th (9th Guards) Rifle Division, which played an important role in the defense of Moscow, wrote the following: "It took the railroad workers only 10 days (a very short period for that time) to deliver us from the Far East." (Footnote 2) ("Bitva za Moskvu" [The Battle for Moscow], Moscow, Moskovskiy rabochiy, 1966, p 212)

In addition to operational hauls from the nation's interior, large regroupings of troops were also carried out by railroad both between and within fronts. Because of frequent changes in the situation, the need for such transport operations ordinarily arose unexpectedly and were carried out on an urgent basis. Just during the 3 days of 23-25 November 1941, for example, the railroad transport system moved the 7th Guards Rifle Division (Colonel A.S. Gryaznov, commander) between fronts. By order of the Western Front's military council it was hastily transferred from the area of Serpukhov (49th Army) to the area of Kryukovo (16th Army), where a bad situation had developed for forces of the Western Front. The table of operational hauls performed in the Western Front graphically shows the kind, the volume and dynamics of operational hauls made during the defensive period of the fighting near Moscow (see table). (Footnote 3) (V.F. Dikushin and A.M. Kiselev, "Voyennyye soobshcheniya Sovetskoy Armii v bitve pod Moskvoy" [War Reports of the Soviet Army During the Fighting Near Moscow], Moscow, Voyenizdat, 1960, pp 48, 49, 50, 52)

Volume of Operational Hauls for Western Front During Defensive Period of Fighting at Moscow*

(1) Перевозимые части и соединения	(2) Количество эшелонов и вагонов					
	(3) Октябрь		(4) Ноябрь		(5) Всего за период оборонительного сражения	
	(6) эшелонов	(7) вагонов	(6) эшелонов	(7) вагонов	(6) эшелонов	(7) вагонов
(8) Стрелковые соединения и части	490 / 73	29510 / 4280	347 / 59	20820 / 3116	837 / 132	50330 / 7396
(9) Артиллерийские и минометные части	15 / 16	840 / 928	47 / 8	2700 / 418	62 / 24	3540 / 1346
(10) Танковые части	118 / 8	6817 / 336	29 / 12	1622 / 397	147 / 20	8439 / 733
(11) Тыловые части и учреждения	— / 28	— / 1736	6 / 32	235 / 1876	6 / 60	235 / 3612
(12) Прочие части и подразделения	22 / 43	1006 / 2560	51 / 32	865 / 1803	73 / 75	1871 / 4363
(13) Итого	645 / 168	38173 / 9840	480 / 143	26242 / 7610	1125 / 311	64415 / 17450
(14) Всего	813	48013	623	33852	1436	81865

*Numerator indicates centralized hauls, denominator indicates hauls within front.

Key:

1. Units and formations hauled
2. Number of trains and cars
3. October
4. November
5. Total during period of defensive fighting
6. Trains
7. Cars
8. Rifle units and formations
9. Artillery and mortar units
10. Tank units
11. Rear service units and establishments
12. Other units and subunits
13. Totals
14. Overall total

The volume of troop shipments, which had dropped somewhat toward the end of the concentration of strategic reserves, began to build rapidly once again during the counteroffensive at Moscow. New armies and divisions were moved to Moscow by rail within a short period of time.

The extensive transport operations carried out during the initial period of the war and during the fighting at Moscow made possible the successful deployment of Soviet Army forces on the strategic defense lines which had been set up and to inflict the first important defeat upon the enemy on the approaches to our homeland's capital.

Operational transport operations during the defensive fighting at Stalingrad were carried out in difficult circumstances, since the capabilities of the transport system in the area of combat operations were extremely limited. The two single-track lines existing in the area of Stalingrad up to the time of the war--Povorino-Stalingrad and Saratov-Urbakh--had a small handling capacity inadequate for the considerably increased number of trains.

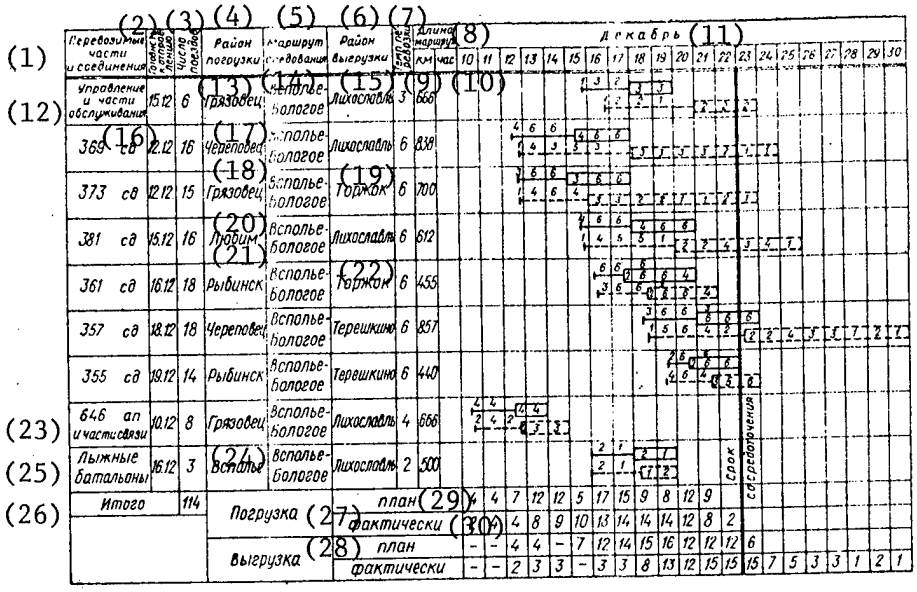
The railroads had to be developed and improved while heavy defensive fighting was underway. Individual railroad sections were rebuilt. The main, Povorino-Stalingrad, railroad line, on which stations had not been prepared and there was extensive damage, was augmented with new railroad sections within a short period of time. A new railroad was built from Sviyazhsk to Ilovlya on the right bank of the Volga. The main section, from Petrov Val to Ilovlya (136 km), began operating in the summer of 1942. The Akhtuba-Gumrak and Kizlyar-Astrakhan railroads were also built at that time. All of this increased the capabilities of the rail transport system and helped it to cope with the increased volume of transport operations. A total of 556 trains (27,830 cars) of troops and materiel were delivered just to the Stalingrad front in July of 1942, for example. River transport was extensively used in addition to rail transport during that period. For example, the 231st Rifle Division (Colonel F.M. Rukhlenko, commander) was moved to Kamyshin from Pristannoye, and the 13th Guards Rifle Division (Major General A.I. Rodimtsev, commander) was moved from Ilovatka on the Volga, for example.

In order to successfully cope with the large and extremely intensive troop movements during the first period of the war, staffs and military communications and transport agencies had to develop and implement a number of organizational and technical measures helping to accelerate the movement of trains. Among other things, staffs and agencies of the VOSO [Central Military Transportation Directorate] began to plan operational hauls on the basis of preliminary orders, without waiting for an overall transport plan to be worked out. The administrative (rasporyaditelnyy) method of planning operational transport operations began to be extensively used.

The war experience showed that the so-called rigid planning method in use prior to the war was unacceptable in a situation of highly mobile combat operations. Under this method the movement of each train was planned in strict accordance with a train schedule. This required a great deal of time and effort. Because of the urgency of the shipments, however, there was very little time for compiling the planning documents. Target schedules and requisitions sometimes arrived only a few hours before the deadlines for dispatching the trains.

In the case of unanticipated shipments, it proved more acceptable to compile a graphic plan which, based on the decision of command, contained only the essential initial data: the number of trains, shipment rates and schedules, troop loading and unloading areas and the train routes (see figure). (Footnote 1) (V.F. Dikushin and A.M. Kiselev, "Voyennyye soobshcheniya Sovetskoy Armii v bitve pod Moskvoy," Addendum No. 2) This made it possible to graphically and fully describe the transport process, from the loading to the unloading of each unit and formation. When necessary, the graph also made it

possible to decide more rapidly and easily how to maneuver the train traffic when there were changes in the situation. This method of planning was seriously tested in subsequent operations of the Great Patriotic War and justified itself entirely.



Graph of Troop Movements of 39th Army in December 1941

Key:

1. Units and formations hauled
2. Preparedness for departure
3. Number of trains
4. Loading area
5. Route
6. Unloading area
7. Shipment rate
8. Length of route
9. Kilometers
10. Hours
11. December
12. Service directorate and units
13. Gryazobets
14. Vspolye-Balogoye
15. Likhosplavl
16. Rifle division
17. Cherepovets
18. Torzhok
19. Lyubim
20. Rybinsk
21. Tereskhkino
22. Artillery regiment and signal units
23. Vspalye
24. Ski battalions
25. Total
26. Loading
27. Unloading
28. Plan
29. Actual
30. Concentration deadline

Experience in providng rolling stock for the transport operations is of some interest. Hundreds of thousands of cars were required for concentrating large reserves for Headquarters, Supreme High Command, and for organizing the large volume of troop movements between and within fronts, and there was a constant shortage of these. This was due to significant combat losses, the inadequate capabilities of the repair base and extensive demurrage while the cars waited to be loaded. Car demurrage was five to seven times the acceptable rate at certain stations on the Gorkiy and a number of railroads, for example.

Rolling stock was provided under special control assignments from the NKPS [People's Commissariat of Railroads] for more important and urgent shipments. Under these assignments empty trains were assembled and sent to areas of large-scale troop loading operations on the railroads. Their movements were controlled by the NKPS and VOSO agencies. The 2nd Cavalry Corps was transported from the Southwest Front to the area of Moscow by this method in October of 1941, for example. Adjacent railroads assembled 50 empty trains to handle this urgent movement. They had the status of operational trains and were sent through to the corps' loading area by special routes. The trains were frequently accompanied by officers from the military railroad commandant's offices. This was done to see that the cars were not uncoupled somewhere en route. When cars could not be obtained from other railroads and the shipping distance was not great, "rotating" traffic was arranged, whereby one standard train ran back and forth between the troop loading and unloading areas. The 357th Rifle Division was hauled in this manner from the Tereshkino station to the Kuvshinovo station during the counteroffensive at Moscow by decision of the Kalinin Front's military council.

When organizing the unloading, which was the greatest "bottleneck" in the troop movement process, it was necessary to consider the discrepancy between the limited capabilities of the unoading areas and the rapid speed of the traffic. Because of this troops began to be unloaded not just at large junctions with loading and unloading devices, but also at small intermediate stations. The trains were frequently unloaded out on the sections. This made it possible to increase the capabilities of the loading areas and provide a greater degree of protection against enemy air raids for the trains being unloaded.

Ramps made of ties and wood-and-earth ramps were built out of available materials for unloading trains carrying heavy equipment at intermediate stations and out on the sections. Ramps were constructed of boards, detachable equipment and other materials for unloading light equipment and horses. During the Battle of Stalingrad, for example, such devices were extensively used in the unloading areas of Akhtuba, Stalingrad, Filonovo, Kachalino, Talovaya and Kalach.

Special operating methods began to be used to increase the handling capacity of the poorly developed network of railroads: one-way movement of trains, the sending of trains one behind the other within visual signaling distance ("live" block signaling), nonmatching train schedules, and others. In August and September of 1942, for example, loaded trains moved in the direction of Balashov-Povorino-Ilovlya toward the front on the Southeast and Stalingrad railroads, and empty trains returned by the Ilovlya-Petrov Val-Balashov loop.

Steam locomotive columns of the special reserve, NKPS (ORKP) [not further identified]) also played an important role. Steam locomotive brigades of the ORKP were on barracks status, and off-duty shifts stayed in sleeping cars which were always kept with the steam locomotives.

A trend toward the use of operations groups and centralization of control took shape in the direction of operational transport operations during this period. We know that difficulties arose with respect to obtaining information on the status of the trains, which produced delays in decision-making at the beginning of the war as a result of deficiences in the organization of and frequent breakdowns in communications, and of drastic and unexpected changes in the situation. The operations groups helped to improve control. They were ordinarily set up by the Chief of the Soviet Army's Directorate of Military Communications and by the VOSO chiefs of fronts, and were dispatched to directly oversee transport operations on routes with the most intensive traffic. The operations groups of the UPVOSO [Directorate of Military Transportation] were ordinarily headed by UPVOSO Chief I.V. Kovalev or his deputies, V.V. Stolyarov, S.A. Stepanov, I.G. Kashcheyev-Semin and P.A. Bakulin. The front VOSO directorates sent representatives on TDY to individual installations for resolving problems pertaining to train (transport) demurrage and for unloading them at the site or sending them on to new destinations. (Footnote 1) (TsAMO, fund 229, inventory 201, file 11, sheets 65-78)

When communications lines were damaged by the enemy, the movement of trains was monitored by communications delegates who flew out on PO-2 aircraft to the railroad sections and reported to command on the status of the trains and transports. Decisions to move the trains further were made only after the transport situation which had developed was assessed.

The VKP(b) Central Committee and the Soviet Government devoted a great deal of attention to improving the performance of the transportation system. The Transport Committee was formed in February of 1942 by decision of the State Defense Committee. It included I.V. Stalin (chairman), A.A. Andreyev (deputy chairman), A.I. Mikoyan, A.V. Khrulev, I.V. Kovalev, Z.P. Shashkov, P.P. Shirshov, G.V. Kovalev and others. The commitee combined control of all types of transport, ensured their most efficient utilization and coordinated their operations.

Special formations--military operational directorates (VEU) and military-operational sections (VEO)--also played a large role in maintaining precision and coordination in the work of the railroads and the centralization of management on the part of the NKPS. The first military-operational directorate was headed by V.A. Garnyk, chief of the Western Railroad. It was established in October of 1941 out of the directorate of the Western Railroad and partly out of the directorate of the Moscow District Railroad, and it united the railroads in the Moscow area. The establishment of the VEU made it easier for the Western Front's VOSO service to interact with NKPS agencies and provided for greater flexibility and efficiency in the control of troop movements. At that same time 11 military-operational sections were formed out of the operating and control directorates of the Moscow District Railroad. They were subordinate to the VEU and achieved closer interaction with the military commandant's offices at the railroad stations.

And so, rail transport was the basic means of accomplishing large-scale troop movements during the first period of the Great Patriotic War.

The theory and praxis of organizing operational hauls were enriched with new principles and conclusions: the replacement of the "rigid" method of planning transport operations with the more efficient graph method; the use of new organizational forms of providing rolling stock for the transport operations; accelerated enlargement of the handling capacity of poorly developed sections of railroad systems; the creation of special operating formations; the organization of combination movements; and centralization of control.

The experience obtained was extensively utilized for organizing operational movements in subsequent operations of the Great Patriotic War. In many ways it retains its importance in the contemporary situation.

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