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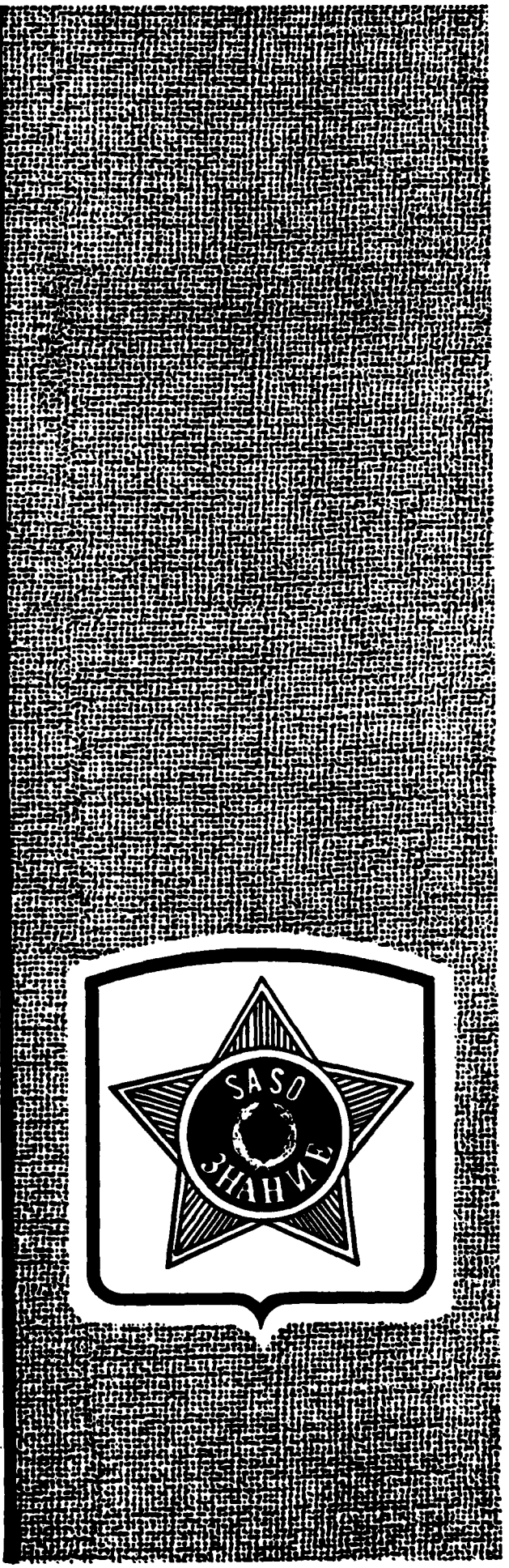
SOVIET OPERATIONAL ART

AND TACTICS IN THE 1930s

SOVIET ARMY STUDIES OFFICE

Fort Leavenworth, Kansas



SOVIET OPERATIONAL ART AND TACTICS IN THE 1930s

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Introduction

The Soviet Union emerged from the Russian Civil War united under Lenin's Bolshevik Party but facing immense problems of reconstructing national institutions to fit a socialist mold. As the nation formulated economic policies to prevent economic collapse (the New Economic Policy) and political programs to consolidate its power, it also addressed the critical question of national security, specifically a program of military reconstruction to establish a military instrument to serve the socialist nation and guarantee its future survival. While Commissar of War, M. V. Frunze, articulated a basic program for a new "Unified Military Doctrine," other military theorists began what would become a Soviet penchant for the study of future war. Their intent was to fashion an effective modern military force and a conceptual framework within which it could operate.

During the 1920s military necessity prompted the Soviets to define a new theoretical realm within military science, which they termed "operational art." During that decade a host of Soviet military theoreticians and practitioners of war pondered questions arising from First World War and Russian Civil War combat experience. In the West, many theoreticians were also addressing the same questions. First and foremost among those questions was how to break the tactical stalemate of positional war, which had produced on the Western Front four years of bloody attrition war devoid of major operational successes. European prewar military theorists had postulated that strategic victory could be

achieved by winning one grand victory early in war. Further, they believed that wholesale initial tactical successes could produce rapid strategic victory.

The events of 1914 to 1918 proved that belief to be false. The crushing weight of firepower facing First World War armies inhibited mobility and denied the participants strategic success until they succumbed to the exhaustion produced by a war of attrition. The Soviets, however, experienced a different phenomenon in their Civil War. During that three-year struggle, the vast spaces of Russia and the paucity of both forces and heavy weaponry favored mobile operations in stark contrast to what had occurred in the European World War.

During the early 1920s, the Soviets analyzed their World War and Civil War combat experiences and concluded that the complexity of modern war had altered the meaning of the older definitions regarding levels of war.[1] They reasoned that the planning and conduct of tactical operations could no longer produce strategic success in war. In the future, an intermediate level was required--a level of war the Soviets came to call operational. They concluded that only cumulative operational success achieved by successive operations could produce overall strategic victory.

This view emerged by 1924 from the minds and pens of many theorists, but it was the ex-Tsarist officer, A. A. Svechin, who gave it clearest definition in his 1927 book Strategiia [Strategy]. Svechin wrote, "Normally the path to final [strategic] aims is broken up into a series of operations subdivided by time and by more or less sizeable pauses,

comprising differing sectors of a theater of war and differing sharply as a consequence of different intermediate aims."[2] Within the context of these successive operations, Svechin defined the operation as "that act of war during which combating forces, without interruption, are directed into a distinct region of the theater of military operations to achieve a distinct intermediate aim."[3] Looking at the lower end of the spectrum of combat, Svechin concluded, "Operational art, arising from the aim of the operations, generates a series of tactical missions."[4] Thus a coherent structure emerged governing the conduct of war--"Tactics makes the steps from which operational leaps are assembled, strategy points out the path."[5] Svechin's practical definition was a comprehensive one which has withstood the test of time, since current Soviet definitions closely resemble it.

Once the Soviets accepted the validity and importance of operational art as a means to achieve strategic victory, they were confronted with another dilemma, of devising methods and forces to conduct operational maneuver. This requirement posed distinct problems for the Red Army of the 1920s and prevented the Soviets from developing a mature operational capability overnight. The Red Army of the 1920s was a "foot and hoof" army of infantry and cavalry forces which lacked the mobility, firepower, and durability to conduct sustained deep operational maneuver.

Between 1929 and 1936 Soviet military theorists worked out the theoretical basis of, first, a tactical concept of deep battle [glubokii boi] and, then, an operational concept of deep operations [glubokaia

operatsiia). Parallel to this theoretical work, the forced industrialization of the Soviet economy began to produce weaponry and equipment necessary to create a Red Army force structure capable of conducting operational maneuver--namely a mechanized and armored force.[6] The ensuing motor-mechanization program of the Red Army propelled Soviet military concepts and forces into a new technological age.

Toward Deep Battle

Soviet military strategists in the 1920s, derived from the experiences of the First World War and the Civil War, concluded that future war would begin with extensive maneuver operations, it would occur over vast regions, and it would consume huge economic and human resources. S. S. Kamenev, Red Army commander from 1919 to 1924, wrote:

> in spite of all victorious fights before the battle, the fate of the campaign will be decided in the very last battle--interim defeats will be individual episodes....In the warfare of large modern armies, defeat of the enemy results from the sum of continuous and planned victories on all fronts, successfully completed one after another and interconnected in time.[7]

Kamenev rejected the possibility of using a grand strategic stroke to win quick victory in war (such as the Schlieffen Plan). Instead, he argued, "the uninterrupted conduct of operations is the main condition for victory." M. N. Tukhachevsky, drawing upon his experiences along the Vistula in 1920, concluded that "the impossibility, on a modern broad front, of destroying the enemy army by one blow forces the

achievement of that end by a series of successive operations."[8] V. K. Triandafillov, in his 1929 work, The Character of Operations of Modern Armies, echoed and further developed Tukhachevsky's view of future war and concluded that only successive operations over a month's time to a depth of 150 to 200 kilometers could produce victory. Triandafillov introduced the concept of using tanks supported by air forces to effect penetration of the tactical enemy defense and extend the offensive into the operational depth.[9]

By 1929 the theory (but not yet the practice) of successive operations was fully developed. The front, as a strategic entity, would accomplish missions assigned by the High Command. It would unite all forces in a theater of military operations and would attack along several operational directions to achieve overall strategic aims. The width of a front's offensive zone was 300 to 400 kilometers, and its depth of operations was 200 kilometers.[10] This view of strategic operations persisted into the 1930s and forced Soviet military theorists to seek an answer to the question of how to implement Triandafillov's views and escape the specter of attrition warfare. The emergence of a new level of war--the operational level--seemed to provide the tentative theoretical answer.

The tendency in the 1920s to conceive of successive operations as the focal point for operational art resulted from the state of technology within the Soviet Union in general, and the equipment pocessed by the Red Army in particular. Industrial backwardness and the lack of a well-developed armaments industry dictated that the Soviets

rely on infantry, artillery, and horse cavalry to conduct operations. Hence, an optimistic view postulated that a front could attack in a 300 to 400-kilometer section to a depth of 200 kilometers, while an army, the basic operational large unit designated to operate as part of a front or on a separate operational direction, could attack in a sector from 50 to 80 kilometers wide to a depth of 25 to 30 kilometers. It could also conduct a series of consecutive operations as part of a front offensive. Each operation would last for 5 to 6 days and would entail a relatively slow rate of advance of 5 to 6 kilometers per day. Already, by 1929 the Soviets planned to increase that rate of advance to 25 to 30 kilometers per day by following Triandafillov's recommendations to introduce tanks and mechanized vehicles into the force structure.[11]

The 1929 Field Regulation [Polevoi Ustav], which declared that future war would be one of maneuver, developed the theory of successive operations a step further by injecting the idea of motorization and mechanization into concepts for future offensive operations.[12] The Ustav enunciated the aim of conducting deep battle [glubokii boi] to achieve success in penetrating the tactical depth of enemy defenses by the simultaneous use of infantry support tanks and long-range action tanks cooperating with infantry, artillery, and aviation forces. This would also produce a capability to conduct more rapid operations. In 1929 deep battle was but a promise whose realization depended on economic reforms and industrialization. Moreover, deep battle was only a tactical concept.

Soviet pre-deep battle tactics of the 1920s were governed by a series of new regulations issued between 1925 and 1928, the provisions of which were derived from World War and Civil War experiences, with due consideration given to advances in weaponry. The regulations emphasized maneuver, the meeting engagement, attack on a defending enemy, and defense. Group tactics of the later Civil War years persisted whereby combat formations were organized into groups of subunits echeloned in depth instead of in skirmish lines. These groups would penetrate the enemy defense in separate sectors and then merge into a common battle front.

General tactics emphasized the combined-arms nature of battle. The Infantry Combat Regulation of 1927 and the Field Regulation of 1929 prescribed that offensive infantry combat formations consist of a shock group (2/3 of the force) operating on the main direction of attack, and a holding group (1/3 of the force) deployed on a secondary direction. A reserve (of up to 1/9th of the force) was to accomplish unanticipated missions, and firing groups of artillery would provide support. On the defense the first echelon consisted of the holding group (2/3 of the force) and the shock group or groups deployed in the depths (in second echelon) with the task of counterattacking and destroying penetrating enemy units.

Rudimentary tactics for the use of the fledging armored forces first appeared in the 1928 Provisional Instructions for the Combat Use of Tanks and were reprinted in the 1929 Ustav.[13] Initially, tanks, in conjunction with artillery, would only provide support for infantry.

Direct support tanks (1 to 3 platoons) would be assigned to rifle battalions. Forward echelon tanks (a freely maneuvering group of 1 to 2 tank companies) would fight independently in tactical contact with each first echelon rifle regiment (out of fire and visual contact) in order to suppress or destroy enemy artillery, forward enemy reserves, command posts, communications centers, or other objectives. Infantry attacking with armor support could advance without prior conduct of an artillery preparation. Tank reserves of the division commander, if available, would operate as a separate echelon of long-range action tanks to develop success into the tactical depths or to replace depleted infantry support tank units. These rudimentary tank tactics would soon improve, and the integration of armor into combined arms formations would accelerate in the 1930s as industrialization swept across the Soviet Union.

While these ideological and military theoretical questions were being debated, Frunze and others reorganized the structure of the Red Army to suit the realities of the 1920s. Between 1921 and 1923 demobilization reduced Red Army strength from 5.5 million to 562,000 men, and the cumbersome army force structure of the Civil War years was streamlined. The Soviets abolished field armies, leaving rifle and cavalry corps as the largest peacetime formations, and created new smaller rifle and cavalry divisions, subdivided first into brigades and later into regiments. In 1924-1925 Frunze implemented a territorial/cadre system for the Red Army. He established common TOEs for cadre and territorial rifle divisions, which were manned at several

distinct levels of peacetime strength but mobilizable into full divisions in the event of war. Reflecting Frunze's concern for readiness and maneuver, the bulk of cavalry divisions were kept at full strength.'[14]

During the 1920s the Soviets experimented with mechanized force by forming a small tank detachment at Moscow in 1922 and a single tank regiment (the 3d) at Moscow in 1924. After experimenting with a battalion structure in 1925, in 1927 the Soviets returned to a regimental structure.'[15] These experiments were severely inhibited by the lack of a tank construction industry. Since the tank was the essential ingredient in the implementation of "deep battle" tactics, it was understandable that tank production received high priority in the new Five-Year Plan, which was drafted in 1928 as the heart of Stalin's "New Socialist Offensive."

Toward Deep Operations

Although Soviet military strategy in the thirties was based upon the assumptions of the twenties, it was increasingly affected by the industrial and technological revolution occurring within the Soviet Union and by looming threats from hostile powers abroad. Soviet strategists argued that the class character of war would result in implacable and decisive future military combat, and that war would ultimately pit the Soviet Union against a coalition of imperialist nations. Long and bitter war would require the consecutive defeat of the Soviet Union's enemies, the use of large strategic reserves, resort to many means and forms of armed combat, and the conduct of large scale mobile combat operations. War would require the achievement of decisive aims, including the complete destruction of the enemy on his territory. Quite naturally, the Soviets considered the offensive as the most decisive and fruitful form of strategic operation.

The strategic offensive would take the form of simultaneous or successive front operations conducted by closely cooperating combined-arms forces.'[6] The ground forces would play a decisive role, especially the newly emerging motor-mechanized units. Air forces would support all types of ground force operations and could perform independent air operations as well, while naval forces would cooperate on coastal directions [axes]. The theories of deep battle [glubokii boi] and deep operations [glubokie operatsii] were particularly important to Soviet military strategy in the 1930s, in part because, at least until 1940, it

focused Soviet attention on the offensive to the detriment of defensive concerns. Soviet strategists considered the defense a valid form of military operation and emphasized activity [activnost'] and the use of counteroffensives. Much attention was devoted to the nature of the initial period of war and the requirements of strategic leadership in wartime. The Soviets recognized that a surprise attack by hostile powers was possible. In this regard, they believed that, unlike the practices of earlier wars, forces of the covering echelons (on the borders) could undertake an offensive of their own against the enemy before the completion of main force strategic deployments or undertake defensive measures to cover the main force deployment. By the Soviets' own admission, military strategy:

> did not devote adequate attention to the development of defensive operations on a strategic scale...questions of repelling an unexpected attack by previously fully-mobilized enemy forces as well as the overall problem of the initial period of war under changing conditions were not properly worked out. Not all of the correct theoretical principles worked out by Soviet military science with respect to military strategy were promptly taken into account in the practical work or included in regulations.'[7]

This was an easy admission, considering what happened in 1941.

Operational art, developed as a level of war in the 1920s, blossomed into the most creative area of Soviet military art in the 1930s, largely due to technological and industrial developments and the theoretical work of a host of imaginative military theorists. The impact of new weaponry, first felt in the tactical realm, by the mid-thirties affected

the operational level. In essence the promise of the 1929 Field Regulation to achieve deep battle was realized.

The most important aspect of Soviet military science in the 1930s was the full development of the concept of deep battle and the emergence of the concept of deep operations. The deep operation, a form of combat action conducted by operational large units:

> consisted of simultaneous attacks on the enemy defense with all means of attack to the entire depth of the defense; a penetration of the tactical defense zone on selected directions and subsequent decisive development of tactical success into operational success by means of introducing into battle an echelon to develop success (tanks, motorized infantry, cavalry) and the landing of air assaults to achieve rapidly the desired aims.[18]

The theory of deep operations represented a qualitative jump in the development of operational art, and it offered a total escape from the impasse of World War I positional warfare. Its implementation depended entirely on the Soviet ability to construct a viable armored and mechanized force.

The theory of deep operations evolved out of the earlier theory of deep battle, which Tukhachevsky, Triandafillov, A. I. Egorov and others had formulated at the end of the 1920s. These theorists concluded that the appearance of new weapons (long-range artillery, tanks, aircraft) and types of forces (tank, air assault, mechanized) would permit creation of more maneuverable forms of combat and ease the problem of penetrating a tactical defense. Early experimentation with deep battle techniques occurred during exercises in the Volga, Kiev, and Belorussian Military Districts. As a result, in February 1933 the Red Army gave

official sanction to deep battle in its Provisional Instructions on the Organization of Deep Battle[19]. New and more explicit instructions appeared in March 1935, and the Field Regulation [Polevoi Ustav] of 1936 made deep battle, as well as larger-scale deep operations, established tenets of Soviet military art. While deep battle embraced the tactical level; that is combat by forces within an army, deep operations focused on operational-level combat involving fronts and armies alike.

The theoretical basis of deep operations, field tested in military exercises in the mid-thirties, was established by 1936 and described in the Regulation of that year as:

> simultaneous assault on enemy defenses by aviation and artillery to the depths of the defense, penetration of the tactical zone of the defense by attacking units with widespread use of tank forces, and violent development of tactical success into operational success with the aim of the complete encirclement and destruction of the enemy. The main role is performed by the infantry and the mutual support of all types of forces are organized in its interests.[20]

The heart of deep operations involved the use of an operational formation consisting of: an attack echelon; an echelon to develop success (a mobile group); reserves; aviation forces; and air assault forces, all designated to achieve tactical and operational success. Deep operations could be conducted by a single front or (according to views of the late thirties) by several fronts supported by large aviation forces. By this time the Soviets considered a front to be an operational-strategic large unit (earlier it had been considered only a strategic large unit).

In theory, fronts conducted the largest-scale deep operations by employing successive army operations to penetrate enemy defenses along converging directions in order to encircle and destroy enemy main forces. Successful penetration of an enemy defense required considerable overall superiority in forces and creation of high force densities in penetration sectors. Development of the offensive into the operational depths required use of mechanized and cavalry corps, front reserves, and air assault landings in the enemy rear. To conduct deep operations, a front had to consist of:

3-4	shock armies
1-2	standard armies
1-2	mechanized, tank or cavalry corps
15-30	aviation divisions.[21]

Fronts attacked in 250 to 300 kilometer sectors against objectives at a depth of 150 to 250 kilometers and delivered the main attack in 60 to 80 kilometer sectors. This produced force densities of one division per 2 to 2.5 kilometers, 40 to 100 guns per 1 kilometer of front and 50 to 100 tanks per 1 kilometer of front. Front operations lasted 15 to 20 days with an average tempo of advance of 10 to 15 kilometers per day for infantry and 40 to 50 kilometers per day for mobile forces.[22] Within the front the attack echelon consisted of strong shock and combined-arms armies, and the echelon to develop success was composed of mobile groups formed from tank, mechanized and cavalry corps. Aviation groups and reserves supported each front.

Armies, as operational large units, operated either within a front or independently along a separate operational direction. Armies

participating in deep operations on front main attack directions consisted of:

4-5 rifle corps.
1-2 mechanized or cavalry corps
7-9 artillery regiments
7-8 air defense artillery battalions
2-3 aviation divisions (in support).[23]

The army attack echelon, consisting of rifle corps reinforced by tanks and artillery, advanced in a 50 to 80 kilometer sector with its main strength concentrated in a 20 to 30 kilometer penetration sector. It was to penetrate the enemy tactical defenses to a depth of 25 to 30 kilometers. The exploitation echelon [echelon to develop success], an army mobile group of several mechanized or cavalry corps, completed the penetration of the enemy's tactical defense or attacked after penetration of the enemy's second defense belt and exploited tactical success into the operational depths from 70 to 100 kilometers.[24] The Soviets exercised deep operation concepts during maneuvers in the Kiev, Belorussian, Moscow, and Odessa Military Districts in the mid-thirties.

Theoretical work on operational-level defense focused on the preparation and conduct of army defensive operations. An army could defend in a sector of from 80 to 100 kilometers to a depth of 60 kilometers.[25] However, as was the case with the strategic defense, prior to 1940 Soviet fixation on the offensive caused too little attention to be paid to front defensive operations, a deficiency evident in 1941.

The theory of deep battle, which was worked out in 1929, before the development of the theory of deep operations, was the tactical

counterpart of that broader operational theory. By 1936 the tactical concept was close to realization, while deep operations still existed only in theory. Deep battle, as envisioned in the 1936 Regulation, involved the creation of shock groups, holding groups, reserves, and artillery groups in the combat formation of corps, divisions, and regiments. Rifle corps' shock groups sought to penetrate the enemy defense to the average depth of the enemy's tactical defense (10 to 12 kilometers). Rifle corps operating on the main attack axis in the army first echelon advanced in an 18- to 20-kilometer sector and rifle divisions in a 5- to 7-kilometer sector (with the divisions' shock group deployed in a 3- to 3.5-kilometer sectors).[24]

Tactical defense in the early thirties, like that of the late twenties, involved the use of covering groups and shock groups. The tactical defense zone consisted of an engineer-chemical obstacle belt 10 to 15 kilometers deep, a combat security belt 1 to 3 kilometers from the forward edge of the main defensive belt, a main defensive belt 6 kilometers deep, and a rear defensive belt 12 to 15 kilometers from the forward edge of the main defensive belt. Rifle divisions defended in 8 to 12 kilometer sectors and rifle regiments in 3- to 5-kilometer sectors.

Tanks, subdivided into three groups, played a significant role in the conduct of deep battle. Immediate infantry support tanks [NPP-neposredstvennoi podderzhki pekhoty], long-range support tanks [DPP-dal'nei podderzhki pekhoty], and long-range action tanks [DD-dal'nego deistviia] attacked in advance of and with the infantry, fired on enemy

artillery and tanks, and accompanied the advance through the tactical depth of the defense, respectively. According to the original concept of 1936, long-range action tanks could attack in advance of the infantry to begin the penetration. Once the penetration had been completed or when in action against a hasty defense, the exploitation echelon (mobile group) advanced before main forces had completed the tactical penetration. Artillery groups for infantry support [PP-podderzhki pekhoty], formed in each first echelon rifle regiment, long-range artillery groups [DD-dal'nego deistviia], established in each first echelon rifle division of corps, and, in some instances, artillery destruction groups [AR-artillerii razrusheniia], created in corps, provided continuous fire support for the attack.[27]

Rapid industrialization of the Soviet Union, the creation of burgeoning armaments industry, and the renaissance in military thought, personified by the development of the offensive theories of deep battle and deep operations, wrought major changes in the size and nature of the Soviet force structure. Throughout the 1930s the Soviet armed forces increased in size from 562,000 men to 1.4 million men.[28] After the mid-thirties the Soviets moved away from the cadre/territorial manning system toward the maintenance of a large regular peacetime army, so that by the late thirties the bulk of Red Army units were regular ones. Older, established units in the force structure (rifle corps and divisions, and cavalry corps and divisions) increased in personnel strength and weaponry, but, more important, the Soviets created new mobile units necessary to conduct deep operations.

The Soviets formed a wide variety of new tank and mechanized forces to provide the offensive punch necessary to penetrate enemy tactical defenses and thrust deep into the enemy's operational rear area. After experimenting with tank battalions and regiments in the late twenties, in May 1930 the Soviets created their first mechanized brigade, consisting of 60 tanks and 32 tankettes (tankettes were light tanks armed with heavy machine guns). The following year they established their first mechanized corps organized with two mechanized tank brigades, a rifle-machine gune brigade, and a total of 490 tanks. By 1936 Soviet mechanized forces numbered four mechanized corps and six mechanized brigades for use as operational-level mobile groups plus six separate tank regiments, fifteen mechanized regiments (in cavalry divisions) and eighty-three tank battalions or companies (in rifle divisions). Thus, by 1936 the Soviets had created mechanized and tank units to support infantry in the tactical penetration battle, to spearhead deep operations, and to cooperate with cavalry. These units were equipped with T-26, BT-5, T-28, T-35, and T-37 tanks, which were armed with guns of up to 76-mm but lacked radios necessary for smooth coordination of operations.[29]

The Soviets also developed and tested air assault units. By the mid-thirties they had fielded three airborne brigades and three airborne regiments to cooperate with exploiting Soviet ground forces. Elsewhere in the force structure, artillery, air defense, antitank, and other units were formed and equipped with modern weaponry to permit them to support the new operational concepts. Similar development occurred in

the field of aviation as the Soviets fielded a new generation of bombers and fighters.

The vigorous theoretical and practical progress the Red Army made between 1929 and 1936 increased its combat capability and contributed to a more offensive posture by the nation in general. This was done during a time of crises both in the West and in the East, where Fascist and Japanese militarism threatened to tear apart the fabric of capitalist society. The renaissance in Soviet military thought and force capability, if left to develop unimpeded, portended a more active offensive posture by the Soviet Union in world affairs, a stance already presaged by Soviet encouragement of "popular fronts" to resist the force of Fascism and assist in the spread of Socialism. Ironically, however, Soviet military progress was hampered by events occurring within the Soviet Union, events which strangled the renaissance and reduced Soviet military capabilities at a time when she most needed them.

Years of Crises and Indecision

Abruptly in 1937 Stalin lashed out at the only remaining segment of Soviet society capable of challenging his power--the military. In a fit of paranoia, Stalin extended his purges and, without benefit of the show trials and legal niceties characterizing his earlier purges, he summarily arrested, shot, or incarcerated the bulk of the Soviet officer corps on the charge of high treason.[30] The purge of the military liquidated the generation of officers who had given definition to Soviet strategy, operational art, and tactics, who had formulated the concepts of deep battle and deep operations, and who had orchestrated the reconstruction of the Soviet armed forces. Tukhachevsky, Egorov, Kamenev, Uborovich, Svechin, and a host of others, the cream of the crop of innovative military theorists, were purged and killed. Inevitably, their ideas and theories fell under a shadow. Those officers who survived the purges were junior, generally orthodox, or reluctant for obvious reasons to embrace vocally the ideas of their fallen predecessors.

As the shadows of the Second World War spread over Europe, the price the Soviet Union and its military had paid in the purges slowly became apparent. While Soviet military theorists still pondered the nature of modern war, their analysis was thin, and the results of their study were acted upon too slowly. Assessment of the experiences of Soviet tank specialists in the Spanish Civil War cast doubt on the feasibility of using large tank units in combat because of the difficulty in

controlling them and because of their vulnerability to artillery fire. Soviet occupation of eastern Poland in September 1939 highlighted the command and control and logistical difficulties involved in employing large motor-mechanized forces. The 15th and 25th Tank Corps, which participated in that operation, suffered greatly from mechanical breakdown and logistical shortages.[3] G. K. Zhukov's successful use of tank forces against the Japanese on the Khalkhin-Gol [river] in August 1939 received attention--not for the successful employment of armor--but rather for the excessive amount of time required to crush the stubborn Japanese resistance. Moreover, Zhukov employed multiple small tank brigades and armored brigades rather than the larger corps.[7] All of these factors led to a November 1939 Soviet decision to disband the tank corps.

To a degree, this Soviet confusion in the military realm reflected similar confusion in the political realm. The policy decision to abandon support of popular fronts and to sign nonaggression pacts with the most threatening of capitalist powers, Germany and Japan, was paralleled by the lack of Soviet study of the nature of the initial period of war, specifically, the likelihood of withstanding and repelling a surprise attack. After 1939 the Soviets would have but two years to establish defensive plans and a force structure to carry them out. Soviet unpreparedness in June 1941, in the face of a clear and impending threat, resulted from Soviet failure to respond adequately to strategic dilemmas--a failure since 1956 attributed directly to Stalin.

Soviet analysis of their experiences in the Spanish Civil War and the Soviet-Finnish War of 1939-1940, together with study of earlier experiences, produced minor changes in operational art and tactics. Soviet forces performed dismally in initial offensive operations during the Finnish war. Offensive preparations were poor, coordination of forces weak, and command and control ineffective. Consequently, the first offensive failure was a major embarrassment. Only after more extensive mobilization and intensive preparations were Finnish defenses crushed.

This experience further discredited the tank forces, which had played a limited and largely ineffective role in the war. It also led to adjustments in Soviet operational techniques, which were subsequently incorporated into the 1941 Field Regulation. The wartime difficulties the Soviets experienced in penetrating deep, well-equipped defenses prompted the Soviets to increase force concentrations and create higher densities of supporting artillery. Consequently, the width of a projected front offensive decreased somewhat as did the planned depth of operations. The front penetration sector decreased, but the army offensive sector and penetration sectors remained as they had been. Truncation of the front offensive sector improved concentration of forces and increased the projected depth of army operations to 100 kilometers. However, the advance was to be achieved by using infantry, artillery, and infantry support tanks rather than large combined-arms mechanized units. Exploitation echelons (mobile groups) would perform

deep missions only after the full tactical depth of the defense had been penetrated.[32]

Tactics also changed in response to the experiences of the late thirties. Analysis of Spanish Civil War and Soviet-Finnish War offensive experiences indicated that holding (covering) groups tended to become passive and, consequently, did not actively contribute to the success of battle. The effectiveness of long-range action tanks was also limited. Therefore, the 1941 Field Regulation organized rifle corps, divisions, and regiments into combat echelons, artillery groups, tank support groups, and reserves (general, tank, antitank). The rifle corps formed in single echelon while rifle divisions, regiments, and battalions deployed in two or three echelons. The three existing types of artillery groups (PP, DD, and AR) were supplemented by antitank and antiaircraft groups, and a single infantry support tank group (TPP-tanki podderzhki pekhoty) was created in each rifle division to replace the existing three tank groups. The offensive frontage of a rifle corps decreased to 8 to 12 kilometers and that of a rifle division to 3.5 to 4.5 kilometers. The depth of rifle corps and division missions increased to 20 kilometers, a result of greater concentration of combat force in narrower attack sectors. (Rifle corps and division immediate missions were 8 kilometers and subsequent missions 20 kilometers).[33] These changes, however, did not alleviate persistent command and control problems.

In 1941 the Soviets abandoned the use of shock and holding groups on the defense and instead constructed tactical defenses on the basis of

combat echelons, artillery groups, and reserves. The growth in power of potential enemy offensive forces caused the rifle division defensive sector to decrease to 6 to 10 kilometers. On the eve of the German invasion, the tactical defense zone included a security belt, combat security positions, a basic defense belt, and a second defense belt. In comparison with 1936, the depth of the tactical defense increased to 20 kilometers, and the main defense belt to 10 kilometers. Defenses were deep but still fragmentary, and the absence of continuous trenches inhibited lateral maneuver and concealed movements and deprived defenders of defensive cover against enemy artillery fire and air strikes.[34]

Soviet force development after 1937 progressed unevenly, reflecting on the one hand intent to strengthen the armed forces and, on the other hand, Soviet ambivalence over the value of using large mechanized formations to solve operational missions. This unevenness was accentuated by the absence of qualified military theorists who could or would speak out against what they perceived to be Stalin's views. Younger officers like Zhukov, Romanenko, Eremenko, Bagramian, and others did what they could in relative isolation to develop earlier operational concepts.

While Soviet expansion of the army was still underway, and rifle corps and rifle divisions were being strengthened and rearmed, the Soviets severely truncated their mechanized forces. In November 1939, after several months of study, the Kulik Commission recommended disbandment of the four tank corps (renamed tank from mechanized in

1938) and recommended they be replaced by fifteen smaller motorized divisions, eight to be formed in 1940 and the remainder during the first six months of 1941. Simultaneously, the Soviets created motorized rifle divisions with a lighter armor complement. On 15 January 1940 the four tank corps were abolished, and their tanks were used to create new heavy and light tank brigades designated to work in close coordination with rifle corps.[35]

The French Army's debacle of June 1940, which repeated the lesson in mobile warfare the Germans had taught the world in Poland in September 1939, stunned the Soviet leadership. They subsequently bitterly noted, "Fascist Germany used the methods of deep operations which we developed earlier. The Germans borrowed the achievements of Soviet military-theoretical thought and with great success used them in the war with Poland and the West."[36] The Soviets responded to the defeat of France with a hasty program to rebuild a large mechanized force structure. They began forming large mechanized corps consisting of tank and motorized divisions numbering, on paper, 1,031 tanks each. Twenty-nine corps were to be created by 1942, equipped in part with modern T-34 medium and KV heavy tanks, just then entering production. Simultaneously, the Soviets created antitank brigades and heavier artillery units in order to repair the damage done to the force structure since 1939.[37] Ironically, while tank forces were being emasculated, the formation of air assault units continued unabated. The number of air assault brigades increased in the late thirties, and in

1941 the Soviets formed five airborne corps of 10,000 men each, designated to conduct the vertical dimension of deep operations.

Characteristically, the precise term "deep operations" remained entombed with the bodies of its creators, signifying the difficulty Stalin had in returning to the theoretical principles of 1936, at least in name. In time, Stalin and a new military leadership would return to, and in large measure perfect, those principles, but it would take the disasters of war to prompt that return. The creators of deep operations themselves would not be rehabilitated until the late 1950s.

While claiming that the ensuing war confirmed the correctness of earlier Soviet theories on the preparation and conduct of front and army operations, in a masterpiece of understatement the Soviets admit:

> Commanders and staffs were not fully familiar with all of the theories of conducting deep battle and there were shortfalls in the material base that hindered its realization. Thus, during the war it was necessary to reassess and clarify some aspects of preparing and conducting offensive operations and decide anew many questions on the conduct of defensive operations on a strategic and operational scale.[38]

A former associate of Tukhachesky and a survivor of the purges was more direct, stating:

> The old, experienced military leaders, who created Soviet military theory and could with high artfulness put it into practice, were no more and there were insufficient numbers of operationally prepared commanders at the beginning of war. Therefore, the painful drama played out in the summer of 1941 had a deep political and strategic meaning related to the Stalin cult of personality. The consequences of that were immensely painful. It cost tremendous casualties and evoked huge losses.[39]

Soviet military thought and doctrine of the 1930s forecast the conditions and requirements for winning the impending World War. Political decisions, the purges, and the Soviet attempt to restructure forces in the middle of crisis frustrated effective application of this thought in the initial period of war. The Soviet people paid in blood for the time necessary to implement fully this doctrine.

Notes

1. In addition to analyzing extensively their own experiences, the Soviets looked closely at the German offensives of 1914 and 1918 and the subsequent allied response. For example, see V. Melikov, Marna-1914 goda. Visla-1920 goda. Smirna-1922 goda [Marne-1914, Vistula-1920, Smyrna-1922], (Moscow: Gosudarstvennoe Izdatel'stvo otdel' voennoi literatury, 1928).
The 1918 operations offered something of a model for successive operations and partially demonstrated what successive operations could potentially achieve. Unfortunately for the Germans, weakness produced by years of bloody combat denied Germany the ability to exploit fully her 1918 success.

2. A. A. Svechin, "Strategiia" [Strategy], Voprosy strategii i operativnogo iskusstva v sovetskikh voennykh trudakh (1917-1940gg.) [Questions of strategy and operational art in Soviet military works (1917-1940)], (Moscow: Voenizdat, 1965), 218-219, hereafter cited as Voprosy strategii.

3. Ibid., 219.

4. Ibid.

5. Ibid., 238.

6. The Five-Year Plans, while providing the wherewithal for heavy industry and the modernization of agriculture, created an industry suited for production of tanks. Producing tanks was but a small step from producing tractors.

7. S. S. Kamenev, "Ocherednye voennye zadachi" [Successive military objectives], Voprosy strategii, 145-152.

8. M. Zakharov, "Predislovie" [Preface], Voprosy strategii, 12.

9. V. K. Triandafillov, "Kharakter operatsii sovremennykh armii" [The character of operations of modern armies], Voprosy strategii, 291-345.

10. M. Kh. Bagramian, ed., Istoriia voin i voennogo iskusstva [A history of wars and military art], (Moscow: Voenizdat, 1970, 103.
For details on the nature of successive operations, see R. Savushkin, "K voprosu o zarozhdenii teorii posledovatel'nykh nastupatel'nykh operatsii--1921-1929 gg." [Concerning the creation of the theory of successive offensive operations--1921-1929, Voenno-istoricheskii zhurnal [Military-historical journal], No. 5 (May 1983), 77-83, hereafter cited as VIZh.

11. Bagramian, 103.

NOTES (Continued)

12. V. Matsulenko, "Razvitie taktiki nastupatel'nogo boia" [The development of the tactics of offensive battle], VIZh, No. 2 (February 1968), 28-29; M. Zakharov, "O teorii glubokoi operatsii" [Concerning the theory of deep operations], VIZh, No. 10 (October 1970), 10-13.

13. A. Riazansky, "The Creation and Development of Tank-Troop Tactics in the Pre-War Period," Voennyi vestnik [Military herald], (November 1966), 25-32, translated in Selected Readings in Military History: Soviet Military History 1. The Red Army 1918-1945, (Combat Studies Institute, Ft. Leavenworth, KS, 1984).

14. I. B. Berkhin, Voennaia reforma v SSSR 1924-1925 [Military reform in the USSR--1924-1925], (Moscow: Voenizdat, 1958). A rifle corps consisted of two to three rifle divisions, an artillery battalion, and support units.

15. "Tankovyi polk" [tank regiment], Sovetskaia voennaia entsiklopediia [Soviet military encyclopedia], 8 Vols., (Moscow: Voenizdat, 1976-1980), 7:674, hereafter cited as SVE with appropriate volume.

16. Bagramian, 102; A. A. Strokov, ed., Istoriia voennogo iskusstva [A history of military art], (Moscow: Voenizdat, 1966), 311.

17. N. V. Ogarkov, "Strategiia voennaia" [Military strategy], SVE, 1979, 7:561.

18. N. V. Ogarkov, "Glubokaia operatsiia" [The deep operation], SVE, 1976, 2:574; V. Daines, "Razvitie taktiki obshchevoiskovogo nastupatel'nogo boia v 1929-1941gg" [The development of the tactics of combined arms offensive battle--1929-1941), VIZh, No. 10 (October 1978), 96.

19. I. Korotkov, "Voprosy obshchei taktiki v sovetskoi voennoi istoriografii--1918-1941gg" [Questions of general tactics in Soviet military historiography--1918-1941], VIZh, No. 12 (December 1977), 89.

20. Daines, 96.

21. M. M. Kozlov, "Frontovaia nastupatel'naia operatsiia" [The front offensive operation], SVE, 1980, 8:337.

22. Bagramian, 106.

23. Ogarkov, "Glubokaia operatsiia," 576; Matsulenko, "Razvitie operativnogo iskusstva...," 40, states that shock armies contained three-four rifle corps.

24. Strokov, 316.

25. Strokov, 317; Bagramian, 108.

26. Bagramian, 110; Daines, 96-101; Strokov, 318-321.

27. Strokov, 321. For details on Soviet employment of tank echelons, see R. A. Savushkin, N. M. Ramanichev, "Razvitie taktiki obshchevoiskovogo boia v period mezhdu grazhdanskoi i Velikoi Otechestvennoi voinami" [The development of combined arms battle tactics in the period between the Civil War and Great Patriotic War], VIZh, No. 11 (November 1985), 21-28. Confirmed by Western reports, among which is P. R. Faymonville, "The Use of Tanks in Combat Under the Provisions of the Field Service Regulations of 1936," Enclosure 1 to Dispatch 857-350 (American Embassy, Office of the Military Attache, USSR: 26 May 1937). Similar attache reports from Riga (Latvia), Tallin (Estonia), and Warsaw (Poland) substantiate in detail Soviet armored force developments in the 1930s.

28. On 1 January 1938 Red Army strength was 1,518,400 men. K. F. Skorobogatkin, ed., 50 let vooruzhennykh sil SSSR [50 years of the Soviet Armed Forces], (Moscow: Voenizdat, 1968), 198, hereafter cited as 50 let.

29. The most detailed account of mechanized force development in the 1930s is in A. Ryzhakov, "K voprosy o stroitel'stve bronetankovykh voisk Krasnoi Armii v 30-e gody" [Concerning the formation of Red Army armored forces in the 1930s], VIZh, No. 8 (August 1968), 105-111. Numerous Western reports (formerly classified) substantiate Soviet creation of this large mechanized-armored force structure. These include Intelligence Summary for April 20, 1934, (Washington, D.C.: Military Intelligence Division (G-2), War Department General Staff, 1934), 14730-14736; Intelligence Summary for Dec 24, 1937, (Washington, D.C.: Military Intelligence Division (G-2), War Department General Staff, 1937), no pagination; f"Organization of Motor-Mechanized Units," Soviet Russia G-2 Report, (Washington, D.C.: Military Intelligence Division, War Department, 28 November 1933), 1-3; "Progress of Motorization and Mechanization in the Red Army," Soviet Russia G-2 Report, (Washington, D.C.: Military Intelligence Division, War Department, July 1933); "Notes on the Organization of Mechanized Units," Soviet Russia G-2 Report, (Washington, D.C.: Military Intelligence Division, War Department, 17 April 1933); "Organization and Strength of Motor-Mechanized Units," USSR G-2 Report, (Washington, D.C.: Military Intelligence Division, War Department, 8 Oct 1939). All reports are based on Military Attache (M.A.) reports.

30. The newly-published Soviet casualty figures resulting from the purges include:

three of five marshals,
fourteen of sixteen army commanders (1st and 2d Rank),

sixty of eighty-seven corps commanders,
136 of 199 division commanders,
221 of 397 brigade commanders,
all eleven vice-commissars of war,
seventy-five of eighty members of the Supreme Military Council,
all Military District Commanders as of May 1937.

The estimated 35,000 purged represented half of the officer corps, ninety percent of all generals and eighty percent of all colonels. The purges were, in fact, still in progress when the German invasion of June 1941 began. O. F. Suvenirov, "Vsearmeiskaia tragediia" [An all-army tragedy], VIZh, No. 3 (March 1989), 41. These update already published Western estimates. See Leonard Shapiro, "The Great Purge," The Soviet Army, edited by B. H. Liddell Hart, (London: Weidenfeld and Nicolson, 1956), 69.

31. Ryzhakov, 110.

32. Strokov, 316; Bagramian, 106. For an excellent articulation of Soviet views on operational art and tactics in late 1940 and 1941, see Zakliuchitel'naia rech' narodnogo komissara oborony soiuza SSSR 1940 geroia i marshala Sovetskogo Soiuza S. K. Timoshenko na voennom soveshchanii. 31 dekabria 1940g. [Concluding speech of the People's Commissar of Defense of the Soviet Union, Hero and Marshal of the Soviet Union S. K. Timoshenko at a military conference, 31 December 1940], (Moscow: Voenizdat, 1941). In it Timoshenko fully articulated mobile concepts of 1936, stating, "The mobile group in front offensive operations is called upon to perform the mission of creating conditions for developing tactical success into operational, and sometimes into operational-strategic."

While the general concept of mobile group operations remained intact, from June to December 1938 a debate raged in the pages of the Red Army newspaper, Krasnaia Zvezda [Red Star] prompted by an initial article by Kombrig (Brigade commander] F. Kuznetsov. Kuznetsov argued that penetration of an enemy defense required combined-arms operations of infantry, tanks, and artillery.

> Infantry, preceeded with an artillery barrage, supported by attached tanks and artillery, secured against serial attacks by antiaircraft guns and its own aviation, destroys the enemy by a vigorous attack....The second and following echelons are put into action where success is achieved.

The article clearly rejected the feasibility of using tank-pure formations (DD tanks) to effect a penetration. The editor, in characteristic fashion, added his "hopes that the readers of Krasnaia Zvezda will express their opinion on the questions touched upon by Comrade Kuznetsov," and they did so in the ensuing debate. Some authors argued for the validity of deep operations, but most cited evidence from war experiences that more systematic means had to be developed for penetrating modern defenses than simple use of tank-heavy formations.

According to one writer, "The modern state of antitank defenses, the development of artillery, and the experience of employing aviation on the battlefield clearly show that the role of tanks for distant operations in the simultaneous suppression of the enemy defense should be re-examined." The ensuing debate clarified the issue, generated similar articles in other journals, and ultimately shaped the form of the 1941 regulations.

Throughout the debate, the role of armor in general and forward detachments, by implication, perceptibly changed. The role of tanks in a penetration operation changed from one of independent action to one of support for infantry in a combined-arms sense. One observer wrote:

> In conclusion, it may be said that, in modern offensive combat, tanks will play a very real role as preservers of infantry personnel.
>
> The present experience of the wars in Spain and China must compel us to reconsider certain features of tank tactics and tank construction, expecially with reference to tanks of the first echelon. These tanks must be slow, but more heavily armored, and have increased maneuverability.

The post-1938 interpretation of the 1936 regulation de-emphasized the role of armor in a penetration operation. A single tank group for infantry support [tanki podderzhki pekhoty-TPP] replaced the earlier two groups and cooperated with infantry and artillery to conduct the penetration operation. As before, after the penetration had occurred, a mobile group exploited success from the second echelon. This new view coincided with the Soviet decision in November 1939 to abolish the large tank (formerly mechanized) corps and replace them with motorized divisions and large medium and heavy tank brigades.

For details of the debate, see F. Kuznetsov, "Principles of Modern Offensive Combat," KZ, 5 June 1938, translated in M. A. Moscow Report No. 1423, 29 December 1938; N. Talensky, "Critique of the Article 'Principles of Modern Offensive Combat,'" KZ, 8 June 1938, translated in M. A. Moscow Report No. 1423, 29 December 1938; and N. Griaznov, "The Role of Tanks in a Modern Offensive," Avto Bronetankovii Zhurnal [Auto-Armored Journal], No. 8 (August 1938), translated in M. A. Moscow Report No. 1384, 19 November 1938.

33. Bagramian, 111; Strokov, 319. For details on the Soviet debate concerning use of tanks, see M. A. Moscow Report No. 1384, 19 November 1938, which contains a series of articles translated from Krasnaia Zvezda [Red Star], which provide detailed analysis of combined-arms operations in Spain and the difficulties encountered there by tank units.

34. Bagramian, 112; Strokov, 321.

35. Ryzhakov, 109-111.

NOTES (Continued)

36. Zakharov, "Preduslovie," 23.

37. O. A. Losik, ed., Stroitel'stvo i boevoe primenenie sovetskikh tankovykh voisk v gody Velikoi Otechestvennoi voiny [The formation and combat use of Soviet tank forces in the years of the Great Patriotic War], (Moscow: Voenizdat, 1979), 44.

38. V. G. Kulakov, "Operativnoe iskussstva" [Operational art], SVE, 1978, 6:55.

39. G. Isserson, "Razvitie teorii sovetskogo operativnogo iskusstva v 30-e gody" [The development of Soviet operational art in the 1983s], VIZh, No. 3 (March 1965), 61.