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The American Style of Warfare and the Military Balance

EDWARD N. LUTTWAK

The structuring of NATO force to meet a conventional attack from the Soviet Union and her allies in Europe remains a central issue within the Western Alliance. In this article, Edward Luttwak argues that the United States military clings to a concept of 'attrition' warfare when it may no longer have the superiority in material and fire-power necessary to wage such war. He recommends consideration of 'manoeuvre' strategies which would seek not to wear an opponent down but to outflank it – the classic strategies of inferior forces.

National styles differ in war, as they do in the pursuits of peace. Embodied in the tactical orientation of military forces and revealed by their structures, these national styles reflect not only the material and human attributes of societies but also their collective self-image. That is why the attempt to transplant a national style of warfare into the armed forces of another nation, with a different pattern of strengths, weaknesses and social relations, usually fails. One recalls vividly the failure of Egypt to practice Soviet-style armoured warfare in 1967, and equally her success with her own tactics, at least during the first days of the 1973 war.

To each his own, therefore. But even so a fatal dissonance can arise: national styles of warfare, embedded as they are in culture and society, may retain their domestic authority even while being overtaken by changes in the external military environment. Particularly dangerous are those changes which are subtle and cumulative rather than overt and dramatic. The latter may awaken attention and stimulate a re-thinking of military methods and structures which may yet save the situation. But when change is slow and not manifest, routines are apt to go on as before, until the sudden and catastrophic discovery of inferiority in war itself.

Attrition versus Manoeuvre

There is now a real danger that the American style of warfare is being overtaken by precisely this kind of change in the external military environment. Even while the Soviet Union is closing the quality gap in one dimension of military strength after another, and even while the United States' overall military resources are declining relative to those of the Soviet Union, she holds on to the belief in her own material superiority. To be sure, the official spokesmen of the services constantly remind us of the growing Soviet advantage in numbers and the steady improvement in the quality of Soviet weapons, and yet the *operational* implications of these facts have not been absorbed. The American national style of warfare remains unchanged: it still presumes a net superiority in material, for it is a style based on the methods of attrition rather than manoeuvre.

We all know what attrition is. It is war in the administrative manner, of Eisenhower rather than Patton, in which the important command decisions are in fact logistic decisions. The enemy is treated as a mere inventory of targets and warfare is a matter of mustering superior resources to destroy his forces by sheer fire-power and weight of materiel.

Manoeuvre, by contrast, is not a familiar practice in recent American military operational form. In fact, in the language of the US Army, manoeuvre is frequently confused with mere movement, or at least offensive movement. Manoeuvre may well call for movement but it is very much more than that. It can be applied not only in ground combat but in all warfare, and indeed in all things military, even research and development. Manoeuvre describes 'relational' action – that is, action guided by a close study of the enemy and of *his* way of doing things – where the purpose is to muster some localized or specialized strength against the identified points of weakness of an enemy that may have superiority overall.

Manoeuvre thus depends much more on Intelligence (and intellect) than attrition warfare, which can almost be a matter of mere procedure. It also entails a higher degree of risk. But while the side that has materiel superiority can choose freely between attrition or manoeuvre, the side whose resources are inferior overall can only prevail by successful manoeuvre. If an inferior force remains tied by tradition and attitude to low-risk or low-pay-off attrition methods, it must be defeated. In the cumulative destruction of the forces ranged against one another which

(See MILITARY BALANCE, Pg.2-F)

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characterizes an attrition contest, the inferior force will inevitably be exhausted first.

American Concepts Out of Date

It is not surprising that manoeuvre warfare is so unfamiliar to American military men – in whose self-image materiel superiority still looms large – while it is almost instinctive to those who see themselves as inferior in resources, be they from Vietnam or Israel.

It is by now obvious that the US Army, Navy, and Air Force would no longer enjoy an automatic superiority in materiel if confronted by the forces of the Soviet Union, and yet their structure and methods still implicitly reflect the presumption of a net advantage in resources.

The US Army, for example, has recently promulgated a new manual of tactical doctrine for a major conflict in Europe (FM 100-5). This is a doctrine of pure attrition: Soviet forces are expected to attack in deep columns of armour, and the Army means to oppose them by positioning armour and infantry battalions in their path – some pushed forward to act as a 'covering force', but the bulk concentrated on the main line of resistance. Advancing Soviet armour is to be defeated by sheer fire-power, in sequence; first air attacks well forward of the battle line, then artillery (with precision munitions), then the guns and anti-tank missiles of the yielding 'covering force' in a shoot/fall-back/shoot sequence, then the main forces with their own guns, missiles and small arms. Single battalions are to leap-frog one another in a slow withdrawal, to reload with ammunition so that they can resume the orderly administration of fire-power. Catch phrases associated with the new doctrine have an industrial sound: 'force-generation', 'target servicing', etc. The invading enemy is treated as a mass of individual targets to be destroyed one by one, with the strength of the defence in fire-power being ranged against hard armour. No attempt is made to seek out and exploit weaknesses in the *modus operandi* of the enemy or in his array of forces. No thought is given to the possibility of attacking the long flanks that columns of armour must necessarily have. The Army's new doctrine thus continues to presume a net superiority in fire-power: US forces are to 'mow down' Soviet armour as British imperial infantry once dealt with the Zulu *impis*. The British won, though they were outnumbered as the US Army would be today, but unfortunately the Soviet forces are not Zulus and they will not be outgunned.

A Manoeuvre Defence for NATO

A manoeuvre defence for the North Atlantic Treaty Organization (NATO) would be quite another thing. Far from seeking to muster strength against strength in a frontal clash of fire-power versus armour, it would rely on attacks against the weak points of the Soviet array. For example, Soviet divisions draw their re-supply from convoys of trucks following in their wake, 1,800 trucks for each tank division and 2,200 for each 'motorized rifle' division. Behind each hard wedge of armour there is the soft column of unprotected and road-bound trucks. A manoeuvre alternative to the Army's new doctrine might deploy all-armoured and highly agile strike forces which would side-step the oncoming thrust of Soviet armour columns, penetrate through the spaces between the columns, and then advance deeply enough into the enemy's rear so that they could then turn to attack the 'soft' traffic of artillery, combat-support and service units, and supply columns following in the wake of the Soviet armour. While American tanks and combat carriers would be formed into these strike forces, the infantry (which is already well equipped with anti-tank missiles) would be placed in the path of the Soviet advance to form resilient and amorphous defence zones. The aim would be to slow down and embed the enemy armour spearheads rather than to destroy them in costly combat. In the meantime, the strike forces would be on their way, to advance in parallel to the advancing enemy columns before turning to wade into them. While American battle tanks could no doubt do much better against trucks and artillery carriages than in tank-to-tank combat, the operational goal – as in all genuine manoeuvre – would not be so much to destroy enemy resources as to dislocate the enemy's scheme of operations. Instead of being faced with an entirely predictable frontal resistance (which they are well organized to defeat), Soviet commanders would be confronted by confused entanglements and sudden emergencies in their own vulnerable rear, as the elusive strike forces attack road-bound traffic, only to disappear (when attacked in turn) to come back and attack again somewhere else along the columns. Soviet armour spearheads would in some cases run out of supplies while fighting it out in the resilient defence zones; above all, the stream of reinforcement echelons (on which the Soviet method depends) would be drawn away to confront the strike forces in the rear, instead of being fed into the penetrating advance to keep up its momentum.

This is not by any means a fully analysed idea, and it is of course at the extreme end of the risk/pay-off spectrum, but it does illustrate the general principles of manoeuvre warfare as they apply to all combat – land, sea, or air.

First, one's own high-quality forces must not be expended against those of the enemy; instead, they are to find and attack the weak points in the enemy's array of forces. In the meantime, the enemy's main effort is to be contained (though it cannot be defeated) by a specialized defence, organized from the lower-cost forces.

Second, the key to victory in manouevre is force disruption rather than destruction. Of course there will be some attrition, but its purpose must be to dislocate the enemy's system of war, rather than to reduce his forces in piecemeal combat. The goal is to force the enemy to abandon his programme, rather than just to reduce the forces he has to implement that programme.

Finally, manoeuvre warfare cannot be fought by standard, general-purpose forces shaped by traditional preferences and bureaucratic priorities. Instead, one must deploy forces especially tailored to cope with a specific enemy – that is, forces which are configured to exploit his particular weaknesses, rather than to maximize all-round capabilities. One allows the enemy to dictate one's force-structure and tactics; the 'organizational initiative' is conceded in order to seize the operational advantage.

Examples of Manoeuvre Defence

An outlined air-power example illustrates the

(See MILITARY BALANCE, Pg.3-F)

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SETTING UP A SUMMIT

Soviet President Leonid Brezhnev is keeping his schedule open for a possible SALT-signing summit with Jimmy Carter in the first two weeks of May. Although protocol specifies that it is Brezhnev's turn to go to the U.S., his frail health may rule out the long flight to Washington. Brezhnev's doctors don't want him to fly at all, in fact. Carter might go to Moscow if necessary, but the betting now is that the Soviet and American presidents will compromise by meeting in a neutral capital—one that Brezhnev could reach comfortably by train. The Russians seem to lean to Helsinki, Vienna or Warsaw as the summit city.

THE OMINOUS HOSPITALS

U.S. intelligence sources report that both Egypt and Libya have begun installing field hospitals near the border that divides the unfriendly Arab neighbors. Both countries have engaged in military buildups in the wake of Egyptian President Anwar Sadat's signing of a peace treaty with Israel, and the emergency hospitals could mean that open hostilities are in the offing. U.S. analysts don't think Sadat would tarnish his statesman's image by going to war unless Libya strikes first, but they don't rule out the possibility that Libyan leader Muammar Kaddafi might start something. In that event, some analysts say, the Egyptians might launch a drive to the Libyan oil fields.

MILITARY BALANCE -- CONTINUED

generality of these rules. Soviet battlefield air-defence systems are now much more formidable in Europe than they were in Arab hands in October 1973, when Israel lost almost a quarter of her air force in three days. To do its work, which is to help in the *land* battle, the US Air Force (USAF) plans to defeat the array of Soviet anti-aircraft guns and missiles by attrition and sheer weight of materiel: special 'defence suppression' aircraft are deployed to attack Soviet radars directly, while other special aircraft are to neutralize Soviet radars with electronic counter-measures. In addition, each line aircraft is to carry self-protection electronic devices. In the first few days of a NATO war, when air power would be needed most to give time for the ground forces to deploy, the USAF would in fact be busy protecting its own ability to operate at all.

It is interesting to note that others have reacted differently. The Royal Air Force (RAF) simply cannot afford to fight it out with Soviet air defences; its plan is to *evade* rather than defeat them. The RAF has decided to use its aircraft in the immediate rear of the battlefield, to attack Soviet reinforcement echelons rather than the first wave of Soviet forces on the battlefield itself – where defences are thickest. As some RAF officers see it, the American insistence on taking on the Soviet Union where she is strongest may result in an air force which will be 'taking in its own washing' instead of earning its keep. The RAF approach is 'relational' manoeuvre; that of the USAF a form of attrition.

In the case of naval forces, a counter-example can be cited from the opposite side. When Stalin decided to build an oceanic navy as part of the armament programme that began in earnest very soon after VE day, his plan reportedly called for a *non*-relational 'balanced fleet' on the Anglo-American pattern, with destroyers, cruisers, and aircraft carriers, as well as submarines – the indispensable weapons of the weaker fleet. Had Stalin's successors continued on this path, the Soviet navy would have been a much inferior imitation of the American and bound to be outclassed in every encounter. But after Stalin's death his naval plans were scrapped and the Soviet Union adopted a relational 'manoeuvre' approach; she built her own navy specifically to exploit the weaknesses of the US Navy, instead of trying to imitate its structure. As a result, the American surface navy of carrier task-forces is now confronted by an array of Soviet anti-carrier forces, based on the use of anti-ship missiles carried in submarines, naval aircraft and surface warships. The Soviet navy which this relational scheme has produced cannot do many of the things that the US Navy does so well, but it does have a fair chance of winning a naval war, at least in some circumstances. A non-relational Soviet navy, built to realize the typical naval ideal of a 'balanced fleet', would by contrast have guaranteed absolute and total inferiority at sea for the Soviet Union.

The Implications of Inferiority

Now that the United States has chosen to place herself in a position of military inferiority to the Soviet Union by reverting to the pattern of underspending of the inter-war years, the non-relational procedure, with its low-risk/high-cost attrition solutions to every threat, is becoming increasingly obsolete. In one area of defence after another there is no third alternative between higher-risk manoeuvre methods and a guaranteed defeat. In part, the persistence of an obsolete style of warfare is due to an understandable cultural lag: the services are in the position of those remaining ill-informed American tourists who, in Germany or Japan, still offer *sotto voce* to pay their hotel bills in dollars – and expect a discount. But aside from cultural lag there is another source of irrationality, and ironically it is the product of the striving to substitute logic and calculation for military instincts and bureaucratic goals. Many of the 'systems analysis' techniques introduced by McNamara and revived by the present civilian defence chiefs are based on mathematical models which treat warfare as a cumulative exchange of fire-power; they are in fact pure attrition models in most cases. Even though the historical record of war shows quite conclusively that superior fire-power is often associated with defeat, and that winners more often than not were actually inferior in fire-power, these mathematical models continue to be devastatingly influential because they capture all that is conveniently measurable about warfare. Thus book-keepers may fancy themselves strategists.

Unfortunately, these models miss the essence of warfare, which has little to do with the orderly administration of superior fire-power on a passive set of targets. To their great discredit, the uniformed military have chosen to play the bureaucratic game, and now have their own models, suitably rigged. Instead of resisting the pressure to conform, and devoting their intellect to the study of war as it really was in history, and as it may be again on the battlefield, the military waste their talents on studies and models which are based on premises which are false, and which they *know* to be false. Hence the blind lead, and those who could see follow in order to defeat the mathematics of the civilian 'systems analysts' with their own, ever more elaborate computer models. Unfortunately, the tactics of bureaucratic conflict in the Pentagon are of no use on the battlefield.

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The Inoperability of Interoperability?

By Thomas A. Callaghan, Jr.

AN INDEPENDENT LOOK AT "NATO Standardization, Interoperability and Readiness" was released late in February by a House Armed Services Subcommittee of that title. The report criticizes the state of Allied Readiness. It finds the agreed 3% real annual growth in Allied defense budgets to be inadequate. It questions the advantages claimed for Standardization and Interoperability. It finds fault with the concept of a "two-way street," gives poor marks to the "family of weapons" concept, and concludes that the NATO Long-Term Defense Plan (LTDP) is one of questionable value. It advocates a review (and possible revision) of the Culver-Nunn Amendment, which calls for the Secretary of Defense to establish procurement practices aimed at standardization of the US European forces' equipment.

The report will be a disappointment to many, but a challenge to all.

Strength and Weakness

The central weakness of the NATO Subcommittee's report is that one must read through forty pages of detailed criticism before finding a positive statement expressing "the hope that the NATO alliance can be strengthened and improved"—and a statement recognizing the fact that "the present shortfall in Western Europe defense demands unique solutions."

One might say the Subcommittee has produced two reports. The first deals with Standardization, Interoperability and Arms Cooperation, for which no redeeming military, economic or political benefit is cited. The second addresses the issue of NATO readiness with a high sense of urgency.

The strength of the report is the attention it focuses on the lack of Allied readiness. It argues for example, that:

> "One of the most critical readiness deficiencies of the Alliance is its lack of reserve stocks of ammunition and equipment. These stocks translate into staying power or sustainability in a war. *Incredibly, after 30 years, NATO now hopes; by 1983, to develop a capability to fight for 30 days.*"

The Subcommittee finds the European shortages of ammunition and replacement stocks to be critical, and they are. Unfortunately, the Subcommittee see standardization as being of little relevance to readiness, saying for example, "The major anti-armor deficiency of the alliance is not the existence of eight different missiles, but rather the lack of adequate inventories. wastefully developing eight different missiles, which can then only be procured in small quantities at high unit cost.

Standardization is no substitute for adequate defense budgets. But when Allied defense budgets are not adequate unnecessary duplication of effort must be eliminated; wasteful, low volume production must be avoided.

Nobody questions the validity of these views in our domestic defense procurement. Indeed, in each of the past two years, the House Armed Services Committee has stated its belief that "the Department of Defense . . . must avoid unnecessary duplication of effort."

The strength of the report is its recognition of the fact that "The present shortfall in Western European defense demands unique solutions." Its weakness is not that it rejects every feature of every unique solution proposed by the President, the Secretary of Defense and the Congress itself, and finds no virtue whatsoever in Standardization, Interoperability and Allied Arms Cooperation.

Why So Negative a Report?

On 31 January 1979, the American, Canadian and European members of the North Atlantic Assembly's Defense Cooperation Subcommittee held their annual meeting with the House Armed Services Committee. Much of the discussion centered on the quite different American and European views of what constitutes measurable traffic on the two-way street, "NATO-ese" for reciprocal trans-Atlantic arms trade.

The Subcommittee's Report reflects the fact that the Administration has not presented its case effectively. The marketing function in policy formulation doesn't get the attention it deserves.

The Daniel Subcommittee report need not be a disappointment. The *Executive Branch, our Allies, and the Congress itself* must recognize the report as a challenge to bring for the concepts, structures and proposals needed to create the cooperative Alliance framework called for by General Haig.

Western European defense *does demand* unique solutions.

The Subcommittee submitted the following findings and conclusions:

- NATO's ability to conduct a successful conventional defense against a Warsaw Pact attack is extremely doubtful because of serious readiness problems and inadequate defense spending.
- NATO's goal of a 3% annual real growth in defense spending is a "compromise between military requirements and political practicality" and will do little to reverse the trend of Warsaw Pact superiority as long as the Soviets continue to increase their defense spending at the present rate 4% annually.
- Contrary to a long-held view, standardization and interoperability are not cure-alls that will lead to vast savings for NATO nations. It is unlikely that there will be savings from arms cooperation, at least in the near term. Predictions of potential savings are largely unsupported by data at present.
- Annual savings resulting from standardization and interoperability would be less than 2 percent of the total annual Alliance budgets.
- The term "two-way street" too often is, by Pentagon officials and some European spokesmen, presented as a device to equalize the economic benefits for European defense industries without sufficiently considering the contribution to military effectiveness.
- The European approach to defining the two-way street solely in terms of defense trade shows a large advantage to the US. A broader definition of the two-way street that encompasses all defense-related goods and services would show a balance in Europe's favor.
- The Pentagon's "family of weapons" concept, an approach designed to group families of weapons and divide up the development work among the NATO Allies, eliminates competition and therefore lowers technological standards.
- NATO's capability to fight a protracted war is almost nonexistent. NATO lacks the capability to fight for thirty days and present plans will not provide such a capability before 1983. Evidence available to the Subcommittee suggests that European forces will begin to run out of equipment and ammunition in a matter of days rather than weeks or months.

The Subcommittee made eight recommendations. Among these were: 1) a review of the "Culver Nunn" amendment to determine whether modification is in order; 2) increased coordination of procurement procedures for arms cooperation by the Executive branch; 3) the minimization of the use of government-to-goverment agreements; 4) the transmittal of all international agreements other than treaties between the US and its NATO allies to the House and Senate Armed Services Committees; 5) an increase in personnel training in combat-related areas to augment equipment-related improvements; 6) a requirement that the Secretary of Defense include a NATO readiness report with his annual Defense budget submission to the Congress; 7) a requirement for annual authorization of operations and maintenance, and all procurement accounts; 8) authorization for the Secretary of Defense to enter into a well defined class of agreements for specific host nation support services. ■☆■

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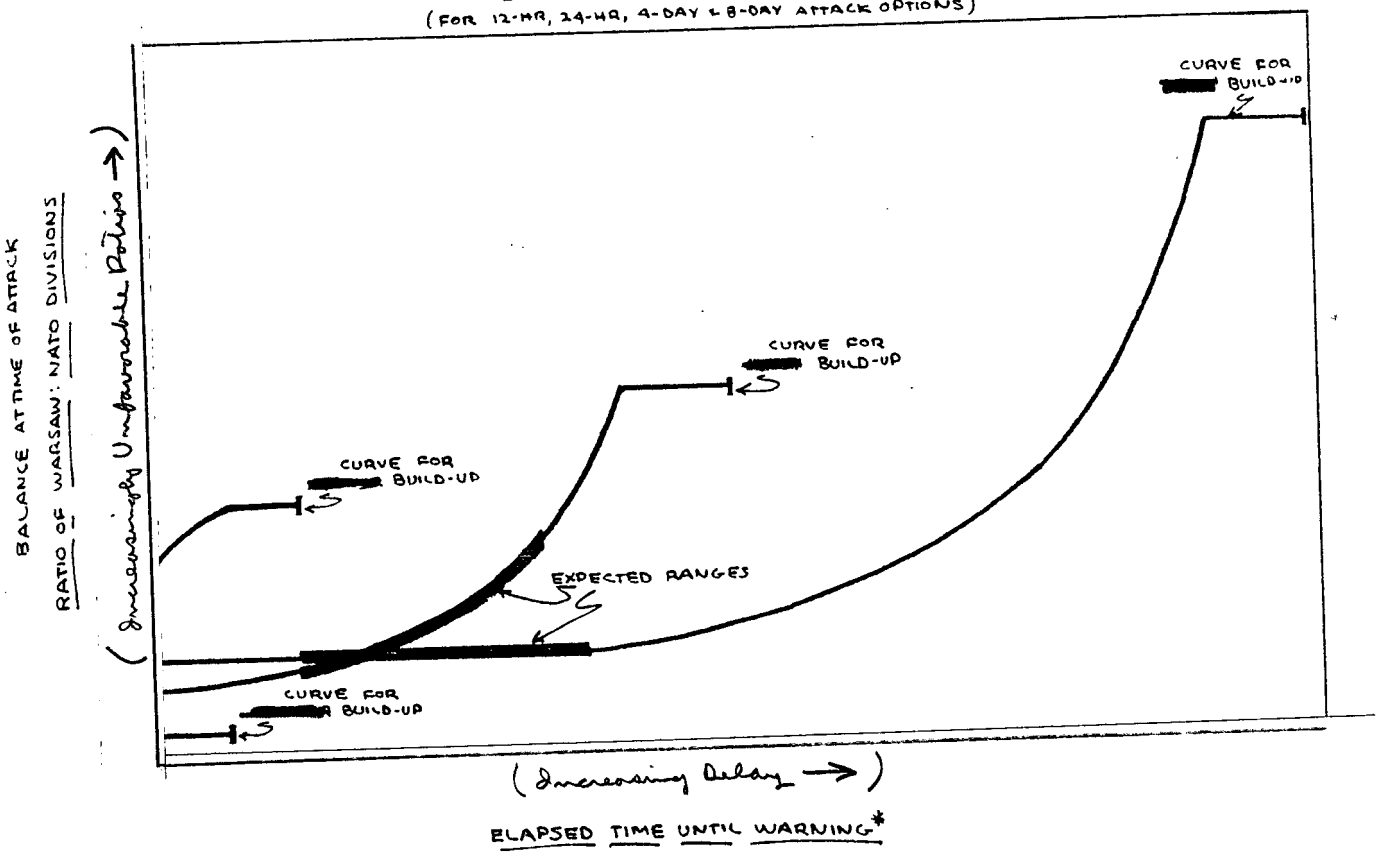
NATO TALKS: Brig. Gen. Charles W. Dyke of the Army's International Rationalization Office tells the Senate Armed Services' research and development subcommittee that the U.S.-German staff talks have resulted in "major strides" toward standard NATO doctrine. He said 11 concept papers have been approved and signed by the chiefs of staffs of the U.S. and German armies. Among these are papers dealing with anti-armor, air defense, airmobile operations, mobility/counterability, fire support, reconnaissance and night operations.

RATIO OF DIVISIONS AVAILABLE AT TIME OF ATTACK
vs.
ELAPSED TIME UNTIL WARNING
(FOR 12-HR, 24-HR, 4-DAY & 8-DAY ATTACK OPTIONS)



* TIME FROM COMMENCEMENT OF ATTACK PREPARATIONS TO ISSUE OF FIRM WARNING OF ATTACK. ASSUMES [redacted] POST-WARNING PONDER PERIOD (PWPP).

Soviet Army Wave Attack Philosophy

The single-echelon option

*by P.H. Vigor**

A military commander, if he is to take a sensible decision concerning the number of waves, or echelons, in which to deploy his forces, can only do so if he bases that decision on the actual conditions of the particular operations he is engaged in. Soviet writers, indeed, repeatedly emphasise the imperative need to study the actual circumstances before coming to a decision, and roundly condemn any general who has imbued himself with a fixed theory of echelonning which he applies quite irrespective of the situation with which he is faced.

Since, therefore, there is no fixed Soviet doctrine which can be applied, blanket-fashion, so as to determine the number of echelons, it is clear that any attempt to discuss the Soviet attitude to echelonning must be narrowed down by making a number of assumptions concerning the type of operations being dealt with. For the purposes of this article, these assumptions are as follows;

(i) This hypothetical war in Europe will be one that the Russians have started. A war in Europe might arise from other causes (by accident, for example), but our present study is of an outbreak of hostilities resulting from a deliberate attack on NATO by the forces of the Warsaw Pact.

(ii) The war will be fought without the use of nuclear weapons of any kind. It would obviously be a colossal advantage to the Russians if this could be accomplished. In a conventional war, large numbers of Soviet soldiers and airmen might perhaps be killed, and the territories of Poland, East Germany and Czechoslovakia might again be a battleground; but so long as Russia herself remained effectively inviolate, these casualties and those other kinds of damage would certainly be acceptable in the eyes of the Kremlin.

(iii) NATO, on the other hand, is pledged to resist invasion, and to resist it even by using nuclear weapons if this should prove to be necessary. Nevertheless, it is well known that nuclear release would not be given at the outset of a Soviet offensive. Indeed, it has often been stated in the Western press that five days would have to elapse before tactical nuclear weapons could be fired, and it is not hard to imagine circumstances in which a longer period than that would be necessary before the political leaders of the NATO countries could bring themselves to agree to a nuclear release.

(iv) It therefore follows that the Soviet Armed Forces have five days, or even more, within which to attain their military objectives before NATO decides to go nuclear. Five days is not really a very long period, so the Russian's only hope of attaining a really worthwhile objective is to move extremely fast; and it is well known that the Soviet Armed Forces are trained and equipped to do this as a first requirement.[1]

(v) It also follows that the USSR has a great need to achieve surprise in these circumstances because its speed of advance would be very much greater than if NATO were to be properly alerted. The achievement of surprise would also bring the further considerable advantages of fewer casualties and much higher chances of victory.

We are therefore postulating a non-nuclear and very fast-moving battle, in which NATO mobilisation and deployment have been at least partially pre-empted. The purpose of this article is consequently to enquire into what sort of echelonning might be used by the Soviet commanders for the purpose of fighting this sort of battle.

Prerequisites for victory

The Soviet view has traditionally been that the chief factors making for victory in any particular military operation were:

(a) the correct choice of direction for the main axis of advance;

(b) the mass concentration of men and equipment along that axis;

(c) a capacity for manoeuvre at all levels;

(d) surprise.

Today, it includes the factor of speed. For this and a number of other reasons, the relative importance of the various factors has probably now been changed to the following:

(a) the correct choice of direction for the main *blow* (not the main axis because, in the nuclear age, the main blow may have to be delivered along two or three axes rather than along one, as formerly);

(b) surprise;

(c) speed;

(d) concentration of effort in support of the main blow;

(e) simultaneous attacks upon the enemy throughout the entire depth of his deployment and upon objectives deep in his rear.

It should be emphasised that no actual list giving these factors in the above order is known to the present author, but Soviet writing in recent years has strongly indicated that it is, nevertheless, the correct one.

The existence of nuclear weapons has made it far too dangerous to mass men and equipment along only one axis of main advance, as the Red Army in the Second World War so successfully used to do. As a result, the Soviet concept of the offensive now envisages the advance of the troops along two or three sub-axes, *these being not*

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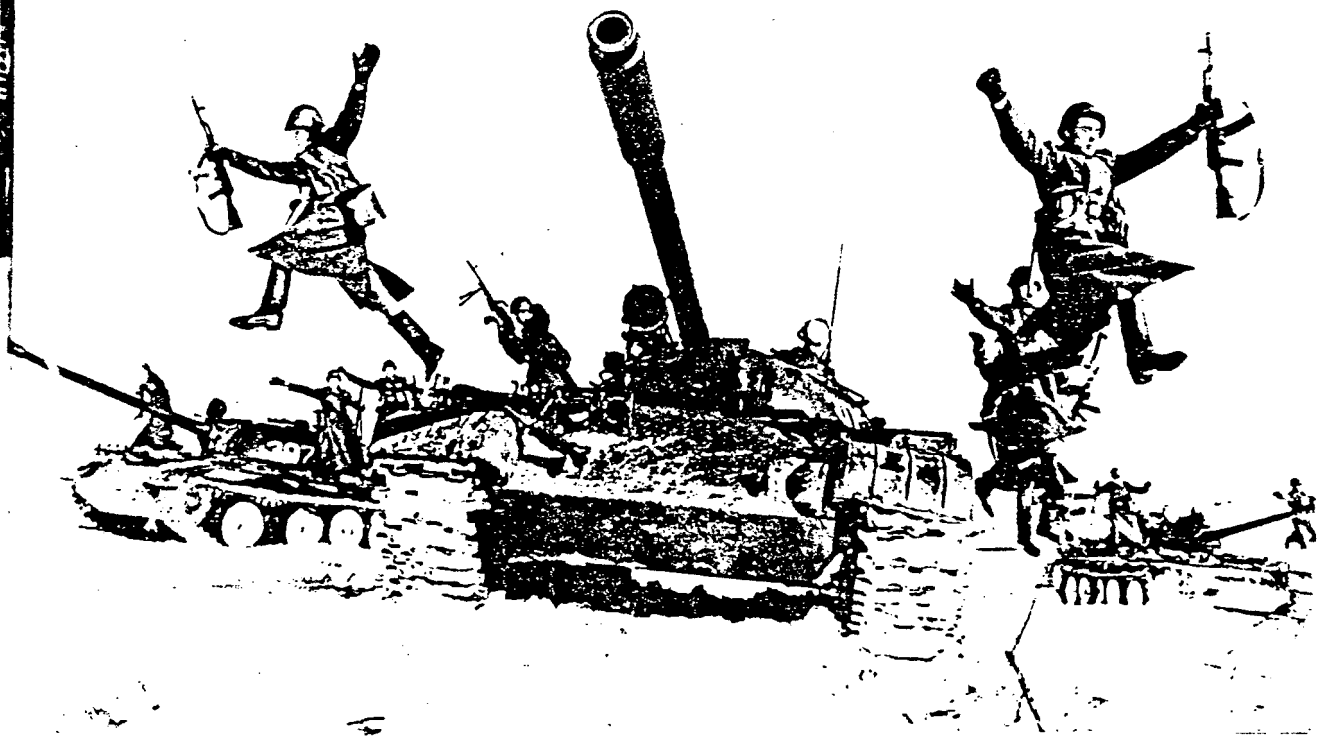


necessarily equally spread across the whole width of the attack sector. There is, however, an unwelcome consequence for the Russians in that the present composition of the Group of the Soviet Forces in Germany (GSFG) would not permit the attainment along each of these sub-axes of a crushing superiority over the enemy in men and equipment without the bringing-up of considerable reinforcements from within Soviet territory before the attack began. To bring up these reinforcements, however, would immediately sound the alarm for the NATO countries and the attainment of surprise would thereby be rendered impossible. But since we have postulated that the USSR attaches enormous importance to achieving surprise – and since it believes that, if surprise could be attained, a much smaller superiority over the enemy would be acceptable along the various sub-axes of the main advance – the only solution available to the Russians is to attack NATO from a standing start. The assumption that the Russian offensive will be launched from a standing start is therefore a natural and basic premise of this article.

The purpose of echelonning

Soviet military writing declares that the purpose of deploying forces in more than one echelon is to maintain the momentum of the advance.[2] If the enemy defenses are sufficiently strong to cause heavy casualties to those troops that first assault them, a new and completely fresh wave of attackers must be available to take over from the first wave, and thereby keep up the pressure on the enemy defenses.

[There is, incidentally, a difference between a second echelon and a reserve. A second echelon is a body of troops appointed for a specific task: to take over from, and then complete the work of, the first echelon. A reserve is a body of troops to be used *ad hoc*, according to the wishes of the commander.]

Deploying troops in more than one echelon is particularly necessary when the enemy has prepared a defensive position in depth. In the Second World War on the Eastern Front, German defensive positions in depth were typically divided up into three lines of permanent fortification, each being 5-6 km deep and separated from the next line by 10-12 km. The total depth of the German position would therefore be 40-50 km. The German defenses around Gumbinnen in 1944 were a good example of this.[3]

The Russians found that the best way to deal with this sort of defensive position was to assault the first line after a heavy, though often rather short, artillery bombardment, using their first echelon for the purpose. This first echelon was expected to pierce the first of the enemy's defensive lines and to penetrate into the depths of the enemy position. At this juncture, the Soviet formation's mobile group would be committed to the battle, would pour into the breach, exploit the success of the first echelon and, at the same time, help that echelon to continue its advance. Assuming that all went well, the first echelon was expected to continue to advance until it bumped up against the second line of the enemy's prepared position, by which time it was likely to be exhausted.

At that moment, therefore, the Soviet second echelon took over; and it was this second echelon, as yet uncommitted to battle, which was expected to pierce the second line and to fight its way forward to the third line. With a bit of luck, the third echelon would be captured relatively easily. But if the battle was expected to be particularly tough, and casualties heavy, the Soviet senior commander might well deploy his attacking formations in as many as three echelons in order to have a completely fresh echelon with which to assault the third defensive position. It is worth remarking that the Stavka expected that Soviet first echelons would pierce the first line of the enemy defenses within 24 hours of the commencement of the attack or, at the very most, within 36 hours. Anything else was regarded as highly abnormal and none-too-pleasant consequences were likely to follow for the commander.

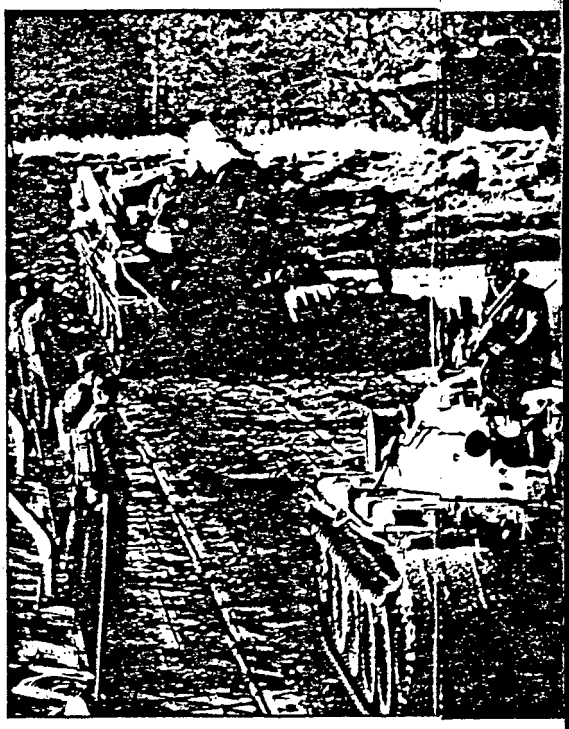
Of course, in actual practice, by no means every offensive of the Red Army worked out as neatly as is implied above. But we are talking here about concepts and, though in the course of the Second World War the execution might sometimes have faltered, the concept remained unchanged.

Although the double-echelon deployment was standard practice where the enemy defenses were heavily fortified and deeply echelonned, the Soviet commanders were often willing to attack in only a single echelon when circumstances were different. This was because a deployment in just one echelon allows the maximum weight of men and firepower to be brought to bear on the enemy defenses at a given moment of time. There were a number of occasions during the Great Fatherland War when the need for this outweighed the need for having fresh forces to maintain the pressure on the enemy.

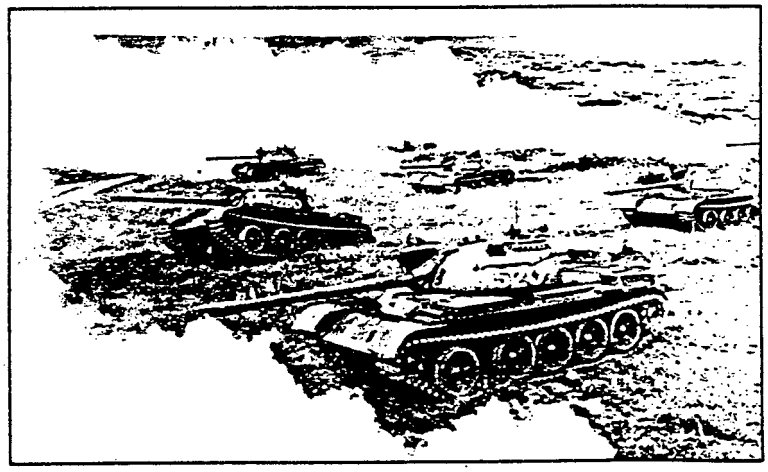
Deployment in a single echelon, however, may well be impossible because of the nature of the terrain. If the ground over which the attack is to be made is a broad, flat plain with a firm surface, the choice can be made as to the number of echelons without any regard to topography. If, however, the route to be taken traverses mountains, swamps or forests, it may well not prove to be at all practicable to deploy in a single echelon, however much the commander may wish to do so. This point is of importance, and must be borne in mind when reading the rest of this article.

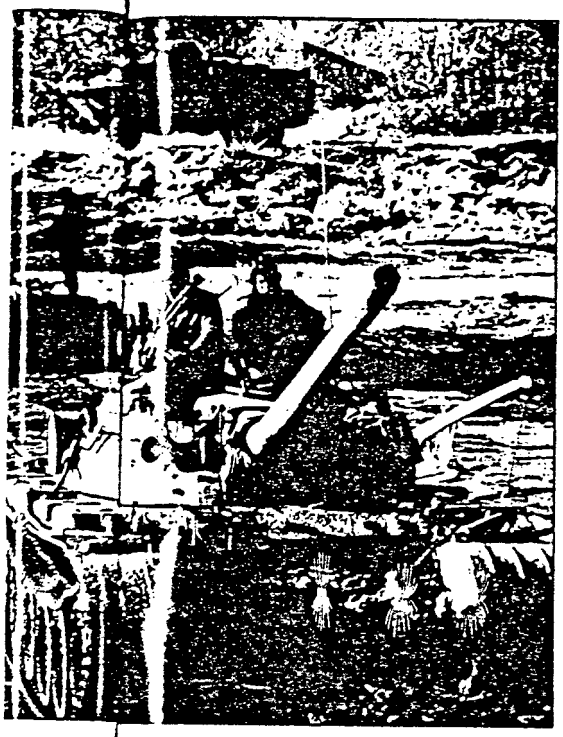
Soviet practice suggests strongly that Russian commanders are particularly willing to attack in a single echelon at the start of a war or a particular campaign. The campaign in Manchuria in 1945 is an excellent example of this and it will be used later to illustrate in some detail the thesis of this article.

Before going on to discuss that campaign, however, it is essential to point out that echelonning can be and is practised at all levels in the military chain of command. In other words, if an army group attacks, it can arrange its constituent armies in one, two, three or even more echelons. By the same



▼ "If the ground over which the attack is to be made is a broad, flat plain with a firm surface, the choice can be made as to the number of echelons without any regard to topography." Note box-like structure on top of Soviet T-55s' gun mantlet (*IDR* 8/78, p. 1206), now identified as a combined laser rangefinder/designator (see also International Defense Digest, *IDR* 9/78).





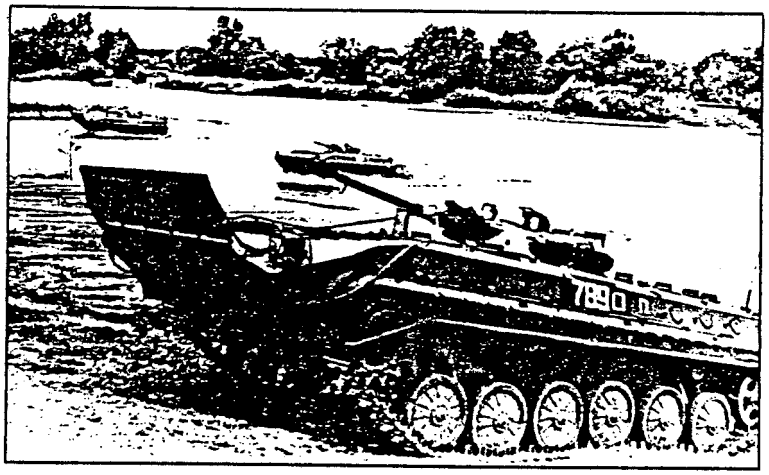
token, the armies themselves can deploy their respective divisions in one or more echelons; the divisions, their regiments similarly; and this process continues down to and including the battalions.

Nor, in a given operation, does the number of echelons have to be the same at each of the various levels in the chain of command. It often happened in the Great Fatherland War that a Soviet army group *(front)* attacked with its armies in one echelon, that the armies deployed some in one, some in two echelons, while the divisions might have been in two echelons and their constituent battalions in one.

The battalions themselves were most frequently deployed in just the single echelon during what the Russians call the first period of the Great Fatherland War, when the Red Army started upon its first counter-offensives. Up to that time, the divisions, regiments and battalions had all always attacked in two echelons, because this was what was prescribed in the regulations. However, the two-echelon deployment was soon seen to be a mistake. This was because the German defenses at that time did not consist of deeply echelonned lines of well prepared fortifications, but of scattered, fortified strongpoints and defended areas. Furthermore, the Soviet forces at that time were not numerically superior to the Germans in men and equipment; on the contrary, they were usually inferior. Consequently, a state of affairs which in any case was bad for the Russians was made much worse by the deployment into two echelons. A significant portion of any Soviet formation was unable to play any part in the first stage of the attack since it was being kept back, in its capacity as the formation's second echelon, for the second stage of the battle. Therefore, when the Soviet first echelon hit the German defenses, it was frequently outnumbered and outgunned by the Germans, and suffered defeat as a result.

To remedy this, the Stavka ordered the Red Army to adopt the single-echelon formation as the standard mode of deployment for the attack,[4] and that order remained until circumstances changed later in the war. By then, the Germans had gone over to defense based on deeply echelonned, well prepared lines of permanent fortifications. Secondly, the numbers of Soviet men and weapons had by then increased so much that the Red Army could afford to have two echelons and still have numerical superiority over the Germans at the critical points of the first line of defenses.

▲ ▼ Deployment in a single echelon may well not prove to be practicable if the attack route traverses mountains, forests or swamps. BMPs of Soviet motor rifle regiment cross a water barrier the simplest way (below), while other units use bridging (above): in the foreground a T-55, followed by a T-55T recovery vehicle and, on the far bank, a BRDM-2 reconnaissance vehicle.



The war on the Eastern front

The history of the war on the Eastern Front also makes it clear that, where the maximum blow possible was required and subsequent supplementary effort was a secondary consideration, a one-echelon formation was decided upon in those cases where topography permitted. This was particularly true when surprise was regarded as attainable. When, however, surprise was *not* thought to be attainable, when the offensive came in the middle rather than at the beginning of a campaign, or when there was clearly a requirement for a second echelon as a means of breaking through an enemy's second line of defense, then a two-echelon formation was decided upon at any and every level.

Further examples of these various considerations being applied in practice by the Soviet Armed Forces can be found in this campaign. It is indeed a particularly pertinent campaign to study, because it marked the opening by the Soviet Union of a new theatre of war. What was done by the Soviet commanders in Manchuria may therefore have something to say about what would be done by their modern successors if the Kremlin decided to open a theatre of war in Europe. It is all the more likely to do so because the Russians secured in Manchuria an overwhelming surprise at both the strategic and the operational level; and this, as discussed earlier, would be their aim if they were to plan an offensive in Europe.

The Russians started their offensive at 0010 hours on August 9, 1945, when none of the Japanese politicians or military commanders was expecting them to do so. Admittedly they thought it probable that the Russians would attack them, and they even thought it likely that they would attack them in September, but they had no notion that the Soviet offensive would hit them in the month of August.

The Russians appear to have been pretty confident that they would in fact achieve surprise, and they took their decisions on echelonning on the assumption that they would. Whatever mode of deployment was adopted, the aim was to secure the maximum possible exploitation of the expected surprise. So it is perfectly understandable that, of the three *fronts* or army groups which took part in the campaign, two decided to deploy their armies in only a single echelon. These were the First and the Second Far Eastern Fronts. The third, which appears an exception, was the Transbaikal Front; but in fact its two-echelon deployment was not so much of an exception as might appear.

There were no sizeable Japanese forces within about 400 km of the Transbaikal Front's forming-up area. The principal difficulty that faced its main forces at the outset of the campaign was the broad belt of desert and mountainous country that separated them from the Central Manchurian Plain. Only when that obstacle had been surmounted could 6th Guards Tank Army come into contact with the principal Japanese forces centred upon Kwantung.

The task assigned to the main forces of Transbaikal Front, therefore, was to hurl themselves at top speed across the belt of desert and mountain, and smash into the westward-facing flank of the Japanese at the same time as the First Far Eastern Front smashed into their eastward-facing flank. But in an advance made by a group consisting of one tank army and four combined-arms armies, the tank army was bound to forge ahead unless it was ordered to reduce speed. No such order was given. On the contrary, General Kravchenko, GOC of 6th Guards Tank Army, was told expressly that it was the job of his formation to move forward as fast as it possibly could. The inevitable

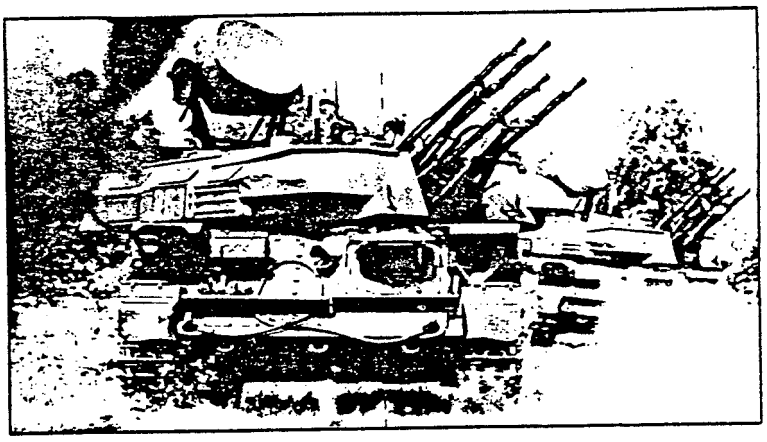
gap that would thereby be created between 6th Guards Tank Army's original neighbours to its left and right would then be plugged by 53rd Army, which thus became the Front's second echelon. It therefore seems reasonable to say that Transbaikal Front's adoption of a two-echelon formation was due to special circumstances.

So far as First Far Eastern Front was concerned, its task was to strike the initial blow with the maximum strength possible, in order to smash through the enemy's fortified positions at a single go. Having done that, it was then to exploit the breakthrough at the greatest speed and to the greatest extent possible. Given that the First Far Eastern Front was expected to achieve operational surprise, it seemed to the commander that a one-echelon deployment offered the best chance of success. This decision was approved by his superior, Marshal Vasilievsky, the commander-in-chief of all the Soviet forces engaged in the campaign.

The offensive launched by Second Far Eastern Front was a secondary operation. The *front* had only about half the number of men that had been allotted to the other *fronts*, and furthermore had a lot fewer tanks, guns and supporting aircraft. Since it had no tank army and only three combined-arms armies (plus a few supporting units) with which to attack alonC a front of several hundred kilometres, a one-echelon formation was essential if its initial attack was to carry any weight at all.

The Manchurian Campaign of 1945 is the only example available of an attack launched by the Soviet armed forces at the start of a war which had been begun on *their* initiative; when the forces themselves were in good shape and had plenty of good equipment; and when, moreover, the Russians expected to achieve both strategic and operational surprise. Under such circumstances, a one-echelon formation was chosen for two of the *fronts* while the two-echelon formation adopted by the third *front* was the result, we have argued, of special circumstances which are not likely to recur in Central Europe at *front* level.

Lower down in the chain of command in Manchuria, there was no uniformity in the deployment of the corps and divisions. Thus, although First Far Eastern Front deployed all its armies in one echelon, many of those armies deployed their corps (and most of the corps deployed their divisions) in two echelons. This was because the commanders at those levels were confronted with tasks which, in essence, consisted of penetrating the Japanese first line of defense, and then going on and attacking and penetrating the second. In other words, they were faced with the classic requirement for a two-echelon formation; and a two-echelon formation was consequently adopted.



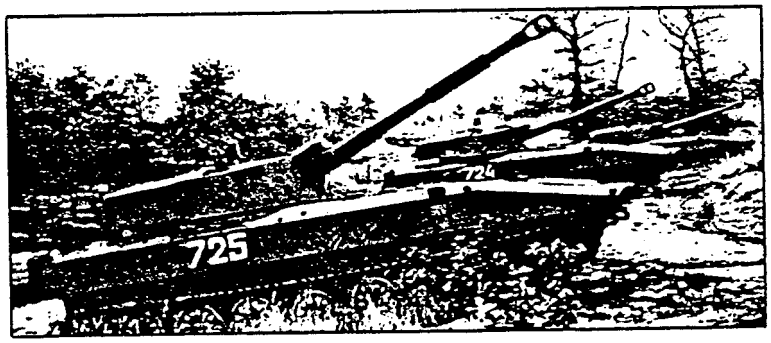
▲ Regardless of the number of echelons deployed in a Soviet attack, organic air defense would be an essential ingredient of the forward forces. Photo shows two ZSU-23-4 *Shilka* self-propelled anti-aircraft gun vehicles; each Soviet tank division and each motor rifle division has 16 ZSU-23-4s plus self-propelled and towed 57 mm and 23 mm AA guns.

▼ While a single-echelon attack at army level by the Soviet Union can not be ruled out, corps, divisions and lesser units would almost certainly deploy in two or possibly more echelons. Photo shows M1974 122 mm SP howitzers which would follow up the first wave of tanks, providing direct as well as indirect fire to suppress enemy defensive positions.

It should not be taken as evidence in rebuttal of this article's thesis that 6th Guards Tank Army, the flower of the Soviet forces engaged in the campaign in Manchuria in 1945, deployed its corps in two echelons despite the fact that it expected to surprise the enemy and that it knew that Japanese opposition for the first 300 km or so would be little more than feeble. The reason for the two-echelon formation was purely topographical; and as soon as 6th Guards Tank Army had crossed the Great Khingan range of mountains and had descended on to the level ground of the Central Manchurian Plain, 5th Guards Tank Corps, the army's second echelon on the first day of the offensive, was to move forward level with the remaining corps belonging to 6th Guards Tank Army. As a result, that army engaged the enemy's main forces in a single-echelon formation.[5] Had General Kravchenko expected the Japanese on the far side of the Khingan Mountains to put up a prolonged and bitter resistance à la Stalingrad, he would no doubt have deployed his corps in two echelons. But he had come to believe that the resistance would not be of that order and that by a heavy initial blow he might hope to smash it. He deployed so as to deliver the heaviest possible initial weight of blow and the result proved him justified. It is not wholly ludicrous to suggest that a Soviet commander in Europe might make similar calculations, especially if, as has been assumed throughout, he might hope to achieve surprise over the NATO defenders.

On the other hand, the nature of the terrain in certain sectors of the NATO front makes it unlikely that all the Soviet armies would deploy all of their divisions in a one-echelon formation too. Furthermore, the likely tasks confronting Soviet 8th Guards Army (launching holding attacks on the US 7th Army in Bavaria, coupled with a thrust into Germany to the north of the American sector so as to prevent the Americans from moving northwards to take part in the main battle) might well impose a two-echelon formation upon the Soviet divisions there. At regimental and battalion level, it is most unlikely that anything other than a two-echelon formation would be adopted by the Russians anywhere.

Nevertheless, in the light of the above, one or two interesting trains of thought suggest themselves. If we assume that in our hypothetical attack the Soviet forces achieve surprise at both the strategic and the operational level, they will not only want to deliver the maximum initial weight of blow. They will also bear in mind that, by gaining surprise, they can more safely deploy into one echelon for the purpose of delivering the blow. Provided that the circumstances in Central Europe were approximately those assumed for the purpose of this article, it is reasonable to imagine that, at least at army level, a one-echelon formation is what the Russians would decide upon. ++



References

1. See, for example, Colonel G. Lobachev's article in the February 1977 issue of *Voennyi Vestnik*.
2. See, for instance, *Sovietskaya Voennaya Entsiklopediya*, v.2., p. 421.
3. *Voenno-Istoricheskii Zhurnal* (hereafter referred to as V.I.Zh.), 4/1971, p. 71.
4. NKO Order No. 306 of 1942.
5. V.I.Zh., 12/1962.

Tactical Problems Facing the Soviet Army

Recent debates in the Soviet military press

by C. N. Donnelly, Soviet Studies Centre, RMA Sandhurst, UK

Until about 1970 Soviet Military doctrine held as a basic tenet that any major war in Europe would naturally escalate rapidly to involve the widespread use of at least tactical, and quite probably strategic, nuclear weapons.

During the late 1960s there grew up in Soviet political circles the realization that, if for any reason a major war were to start, it was clearly in the interests of the Soviet Union to be able to win it *before* the Western alliance could reach a decision to use nuclear weapons.

As a reflection of this political realization, the first 2-3 years of this decade saw a gradual shift of emphasis in the Soviet military press from a study of the nuclear battlefield to a study of conventional operations, albeit with the proviso that, in any major conventional conflict, weapons of mass destruction *might* be used at any moment.

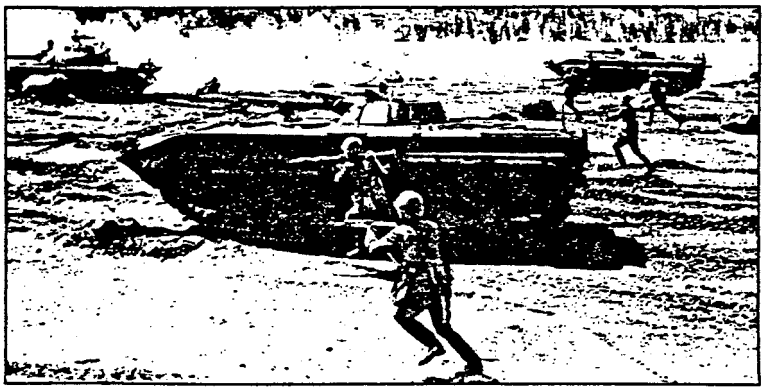
Whether any war which began in Europe would remain purely conventional or would involve nuclear weapons, the Russian victory, the Soviets believe, would only be certain if the war could be won quickly[1].

On a nuclear battlefield, weapons of mass destruction will be widely available to reduce effective defense to a minimum; consequently the main tactical[2] concern in such a war is to achieve a rapid rate of advance through a country where going has been rendered difficult by contamination and destruction. By speed and manoeuvre, armoured protection and mass decontamination the Soviets would hope to reduce their own vulnerability to enemy nuclear weapons. To improve their chances of doing this, the Soviet General Staff began in 1967 to issue to their Army a vehicle expressly designed for — and, all agree, very well tailored to — rapid offensive operations in nuclear war. This vehicle is the BMP.

Since one of the main threats to the viability of highly mobile attacking units under nuclear conditions was considered to be enemy air power, large funds were also allocated during the 1960s to improving anti-aircraft systems, probably at the expense of armoured self-propelled artillery.

Forced, as they were in 1970, to meet the political requirement that the Soviet Army be able not only to fight and win a war with conventional weapons, but to do so *very quickly indeed* so as to lessen the dangers of escalation to global holocaust, it must have rapidly become clear to the Soviet General Staff that both the tactics and equipment of their army were not adequate to the task. Equipment was available in insufficient quantity, and was often of an unsuitable type. Tactical doctrine for conventional war was weak, and the army was poorly practised in it.

For models of conventional operations upon which to base their plans, training schedules, and calculations of weapon and equipment norms for this 'new' conventional battle, the General Staff turned its enormous military history department to studying successful — and unsuccessful — offensive operations of the 1941-45 war. At the strategic level, this study has provided adequate information for a model of a war won quickly (the Soviet campaign against the Japanese in Manchuria in 1945 is considered an excellent example for study and, presumably, emulation). At the lower tactical level, however, the advance of technology (for example the increase in the ranges and destructive effects of weapons, the increase in mechanization and mobility of troops, the emergence of guided missiles,



► Soviet motor rifle troops will normally assault on foot over the last 2-300 m to the objective, remaining as close as possible behind the leading wave of tanks in order to suppress enemy anti-tank fire with their small arms. BMPs, having disgorged their infantry, should slowly follow the latter about 3-400 m behind them, providing fire support from the short-halt directed into the 50 m gaps between attacking infantry sections. The new 122 mm SP howitzers, when used in the accompanying role, also provide direct fire between the infantry sections, from ranges of only 500-1.000 m away from the enemy positions.

etc.) have rendered much of World War 2's tactical experience much less valid.

One of the principal effects of the predicted wide-spread use of tactical nuclear weapons had been that it necessitated the dispersal of sub-units, and therefore the combination of different arms at a low tactical level (battalion); without combined arms teams, due to the distances involved between dispersed sub-units, mutual support would have become impossible.

On the modern conventional battlefield, considerable dispersal is still necessary, the Russians insist, because of the ever-present threat of nuclear weapons. Furthermore, combined arms action at battalion level remains essential, because improved weapon technology renders each fighting arm (infantry, artillery, tank, aircraft, etc.) very vulnerable when operating on its own. That is to say, the tank and aircraft fall easy prey to the missile, the field gun to the fighter-bomber, the attacking infantryman to the artillery barrage, etc.

Between 1970 and 1974, in the light of these developments, several authoritative works discussing tactical and operational principles appeared[3], and most of the standard special-to-arm text books on tactics were rewritten[4]. A modern version of the most authoritative general reference book "Taktika" (Tactics) which last appeared in 1966 has, to the best of the author's knowledge, not yet been issued, and will presumably not appear until a final solution to the tactical problems discussed below have been decided upon.

However thorough these new text books might appear, it has become obvious from subsequent comment in the Soviet military press that, probably as a result of hasty compilation, they relied too heavily on tactical theory, and not enough on practical experiment. Consequently, Soviet commanders perused them in vain for answers to many of the practical problems they encountered when actually carrying out battalion level combined-arms exercises for conventional battle. The unsatisfactory tactical performance of the Arab armies, using Soviet tactics and equipment during the 1973 Yom Kippur War, must have been an added incentive to the Soviet General Staff to give serious consideration to these problems of tactics, and how best to find a solution to them.

The Soviet press has always been a means whereby the Soviet citizen could voice his complaints or suggestions about "the system", providing the aim or purpose of his complaints was to effect an improvement in the functioning of the system, not a radical change of it. The military press is no exception to this rule, and the military authorities have allowed and even stimulated the development of open discussions on disputed tactical issues, considering such discussion as helping to solve many of the tactical problems as well as helping to improve the general tactical education of the sub-unit officer[5].

The discussions in the press[6] have centred on two areas of concern. The first relates to actual tactical practice and the ability of combined arms combat and logistical units to remain *viable* in the face of enemy action; the second relates to the ability of the officer himself, in particular his capacity to cope with tactical problems, and the extent to which he should solve such problems using his own initiative. Discussions on the latter theme have been much more restrained, as they come close to questioning many of the Soviet system's long-held and most basic assumptions[7].

On the theme of tactical practice and viability, the four most important areas which have been subject to intense debate to date are: ● the use of the BMP infantry combat vehicle; ● the deployment of artillery and the effectiveness of artillery support; ● the flexibility and the resilience of command and control practices; ● and the special effect that the maintenance of a high speed of offensive has on co-ordination in combined arms units.

On the theme of the officers' ability, rather looser debate has discussed: the definition of "initiative" (initsiativa) and the practical extent and consequences of its application; the requisite qualities that a young officer is expected to develop nowadays to enable him to perform his duties effectively; technical means of improving command efficiency; and the way to improve the training, motivation and morale of soldiers so as to increase tactical performance.

In many areas the topics under discussion, naturally, overlap. We will attempt below to identify and outline the main points of each topic debated and make some conclusion as to the final stance taken and its possible effect on the future development of the Soviet Army at sub-unit level.

The BMP debate

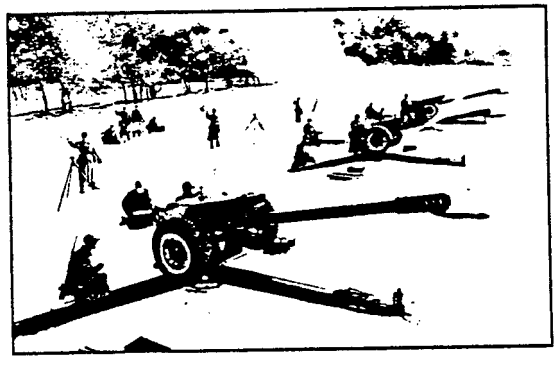
The first topic to become the subject of serious debate, and the one which has attracted most attention in the West, concerns the employment of the BMP infantry combat vehicle. The characteristics of this vehicle (described in detail in *IDR* No. 6/1975 pp. 896-898) have rendered it ideally suited for nuclear war, but rather less suited for conventional war. This is not to say that the BMP is not suitable at all for the conventional battlefield, but rather that there are certain phases of war for which it is more suited than for others. For use in those phases of war for which it is not ideally designed, it is considered essential either to adopt tactics which minimise its vulnerability, or to create local battlefield conditions with conventional weapons resembling as closely as possible the conditions of mass destruction in which the BMP *was* designed to operate. This is the basis on which the discussion was opened, and the debate concentrated on the tactical details by which means the above requirements might best be met.

The BMP in attack and defense

The BMP, it was stated without contradiction, is best used for *exploiting* success. Therefore units or formations equipped with it, when operating *as part of the main forces*, can expect to act in the *second* echelon[8] of a deliberate attack. In practice, however, due to the chaos of modern battle, units equipped with BMP will undoubtedly be called upon to take part in all sorts of attack, even amongst the first echelon in breakthrough operations. During nuclear operations, it is normal practice for all attacks to be carried out with the troops mounted inside their fighting vehicles. During conventional battle, however, due to the high density of anti-tank weapons in NATO armies, and due to the resilience of a strong defense to Soviet air or artillery bombardment, an attack on a *prepared* defensive position will normally require the troops to dismount and attack on foot, in close co-operation with accompanying armour and under cover of well co-ordinated artillery fire.

It is the apparently simple operation described in the last sentence which generated most of the heated discussion. The tactical details in dispute are as follows: (a) At what distance from the enemy should the sub-units deploy from the line of march or from pre-battle order (company or platoon columns) into attack formation? (b) At what distance from the enemy defense should the motor-rifle troops dismount? (c) How far should they be behind their accompanying tanks when this dismounting takes place; or should they even be in front of them? (d) How close together should infantry and tanks be when actually assaulting the defenders' first line? (e) How close should the BMPs stay to the motor-rifle troops who have dismounted to attack? (f) How best can the BMP support the attack by fire from its missile, cannon or machine gun? (g) Should it fire over the attackers' heads, or into the 50 m gaps between attacking sections? (h) If a BMP battalion, supported by a tank company (13 tanks), is attacking in 2 echelons rather than one, should all the tanks be in the first echelon, or should some be in the second? (i) How close under the artillery bombardment should the tanks and BMPs try to get before dismounting the infantry (remembering that in Soviet doctrine such a bombardment is essential to the success of an attack against prepared defenses)? (j) What is the drill for dealing with any mixed minefields in front of the defense?

Articles in the debate show clearly that all possible variations on the distances and timings referred to above have been practised: infantrymen have been dismounted,



◄ Soviet gunners are frequently criticized by senior commanders for deploying in line, as in WW2, since this makes them vulnerable to NATO counter-battery fire. The six-gun battery of D-30 towed 122 mm howitzers (photo) integral to the single Motor Rifle Regiment of each Tank Division has recently been replaced by no fewer than 18 self-propelled 122 mm howitzers, as is also the case in one of the 3 MR Regiments of each MR Division. The two other MR Regiments in each MR Division now have 18 D-30s each.

to take just one example, anything between 1,000 and 200 m from the objective. Further articles have indicated that a considerable difference exists between what is considered desirable and what is usually achieved on exercise. This latter problem is clearly not one confined to operations with the BMP, nor even to the Soviet Army as a whole, as any NATO officer can all too easily confirm. This should be borne in mind when making a realistic comparative assessment of operational capabilities.

The basic problem as it emerged in the debate is as follows: tanks without infantry support attacking an unreduced defensive position sited in depth will be destroyed by the defending infantry's anti-tank weapons. The same fate will befall the supporting infantry as well, if they attack mounted in their armoured vehicles, because small-arms fire from armoured vehicles is so inaccurate[9] (the Soviets maintain) as to be only effective for the suppression of the weakest of defenses. In fact, the artillery barrage which a unit or sub-unit involved in a rapid attack can call down in its support will be so limited as to suppress the defense only during the duration of the fire. It will not destroy the defense, and therefore as soon as the barrage lifts, the defenders will emerge from their holes to put their anti-tank weapons and machine-guns to good effect.

For infantry, even those mounted in armoured vehicles, to approach closer than 300 m to their own barrage was considered by most contributors to the debate to be extremely unwise; normally, two or even three times this distance is maintained as a safety zone during exercises, especially if rocket launchers are being used in the barrage. Consequently, the exact place of dismounting; the relative position of accompanying tanks; the effectiveness of fire support from BMPs in the last moments of the attack; the timing, accuracy and weight of the artillery strike, all assume critical proportions. Several variations on tactics were suggested as solutions to aspects of the problem. A consensus of opinion was reached on some points, but by no means on all. A ruling was given on some issues in a closing article to the debate by Col. Gen. Merimskiy, Deputy Chief of Combat Training of the ground forces. The most authoritative and best support "solutions" can be summed up as follows:

(A) – Actual distances for (1) deploying from pre-battle formation (company and platoon columns) into attack formation (line abreast) and (2) dismounting, can be expected to vary with the ground, strength of defense etc, but they must be as close as practicable to the forward edge of the enemy defense. Normally, in actual battle as opposed to exercises, deployment into attack formation will be carried out no more than 1,000 m from the forward line of the enemy defenses, and infantry will dismount at between 400 and 300 m from the enemy lines.

(B) – Infantry should always dismount from BMPs as close *behind* the tanks as possible (never in front of them), and advance behind the tanks to the obstacle. When the tanks reach the forward edge of the defense the infantry should be as close to them as possible and no more than 200 m away, otherwise their small-arms fire will be ineffectual in protecting the tanks from the defenders' anti-tank weapons.

(C) – Companies will never attack in more than one echelon and will not normally keep a reserve of any size. Battalions will often attack in one echelon. When attacking in two echelons, a battalion's accompanying tanks will usually all go into the first echelon. This will be particularly true when the battalion is operating in the second echelon of a unit or formation attack.

(D) – Attacking sections of infantry should keep gaps of 50 m between them. Having dismounted their infantry, BMPs should follow at about 300-400 m and deliver fire support, firing at the short halt through the 50 m gaps between attacking sections, and concentrating their attention on enemy strong points. BMPs should fire over their infantry's heads only in hilly country; otherwise, morale will be adversely affected. The ideal assault formation is therefore to be as shown in *Fig. 1*.

(E) – The commonly observed tendency is for all these distances to become greatly enlarged, and for the time gap between the lifting of the barrage and the attackers reaching the first trenches to widen drastically. Such slipshod tactics, readers of "Voennyy Vestnik" were warned, will inevitably result in disaster.

(F) – As a general rule BMPs will not be used in the first echelon of an assault on a prepared defense when any suitable alternative exists.

The debate also touched on matters relating to the organization of defensive positions using BMPs. Suggestions that sub-units could deploy to defend wider sectors of the front than recommended in the existing manuals (up to 2 km width of front for a company was suggested), were dismissed with scorn, 1200 m being officially considered as the maximum effective sector that a company could hope to defend. The "inverted arrowhead" is the preferred defensive deployment for a battalion, with two companies in the first line and one positioned in depth, because this provides a "killing area" where the enemy can be engaged from the front and flanks simultaneously.

Raiding tactics with the BMP

Throughout the debate, all participants were in agreement as to the suitability of the BMP for certain types of combat operations where its speed and mobility could be a great advantage and where, since those operations envisaged no desperate assault on a strong defense, its vulnerability did not put it at a disadvantage. These are those operations in the depth of the enemy position which many contributors to the debate referred to under the general title of "raiding tactics" (reydovaya taktika). This was a phrase of which General Merimskiy disapproved, but only because it blurred the distinction between the tactical ideas it blanketed. Of the idea itself of using the BMP in operations in the enemy's rear, Merimskiy heartily approved, indicating that not only should commanders think first of their BMP sub-units when choosing troops to carry out such tactics, but that, if they had sub-units available equipped with BMPs, commanders should consider using such tactics on every possible occasion.

The term "raiding tactics" covers the tactics of: (1) long-range recce groups; (2) raids proper ("reydy", involving a large group of reinforced battalion or even regimental size assigned a recce and destruction mission, and designed to remain in the enemy rear indefinitely); (3) forward detachments (assigned a specific function in the depth of the enemy's position to facilitate the advance of the main forces); or (4) outflanking detachments (aimed at outflanking enemy defenses and hitting the defenders from flank and rear). The high speed and cross-country ability of a BMP-equipped unit is ideal for such tactics, where the attackers seek to avoid strong enemy defenses and to penetrate into his rear. This type of action can have an effect on the organization and morale of the enemy quite disproportionate to the effort involved in mounting it. Such tactics, the Soviets consider, are particularly applicable to the *initial* and *pursuit* phases of war, especially during an offensive when surprise has been achieved.

In such an action the BMP unit, it is thought, is most likely to meet an enemy on the move rather than dug-in in defense. That enemy should then be engaged in an *encounter battle*, and routed before he can establish himself in defense. The BMP, with its considerable fire power, is considered eminently well suited to this type of battle.

Two problems which were raised during the debate, and for which no convincing answers were proposed, were: how to deal with defended minefields, and how to ensure tight co-ordination and control between tanks, infantry, engineers and artillery. The failure to come to grips with the enormous problem of co-ordination during the rapidly evolving situation usually met with during an encounter battle was particularly noteworthy. A further interesting assumption was that without effective artillery preparation, a deliberate attack was almost bound to fail, no matter how good the drill. The ability of artillery to "deliver the goods" has, in fact, been questioned during other debates. Most contributors to the BMP debate favoured deploying all available artillery immediately in support of the first echelon, with the job of laying down fire on enemy strong points. All artillery in BMP units, and a good proportion of artillery in BMP-equipped formations, is armoured and self-propelled.

The debate on the viability of towed artillery

Whilst the debate on the tactics and viability of BMP units was in full swing, the second debate was launched with an article in "Voenniy Vestnik" of October 1975. In this article, concern was voiced about the viability of artillery[10] units, and comment was invited. Subsequent articles were published from April 1976 onwards, i.e. after the conclusion of the BMP debate.

The initiators of the debate, two artillery colonels (Nesterov and Ivanov), had taken their lead from a section of a book by Marshal Grechko, the then Minister of Defense, in which the Marshal drew attention to the lessons of the Yom Kippur War. This war, he said, had shown the extreme vulnerability of unprotected artillery batteries when firing in line from open positions.

The assumption made in the BMP debate, that there would always be effective artillery preparation and support for an attack, was not seriously challenged initially, although the authors did point out that the viability of artillery was important not only to the gunners, but also to the motor-rifle and tank troops which they were expected to support.

Vulnerabilities of Soviet artillery

The article identified as the potentially vulnerable features of Soviet artillery: (1) the lack of armoured protection for 50% of the batteries; (2) the inability, through shortage of time and equipment, to provide engineer protection (trenches, shelters, etc.) for gun crews, command and observation posts and assembly areas for prime movers; and (3) the state of training and psychological preparation of conscripts (the loss of its comparatively small fully trained cadre could render a sub-unit ineffective). A particular threat, the article maintained, was posed by NATO's excellent observation and counter-battery (CB) capacity, particularly in view of the Soviets' normal practice of deploying batteries in a straight line, 200 m long.

The authors consequently suggested that the six guns of a battery should be dispersed over a 600×300 m rectangle, and dummy and alternate positions be prepared for the purposes of deception and manoeuvre.

Wide dispersal, already the norm for anti-tank guns and anti-tank guided missiles (ATGMs) firing direct did, however, cause problems of ballistic adjustments when firing indirect.

The article concluded with further warnings about the effectiveness of enemy anti-artillery action, mentioning helicopter gunships and radio jamming; and the authors called for measures to ensure better co-ordination with AA troops, for better support from engineers for digging-in and camouflage (especially for anti-tank weapons), and for more consideration to be given to improving "shoot and scoot" procedures for field batteries.

It is interesting to compare this article with an earlier piece by one of the same authors (Ivanov) on the same theme. Although, in his previous article, he did identify more or less the same *range* of threats to artillery batteries, his emphasis was completely different. The main concern he expressed in the earlier article, which appeared in "Voenniy Vestnik" of Nov. 1972, was with the threat posed by air strikes; and his suggestions at that time were limited to passive protection, camouflage and deception measures.

The subsequent articles in the debate threw a great deal of light on Soviet perceptions of their own vulnerabilities, and developed the colonels' suggestions (which were, in general, very favourably received). The most important points raised were as follows: 80-85% of artillery crews in unarmoured artillery units were unprotected, and consequently dispersal (to confuse sound ranging and reduce the effect of CB fire) was to be encouraged. Moreover, as the enemy (i.e. NATO) would certainly locate a battery 2-3 minutes after it opened fire, would take 2-4 minutes to process this information, and would take a further 2-3 minutes to prepare his own guns, effective NATO counter-battery fire could be expected within 6-10 minutes of the opening of a Soviet bombardment. Consequently a bombardment of over 7 minutes' duration was considered too long for safety. Ideally, batteries should move at least 200-300 m after a 5-minute bombardment.

A widely dispersed battery was considered to be better able to resist a surprise enemy armoured attack from a flank, but to be an easier target for enemy diversionary raids. Dispersal, it was also stated, reduces speed of reaction, complicates control and reduces accuracy.

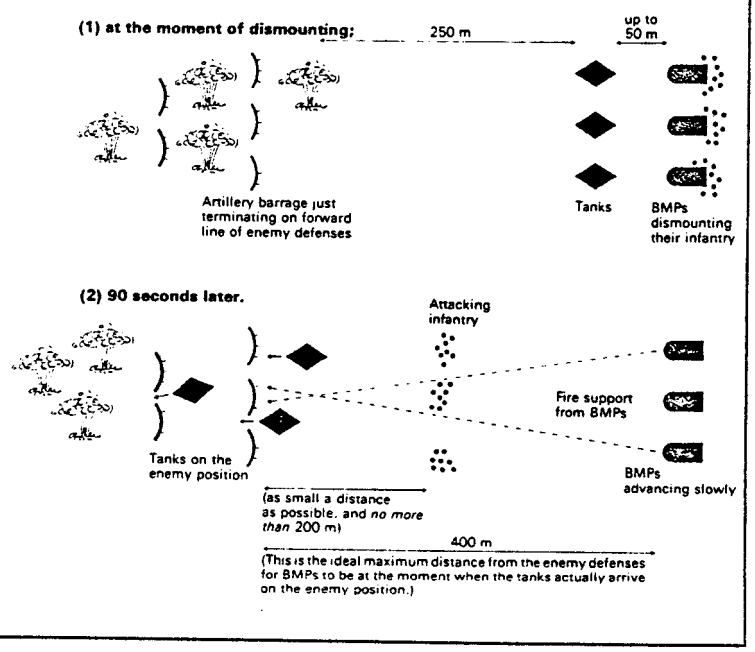
The debate was concluded in October 1976 with an article by Lt. Gen. Anashkin, Chief of Artillery Combat Training. He began his article by stressing the great importance of artillery, stating that nowadays it is responsible for 80% of missions to destroy the enemy by fire, as opposed to only 70% in World War 2.

He laid great stress on ensuring the viability of artillery batteries by improving Soviet CB performance, especially against NATO self-propelled (SP) batteries. This he identified as the foremost task for Soviet artillery to master. He further emphasized the need for effective deception, camouflage, engineer preparation, and manoeuvre ("shoot and scoot" tactics). He pointed out that effective "shoot and scoot" tactics could, in some cases, obviate the need for complex dispersal, and permit the use of the much faster (but unprotected) deployment in line. He also considered desirable an improvement in both speed of opening fire (to forestall the enemy), and in overall accuracy.

In conclusion, this debate raised many fundamental points about the vulnerability of unarmoured artillery, and while many suggestions were proposed for improving the situation, none appeared which were radical or concrete. Reading between the lines, the principal problems seem to be: (1) the inability to break away from 70-year-old patterns and the adherence to linear deployment, probably reinforced by a rather low standard of training; and (2) a general—and much lamented—lack of the mechanization and computers so readily available to NATO. This debate is of particular interest, because improvement in the efficacy of modern Soviet artillery practice has received constant attention in the Soviet military press for some years, although not in the form of a debate. The articles referring to artillery practice have shown a constant preoccupation with Soviet ability to maintain *continuous* effective fire on the enemy during an offensive. A good example of this is the report of an artillery officers' conference that appeared in "Voenniy Vestnik" in November 1975 (p. 82) under the title "The uninterrupted delivery of effective force".

The papers presented at the conference dealt with improving long-range accuracy; firing on moving vehicle columns in the enemy rear; counter battery bombardment; firing for effect against enemy anti-tank weapons; the suppression of platoon strong points; the improvement of artillery reconnaissance; the problems of integrating artillery into combined-arms groupings; and increasing the competence of officers and gunners. Other topics raised by speakers were fire planning and party political work. The editors of the Journal called for readers' comments and the topics raised were covered in subsequent articles. However, it was not really until the discussion on the high-speed offensive was initiated that debate on the subject became heated.

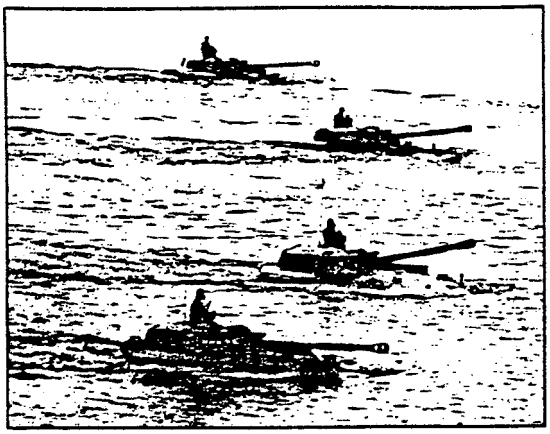
Fig. 1. The Ideal Soviet Assault Formation:



The troop control problem

Commencing in April 1976, and running in the pages of "Voenniy Vestnik" at the same time as the debate on the viability of artillery, was a rather more impressive series of articles discussing troop control.

The bones of the problem were laid out in an authoritative article by Col. Gen. Grinkevich, Chief of Staff of the Group of Soviet Forces in Germany (GSFG). The points he raised, and on which he invited critical comment, were as follows:



◄ Amphibious 122 mm SP howitzers swimming a river during Exercise *Karpaty* in July 1977. Deployment of these SP weapons permits close support artillery to keep up with the fast-moving advance, provides a degree of protection to the crew, and also enables "shoot and scoot" manoeuvres to avoid being hit by NATO counter-battery (CB) fire. Soviets plan on NATO CB fire starting to arrive on target within 6-10 minutes of the opening of a Soviet bombardment.

More new and increasingly sophisticated and powerful weapons and equipment are being supplied to the Army, and this requires a corresponding increase in the effectiveness of troop control, otherwise the benefit of these weapons will be lost.

The increase in troop mobility and the effectiveness of weapons will result in frequent, rapid and radical changes in battle situations, in a vast increase in the amount of intelligence to be collected and processed, and in a drastic reduction in the amount of time available to make any assessment and to implement any decision. In other words, commanders and staffs will have to do a lot more work in a lot less time.

Those phases of the battle at which Grinkevich considered effective control to be positively crucial were: ● the time and place of the introduction of a second echelon or a reserve; ● the co-ordination of fire and manoeuvre; ● the switching of pressure from one axis to another; and ● co-ordination and cooperation with adjacent units and formations.

Good troop control, Grinkevich continued, presumes the following qualities:

(1) – firmness; i.e. the ability to come to a quick decision and see it through with determination and toughness.

(2) – flexibility; i.e. a capacity for quick reaction to rapidly changing circumstances.

(3) – security; i.e. the taking of all measures designed to prevent the enemy from predicting one's intentions.

(4) – continuity; i.e. the waging of combat without respite, which only uninterrupted control would ensure.

Good troop control further requires: (a) a good standard of training of all sub-units, and good morale and political preparation so that the officers and men respond instantly to *any* order; and (b) a very high degree of knowledge and skill on the part of the commanders and staff so that they can reach correct decisions rapidly and implement them effectively.

Lack of expertise

The main failings in the Soviet army at present Grinkevich identified as: an all-too-frequent low standard of personal professional preparation and staff work; a lack of knowledge about the performance of new equipment or of a particular type of sub-unit; clumsy man management; poor training in standard battle procedures; the poor level of technical means of control and communication available, and the frequency with which those means of communication actually available were misused.

The effect of these failings is to make the whole control procedure too slow. Too much time is spent trying to reach a decision; and too much time is spent in the drawing up and conveyance of orders. Furthermore, orders are often imprecise and confusing, said the General.

To improve things, Grinkevich stated, several things were to be done. First, there must be warning orders and operational instructions, and the method of parallel work (i.e. conveying orders at "O" groups, etc.) down two or more links of the chain of command at a time must replace the traditional long-winded orders procedure. Secondly, there should be specific training for staff officers in specialized skills. Moreover, a general increase in the staff officers' overall professional skill was overdue. Thirdly, an increase in the use of "automatic" systems of control (this last the General considered essential). The term "automatic systems" covers everything from pre-prepared proformae for orders which only require filling in and no[t] out, through pre-prepared all-[redacted] "model" plans capable of rapid ad[redacted] to suit individual circumstances, t[redacted] calculating equipment and even ba[redacted] electronic computers.

One can conclude from Grinkevi[redacted] cle, therefore, that the efficiency of troop control has not kept pace with the increasing volume and sophistication of equipment. The prime need is for an increase in the speed and effectiveness of troop control in order to gain time, so as to forestall the enemy in deployment, manoeuvre, and in the delivering of attacks.

The exposition of the control problem was continued in the next article by Maj. Gen. Tovstukha, who reiterated Grinkevich's points about more work in less time; and about the need to improve the level of training of staff officers, both in terms of their general ability and in terms of the specific skills required in staff jobs.

He considered that a high quality of staff work requires: (1) a good knowledge of military art; (2) good organization and documentation; (3) the effective use of the most modern calculation and control equipment; (4) the rapid issue of orders; (5) the ability to conceal control measures and to deceive the enemy; (6) a continuous checking of all subordinate officers' actions by the commander, so as to eliminate inconsistency and error.

To achieve all this in an ever shorter time, the perfect staff officer needs: an ability to phrase commands well; a great deal of personal presence (strong will power, tact, an absence of coarseness, etc); and the ability to keep a good, neat operational map. Long hours of private study, the author went on, may well be necessary to achieve this level of expertise and ability. The idea, concluded Tovstukha, that in a highly fluid battle, maps and documents are unnecessary or superfluous is *wrong*.

We have covered the opening articles in this debate in such detail because they amount to quite a strong complaint about the lack of expertise on the part of staff officers, particularly at sub-unit (i.e. battalion) level. The suggestion in the third article in this series, that large amounts of private study plus command post exercises (organized, of course, in the officers' spare time) would help improve skills must have been greeted with dismay by young officers, who are already very hard-worked. One cannot but pose the question, why did these officers not learn how to mark a map properly during their 3 or 4 years at a Military College? Part of the answer could be that an increasing number of young officers are being drafted in from university, when they have completed a reserve officer training course, for 1-3 years' compulsory service. However, this is unlikely to be a fully satisfactory explanation.

Retaining control in battle

Later articles harped on the need for improving the procedures for transmission of orders and suggested various detailed improvements such as the issue of standardized proformae, reducing documentation, and the training of all signallers to operate HF morse in order to beat enemy jamming. An alarmist note was injected by an officer who pointed out that a command post and a main headquarters would be a priority enemy target, and that commanders and [redacted] o improve their personal [redacted]tion and fighting abili-[redacted]

[redacted]bate a certain slant, and [redacted] to seeking for ways of [redacted]ility of control and its [redacted]my action. One popular suggestion was to split the battalion headquarters into a Command Post (CP) and a Staff HQ in the fashion of higher command and control procedure. The Battalion Commander would travel and command from a position well forward in the vanguard, whilst the Chief of Staff would stay in the second echelon and maintain communications with higher control. In event of the commander's demise, the Chief of Staff would take command. In event of *his* death, command should pass to company commanders in designated order of succession[11], unless a senior commander orders otherwise.

In this context, the chief threat to the viability of control was clearly perceived to be nuclear weapons. The assessment of the average reduction in effectiveness of the surviving personnel (due to injury or psychological stress) to be expected in a sub-unit hit by a nuclear strike, is as follows:

Notes

1 – As to why this should be the case, see P.H. Vigor: "The Soviet View of War, Peace and Neutrality" – R.K.P. 1975.
2 – The Soviet term "tactical" (takticheskii) describes military activity up to divisional level; the term "operational" (operativnyi) denotes action by an *army* or *front* (army group). Above that level, the term "strategic" (strategicheskii) is applied.
3 – For example: Ya.E Savkin: "Osnovnyye printsipy operativnogo isskustva i taktiki" – Moscow, Voyenizdat, 1972. Translated by USAF as "The basic principles of operational art and tactics".
4 – Compare, for example, Messrs Loza, Garbuz & Sazonov: "Motostrelkovii batal'on v sovremennom boyu" (The motor rifle battalion in modern battle) – Moscow, Voyenizdat, 1965; and the same authors' "Motostrelkovii batal'on v boyu" (The motor rifle battalion in battle) – Moscow, Voyenizdat, 1972.
5 – See Pravda, 19.2.78, p.2. An article by Marshal Ogarkov entitled "Soviet Military Science", in which he outlines the role both of historical research and of the military press in helping to develop military art and extend the Soviet officers' knowledge.
6 – As the debates have concentrated on performance at sub-unit level, the chosen forum has, logically, been the monthly magazine "Voenniy Vestnik" (Military Herald), although related articles have appeared in many other Soviet military periodicals.
7 – It is perhaps worth noting here that the Russian language has no native Slav word for "initiative". The modern Soviet word "initsiativa" is a comparatively recent foreign borrowing.
8 – As a general rule, at unit (regimental) level and above it is standard Soviet practice to mount an attack in two waves, or echelons. The task of the first echelon, which usually comprises two-thirds of the available teeth arms and most of the engineer or fire support, is to smash a hole in the first line of the enemy defenses. The task of the second echelon is to exploit any success achieved and rush through any breach formed, penetrating as deeply and as rapidly as possible into the enemy position so as to cause maximum disruption and confusion among the enemy. At battalion level, attacks may be mounted in either one or two echelons. At unit and formation level, attacks in one echelon (with a small reserve) will be preferred when the enemy can be surprised, pre-empted or when his defense is weak or in no great depth. Suitability of ground is also important.
9 – Recent Soviet studies have shown that only one infantryman in six can hit a moving target when firing his AKM or PKM from inside a BMP.
10 – It is important to appreciate that, in this context, the Soviet concept of artillery includes mortars and multiple rocket launchers.
11 – Since this point was raised, it is presumably *not* standard procedure at the moment to hand down command on a pre-designated chain.
12 – This was stated by Gen. Alexander Haig (SACEUR) in a recent speech at The Royal United Services Institution, London.
13 – The Taman Guards Motor Rifle Division is an élite formation, known especially for its young and energetic command cadre. It was at a Taman Guards Division barracks that the new T-72 battle tank was first displayed to western (French) visitors in October 1977 (see photos first published in *IDR* No. 6/1977 pp. 1031-1034).
14 – In Soviet usage, suppression (podavleniye) means the infliction of 25% casualties on enemy personnel and equipment, so that he is incapable of action dunng the period of bombardment and for a short time after it has ceased. Destruction (unichtozhenie) means the infliction of over 60% casualties, and the consequent inability of the enemy to recover for a long time after the attack.
15 – 150 rounds of 122 mm shells are required – the Soviets calculate – to suppress one hectare of target area, hastily prepared for defense. A NATO platoon defensive position is said, by the Russians, to cover 4 hectares.
16 – The Rogachev Guards Motor Rifle Division is the élite formation of the Belorussian Military District, and participated in the Berezina manoeuvres in early 1978.
17 – Voenno Istoricheskiy Zhurnal, No. 6.1976.

at moment of burst – down to 20% effectiveness

30 minutes after burst – rise to 75%
24 hours after burst – down again to 40%
48 hours after burst – rise again to 60%
10 days after burst – rise to 80%

In order to recover control of a severely damaged sub-unit (particularly one hit by a nuclear weapon), when the Commander and Chief of Staff are both dead, some officers considered it essential that the senior commander (regimental or divisional) should take charge. In event of there being enough survivors, he would make an all-stations call on the sub-unit net to appoint a new commander and C of S. If the sub-unit were too badly shattered, its components would be regrouped and amalgamated with other sub-units. This latter procedure, it was said, is henceforth to be considered the standard procedure for a sub-unit suffering a direct hit by a nuclear weapon. Its chief, but unavoidable, disadvantage is the time it takes to accomplish. Good drills, good camouflage, a good spread of battle information amongst all officers, and a chain for devolution of command in emergency will help to lessen the chaos.

Final articles in the debate hammered home the points about the need for improvement in individual skills, the need for more specific staff training; and the glaring lack of computers to aid in the processing of information.

Logistical failings

Though it was chiefly conducted in the pages of "Voenniy Vestnik", the debate naturally spilled over into other areas, receiving some attention in "Tyle i Snabzhenie", ("Rear and Supply") the journal of the logistics service. Here, the speed and effectiveness of control is just as topical a subject, and it emerged that the problems are identical with those met in the teeth arms. The most frequent and serious failing of rear service staffs was their failure to deliver fuel on time, thus delaying the advance or pursuit. Their lack of staff skills, poor training in command procedures, unfamiliarity with new kit, a lack of computers and so on were held to be the cause of this failing.

The debate was rounded off in December 1976 by a very weak final article by Col. Gen. Yakushin, Chief of the Main Staff and First Deputy Commander of the Ground Forces. He lent his weight to the calls for a speeding up of the procedure of transmitting orders; for the training of staff officers in individual specialities; for the establishing of standard proforma blanks for orders, etc; for the introduction of computers and automation, and for a general increase in an officer's all-round education. In a word, he said, troop control is too clumsy and too slow by far.

It is almost an error for the editors of "Voenniy Vestnik" to call this discussion a debate; for, unlike the BMP tactical problem, the contributors found very little to debate, but much to criticise. They were in general agreement both in what was wrong and in what needed to be done; and most seemed aware at the time of their writing that the gap between what was seen to be necessary and what could actually be achieved was a wide one, and that reducing this gap would not be easy.

The root of the Soviet problem

Our comment, reading between the lines, is that one of the main problems is the Russians' tendency to sit and do nothing until an order is given. Making preparations in anticipation of an order so as to speed up its implementation is just not generally done. Routine overwork of junior officers, long a feature of Soviet Army life, naturally reduces their ability and inclination to expand their professional knowledge by spare time work. Moreover, the system effectively prevents time off for study during working hours, because it burdens the officer with so many petty responsibilities. The problem of initiative is a thorny one; but a traditional lack of it in Soviet life at any level other than the very top certainly increases adherence to stereotype and to rules, and increases dependence on contact with a senior commander.

Furthermore, the cry comes through very clearly that, if nuclear weapons are used *effectively* by the enemy, then there is little chance that an offensive will succeed. This is because, even if the defenders are similarly reduced by Soviet nuclear strikes, the problems of recovering control and continuing the offensive in a purposeful manner are almost insuperable. If one calculates on the scale of one NATO nuclear warhead for each Soviet all-arms battalion group, then 15 warheads will wipe out a division, and 500, accurately delivered, should be ample to account for the whole of GSFG. As NATO is reputed to have over 7,000 warheads in Europe, it is not surprising that "destruction of the enemy's means of nuclear delivery" is always the first priority for any Soviet combat unit, be it an artillery battery or a sabotage squad in the enemy rear. It was the Soviet Army's realization of this factor that to a large extent determined the topic and course of the next debate.

The debate on the high-speed offensive

This debate has been the most general and wide-ranging one to date, and it has covered much of the ground dealt with in earlier debates. Its particular interest, however, lies in its approach, which is to force Soviet officers to assess their tactics, their use of artillery, and their control procedures from the point of view of an ability to sustain a high-speed offensive rather than simply to survive an enemy attack. The aim of the game, in other words, is to win the war *quickly*; and the aims of this debate, probably the most important one so far, were first to impress upon commanders and staff that a high speed of advance is their *first* priority and, secondly, to seek ways of perfecting performance so that the high speed of advance can be not only guaranteed, but actually increased.

If war breaks out in Europe, NATO is committed to fighting a conventional delaying battle for several days before the use of nuclear weapons will be condoned[12]. The faster the Soviet Forces can advance into NATO territory, therefore, the more likely is a rapid political collapse and the less likely is the escalation to nuclear war. Even if nuclear release *is* given to NATO troops at an early stage, a rapid Soviet advance will bring Soviet forces into the heart of Western Europe and into close proximity with NATO forces or centres of population, thus making the effective use of nuclear weapons much more difficult.

Aims and requirements set out

It is in the light of this concept that Colonel (now Major General) Lobachev, commander of the Taman Guards Motor Rifle Division[13], penned his article "High Speed of Advance is an Indispensible Condition of Victory" for the February 1977 issue of "Voenniy Vestnik".

The pace of the advance, said Lobachev, is crucial; and raising the tempo of an offensive is the critical problem facing today's commander. The higher the speed of advance, the more the enemy is thrown off balance, losing his freedom of manoeuvre and his ability to deploy his troops and weapons, especially NBC weapons, to good effect. The faster the advance, the lower the daily casualty rate and the lower the daily consumption of fuel and supplies. The aim of a breakthrough into the enemy rear is to achieve the main object of an offensive—the complete rout of the enemy and his rapid political collapse. Lobachev drew an example from World War 2 to support his contention (which every subsequent contributor to the debate has upheld without question), mentioning massive concentration and the achievement of overwhelming superiority on narrow sectors as being one of the best means of achieving a rapid rate of advance at that time. He also mentioned the importance of good reconnaissance; of effective artillery suppression; of the use of large numbers of tanks in direct support of infantry; of the timely deployment of second-echelon formations; of the use of predominantly tank forces to exploit breaches in the defense; and of the prompt and adequate supply of fuel and ammunition, as being important factors in ensuring the success of such a rapid advance. It later became clear that these examples were chosen because of their special relevance to warfare in the 1970s.

Lobachev went on to stress the suitability and adequacy of modern forces to fight such warfare; but he declared that without good control, the best superiority can be wasted. Secondly, he stressed the importance of good intelligence, of close cooperation of all arms, and of quick and effective manoeuvre. Thirdly, he stressed the need for the effective suppression of defenders' weapons, especially anti-tank weapons, and for the destruction of attacking enemy aircraft, without which suppression, he said, "the high-speed offensive is unthinkable." Significantly, he considered nuclear weapons to be the best means of accomplishing this suppression. Fourthly, he stressed that decisiveness and initiative are needed by all commanders, to enable them to react to the rapidly changing battle situation. And finally, Lobachev underlined the need for good political preparation of personnel, to inspire in them the desire to learn and the will to fight.

The problem having been laid bare in the by now usual fashion, contributors weighed in at a brisk pace, either to expand on points raised by Lobachev or to air their own foremost worries or pet ideas.

In the discussion of control, one of the points of interest noted by this commentator was the increasing tendency for battalions—even those in fully equipped formations—to be commanded by captains, with a senior lieutenant as Chief of Staff. It would be interesting to know whether the youth of these battalion officers can explain the low level of staff skills that was the cause of so much bitterness in the troops.

The artillery's role

One of the main points raised by a number of contributors was the need to suppress a large percentage (from 40% to over 60% was suggested) of the enemy's weapons (especially anti-tank weapons) before the attack could expect to succeed. An attacking Soviet reinforced battalion group, the contributors maintained, would be likely to face a NATO defense of up to 18 ATGM, 25 guns or mortars, plus tanks, radars, etc. To effect the sure destruction of 50% of this before the attack can expect to succeed will require a lot of effort. A modern NATO defense, said one contributor, has indeed 10 times as many effective anti-tank weapons than had the Wehrmacht in 1944-45; and whereas, during World War 2, it took between 2 and 3 minutes (i.e. 8-10 aimed shots on average) to destroy one attacking tank, nowadays 30 seconds will suffice, and the second shot is usually enough. An anti-tank guided missile system is considered by the Russians to be just as effective an anti-tank weapon as another tank.

Nor can artillery be expected to accomplish the task of suppression alone. A large percentage of the space allotted to the debate was given over to a discussion as to why artillery could not easily ensure the complete suppression of the defense, and how things might be improved. The artillery's admission of inadequacy in this respect was unusually frank, and probably hides considerable inter-arm bickering.

One of the main causes of all these problems is the increasing speed of the battle. Even assuming that the guns accompanying the tank and BMP units deploy quickly and fire on target at the right time (which is itself not easy to ensure), the time taken for the BMPs to move forward and advance to within 400 m of the enemy defenses is so short that there is not enough time to get off sufficient shells to ensure that the defense is effectively neutralized[15]. Secondly, if a bombardment lasts for 10 minutes or so, enemy CB fire will put the Soviet gunners at great risk. Some contributors favoured a shorter, heavier artillery bombardment to compensate for this, doubling the normal rate of fire. Others suggested a manoeuvre of batteries, and yet others that a more extensive use of mortars might be the answer. A great deal of practical advice on patterns of fire to adopt for maximum effect was suggested by Artillery Maj. Gen. Biryukov, Professor and Doctor of Sciences, in "Voenniy Vestnik" of May 1977. All contributors were agreed on the need to exploit fire very quickly indeed (2 minutes delay was considered the maximum permissible) and increasing reference to rapid exploitation of nuclear strikes was a noticeable feature of many articles. Some suggestions were made as to how, by more effective prediction and correction, accuracy could be improved to the theoretical ideal of 1% of the range.

The artillery "debate within a debate", which had become extremely intense and technical, was curtailed by a most competent and thorough article by Marshal Peredelskiy, C-in-C Rocket Troops and Artillery, in the June 1977 of "Voenniy Vestnik". He identified and defined the 3 classic phases of artillery assistance to the attack and detailed the special problems that had to be solved for each phase.

[redacted]

- *Preparation* (Podgotovka) is artillery (and mortar) fire delivered during the move up, but before the troops deploy for the attack. Its aim is to destroy enemy nuclear delivery means and artillery (including anti-tank), CPs, radar and communications, manpower and other weapons (presumably in that order of priority). Preparation should inflict such losses throughout the entire depth of the defense that the enemy can no longer offer organized resistance to the attacker, and the high speed of offensive is thus ensured. This means, in modern terms, *destroying at least 40% of all enemy resources*. Careful and imaginative choice of fire plans and types of shell, and careful adjustment on to the target, can do a great deal to improve the effectiveness of artillery preparation. The standard drill is for 3 heavy bursts of aimed fire or successive concentrations of fire to be laid on strong-point targets over a short period. The final bombardment should last long enough to cover the attackers' progress from the time they come within effective range of enemy anti-tank weapons to the time they deploy to attack (normally about 4-6 minutes for BMP units).

- *Support* (Podderzhka) is the term given to artillery fire which takes place during the assault, with the aim of assisting the troops to deploy without interference and effect the successful breakthrough of the enemy defense. Support, therefore, involves firing on targets offering resistance to the attackers, and moving the points of aim ahead of the attacking troops. There are two critical points, the first of which is the changeover from Preparation to Support. If it is discernable, it will warn the enemy of the imminence of the assault. The second critical point is the moving of fire to targets in the depths of the defense ahead of the troops. Close and strict cooperation is essential if the support is to be effective, and not a danger to one's own troops. During actual battle, tanks should approach to within 200 m of shell burst, BMPs to 300, and infantry on foot to 400 m, before the bombardment lifts.

- *Accompaniment* (Soprovozhdenie) is the third phase, when individual guns or artillery units follow closely behind tanks and infantry into the depths of the enemy position in order to render effective support. This is a task eminently suited to the new 122 mm and 152 mm SP guns but by no means denied to towed pieces. The tasks in this phase are to assist the attackers to capture or destroy enemy positions, to help beat off counter-attacks, and to seek and destroy any targets of opportunity, usually by means of direct fire.

Authoritative though Peredelskiy's article may have been, it clearly was not heeded by as many Soviet gunners as it should have been, because it was considered necessary to restate the definitions at a high-level artillery conference held in the Frunze Military Academy and reported in April 1978 in "Voenniy Vestnik". The aim of this conference was to seek ways of developing artillery theory so as to improve the Soviet gunners' ability to deliver effective fire on the enemy continuously and reliably. One of the principal speakers at the conference was Col. V. Ivanov, the contributor to earlier debates

mentioned above. He has emerged as one of the most authoritarian Soviet artillery tacticians of recent years. From Ivanov's report on the conference, it is clear that Soviet gunners are still not satisfied with their performance, and are still a long way from completing their thorough revision of Soviet artillery practice. We must expect further discussion on this point, with particular reference to the employment of self-propelled artillery.

Other contributions

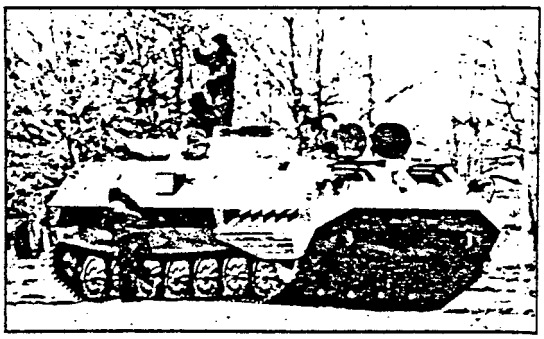
To return to the debate on the high-speed offensive, more than one contributor mentioned the value of manoeuvre, so as to bypass strong-points and attack the enemy's flank and rear. Strong-points thus bypassed were to be reduced by subsequent echelons. Frontal attack was to be considered as a last resort. However, whilst many contributors admitted the truth and value of this ideal, few paid serious attention to the means of implementing it. In the "Manyovr, Ogon', Udar" trinity (manoeuvre, fire, shock action), which is often quoted as summing up the essence of Soviet tactics, "Manoeuvre" is definitely the junior partner.

Deception and surprise were other favourite solutions to the problem of finding some way of guaranteeing a high rate of advance. Smoke was a favoured tactic, laid either by armoured vehicles, artillery or engineers and chemical troops. The advantage of reducing visibility, and hence reducing the effectiveness of the enemy's long-range ATGMs and tank guns, was obvious to everybody, although engineers warned that it might give cover to the enemy to enable him to retire, leaving minefields behind.

Comparatively little space was given to a study of engineer support to the advance, and the sapper colonel who did contribute spent a large portion of his allotted space in describing the horrors of NATO's offensive mine warfare capability, and the havoc that this could wreak on an attacker who was not provided with copious quantities of engineers possessing masses of the most up-to-date equipment. He did devote some space to a rather unconvincing description of how his men actually proposed to clear mines and speed up the rate of advance.

Late contributions to the debate were: a suggestion (by a tank man) that putting a few infantrymen on to each tank to suppress the defenders' close-range anti-tank weapons was a good idea; and a plea not to forget the dangers of enemy anti-tank helicopters. In this latter contribution, the author identified the main problem in anti-helicopter defense as being fire control. The observed tendency is apparently for every anti-aircraft gunner, infantryman and SA-7 operator to fire *ad lib* at even a single helicopter, with a consequent massive (and irreplaceable) waste of ammunition.

The debate was rounded off with an article by Colonel General Salmanov, Deputy C-in-C of the Ground Forces and Chief of Combat Training. He reiterated Lobachev's assertions, and expressed his approval that the debate had stimulated so much frank discussion and exchange of ideas. He was particularly pleased that the debate had sparked off officers' conference and practical exercises to examine the topic further, the commanders and staff of the Rogachev Guards Motor Rifle Division[16] being especially commended for their performance in this respect.



► Soviet regimental commanders traditionally command from dug-in forward observation posts, together with the commander of their subordinate artillery battery. This photo, published here for the first time, shows the new ACRV-2 mobile command post/observation post, which provides the regimental and battery commanders with the armour protection and mobility necessary to keep up with a high-speed offensive. Note numerous observation periscopes on unarmed turret, and what appears to be a housing for an electro-optical device on turret right side.

Salmanov was particularly concerned with the performance of battalion commanders and staff. "It is on their high ability that the successful implementation of the senior commander's intention depends to a considerable extent," he said; and he recommended strict attention to the training of personnel in efficient battle and control procedures and in the best use of available equipment. He was particularly keen to press home the point that there would be less and less time available for the solution of ever complex problems as the rate of the offensive mounted.

Salmanov's main criticisms were directed at encouraging officers to devote attention to topics which he considered had been neglected. Manoeuvre of fire was one; the study of deception and of enemy tactics was another, particularly in respect of interpreting enemy actions and predicting his next moves. Most important of all, he said, there had been far too little attention paid to morale and the importance of party work. It was essential in all war, and especially in nuclear war, Salmanov stressed, to inculcate a moral and aggressive enthusiasm in the men. A great deal of psychological preparation was needed to give the men faith in their own ability and in the performance of their weapons and equipment (and much of the preceding debate had done the opposite of this). Much more danger and realism should be injected into training to prepare the men for the actualities of the battlefield. "Frequently in the last war [WW2]," the General said, "an attack halted because at the crucial moment of the battle, attempts to overcome fear amongst the men failed." A strikingly frank and sobering comment with which to round off a debate!

Some conclusions and comments

Echoes of the debates listed above found their way into the pages of "Red Star" and the Soviet Journal of Military History. Particularly relevant was the article by Army General Radzievskiiy (then Commandant of the Frunze Military Academy) on ways to ensure troop viability in offensive operations, based on his study of World War 2 operations[17]. On the whole, the debates were remarkable for the frankness with which problems and failures were discussed, and they were marked by a distinct lack of ideological claptrap. One of their most impressive features is the evidence they present that the Soviet officer corps is taking the identification and solution of its tactical problems very seriously indeed. The debates constitute a continual attempt to refine and perfect a constantly evolving tactical doctrine so as to provide the best instructional framework for the training and operation of the Soviet Army. It can be seen from the tone of many of the articles appearing in the debates that, whilst the natural Soviet tendency to enforce the application of the "book answer" is very strong indeed, it is by no means in all cases overpowering; and, moreover, interpretation of what the "book answer" really is differs widely from unit to unit or college to college, often affected by the whim of the unit or college commander. Consequently, it would be as unwise to assume that any final authoritative solution to a tactical problem will unquestioningly or unerringly be applied at all times and on every relevant occasion, as it would be to assume that because a sub-unit officer may lack competence or initiative, a divisional or unit commander will likewise demonstrate such faults.

Another point which struck the present writer forcibly was that, after a full seven years during which the emphasis in tactical discussions has been heavily on conventional operations, a renewed impetus was given in many of the articles during the last debate to the study of the offensive use and effect of tactical nuclear weapons. This may be simply a reassertion of what is considered to be a realistic balance in training, in view of the ever-present threat of nuclear weapons even in a conventional war. On the other hand it may reflect a determination to use nuclear weapons if necessary, and a belief that their use could be restricted to the battlefield (i.e. that the war may not necessarily escalate to a use of strategic nuclear weapons). The acquiring of new, highly accurate, nuclear artillery by the Soviet army, and the determination with which Soviet politicians are attempting to prevent the neutron warhead and nuclear-armed versions of the cruise missile from falling into European hands might be taken as supporting this point of view.

From the very serious attention given to NATO defense, and the great strength imputed to it, it is certain that in future wars in which nuclear weapons are not used, far less formidable defensive positions than were necessary in WW2 will be sufficient to compel the Soviet Ground Forces to engage in a massive concentration of effort in order to maintain the tempo of their offensive, and hence win the war very quickly. Put another way, this Soviet realization of the potential strength of a modern prepared defense may make pre-emptive surprise attack ever more attractive to every Soviet soldier, from corporal to Commander-in-Chief. To quote the most common "cry" voiced by contributors to the last debate, "you forestall — you win all!"