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INFANTRY ATTACKS: OPERATING PRINCIPLES
FOR THE OFFENSIVE EMPLOYMENT OF
MODERN LIGHT INFANTRY UNITS

A Monograph
by
Major Danny M. Davis
Infantry



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School of Advanced Military Studies
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Fort Leavenworth, Kansas

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TRIGGERED BY HIS THOUGHTS. FROM THESE THEORETICAL WRITINGS, FURTHER OPERATING PRINCIPLES FOR THE USE OF LIGHT INFANTRY ARE GLEANED. NEXT, THE CONTEMPORARY THREAT IS BRIEFLY DISCUSSED AS IT IS RELEVANT TO THE USE OF LIGHT INFANTRY FORCES, AND THE CONTEMPORARY REALITY IS DISCUSSED IN TERMS OF THE FINDINGS AT THE NATIONAL TRAINING CENTER. NEXT, THE PAPER DERIVES SOME OPERATING PRINCIPLES FOR THE USE OF LIGHT INFANTRY IN A CONTEMPORARY SETTING, THAT COME FROM THE EXPERIENCE OF HISTORY, THE DEDUCTIONS OF THEORY, AND THE TESTING, AT THE NATIONAL TRAINING CENTER. THE CONCLUSION IS THAT THE LIGHT INFANTRY FORCE CAN BE VERY USEFUL ON THE MODERN BATTLEFIELD, BUT IT CANNOT OPERATE AGAINST AN ARMOR THREAT ALONE, NOR CAN IT BE THE ARM OF DECISION WHEN OPERATING AGAINST SUCH A THREAT. HOWEVER, WHEN PROPERLY USED, LIGHT INFANTRY FORCES CAN BE USED TO SET THE CONDITIONS IN WHICH A DECISION CAN BE REACHED BY A MOBILE ARMORED FORCE. FIVE OPERATING PRINCIPLES THAT EMERGE FROM THE ANALYSIS ARE: (1) THE PROTECTION OF THE LIGHT INFANTRY FORCE SHOULD BE ACHIEVED BY A BALANCE OF ACTIVE AND PASSIVE MEANS WITH AN EMPHASIS ON THE LATTER; (2) FIREPOWER SHOULD BE DEVELOPED WITH A BALANCE BETWEEN DESTRUCTIVE FIRES AND DISORGANIZING FIRES WITH AN EMPHASIS ON THE LATTER; (3) LIGHT FORCES SHOULD CAPITALIZE ON THEIR "LOCOMOBILITY" TO ACHIEVE THE REQUIRED ABILITY TO MANEUVER; (4) COMMAND AND CONTROL REQUIRES A BALANCE BETWEEN DECENTRALIZED EXECUTION, AND CONTROL AND DISCIPLINE; AND (5) LIGHT FORCES SHOULD BE LOGISTICAL IMPROVISERS. ADDITIONALLY, THE PAPER BRIEFLY EXAMINES THE IMPLICATIONS FOR EQUIPPING AND TRAINING THE TOTAL FORCE WHEN LIGHT INFANTRY IS USED IN THIS WAY.



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ABSTRACT

INFANTRY ATTACKS: OPERATING PRINCIPLES FOR THE OFFENSIVE EMPLOYMENT OF MODERN LIGHT INFANTRY UNITS, by MAJ Danny M. Davis, USA, 40 pages.

The purpose of this paper is to answer two questions. The first question is: Is it feasible to employ light infantry formations in offensive operations to the tactical depths of the battlefield in a mid-intensity environment? If it is feasible, what are the operating principles that should guide the use of light infantry forces in these operations? To examine these questions, the paper begins with some definitions to provide a common frame of reference. The use of infiltration tactics by the Germans during the offensives of 1918 in World War I is examined for germs of operating principles that may apply generally to the offensive use of light infantry. Next, the theory of the use of light infantry in offensive operations is examined with a focus on the early writings of Liddell Hart and writings triggered by his thoughts. From these theoretical writings, further operating principles for the use of light infantry are gleaned. Next, the contemporary threat is briefly discussed as it is relevant to the use of light infantry forces, and the contemporary reality is discussed in terms of the findings at the National Training Center. Next, the paper derives some operating principles for the use of light infantry in a contemporary setting that come from the experience of history, the deductions of theory, and the testing at the National Training Center. The conclusion is that the light infantry force can be very useful on the modern battlefield, but it cannot operate against an armored threat alone, nor can it be the arm of decision when operating against such a threat. However, when properly used, light infantry forces can be used to set the conditions in which a decision can be reached by a mobile armored force. Five operating principles that emerge from the analysis are: (1) the protection of the light infantry force should be achieved by a balance of active and passive means with an emphasis on the latter; (2) firepower should be developed with a balance between destructive fires and disorganizing fires with an emphasis on the latter; (3) light forces should capitalize on their "locomobility" to achieve the required ability to maneuver; (4) command and control requires a balance between decentralized execution, and control and discipline; and (5) light forces should be logistical improvisers. Additionally, the paper briefly examines the implications for equipping and training the total force when light infantry is used in this way.

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SECTION I: INTRODUCTION TO THE USES OF LIGHT INFANTRY

In 1983 the U.S. Army decided to field five new light infantry divisions. This decision was made in order to meet three goals. First, Army planners wanted to be able to deploy a division-sized unit anywhere in the world at a moment's notice. This meant a strategic deployment capability constrained by airframe capacity, and number of sorties. This in turn meant a "light" force. Hence, the birth of the light infantry division concept occurred.

Second, the concept of a light infantry division conformed with the strategic goal of deterring aggression world-wide. It made sense that a light infantry force of sufficient size that was actually capable of deploying anywhere in the world on very short notice would more credibly deter aggression across the spectrum of conflict and particularly in the area of "operations short of war" and "low-intensity conflict."

Third, it made sense that some residual deterrent effect vis a vis the Soviet Union might accrue from the fact that a greater number of divisional flags were in existence. This would increase our actual capability and our adversary's perception of our capability. As can be seen, the concept of creating new light infantry divisions appeared to be a good idea indeed.

Since the inception of the new light infantry division concept and its subsequent execution, new doubts have arisen as to the utility of the light division. Critics have generally focused on its "lightness." They argue that light divisions simply do not have enough weapon systems with enough range or enough lethality or sufficient means of mobility to defeat a standard Soviet-style armored force. They further argue that they cannot sustain themselves.

Against these rather daunting arguments, advocates argue that light forces were never intended to fight Soviet-style armored forces. They were in fact designed and advertised as a force for the "low-intensity" threat.

But while this is true, the advocates of light infantry forces still have to answer to further arguments. First, many so-called "low-intensity" threats have modern air-defense, artillery, armored, and air systems with which a light force will be forced to contend. Second, economic constraints prohibit the Army from designing forces of divisional size that can only be used in very narrow circumstances.

For the light infantry concept to be valid under the umbrella of the Army's AirLand Battle Doctrine, it has to be shown that the division is capable of being used in an offensive role in at least a low- and a mid-

intensity environment against some credible level of threat. If in fact light infantry forces can be used in a mid-intensity environment, the question then becomes what are the operating principles that should guide their employment in offensive operations? To examine this question, first it will be useful to see if light infantry has been used in the past in offensive operations with success. Second, it will be necessary to examine what military theory has to say about the use of light infantry in offensive operations. Third, it will be required to look at contemporary reality to see if the use of light infantry in offensive operations is still viable. Fourth, it will be useful to draw some tentative conclusions about operating principles and some techniques of employment that can be used successfully on a modern battlefield. Finally, it will be necessary to draw implications from these conclusions for the future use of light infantry in a mid-intensity environment. In order to begin this examination, some definitions are in order.

SECTION II: DEFINITIONS OF TERMS

To determine whether light forces are in fact useful in executing AirLand Battle, one has to first determine if it is feasible to use light infantry forces to execute offensive missions to the tactical

depth of an enemy force in a mid-intensity environment. Then one has to establish what the operating principles should be to guide the use of light infantry forces.

To examine the feasibility issue requires several definitions. First, "feasible" is defined by the Oxford English Dictionary as describing that which is "practicable, that can be done; possible."

From this definition, it follows that the next questions are: what is to be done, and under what conditions is it to be done? The answer to the first question, "what is to be done?" is offensive operations to tactical depths. Doctrine categorizes offensive missions in terms of movement-to-contact, hasty attack, deliberate attack, exploitation, and pursuit.¹ Doctrine also delineates offensive forms of maneuver which include: "envelopment, the turning movement, infiltration, penetration, and frontal attack."² Further, smaller sized units conduct patrolling at the tactical level which can be subdivided into three categories: the raid, the ambush, and the reconnaissance patrol.³ Can these patrolling tasks be classified as offensive?

FM 100-5 states that offensive operations are conducted to "defeat enemy forces..., deprive the enemy of resources, gain information, deceive and divert the enemy, hold the enemy in position, [and to] disrupt an

enemy attack."⁴ Raids, ambushes, and reconnaissance patrols fall into at least one or more of these categories.

What is tactical depth? As with most things tactical, writers argue that " it depends on the situation." For purposes of this paper, we shall assume that the worst case for a light infantry force would be against a Soviet-style force in a developed theater during a declared war. In this case, tactical operations would be conducted by corps and smaller units. Generally, a corps would conduct offensive operations against a division-equivalent sized force. Soviet-style divisions defend "15 to 20 kilometers in depth."⁵ Since light divisions might be required to conduct operations for a corps, the deepest any tactical sized unit of a light force might be called on to go in an offensive operation would be 20 kilometers. It can be argued convincingly that one cannot attach a definite distance to the tactical depth, and that the enemy will more than likely defend in belts so that the depth issue will depend on the terrain, mission, and forces available to the enemy. However, to establish a baseline for the space aspect of the feasibility question, one must consider a depth of some distance. Given Soviet doctrine, it is fair to take that distance as 20 kilometers, as long as one bears in mind that

this distance will in fact vary.

Having addressed the space dimension of the tactical depth issue, what about the time dimension? A corps is expected to plan from 72 to 96 hours in advance. And, according to COL(P) Huba Wass De Czege, a well-trained light infantry unit should be able to move "15 kilometers in one night..."⁶ Even limiting the movement of the light force to the nighttime for protection of the force, this means that a light infantry unit could still move from 45 to 60 kilometers on foot within a corps' planning cycle. This easily reaches the datum of 20 kilometers established for the tactical depths of a Soviet-style force in the defense.

The next definition we need is one for the phrase "light infantry." Wass de Czege proposes three kinds of infantry which he calls armored infantry, regular infantry, and light infantry. He calls the armored infantry the "in-house" infantry that is used to support the advance of the tanks in the attack. Regular infantry is designed to hold ground, to take fortifications, or to clear infantry-defended positions. Light infantry fights mobile tactical engagements on foot in difficult terrain, and it is not burdened with the amount of equipment that both the armored and the regular infantry units have.⁷ Note

that this conception of light infantry forces includes airborne and airmobile forces.

The next definition we need is one for mid-intensity conflict. To understand mid-intensity conflict, one must understand what it is not. The draft FM 100-20 defines low-intensity conflict as a "political-military confrontation between contending states or groups below conventional war and above the routine, peaceful competition among states."⁸ At the other extreme, high-intensity conflict is generally understood to be nuclear. So mid-intensity must fall in between. It is non-nuclear. It may include the use of chemicals. Further, it involves the conflict of at least two conventional forces. For example, the Viet Nam Conflict would be considered a mid-intensity conflict when the bulk of the combat action involved two opposing conventional forces.

So a brief recapitulation is in order. The question of whether it is feasible to use light infantry forces in offensive operations to the tactical depth of an enemy being fought in a mid-intensity environment breaks out as follows. Is it possible for a light infantry force to conduct offensive operations as defined in FM 100-5 and other field manuals to a depth up to 20 kilometers in a war involving the conflict of at least two opposing

conventional forces? Based on time distance calculations alone, the answer seems to be "yes." A more detailed examination of the feasibility question in a contemporary setting will be found in Section V.

SECTION III: LIGHT INFANTRY REGAINS THE INITIATIVE ON THE WESTERN FRONT IN 1918

The historical feasibility of the use light infantry forces in combat can be assessed if one example of the use of light infantry forces to go to tactical depths in offensive operations can be found in an historically relevant case. Such a case would be a use of light forces for such purposes in a mid-intensity environment in a twentieth century conflict using relatively modern technology. Such a case can be found in World War I.

On 21 March 1918, a major German offensive began in France that was to send shock waves through the Allied High Command. Using "infiltration tactics," infantry units in close cooperation with field artillery fires advanced to tactical depths of allied formations, while they bypassed pockets of enemy resistance to be isolated and reduced by follow-on units in the depths of the attack formation. This attack achieved tactical success. The German attack secured 140 square miles of Allied territory in 24 hours at a cost of one tenth the casualties suffered by

the Allies to capture 98 square miles in 140 days during the battles of the Somme in 1916.⁹ Thus, not only was it theoretically possible to use light infantry forces to attack to tactical depths in a mid-intensity environment, it was shown historically to be practically feasible as well.

Having demonstrated feasibility, the next task is to glean from this historical example some operating principles that governed the use of light infantry forces in offensive operations to tactical depths in a mid-intensity environment.

The modern conception for using light infantry forces for offensive operations in the tactical depth of the battle began on 21 March 1918 when the German Army launched its Spring Offensive. The idea started ironically with a French soldier, Captain Andre Laffargue. After witnessing the carnage of trench warfare in 1915, he wrote a pamphlet called "The Attack in Trench Warfare." In that treatise, he proposed to break the stalemate on the Western Front by a sudden violent attack in depth to take "gulps" out of enemy territory rather than "nibbling" at their front. In his scheme, a short, violent, concentrated artillery barrage fired on targets in depth was to be followed immediately by an assault force of well-trained infantry which would attack as deeply as possible while

being supported by artillery firing on enemy artillery positions.¹⁰ The Allies ignored his pamphlet, but the Germans captured it, absorbed its lessons, and reshaped his tactical admonitions into their vaunted "infiltration tactics" that so stunned the Allies on that March day in 1918.

According to Timothy Lupfer, the German doctrine of "infiltration tactics" added some twists to Laffargue's prescriptions in the form of organization for combat, combined arms, and technique. The Germans based their tactics on the "gruppe" (similar to a squad) which had a light machine-gun and riflemen. So even at the lowest level, their organization organically allowed for fire and movement. Being able to perform both of these functions in coordination with each other implied the ability to maneuver.

Their second innovation was to tighten the cooperation between the infantry assault units and the artillery. This was accomplished in part by increasing the ability of the artillery to fire accurately with its first rounds in order to increase surprise on the initial intense artillery concentration. Further, they trained the artillery to follow the advancing infantry with a "creeping barrage" to provide continuous artillery support during the attack.

Third, the Germans organized the assault infantry formations in depth. The idea was for the lead units to find, isolate, and bypass enemy pockets, and to continue the momentum of the attack. The follow-on units were designed to "mop up" the bypassed pockets of enemy resistance and to reinforce the success of the lead units. The principle was to attack weakness with strength. Hence the tactics were also known as "soft-spot tactics." As Lupfer points out, the goal was to maintain a constant drive forward toward the objective of the strategic penetration.¹¹

These innovations imply some germs of operating principles for the use of light infantry in offensive operations to the tactical depths in a mid-intensity environment. In the category of firepower, the German experience pointed out four things. First, the success of the initial penetrations depended on an artillery preparation which had been short, violent, and targeted throughout the depth of the initial attack zone. This intense initial fire preparation disrupted enemy command and control functions.

Second, the violence of the initial, intense artillery barrage was unlike the long artillery preparations that had become customary before major attacks in previous battles on the Western Front. As a result, the shock of that initial barrage and the fact

that the attack followed so closely on the heels of that initial barrage caused the enemy to be surprised and to relinquish the initiative, at least initially.

Third, the accuracy of the artillery fire was something that had not been achieved by either side prior to that battle in the war. This contributed to the surprise and the shock of the preparation, and the initial success of the penetrations by the infantry formations.

Fourth, the artillery formations had trained to displace forward with the infantry formations in order to provide continuous fire support. This "creeping barrage" was designed to multiply the effects of the infantrymen's weapons throughout the attack to the tactical depths of the enemy's formations.

These points reinforced the need for close cooperation between the infantry and the artillery. The operating principle involved is the principle of combining the use of arms, as illustrated by the coordinated use of artillery with the infantry to achieve concentration of fires, continuous fire support, and surprise. This use of arms in close combination was achieved by detailed planning and preparation, and through careful synchronization of effort.

In the category of maneuver, the German offensive

pointed to the principle of "bypass and advance" and the principle of hitting weak spots in the enemy line. The success of the initial German attacks was due in large part to the fact that the infantry bypassed pockets of enemy resistance and focused on maintaining the forward momentum of the attack while leaving those pockets of resistance to be "mopped up" by follow-on formations or to be targeted by artillery fire.

In the category of protection, the German offensive pointed to the principle of dispersion. The primary German formation was the "gruppe." These small units presented small targets; hence, they achieved some passive protection from the artillery and machine gun fire of the enemy. These small units operated on such a wide front that they often overwhelmed the enemy before they could acquire and hit them with artillery fire. Further, the formations were organized in depth so that successful penetrations could be exploited, which suggests the principle of "reinforcing success not failure."

In the category of leadership, the new infiltration tactics suggested the need for a great deal of training at the individual and small-unit level. As Ludendorff describes in his memoirs, the Germans did exactly this during wartime. The doctrine was published in January 1918, and experienced storm-

trooper units began the job of training units rotated off of the line that same month.¹² Further, the plethora of small units operating on a battlefield that had been made newly fluid implied the need for resourceful, aggressive leaders even at the level of the "gruppe."

Despite the tactical successes of the German offensives of 1918, none achieved operational or strategic success. Lupfer offers three reasons for this. First, transportation was inadequate to the task. Artillery units found that they could not keep up with the advancing infantry formations to provide continuously that critical "creeping barrage." Ammunition and other logistical support could not keep up with the advance. Further, the reserve formations could not be shifted or moved up fast enough to maintain the momentum of the attack.¹³ This suggests the principle that combat support, critical combat service support, and the reserve must be sufficiently mobile to exploit the success of the infantry advance.

Second, the attacks bogged down because the soldiers began looting.¹⁴ This suggests the principle that infiltration tactics require a highly disciplined as well as a highly trained soldier.

Third, the attacks bogged down because the leaders lacked the requisite drive and initiative.¹⁵ This

suggests the principle that the use of infiltration tactics requires training leaders to give orders that allow flexibility in their execution, and to give those orders in a command climate that encourages decision-making and risk-taking by subordinate leaders.

After the war, the historical experience caused numerous writers to theorize on the conduct of war. Let us turn, therefore, to that theory to see what insights it offers into proper principles for the employment of infantry formations to the tactical depths of the battlefield in a mid-intensity environment.

SECTION IV: THE THEORETICAL UNDERPINNINGS OF THE LIGHT INFANTRY CONCEPT

After the war, Captain Basil Henry Liddell Hart began to write prolifically about the use of infantry and the possibility of its use for offensive operations to the tactical depths of the battle area in order to restore some degree of dynamism to battle and to reduce the carnage of static war. He learned from the recent use of "infiltration tactics" by the German Army and refined these ideas into what became known as the "expanding torrent."

Liddell Hart began to develop his theory with an analogy to personal combat (much like Clausewitz's analogy to a duel or a wrestling match) that he

claimed should be the soldier's "pillar of fire by night." That conception was Liddell Hart's "man-in-the-dark theory."¹⁶ Here, Liddell Hart likened combat to two men fighting in a darkened room. As a result they must grope to find each other while protecting themselves before combat can commence. This exemplified the function of protection. When one man touched the other, he would rapidly feel for his opponent's throat while continuing to protect himself. This exemplified the function of reconnaissance. When he had found the throat, he grasped him by the throat and held him firm. This exemplified the function of fixing. Then the man would strike his opponent with his fist from an unexpected direction. This exemplified the function of decisive maneuver. Then before his opponent could recover, the man would administer the finishing blow. This exemplified the function of exploitation.¹⁷ Liddell Hart's nice additions to Clausewitz's analogy were the addition of darkness to the analogy of two opponents fighting, and the breaking down of that combat into analogous functions which were: finding, fixing, protecting, hitting, and exploiting.

Liddell Hart further simplified these five categories into three classes of combat actions. They were: guarding, hitting, and moving. In his view,

every action in combat was either guarding or hitting. Movement was the link between the two.¹⁸

Now, consider the action of guarding. This consisted in finding, watching, and fixing the enemy. He defined a combat unit as one having enough articulation to maneuver, that is, to fire and to move. This necessitated at least two sub-elements. He assigned the function of finding, watching, and fixing the enemy to the element that he called the "forward body."¹⁹ Further, he felt that the only true objective for that forward body to fix was the enemy force.²⁰ It was key for the forward body to maintain "direction," not "alignment."²¹ In other words, the concept was offensive and dynamic, the focus was forward and deep, and the thinking was non-linear and flexible. As Liddell Hart so aptly put it, the function of the forward unit was to create a "mosaic of opportunities."²²

The other major action was that of hitting. This was the offensive action that would destroy the enemy. It was essential in Liddell Hart's scheme to strike the enemy from two directions concurrently. By so doing, the enemy could be overwhelmed as long it was within the capability of the combat unit to do so. More importantly, it would be able to do so efficiently, in keeping with Liddell Hart's emphasis on economy of

force.²³ The primary characteristics of hitting are movement to a flank, concealment, concentration, cooperation, surprise, and exploitation.²⁴ The movement is what links hitting and fixing. Further Liddell Hart emphasized the function of cooperation between the fixing element and the hitting element to maximize the synergism of their concurrent action.

Of course all this sounds very familiar. It sounds a lot like fire and movement. Miksche talks of the functions of fire, movement, and signalling. He defines fire as the "physical and the psychological effect of weapons."²⁵ Further, he defines movement as the "change in the position of the weapons producing fire and of the crews serving them...as well as the displacement of the material required for their functioning..."²⁶ Fire was primarily static, and defensive. Movement was primarily dynamic, and offensive. The relative balance between the two was determined by technology. Finally the efficiency with which fire and movement were combined depended on "signalling," that is, command and control. This is essentially the modern conception of tactical maneuver.

However, Liddell Hart's triad of guard, hit, and move under the umbrella of cooperation was much more subtle. There were linkages between the functions of guarding and hitting that prevented characterization

either as strictly offensive or defensive, or strictly fire or movement. For in Liddell Hart's triad, fire and movement were inherent in both the guarding and the hitting function. For example, the function of the forward body was to guard, that is, to seek, find, and fix. But, Liddell Hart said that a unit cannot fix by fire alone. The unit must continue to press forward if it is seriously to fix and distract an enemy.²⁷ Therefore, a fixing force must both fire and move.

Similarly, the "maneuver body" (also called the "reserve" by Liddell Hart) was designated by Liddell Hart to perform the hitting function. It had to move to a flank, but it had to fire as well. The ideal was to have a combat unit capable of firing and moving on an enemy in two directions concurrently to overwhelm the enemy quickly and maintain the focus on the primary direction of the attack. It is true the hitting function was primarily one of movement, while the guarding function was primarily one of firing. However, neither was exclusively firing or movement. In fact, movement was the crucial link between guarding and hitting. In many ways this is a much more satisfactory construct than our current understanding of fire and movement.

The crucial factor that assured the synergism of guarding, hitting, and moving simultaneously, was

cooperation. This cooperation had to exist between the sub-elements of the combat unit doing the guarding and the hitting, and between combat units advancing across a front.²⁸ This is an interesting insight, in that communication and liaison between separate combat units separated by lateral boundaries is often poorly done or neglected altogether. It is a worthwhile reminder that the options open to a combat unit in a fight may depend as much on what is going on with the combat unit to its flank as they do on the situation to its front.

So to summarize what Liddell Hart's and Miksche's analyses stated, a combat unit is a unit with some independence that is equipped and manned to guard, hit, and move under the umbrella of cooperation, both within its organization, with adjacent organizations, and with its higher headquarters. The approach and the organization are functional and are the building blocks for the tactics of the "expanding torrent."

Liddell Hart's conception of the "expanding torrent" theory was similar to the infiltration tactics that the Germans had developed. However, Liddell Hart's concept went beyond the German infiltration tactics of 1918. He approved of the tactic of infiltration of small units which were to seek out soft spots in the enemy front, bypass enemy strength,

follow the path of least resistance, and maintain a forward momentum. However, Liddell Hart added the requirement of automatic exploitation at all levels. Reserves were to exploit success in order to maintain forward momentum in the direction of the advance.²⁹ This was clearly enemy-oriented, direction-oriented, and depth-oriented. Physical terrain features played little roles as objectives except to the extent they facilitated forward movement, and disruption of the enemy. Further, Liddell Hart favored having two reserves. One was to be committed automatically to exploit a local tactical success. The other was to be held to develop an alternate line if necessary.³⁰

Brian Bond noted that Liddell-Hart's "expanding torrent" theory differed from the German conception in another way. In Liddell Hart's conception, movement along the line of least physical resistance was to be automatic for the individual combat unit commander. The higher commander only controlled the rate and the direction of the movement.³¹

Hence, the key to the "expanding torrent" theory was the automatic nature of reaction and decision-making at very low levels of a combat organization. As Liddell Hart noted, commanders have to expect that "success [will be] uneven, and progress unequal" in the expanding torrent.³² This implies that the commander

has to expect that the battlefield will be non-linear, he will have to rely on the cumulative effects of many local exploitations to maintain forward momentum, and he will have to focus on maintaining the direction and pace of the attack and creating that "mosaic of opportunities" throughout the tactical depth of the battle.

At this point the question arises: what are the operating principles for the use of light infantry implied by the expanding torrent concept? The first principle is that the light infantry force must be protected if it is to survive to complete its mission. The protection that is provided must be a balance between passive and active means, with the scale tipping in favor of passive means due to the load bearing limitations of the individual infantryman. A technique of passive protection is dispersion. A multitude of targets maneuvering like "a dense swarm of wasps"³³ gives its own degree of protection. Another passive technique to protect light infantry is to "teach them to evade bullets."³⁴ This "stalk and skirmish" technique implies patient movement, good use of covered and concealed terrain, avoidance of open terrain and known enemy strengths, and a seeking out of enemy soft spots. This technique will also afford some protection.

Another way to obtain passive protection of a

light force is by choosing when it moves. Moving at night or moving to exploit fog or smoke screens offers some protection. Obviously, if an enemy cannot see the force, it cannot place effective fire on that force.

The second principle for the employment of light infantry is that the firepower that a light infantry uses must be a balance between destructive fire and disorganizing fire, with the balance tipping in favor of disorganizing fire due to the limitations on the load an infantryman can carry and the limited sustainment he can expect to receive. The infantryman should, therefore concentrate on marksmanship not volume of fire. Understanding this principle forces the commander to target the correct enemy force for the light infantry force and to expect the appropriate effect from light infantry fires (disorganization not destruction).

A technique for augmenting the destructive fires of the light infantryman is to combine the effects of arms. The trick is achieving the proper balance for the terrain, the enemy, and the mission. For example, the light infantry may augment its combat power significantly with artillery, when it is within range. As Liddell Hart wrote, "while maneuver is the key to victory, it is maneuver of the units of firepower and not masses of cannonfodder" that matters, so it follows

that infantry units must learn to depend not on "physical weight... but on skillful offensive use in combination of all available weapons..."³⁵

The third principle for the employment of light infantry that is suggested from theory is that the maneuver of a light infantry force is a balance between "locomobility" and speed. Liddell defined the "locomobility" of infantrymen as "their ability to move over every kind of ground and to clear every yard of any locality."³⁶ The techniques for capitalizing on the "locomobility" of the light infantry force include the use of infiltration methods, the proper use of terrain, and the use of "hit and run" tactics performed by what Simpkin called a "quasi-guerilla force."³⁷ By such maneuver, the light infantry would be using offensive action to set the conditions for a decisive blow by a more mobile force.

SECTION V: CONTEMPORARY REALITY AND THE USE OF LIGHT INFANTRY FORCES

Any discussion of the use of light infantry in a contemporary setting must begin with the nature of the threat forces. The light force will very likely have to face a sophisticated threat even if one postulates a third world scenario. As John Adams notes, the North Koreans have 2800 tanks, the Cubans have 540 tanks, the Vietnamese have 2500 tanks, and fully one third of the

Nicaraguan Army is mechanized.³⁸ Further, all these countries are active regionally in the Third World. Perhaps the most active country is Cuba. So for this reason, let's consider a Cuban force as the base threat that we might expect a light infantry force to have to fight.

The Cuban force would be very sophisticated and modern. The Cuban Armed Forces have 15 infantry brigades, some of which are mechanized; they have 3 armored brigades; and they have 8 independent battalions. In terms of weapons systems, Cuba has 800 tanks (some of which are T-72's), 550 Armored Fighting Vehicles, 400 Armored Personnel Carriers, 1200 artillery pieces, 100 self-propelled guns, 50 Surface-to Surface Missiles (FROG-4), and assorted anti-aircraft guns (to include the ZSU 23-4) and Surface-to-Air Missiles (to include the SA-9). Further, the Cubans possess a formidable air threat. They have 103 helicopters, and 302 fixed-wing combat aircraft. However, the Soviets control the strategic airlift.³⁹ So it is evident that Cuba possesses the full range of fairly modern maneuver, fire, air defense, command and control, and close air systems. And at the behest of the Soviets, they have a good ability to deploy that force world-wide.

Consider the deployment posture of the Cuban

forces. According to John H. Williams, the Cubans have 30,000 troops in Angola, with more troops in Ethiopia, Mozambique, Yemen, and Afghanistan, not to mention the advisors that Cuba has in many more places.⁴⁰ In some sense, these forces may be considered "forward-deployed" in areas of the world that the U.S. would be hard-pressed to project a force and sustain it.

Given that light forces could have to operate against a Cuban-type force using Soviet-style tactics, the issue is how would light forces do tactically against such forces? The answer coming from the NTC is that they are doing quite well when used properly, but they are seldom decisive by themselves. The threat seems to require a heavy-light mix. When light forces have worked with heavy forces, they have done quite well in setting the conditions for decision by the mobile armored force. As Hartzog and Howard note, the light infantry can successfully be used in infiltration attacks to disrupt and fix enemy forces to the tactical depths of the battlefield.⁴¹ Further, these light forces perform that function more efficiently and effectively than a mechanized force could. So even in contemporary circumstances, it is both feasible and useful to use light forces against an armored threat.

From these recent experiences, several twists

occur to the old operating principles suggested by Liddell Hart and others. If we focus initially on the first principle of balancing passive and active means of protection, the major new threat that differs from Liddell Hart's time is the air threat. The solution to this is to have air superiority, and in the absence of that, to have superior air defense. First, a passive measure available to the light infantryman for air defense is the dispersion of the force into a myriad of small tactical units that do not present the enemy with a lucrative target. Second, the infantry must move at night⁴² and occupy hide positions in daylight so that ground and air observation by the enemy is not possible. Third, the infantry must take advantage of terrain for cover and concealment.⁴³ These measures must also serve to protect the force from a decidedly more deadly artillery threat too. The main point here is that the infantryman must think in terms of three dimensions when he is planning how to protect his force.

The light infantry may also use active means to protect the force. An example would be the use of STINGER missiles against some air threats. Certainly these weapons are necessary to give the soldiers some means of self defense; however, they must not be used in such quantities that the infantryman loses his

mobility. There always exists this tension between increasing protection (or firepower) and reducing mobility by loading down the infantryman too much.

Let's now consider the second principle for the use of light infantry that requires the balancing of destructive fires with disorganizing fires. The light infantry can now employ artillery and close air support even more so to develop destructive firepower. Because of the advent of wireless communications and close air support since Liddell Hart's time, the contemporary light infantry force seems better able to find targets, develop battlefield intelligence, observe targets, and communicate calls for fires on those targets to both artillery and aerial delivery systems. However, the light infantry can still use its small arms fires to disrupt and disorganize enemy defenses. Further the light infantry can use mines and anti-tank weapons to defeat enemy armored vehicles. However, these weapons should be used for self-protection and for disruptive effects when employed in an ambush net. The temptation to load down the infantryman with weapons in quantities that will allow him to deal with all eventualities must still be avoided. Again the principle is to achieve balance between the need for weapons systems sufficient for the task at hand and the need to keep the individuals load as light as possible.

One technique to alleviate this problem of individual load is to resupply by air at night in order to establish caches in the area behind enemy lines, and to take from those caches only what is needed for the duration of a particular mission.

Other ways are suggested by Downing when he notes that light infantrymen must be "battle scavengers" and expert foragers.⁴⁴ Battle scavenging implies taking and using enemy supplies, ammunition, and weapons. This in turn implies a need for all light infantrymen to train extensively with foreign weapons. Foraging means planning for and coordinating host nation support as an integral part of the operation. Both of these techniques may increase firepower without sapping mobility by overburdening the individual infantryman, and suggest an additional operating principle that requires the light force to practice logistical improvisation.

The final aspect in which contemporary experience casts a new light on the use of light forces is in the realm of leadership. Another operating principle for the employment of light infantry forces is that there must be a balance between decentralization of execution and maintenance of discipline. It is clear that if light forces are to be effective, they must be well-trained and well-led. The basic unit of operation

will have to be the squad. This means that command and control can only be effected by using mission-type orders, and by using what Downing calls "liaison teams."⁴⁵ The idea is to give the subordinate the flexibility to make decisions in the absence of orders, and to have an active way of getting information without relying solely on frequent reports. But the complement to this decentralization is the need for strict discipline. So here too we have a basic tension between the need for flexibility in decision-making and the need for disciplined accomplishment of the intent of a given order. The trick is to get the right balance.

SECTION VI: CONCLUSIONS CONCERNING THE PRINCIPLES FOR EMPLOYMENT OF LIGHT FORCES

Having examined an historical impetus for the revival of the light infantry on the modern battlefield, the theory behind the use of such infantry on the battlefield, and the contemporary reality of the use of such infantry forces, it is possible to synthesize a consolidated set of operating principles for the use of light infantry in the offensive.

First, consider the aspect of protection. Steven Canby suggests that contemporary reality requires dispersion both linearly and in depth in order to afford a light infantry force adequate protection. He

calls this "spatial dispersion."⁴⁶ In addition the imperative for protection requires what Canby calls elusiveness.⁴⁷ This means moving with stealth using stalking techniques, and moving at night. Further, protection of the light infantry force requires what Canby calls ambiguity.⁴⁸ This means presenting the enemy with so many small units operating in so many different directions that the enemy cannot acquire lucrative targets, and their target acquisition system is so saturated that they cannot possibly fire at all of the small targets. Finally, the imperative to protect the light force requires that infantrymen use terrain for cover and concealment.

As can be seen, the issue of protection is primarily dealt with by passive means. However, active means must be available at least for self-defense. Examples would be anti-tank weapons and STINGER air defense missiles. Franz Uhle-Wettler argues that anti-tank systems for self defense must be provided for morale reasons.⁴⁹ It is reasonable that every soldier should be able to do something actively in the face of an armored threat for example. The requirements for these weapons are that they are issued to every soldier, they can be fired anywhere, they must be short-ranged, they must be able to be fired at night, and they must be light-weight.⁵⁰ This illustration

points out the ever-present tension between protection and keeping the individual infantryman's load light. The infantryman must be able to protect himself, but the limiting factor is individual load-bearing capability. The advantages that do accrue from the use of a light infantry force and the load-bearing limitation of light infantrymen cause the trade-off between passive and active protective measures to be in a constant state of tension.

In the category of firepower, the light infantry must rely on artillery, and close air support to mass fires. Further, the light infantry should exploit the disruptive effects of its organic fires and avoid the temptation to carry too heavy loads. The payoff for light infantry comes from accurate marksmanship with organic assets, and timely calls for fire from artillery and close air support assets. This implies the need for redundant and reliable means of communication at all levels of the light infantry organization (down to squad level) so that those fires coming from those fire support means can in fact be massed and synchronized with maneuver.

In the category of maneuver, the operating principles for the use of light infantry forces is that there is a constant balance to be struck between taking advantage of the "locomobility" of the light force and

having to deal with its inherent lack of "speed." Because of their lack of "speed" and shock, light forces should generally be used to set the stage for decision, not to decide the battle by themselves against an armored threat. If the center of gravity of a particular enemy tactical formation located in space and time is, as Clausewitz claimed, the "hub of all power,"⁵¹ then only in special circumstances can the infantry be used directly against that center of gravity because it will rarely possess the firepower, the protection, or the mobility ("speed") to do so successfully.

However, there are a myriad of efficient, economy-of-force-type roles that the infantry force may be called on to perform. It can also attack what Jomini called decisive points (either geographic decisive points or accidental points of maneuver)⁵², which give the formation a marked advantage over an enemy formation. Such decisive points may well be several loci of command and control facilities, logistical facilities, reserves, or artillery parks that lie in the enemy rear area, or particular pieces of terrain.

Attacking these decisive points could be done by setting up an "ambush-raid complex" in the enemy's rear area. In an "ambush-raid complex," small light units would be dispersed throughout the tactical depths of

enemy formations. Their dispersion over wide areas means they would be operating on exterior lines. This means that the light forces operating in the enemy rear areas would create what Mao called a "jig-saw pattern" of force dispositions in the enemy rear areas.⁵³

In an "ambush-raid complex," the key is to heed Liddell Hart's dictum that "true concentration is the fruit of calculated dispersion."⁵⁴ The key to the survival of the light forces is their dispersion; therefore, all maneuver must be characterized by a "dispersion-concentration-dispersion" cycle where the concentration is rapid, violent, and short-lived. Wherever possible, fires should be massed rather than men. Clearly, this "ambush-raid complex" is very non-linear and very fluid. Further this technique illustrates the principle of using light infantry forces to seek disorganization of an enemy defense rather than to seek decision, and illustrates the idea of using light infantry to capitalize on the cumulative effects of many small actions on an enemy force than on mass effects. This takes advantage of the "locomobility" of the light infantry force while minimizing the disadvantages of its lack of "speed" and organic "transportability."

Another technique for taking advantage of the

"locomobility" of the light infantry force is use it to conduct the "infiltration attack." This kind of attack would be characterized by the infiltration of small units designed to find weak spots or "gaps" in the enemy frontlines ("surfaces"); to reconnoiter "lanes" for the subsequent passage of larger heavy forces; to identify, if possible, where exactly the enemy tactical depth ends; to identify, bypass, and only if necessary, reduce obstacles; to locate and watch the enemy tactical reserve formation; to locate and disrupt enemy command and control and logistics operations; and to secure key transportation nodes and bridgeheads to expedite the rapid and "economical" forward movement of heavy forces through the tactical belt into the operational depths. This intense preparation would resemble a passage of lines except that this passage is through the enemy tactical belt. Infiltration would more than likely have to be done on foot to avoid the air defense threat. Synchronization of effort (cooperation of arms) would be a key to the success of this technique and would require good, redundant communications nets. Further, the infiltration attack would require careful planning, deliberate execution, and patient leadership. This technique of the "infiltration attack" is another illustration of a way to take advantage of the "locomobility" of the light

force.

In terms of the category of leadership, light infantry tactics requires highly trained small unit leaders. As Bill Lind writes, the small-unit, infantry commander has to be able to operate on mission-type orders (understand the mission and the intent), has to be able to understand the focus of effort (schwerpunkt), has to be able to find the soft spots in the enemy line (attack the "gaps" between "surfaces"), has to show aggressive initiative, and has to have the moral courage to act in the absence of orders based on his knowledge of all the above-mentioned items.⁵⁵ However, the principle for the use of light infantry forces is the balance between this kind of decentralized execution and the need for disciplined compliance with the intent.

To make decentralization more controlled, infantrymen should be trained in the use of battle drills. Liddell Hart also argued that the small unit leader should learn to focus on the "direction" forward into the tactical depths of the enemy rather being psychologically conditioned to think in terms of "alignment."⁵⁶

Further, he admonished that leaders should "not allow attacks to end with the assault."⁵⁷ This means that the leader should rather train subordinates to

expect the unexpected, to use initiative, to maintain momentum at all costs, to orient on the enemy and what he may do next, and to maintain a continuous advance in the general direction of the attack. All this means that the decentralization of execution that is critical to the employment of light infantry forces can be made more efficient.

However control must still be exercised and discipline still enforced. A technique to accomplish this is the use of liaison teams forward instead of waiting for reports to come up from subordinates. These liaison teams would act as kinds of "forward observers" to see the battle.⁵⁸ This means that they could report information back to the higher commander so that he might make decisions and take opportunities as they arise. Thus the commander could stay informed without having to burden the subordinate commander with reporting while he is trying to fight the battle. Finally, there are strong moral and command imperatives for the commander to go forward himself. As J.F.C. Fuller noted, there is nothing more dreadful than "a chain of men starting with a battalion commander and ending with an army commander sitting in telephone boxes, improvised or actual, talking, talking, talking, in place of leading, leading, leading."⁵⁹ All of these techniques illustrate the balancing that must be done

between decentralized execution and the exercise of overall control and discipline that is a salient principle of light infantry operations.

To summarize, there are five operating principles that analysis shows should govern the offensive employment of light infantry forces in a mid-intensity environment. First, the infantry force must be protected, and that protection is achieved by a balancing of active and passive means, with emphasis being on the latter. Second, the infantry forces must be able to deliver effective firepower on the enemy, and that firepower is achieved by a balancing of destructive fires and disorganizing fires, with the emphasis being on the latter. Third, the infantry forces must be able to maneuver on the battlefield, and the key is to capitalize on the "locomobility" of the light forces. Fourth, light forces must operate in small units which requires the balancing of decentralized execution with control and discipline. Fifth, light forces must be logistical improvisers to keep individual loads from becoming too burdensome, and to prevent logistical infrastructures from becoming too cumbersome.

Section VII: IMPLICATIONS FOR THE FUTURE OF LIGHT
INFANTRY ON THE MID-INTENSITY BATTLEFIELD

The use of light infantry forces for offensive operations to the depth of the battlefield in a mid-intensity environment has implications that fall into two categories: equipment and training. First, consider equipment.

What the light infantry really needs is a light, cheap, reliable, durable, long-range radio. Given the dispersion of a light infantry force, it must have radios to control forces, to insure cooperation of forces, to synchronize combat activities, to call for fire, and to report valuable combat intelligence in a timely fashion. All these tasks are critical to the success of what the light infantry does best.

The light infantry also needs a good "fire and forget" anti-tank weapon with range out to 500 meters that can be issued to individual infantrymen for self-protection and for use as volley fire weapons to ambush tank columns in close terrain or at night. The doctrine for tank killing needs to be rethought for light infantry. They need to be trained in the "tank ambush" on moving tank columns and the "tank raid" on fixed tank laager positions.

The light infantry also needs to continue to push to improve their night vision capability and to

champion the improvement of the night capability of their key supporting arms (artillery and close air support).

The second critical category needing effort is in the realm of training. The success of the light infantry in any environment requires highly trained soldiers, small-unit leaders, and commanders. The doctrine needs to be clearly defined and disseminated to the field to both light and heavy force commanders. Heavy-light force mixes during training rotations need to become the norm. Senior commanders and staffs need to be trained to use light forces properly and most profitably. Finally, combat simulations and models need somehow to be updated so we do not continue to learn from them the wrong lessons about the use of light forces in a mid-intensity environment.

Properly used, light infantry can do much to use force economically, to "fight out-numbered and win," and to set the stage for decisive operational maneuver. It may turn out that despite the present consternation over what to do with light infantry in a tactical setting and how to move and support it, the fault may lie more with our lack of imagination than with the light infantry's lack of utility. Perhaps we shall someday learn that the resurgence of the light infantry concept was a tactical boon indeed.

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