



# Focused Reconnaissance and Developing Battlespace in the Armored Cavalry Troop

by Captain Scott K. Thomson

Heavy cavalry's primary purpose during reconnaissance is to allow the division or corps commander to see the terrain and the enemy. There is a common misconception that reconnaissance does not fight. In the case of heavy cavalry, nothing could be further from the truth. Even a cursory glance at the table of organization and equipment of any heavy cavalry unit reveals the nature of the organization — heavy cavalry is designed to fight for information. However, the distances over which the troop operates, combined with the uncertain enemy situation inherent in being the first force to cross the battlefield, presents the commander with the most difficult situation in which to concentrate his firepower. This is what makes the cavalry mission a dangerous and frustrating one. This is also why the cavalry mission is considered to be elite, and requires the best soldiers and leaders the Army has to offer.

The limited time available to reconnaissance forces prior to crossing the line of departure often does not allow the troop commander and platoon leaders to conduct their intelligence prepa-

ration of the battlefield (IPB) in sufficient detail. Vague and numerous tasks to subordinate units compound the difficulty in correctly identifying the decisive point and, quite often, the reconnaissance objective. Although there is sufficient combat power available to defeat enemy reconnaissance, we often fail to bring the maximum amount of firepower to bear when and where we need it most. Subsequently, we may fail to obtain the reconnaissance objective. During the maneuver of the heavy armored cavalry troop, applying combined arms to maximize battlespace is a difficult task at best. Units tend to spread their combat power evenly throughout their zones. This one-size-fits-all execution can cause the commander to lose the ability to mass fires at the decisive point on the battlefield.

This article focuses on mission analysis for conducting troop-level reconnaissance that allows armored cavalry leaders to maximize the density of their battlespace. The intent is to incite cavalrymen to think about how to apply assets to maximize speed, survivability, and lethality during reconnaissance. This

article is also intended to familiarize commanders at all levels with the difficulties troop and platoon leaders face while conducting reconnaissance.

## Organization

The heavy armored cavalry troop is organized with a troop headquarters, two scout platoons, two tank platoons, a mortar section, and a maintenance section. Typically, there exists a habitual relationship between 1st platoon (scout) and 2d platoon (tank), as well as between 3d and 4th platoons (scout and tank, respectively). The scouts' primary task is to conduct reconnaissance. The tanks follow the scouts and provide support, overmatch, and provide the commander with the ability to destroy or fix enemy reconnaissance. Depending on the tempo and the terrain, the typical order of battle during reconnaissance is dismounts, Bradleys, and then tanks.

## Tasking versus Capabilities

Cavalry is typically tasked immediately following the course of action analysis phase of the higher headquarters' military decisionmaking process. To allow

for a productive focus for reconnaissance, and avoid over tasking reconnaissance assets, the commander and staff must consider the capabilities and limitations of the heavy cavalry troop. The heavy cavalry troop can reconnoiter up to a 10-kilometer-wide zone or up to two routes simultaneously. The typical rate of reconnaissance is about 1-kilometer per hour, depending on the terrain. Built-up areas and areas with predominately restrictive terrain will take longer.<sup>1</sup>

One common problem impeding the speed with which cavalry can conduct their reconnaissance is a lack of focus. Often, the operations overlay for the squadron and troop is covered from one end of the area of operations to the next with checkpoints and named areas of interest (NAIs) that must be cleared and/or observed during the reconnaissance.<sup>2</sup> This can lead to more contact with the enemy than necessary to support the division's maneuver. The heavy cavalry is obviously designed to fight, but the application of their combat power should be judicious. Unfortunately, staffs and commanders can have a tendency to assign NAIs to every piece of terrain that could support any enemy maneuver.

From the onset of planning, the staff must accomplish several tasks. First, they must define the reconnaissance objective that will allow the commander to best conduct his decisive maneuver. The reconnaissance objective is usually either terrain or enemy based. Second, they need to focus reconnaissance on gaps in friendly knowledge that must be filled to support maneuver; namely, routes and areas to support the maneuver of follow-on forces, and on NAIs that support the higher commander's decision support template. NAIs must be linked to specific priority intelligence requirements (PIR) and decision points. The information sought in an NAI must give the staff the ability to differentiate between enemy courses of action or to clarify information that supports refining the maneuver plan. To help manage the efforts of the reconnaissance forces, the staff must ensure that there are times associated with the NAIs, when applicable. Attempting to clear and classify every piece of ground between the line of departure (LD) and the limit of advance not only slows the reconnaissance, it produces no significant advantage for the higher headquarters and wastes precious assets. Al-

though it is preferable to have perfect knowledge of the enemy situation, the cavalry does not own the assets to provide it.<sup>3</sup> Cavalry reconnaissance must be focused on information that other systems cannot provide. Their contribution to the parent unit's fight must be unique and critical.

Commanders and platoon leaders should resist the temptation to double their workload by adding even more NAIs to clear. The only additions that they should consider are those pieces of terrain that support tank maneuvers, fire support (to include mortar firing points), command post locations, and trains. Obviously, it is desirable to add checkpoints to support branch plans and sequels (decision-point tactics), but one statement that should be avoided during

coordinating instructions or tasks to maneuver units is, "clear all checkpoints in zone." Troop-level IPB must focus on lateral routes, routes in depth, and the location and composition of probable contact in zone. The commander must be able to quickly mass fires and shift from reconnaissance to fighting, and then back to reconnaissance or security.

Currently, a disparity between capstone tactical doctrine and user-level doctrine exists. This may contribute to the confusion over what commanders and staff expect of their division and regimental cavalry, and what the cavalry can reasonably accomplish and still remain viable for follow-on missions.<sup>4</sup> Division and higher-level staffs will rarely refer to the same doctrine as squadron com-

<b>FM 3-90, <i>Tactics</i>, July 2001</b>	<b>FM 17-97 <i>Cavalry Operations</i>, December 1996</b>	<b>FM 17-97, <i>Cavalry Troop</i>, 3 October 1995</b>
Find and report all enemy forces within the zone.	Find and report all enemy forces in zone. (Primary task.)	Find and report all enemy forces within the zone.
Locate any fords, crossing sites, or bypasses for existing and reinforcing obstacles, including built-up areas.	Locate a bypass around built-up areas, obstacles, and contaminated areas.	Locate a bypass around built-up areas, obstacles, and contaminated areas.
Determine the trafficability of all terrain within the zone, including built-up areas.	Reconnoiter specific terrain within the zone. (Primary task.)	Reconnoiter all terrain in zone.
Locate and determine the extent of all contaminated areas in the zone.	Reconnoiter all terrain in zone.	Inspect and classify all bridges within the zone
Evaluate and classify all bridges, defiles, overpasses, underpasses, and culverts in the zone.	Inspect and classify all bridges within the zone.	Inspect and classify all overpasses, underpasses, and culverts.
Locate any fords, crossing sites, or bypasses for existing and reinforcing obstacles (including built-up areas) in the zone.	Locate fords or crossing sites near all bridges in the zone.	Locate fords or crossing sites near all bridges in the zone.
Locate all obstacles and create lanes as specified in execution orders.	Inspect and classify all overpasses, underpasses, and culverts.	Locate and clear all mines, obstacles, and barriers in the zone within its capability.
Report the above information to the commander directing the zone reconnaissance, to include providing a sketch map or overlay.	Report reconnaissance information. (Primary task.)	Report reconnaissance information.
	Locate and clear all mines, obstacles, and barriers in the zone within its capability.	
<b>Table 1. Doctrinal critical tasks for conduct of a zone reconnaissance.</b>		

manders and staffs. At higher echelons, the planners will tend to refer to U.S. Army Field Manual (FM) 3-90, *Tactics*.<sup>5</sup> At the squadron level, commanders and staff will typically refer to FM 17-95, *Cavalry Operations*.<sup>6</sup> Troop commanders will invariably use FM 17-97, *Cavalry Troop*.<sup>7</sup> The problems that minor phraseology differences can cause is seen in Table 1. The order of the listed tasks has been altered to allow for easier comparison. The differences in the phraseology between FM 3-90, FM 17-97, and FM 17-95 are critical. If a troop commander believes that he has to clear every piece of terrain in zone, he will undoubtedly take unnecessary risks in conducting reconnaissance. Commanders have a responsibility to be very clear and very precise when tasking reconnaissance assets. Failure to do so can easily lead to unnecessary deaths on the battlefield.

Obviously, the capstone doctrine in this case is FM 3-90.<sup>8</sup> But an interpretive approach to defining the critical tasks for a zone reconnaissance is necessary to prevent confusion. Corps, division, and squadron standing operating procedures should all define critical tasks identically. Even though it is “refining” doctrine, FM 17-95 probably takes the best approach to tasking reconnaissance forces.<sup>9</sup> That is, it defines three primary tasks, and allows the commander to assign other tasks as time and mission dictate.

The cavalry should not be used to attempt to provide a risk-free environment for follow-on maneuver forces. These forces are equipped and trained to secure themselves during movement. The popular technique of “clear all enemy from zone” may allow for more success in today’s mission, but invari-

bly, there will not be enough left of the cavalry to support future operations. The higher commander would be forced to reconstitute his reconnaissance with forces less trained, and therefore less suited, for the mission.

The heavy cavalry troop should not be expected to destroy larger than a platoon-sized enemy formation when at full strength and employed in a reconnaissance role. Even if the troop can gain more than a 3 to 1 force ratio, at least 25 percent (one scout platoon) of its strength will be continuing the reconnaissance on other parts of the battlefield. This leads to a unique application of combat power comparison. To compare combat forces, the commander should probably only estimate his troop at 75 percent of his current capabilities. The staff must anticipate that the troop may be unable to choose the time and place for enemy engagements. Remember that cavalry probably has less knowledge of enemy locations and intentions than any other force on the battlefield. Additionally, there is a finite amount of terrain that supports the movement of reconnaissance forces. The enemy uses the same routes we do, and also looks for our reconnaissance and main-body forces. Chance engagements are the norm in cavalry operations.

Reconnaissance efforts should be echeloned parallel to the supported unit. Regiments support corps maneuver, divisional cavalry squadrons support division maneuver, brigade reconnaissance troops support brigade maneuver, and the battalion scout platoons support battalion maneuver. Violating this principle leads to too many requirements for reconnaissance forces. Higher reconnaissance efforts will answer some

of the requirements for subordinate units and allow for more focused collection efforts if the information is disseminated timely and is still valuable when needed.

Commanders must be aware of the nature of the different kinds of reconnaissance and their mission focus. Higher levels of cavalry are more capable of fighting for the information they need. The overriding theme here is that from corps or division down to troop, planners should resist the temptation to casually pile on the “good ideas,” and help ensure that reconnaissance has a focused task and purpose. Generally, too much targeting is the result of poor planning.

### Decisive Point

During course of action comparison, such as the war game, the reconnaissance fight probably receives about the same amount of scrutiny as combat service support, possibly less. This is probably due to the difficulty in predicting when and where reconnaissance forces will fight — it is difficult to war game in a vacuum. Therefore, staffs should focus on the cavalry’s reconnaissance objective during this portion of the war game. A piece of terrain or an enemy formation, or a combination of the two can usually define this. Destroying this enemy formation or completing reconnaissance on key terrain is usually the decisive point for the troop or squadron. Commanders and staff must seek to mass the troop’s firepower at this point, and it must be communicated in the task and purpose given to the troop by the squadron. This helps to prevent the attrition of cavalry forces in the reconnaissance, and leads to a higher chance of mission success.

The decisive point is the event or location that will allow the troop to achieve its purpose for reconnaissance. Using a decisive point in the concept of operations allows the commander to prioritize the use of his combat power and focus his reconnaissance efforts. Cavalry troops should not be stopped because of small enemy forces such as dismounted reconnaissance. Although they must seek to find and destroy enemy reconnaissance, the possibility of finding all of the enemy’s reconnaissance is remote. If the identification, location, composition, and orientation of the enemy’s main obstacle belt will allow the following brigade to successfully destroy the enemy in the defense, then this may be the troop command-

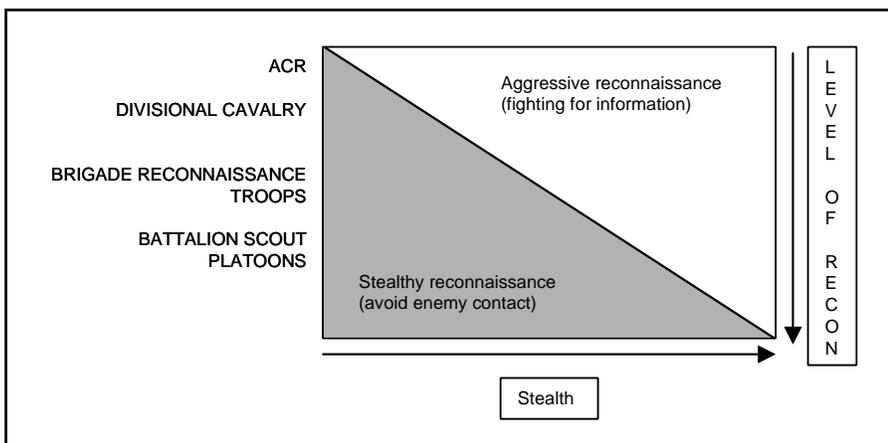


Figure 1. Stealthy reconnaissance vs. fighting for information

er's decisive point. All other tasks would be secondary. Allowing the troop to lose speed in dealing with issues that do not support the decisive point and reconnaissance objective, often leads to mission failure.

The troop commander should have a focus that is essentially provided by the corps or division commander. Cavalry will almost never be tasked to provide only one piece of information, which makes it essential for the higher headquarters to prioritize the tasks given to the troop. The troop must be given a focused purpose to allow the commander to make decisions that will facilitate the tempo of operations and stay within the commander's intent.

### METT-TC Analysis

When determining how to employ the organic assets available to the heavy cavalry troop, the troop commander and platoon leaders should consider the factors of mission, enemy, terrain, troops, time, and civilians (METT-TC). To effectively task organize and employ forces for the mission, METT-TC should be considered as: terrain, enemy, mission, troops, time, and civilians. Addressing METT-TC factors in this order facilitates making decisions about employment of units and assets in a logical sequence. However, the focus is more detailed than deciding whether to use a troop vee or a split vee, for example. The issue is where to employ the tanks and mortars, which scout platoon organization to employ, and whether to let dismounted scouts, Bradleys, or tanks lead the reconnaissance.

When conducting METT-TC analysis, the commander must address several issues regarding:

Terrain, such as determining how wide the sector is; determining if tanks can be massed quickly on enemy contact; identifying lateral routes that will support rapid movement by tanks; determining if mortars can range the entire sector; determining if the terrain is too restrictive to allow tanks to easily bypass the Bradleys; deciding to use reconnaissance avenues of approach or main body avenues of approach; and determining how many routes should be reconnoitered.

Enemy, such as where to expect to encounter enemy reconnaissance; identifying enemy weapons systems; identifying where will engagement be and with what; and determining the task and purpose for the enemy's different elements.

Mission, such as meeting the commander's needs; understanding priorities; and determining the desired end-state.

Troops and equipment, such as selecting systems that can provide weapons overmatch; determining what force ratio can be achieved; deciding if reinforcement or a narrower focus from the commander is necessary; and determining if tankers and dismounted scouts are trained to work in close proximity.

Time available, such as determining how much time before the earliest move; determining how much time is needed to plan and how planning time effects rehearsal priorities; determining how much time is needed to move to the limit of advance; determining the expected rate of movement through sector; and determining how quickly combat power can be massed in the event of enemy contact.

Civilians, such as determining if the local populace is friendly, or if they sympathize with the enemy; determining if they provide location and operations intelligence to the enemy; and determining if refugee movement will hinder movement through sector.

The factors that most influence the employment of organic assets are the terrain, the enemy, and the time available. Understanding these three elements gives the commander the information

he needs to deploy his formations in the most lethal manner.

### Battlespace and Force Ratios

FM 3.0, *Operations*, defines battlespace as, "the environment, factors, and conditions commanders must understand to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces, facilities, weather, terrain, the electromagnetic spectrum, and the information environment within the operational areas and areas of interest."<sup>10</sup> This basically tells a commander that he has to know everything about everything and everyone. This probably briefs well and generates tons of discussion in the joint arena, but a definition more useful at the troop and squadron level used to exist. FM 100-5, *Operations*, 14 June 1993, defined battlespace as, "the components determined by the *maximum capabilities* of a unit to acquire and dominate the enemy; includes areas beyond the AO; it varies over time according to how the commander positions his assets."<sup>11</sup> Cavalrymen need to ensure they understand this concept. Scouts take great pride in leading the fight at all times, and being able to operate independently. Unfortunately, this pride often leads to lost engagements.

FM 3-90, *Tactics*, does not address battlespace at all.<sup>12</sup> That may be be-



*"The heavy cavalry troop should not be expected to destroy larger than a platoon-sized enemy formation when at full strength and employed in a reconnaissance role. Even if the troop can gain more than a 3-to-1 force ratio, at least 25 percent (one scout platoon) of its strength will be continuing the reconnaissance on other parts of the battlefield."*

cause the current definition has no real utility at the tactical level. FM 17-97, *Cavalry Troop*, gives only cursory attention to the development of battlespace.<sup>13</sup> The explanation in FM 17-98, *Scout Platoon*, focuses only on the ability of the scouts to acquire targets.<sup>14</sup> It focuses on having the maximum area of battlespace, and neglects to discuss the *density* of that battlespace.

Battlespace density (a non-doctrinal term) is a description of the amount of firepower that friendly forces can bring to bear on the enemy at any one time. It is simply a variation of force ratio; an evaluation of force ratios at a specific time and place on the battlefield. Understanding this concept is vital to the employment of heavy cavalry. Many engagements at the combat training centers are lost due to even fights on

restricted terrain with enemy reconnaissance. Although the employment of multiple integrated laser engagement simulators (MILES) and the units' level of training influence many fights, they are most influenced by the failure to employ combat power quickly and decisively.

The concept of battlespace density requires evaluating both friendly and enemy forces. No different than maneuver forces, but on a smaller scale, at least a 3-to-1 ratio is desired in an attack against a defending enemy. The density of the defending unit's battlespace is extremely high when compared to an attacking unit of the same size. The combination of registered, massed indirect fires, obstacles, massed direct fires, as well as the protective benefits provided by fighting positions, make it

virtually impossible for a force of equal size to gain any ground. Conducting an aggressive reconnaissance is similar in theory to conducting a movement to contact by maneuver forces. The difference is that the purpose of the reconnaissance is to gather intelligence.

When evaluating battlespace density, some calculated risks must be taken, and some educated assumptions made. For example, does terrain facilitate the use of all weapons systems? At the Combat Maneuver Training Center in Hohenfels, Germany, most direct-fire reconnaissance fights take place at extremely short ranges in restricted terrain. These fights typically do not support the use of wire-guided missiles due to limited time and distance. These same fights also usually negate the use of indirect fire, again due to time and distance — a 25-meter fight is definitely a dangerous close-fire mission. Direct fire reconnaissance fights tend to be almost exclusively at short range in restricted terrain. Certain terrain supports the movement of reconnaissance forces, and there is a finite amount of it.

Certain other factors affect battlespace density. Factors, such as surprise, fields of fire, and firepower versus protection, all have a very definite effect on the ability of cavalry to survive a firefight. So if we consider an engagement between a BMP-2 and an M3A2 at short range in a forested environment, the resulting battlespace density would be effectively even. Both vehicles have the ability to kill infantry or cavalry fighting vehicles, and they both offer similar levels of protection. If the Bradley were to approach the BMP-2 from the rear, and engage before the BMP-2 could traverse, the battlespace density would be increased, because a gun pointed in the wrong direction would not be able to kill anything.

Additionally, we should consider the number of systems or forms of contact that can be brought to bear on the enemy at any one time. Assume the BMP-2 was conducting his reconnaissance without a wingman providing immediate support, and our scout was operating with his wingman in immediate support (which should always be the case). During the initial engagement, the force ratio would be even as the first scout acquires the BMP-2. As the wingman maneuvers into a position of advantage, and both scouts can engage the BMP, the battlespace density would rise markedly as the force ratio reached



*"Tanks in the cavalry are often employed over very restricted terrain. When the avenue of approach is on a "goat trail" with trees very near the sides of the tank, the tank has a very limited ability to traverse. He can only kill to his direct front. His ability to engage to his sides and rear is defined by his ability to traverse and his minimum angle of depression for his weapons systems."*



*“The heavy cavalry troop is an organization designed to fight for information. It is lethal and survivable, but difficult to employ. The first and most important issue in improving our employment of cavalry is providing focus during the orders process. Failure to provide specific focus violates the principle of orient on the reconnaissance objective.”*

a 2 to 1. If the dismounts of our scout section were the first to acquire the BMP, and were armed with an AT-4 or Javelin, then the initial force ratio is unfavorable, as the dismount obviously has issues with his survivability, but he still has a very real ability to destroy the vehicle. If he exercises patience, and maneuvers the section of Bradleys into the fight, the density rises dramatically, with three friendly systems in the fight. When possible, mortars should be employed close to the scouts to support the fight and isolate the enemy as the fight develops in depth.

To further refine the concept of battlespace density, we need to examine the survivability of the weapons platforms involved in the fight. For example, does our platform have less survivability than that of the enemy; how are our platforms roughly equal (IFV vs. IFV, or tank vs. tank); is our survivability greater than the enemy's (M1A1 vs. BMP-2); and are either of the vehicles

dug in? The preferred method is to employ your most difficult systems to identify first (dismounted scouts) to set the conditions for the fight, and then maneuver your most lethal and most survivable systems (tanks) into the fight as quickly as possible. Bradleys are often best employed in a suppression or support-by-fire role. Of course, if vegetation or terrain restricts the tanks ability to maneuver, then the Bradley may be the weapon of choice.

As noted before, battlespace density is directional. Tanks in the cavalry are often employed over very restricted terrain. When the avenue of approach is on a “goat trail” with trees very near the sides of the tank, the tank has a very limited ability to traverse. He can only kill to his direct front. His ability to engage to his sides and rear is defined by his ability to traverse and his minimum angle of depression for his weapons systems. Infantry that are able to gain the dead space next to the tank are

in a favorable position to fight the tank. This dead space can be easily covered to the rear and sides of a vehicle if the wingman is doing his job in overwatch. Twenty-five-millimeter high-explosive rounds are extremely effective in suppressing infantry near a vehicle.<sup>15</sup>

During reconnaissance, friendly scouts often fail to evaluate how the width of a route can affect their battlespace density. Heavy cavalry in restricted terrain are prone to operating in hunter-killer teams. This organization has a section of tanks closely trailing and directly supporting a scout section. The commander should only allow this type of organization during the conduct of the reconnaissance when contact with tanks or platoon-sized units is not expected, as it severely limits the ability to mass tank power at key points during the fight. It is extremely effective if the scouts can acquire with dismounts, and the tanks can maneuver to engage the enemy. However, the very terrain that

lends itself to this type of task organization often contributes to the death of the lead scouts. The reason is that if the enemy can force an engagement on our scouts at an area where the tanks are incapable of passing the scouts, the tanks are useless. The scouts can also be forced to operate without support of their wingman due to the difficulty in reconnoitering restricted terrain. The result is the lead scout is killed, effectively becoming an obstacle and none of the following vehicles can pass or maneuver to engage.<sup>16</sup> This usually happens when scouts are tasked to clear all terrain in sector, as discussed in the tasking versus capabilities section above.

When encountering these choke points, the troop commander should strongly consider leading with dismounts, followed by tanks, and trailing with the Bradleys.<sup>17</sup> This accomplishes several things: the scouts will not lead tanks down trails that cannot support the tank's movement; during a chance engagement with enemy reconnaissance, the tanks will almost always have a favorable battlespace density; the Bradleys are in the rear where they can conduct effective medical evacuation, if needed; and if the dismounted scouts are pulled back, the tank has the ability to survive extremely close indirect fire. This formation may lead to the tanks being decisively engaged before being able to maneuver. This consideration is usually negligible in tight terrain because the fight rarely lasts long enough to maneuver the tanks.

The heavy cavalry troop is an organization designed to *fight* for information. It is lethal and survivable, but difficult to employ. The first and most important issue in improving our employment of cavalry is providing focus during the orders process. Failure to provide specific focus violates the principle of orient on the reconnaissance objective.<sup>18</sup> Another overriding issue is skillfully employing assets available to the cavalry. Due perhaps to the stigma within the cavalry community that tanks should almost never lead during reconnaissance, cavalry leaders often fail to maximize density in their battlespace. In effect, this violates three more principles of reconnaissance: maximum reconnaissance force forward, if the tankers are waiting 1000 meters to the rear in restricted terrain, they are effectively out of the fight; if we fail to have tanks where they can engage the enemy quickly and decisively, then we may or

may not have freedom to maneuver (the purpose of maneuver is to gain a position of advantage over the enemy — if our scouts are dead, and the tanks have no idea where the enemy is, then they are not really maneuvering toward anything. When dealing with vehicles other than tanks in close proximity, tanks can move with relative impunity); and, most importantly, develop the situation rapidly. This requires foresight and flexible thinking. Small unit, direct-fire engagements with modern, lethal killing systems rarely last beyond the first volley. If not in position to immediately influence the fight, the tanks will have little, if any, influence on the battle's outcome.

## Notes

<sup>1</sup>U.S. Army Field Manual (FM) 17-97, *Cavalry Troop*, U.S. Government Printing Office (GPO), Washington, DC, 3 October 1995, p. 3-4; see FM 34-2-1, *Tactics, Techniques, and Procedures for Reconnaissance and Surveillance and Intelligence Support to Counterintelligence*, U.S. GPO, Washington, DC, 19 June 1991, p. 4-4, for an example of the lack of understanding of the capabilities of reconnaissance forces, staffs must calculate the time needed to conduct the reconnaissance and incorporate this into their timeline. Time must be allocated to allow reconnaissance assets to conduct MDMP and troop-leading procedures. For a reconnaissance of a 10km x 10km zone, the troop must receive their final operations order 16 to 18 hours prior to the time the staff expects them to reach the limit of advance. This assumes that the troop is not conducting security operations concurrently with planning, and that they are located to allow for an efficient parallel planning process.

<sup>2</sup>Typical tasking of cavalry units requires that they clear assigned NAIs and checkpoints to provide a more secure movement for following forces. Commanders must weigh the risk to reconnaissance forces against the need for secure movement of his maneuver units.

<sup>3</sup>“Perfect knowledge” of the environment in which a unit must fight is probably a pipe dream. Military intelligence assets should provide most of the “gross” intelligence needed by corps and divisions. The strength of the armored cavalry lies in its ability to look into restricted terrain that is shielded from satellite and aerial reconnaissance, and locate and destroy enemy reconnaissance when necessary.

<sup>4</sup>FM 3-90, *Tactics*, U.S. GPO, Washington, DC, 4 July 2001, provides a good discussion on recuperation and reconstitution of reconnaissance assets.

<sup>5</sup>Ibid.

<sup>6</sup>FM 17-95, *Cavalry Operations*, U.S. GPO, Washington, DC, 24 December 1996.

<sup>7</sup>FM 17-97.

<sup>8</sup>FM 3-90.

<sup>9</sup>FM 17-95.

<sup>10</sup>FM 3-0, *Operations*, U.S. GPO, Washington, DC, 14 June 2001, supersedes FM 100-5.

<sup>11</sup>FM 100-5, *Operations*, U.S. GPO, Washington, DC, 14 June 1993, superseded by FM 3-0.

<sup>11</sup>FM 3-90.

<sup>13</sup>FM 17-97.

<sup>14</sup>FM 17-98, *Scout Platoon*, U.S. Government Printing Office, Washington, DC, 10 April 1999.

<sup>15</sup>This limitation of tanks in cavalry organizations should be addressed with an M1 variant with a shorter barrel. Unless operating in desert terrain, tanks in the cavalry rarely have the opportunity to engage at maximum range. Much more important than range to the cavalry is the ability to traverse and quickly destroy enemy in restricted terrain. This, coupled with greater elevation, would also be useful to other units involved in MOUT scenarios. The First Battle of Grozny is illustrative of this point. My guess is also that M551 Sheridan tankers fighting in Vietnam were also thankful for their vehicles' ability to traverse in tight terrain.

<sup>16</sup>One other possible TTP to address this situation is to maneuver the tanks on a less restrictive avenue of approach parallel to that being used by the scouts. The tanks identify lateral routes and provide support by enveloping from the rear or flank.

<sup>17</sup>For a good illustration of a similar technique, refer to the discussion of defile drill in FM 71-1, *The Tank and Mechanized Infantry Company Team*, U.S. GPO, Washington, DC, 26 January 1998.

<sup>18</sup>See FM 17-95, FM 17-97, or FM 17-98 for discussions of principles of reconnaissance.

CPT Scott K. Thomson is the G3 air and emergency deployment readiness exercise officer, 3d Infantry Division (M), Fort Stewart, GA. He enlisted in the Army as a 19D in 1987. During his enlistment, he served in various scout positions in TF 1-32 Armor, 1st Cavalry Division, Fort Hood, TX. He is a graduate of Georgia State University. As a commissioned officer, he has served in various command and staff positions, including tank platoon leader, scout platoon leader, and troop XO, B Troop, 1-4 Cavalry, 1st Infantry Division, Schweinfurt, Germany; and HHT XO and assistant S3, 1-4 Cavalry, 1st Infantry Division, Schweinfurt.