

A black and white photograph of a lit oil lamp on a table. The lamp is the central focus, with a bright flame inside a glass chimney. To the right of the lamp is a book with a dark cover and a metal tin with the letters 'SPTS' embossed on it. The scene is dimly lit, with the lamp providing the primary light source.

"There is at this time a debate occurring within the Army at the highest levels on the need to correct the deficiencies that have been identified by many in uniform. Some of the most capable and experienced officers and noncommissioned officers in the force are arguing for a change in the way cavalry squadrons are organized and equipped to more reasonably prepare them for the rigors of combat. Early indications are that the Army's senior leadership is listening and may soon make the necessary adjustments. That is encouraging and a good start; but that alone is insufficient."

Fighting for Information

by Major Daniel L. Davis

If the United States were to be required to unexpectedly engage in major combat operations, the cavalry squadrons on which we rely to accomplish critical reconnaissance and security tasks would not succeed. As a result of previous iterations of Army transformation and reorganization, these formations would not long survive modern battle because they are not organized, equipped, or manned to survive in an increasingly lethal world. The current and future cavalry squadron must be immediately reorganized so that once again it will be capable of fighting for information.

It seems inconceivable that the Army would take an organization that has routinely proven itself in combat as one of the most formidable forces on the battlefield and “transform” it so that it becomes incapable of executing its mission. And yet, as this article demonstrates, that is precisely what has happened and unless major structural change is undertaken, the stage is set for American soldiers to suffer unnecessarily on future battlefields.

This article briefly describes how cavalry units have performed in combat over the past 20 years and ascertains the reasons for their successes. It also describes the threat environment the U.S. Army could face during battle in both a current and future fight. The article further discusses organizational changes the Army has enacted as a result of modular transformation since Desert Storm and analyzes what would happen if the resulting formations had to fight against an aforementioned threat. Finally, it makes recommendations for both the current and future force regarding the most combat effective reconnaissance organizations the Army should consider fielding. This article’s analysis is limited to the heavy cavalry of the past and present and the cavalry squadron of the future combat system (FCS), brigade combat team (FBCT).

The Foundation

There is very little doubt that the Army put afield by the United States in March 1991 was the most powerful land force ever assembled. Although America presently possesses an awesome array of lethal capabilities, the eighteen division, three armored cavalry regiment (ACR), three corps Army then in existence, dwarfs even today’s high-tech force in terms of sheer capability. Shortly after the successful completion of Desert Storm, Department of Defense embarked on the transformation of its armed forces to improve their ability to defend American interests. Now, nearly 17 years and 2 wars later, it is reasonable to expect that this transformation has created combat organizations more capable than either the Desert Storm or Operation Iraqi Freedom (OIF) 2003 version; on balance, I would argue it has not.

In the late 1940s as relations between the Soviet Union and the West deteriorated, Western European states looked nervously toward the growing threat from the east. Having been badly mauled by 5 years of total war, they were unable to mount the necessary forces to present the Soviet juggernaut a deterrent sufficient to ensure their security. The United States, however, was in a position in terms of manpower, economics, and industrial potential to provide that deterrence. Still, with large numbers of mechanized forces in theater from World War II, the United States placed the mission of security on the formation most suited for that role — armored cavalry.

In the early 1960s, the east-west border was patrolled by the 2d, 11th, and 14th ACRs. In 1972, the 14th ACR was inactivated, leaving the 2d and 11th ACRs to continue the mission. Until the post-Desert Storm drawdown, these two regiments were responsible for patrolling almost 1,100 kilometers of the east-west border. The ACRs were designed to perform reconnaissance and security missions against a peer competitor in rough, difficult terrain in areas that experienced extremes in weather conditions, particularly snow, ice, and fog, and against an enemy that was expected to bring significant firepower to bear at the point of attack. Under these conditions, the ACR was expected to successfully accomplish all security and reconnaissance missions.

To enable it to succeed, the modern ACR was organized with key elements of combat power, to include M1 tanks, M2/3 Bradleys, 155mm self-propelled howitzers, 4.2" mortars, scout helicopters, attack helicopters, dismount soldiers, and organic military intelligence organizations. These combat elements were task organized with other enablers such as engineer, air defense artillery, and larger field artillery units. The officers and non-commissioned officers of the three regiments, including the CONUS-based 3d ACR, conducted rigorous training, spending on average more than 240 days a year in the field. The organization, equipment, and training paid dividends in Iraq during 1991 as the 2d ACR was pulled from its border mission in Europe and placed at the head of VII Corps in its mission to drive the Iraqi Republican Guard from Kuwait.

Although the 2d Dragoons demonstrated the power of an ACR in combat, there were those in the Army's senior leadership that believed technology would enable future formations to be as effective as the ACR, but at less cost in terms of manpower, equipment, and dollars. As a result, the 2d ACR was inactivated in 1992 (the unit's name passed to an infantry regiment that was redesignated as 2d ACR) and less than 2 years later, the 11th ACR followed suit. Thus, despite demonstrating extraordinary capability in combat, the Army reduced the number of active duty regiments to one. Unfortunately, however, the ACR would not be the only cavalry organization to fall victim to modernization.

The divisional cavalry squadron (DIVCAV) of the heavy division was organized to have capabilities, similar to those of its ACR cousin, to provide all-weather, all-condition, all-circumstance reconnaissance for the division commander. This unit was organized with three ground troops (each with nine M1A1 tanks, thirteen M2/3 Bradley Fighting Vehicles, and six 4.2" mortars), and two air cavalry troops (each containing eight scout helicopters). But much like the ACR after its success in Desert Storm, the DIVCAV, after a successful Operation Iraqi Freedom (OIF), was deemed replaceable, and by 15 August 2007, 1st Squadron, 1st U.S. Cavalry, the last of the Army's heavy DIVCAV squadrons, was inactivated.

One would reasonably expect that the Army would not eliminate an organization that had repeatedly demonstrated its ability to crush all opponents in combat based only on the promise of future capability. With the inactivation of two of the Nation's three ACRs and all ten of its DIVCAV squadrons, one would assume that they had been replaced with equal or better capabilities than had previously existed, and that in the future, an even greater capability will exist. Such an assumption would be misplaced.

Yesterday's Success

During Desert Storm, the 2d ACR was given the mission of leading the VII Corp's attack to dislodge the Republican Guard holding Kuwait. The regiment's second squadron fought one of the most significant tank battles of that war during the Battle of

73 Easting. It is important to note that during that battle, the squadron rapidly fought over extended distances to even get to the battlefield. At the most critical moment of the war, the squadron was deprived of its air cavalry support due to a heavy sand storm. As a result of inconclusive intelligence of enemy locations, the squadron found the enemy's combined armor and infantry formation by driving into its kill zone. Once there, however, the ability of the unit to go toe-to-toe with tanks, armored personnel carriers, and infantry equipped with heavy machine guns allowed the squadron to obliterate the Iraqi armor in a hasty attack that lasted all of 23 minutes, a success that was not unique to the 2d Squadron, 2d ACR.

A lesser known, but extraordinary effort, was demonstrated by the DIVCAV of the 3d Infantry Division (3ID) during the initial stages of OIF. Because of the highly relevant lessons this battle has for both our present and future forces, we will closely examine the experiences of 3d Squadron, 7th Cavalry Regiment (3-7 CAV) as it led 3ID in its drive to Baghdad:

The squadron was charged with providing reconnaissance to the division commander and developing the situation in advance of his maneuver brigades in support of the division's ultimate objective of Baghdad. In the execution of their mission, 3-7 CAV fought a number of armed skirmishes. For the purposes of this article, however, we will focus on the most significant engagement the squadron fought against Iraqi armor.

Apache Troop commander, then-Captain H. Clay Lyle, recently took time out of his educational courses at Fort Belvoir to recount some of the key lessons learned from those battles. Below are his comments regarding his experiences conducting major combat operations (MCO) during OIF in March and April 2003. He addressed intelligence, the utility of aerial assets, the impact of the sand storm, and the nature of his fights against both conventional and unconventional forces:

Intelligence. *"Before we crossed the border between Kuwait and Iraq, our squadron was told to be prepared for a possible parade in As Samawah! Beyond that, we were shown templated positions for mechanized infantry and armor, and imagery showing dug-in fighting positions. At least our squadron S2 mentioned the Fedayeen; nobody else did. Even after we started fighting, we never got anything from higher that told us where to expect contact. The only way we were able to find the enemy was by coming under direct fire. I guess things like JSTARS [joint surveillance and target attack radar system], theater-level UAVs [unmanned aerial vehicles], and satellites were looking for tanks and APCs [armored personnel carriers], but they could not, nor can they now see things like a group of 50 guys with machine guns, RPGs [rocket-propelled grenades], and 23mm anti-aircraft guns. That's what we found by running into them. But once 9 tanks, 15 Bradley's, and other armored vehicles go into action firing 120mm and 25mm main guns, machine gun fire, etc., that enemy is quickly eliminated!"*

Air Assets. *"We did not yet have UAVs, but even better, we had two air cavalry troops (ACT). When they were in the air, they did a great job and were really useful, but for various reasons we did not have ACT support for any of our major fights after As Samawah. When we made the big 120-kilometer move from Samawah to Najaf, we outran the air support. Many things worked against them — the distances they had to cover, refueling, issues with crew flight hours after the intensity of As Samawah, and expectation of a later fight — all of which caused the air to be unavailable that evening. Then when all the various issues were resolved and they were ready and in position to support us, the sand storm hit and they couldn't fly! When we*

got to Baghdad and engaged in our most significant fights against Iraqi armor, the commanding general of 3ID decided no rotary aircraft would initially cross the Euphrates and into Baghdad.

Limited Visibility. “We were hit with a 3-day sand storm that reduced visibility, sometimes down to as few as 15 meters. When it hit, we were in the process of moving to isolate Najaf. Even with thermals of the tanks and Brads, we couldn’t see very far. Obviously, no rotary air assets were flying, so as we moved east of the Euphrates, it became very difficult to find the enemy. Another complicating factor was the ground clutter. There are buildings, trees, undulating terrain, roads, bridges, and just junk all over the place, which makes it difficult to find the bad guys. They can be hiding in buildings, camouflaged bunkers, behind abandoned vehicles, and many other places. The way we found most of them was when we came under fire. Once that happened, of course, we were able to pinpoint their locations, communicate those locations throughout the rest of the formation, and coordinate the destruction of the target.

Nature of the Fight. “Our biggest fight came in western Baghdad on 4 April. We got a call that the U.S. Air Force had identified 22 T-72 tanks in a certain area and they were going to attack them with close air support (CAS); we were supposed to go ‘clean up’ whatever was left. After a road march, I halted the troop at the last covered and concealed position prior to the target location while the Air Force jets made their runs. I could see lots of explosions from the bombs the jets dropped, but I didn’t see any black smoke. I had already seen enough destroyed enemy vehicles to know that when T-72s get hit, there is a lot of black smoke.

“I then got a call saying the Air Force was off station and we were clear to continue. We cautiously moved along the route and unmasked ourselves from our position. As we quickly discovered, there were no tanks where the jets dropped their bombs. Instead, they were dug into a berm behind a canal with their gun tubes pointing directly at us — we had unwittingly driven right into their kill zone!

“The realization that we were facing a large armor-infantry team (we later discovered, there were 16 T-72s and 100 infantrymen manning the position) came when my lead tank fired its main gun. Suddenly, I could see T-72 tank rounds and machine gun fire coming at us. The battle started at dusk, and there was lots of dust from the Air Force bombs, so visibility wasn’t great. We fired sabot first, but couldn’t tell if we hit anything, so we started firing high-explosive, anti-tank (HEAT) rounds. As I had done before, I immediately used the map on my FBCB2 [Force XXI battle command brigade and below] to work up a fire mission to suppress the target. These guys were maybe 500 meters in front of us. A lot of training kicked in because there were very few spoken orders. We immediately returned fire with our main guns, and along with the artillery, destroyed the entire force. From the first round to the last enemy tank destroyed, the whole thing lasted about 3 minutes.

“The thing I found most amazing was that the CAS had flown right over the real tanks and had fired at nothing! I never figured out what they were shooting at, but they blew up a lot of nothing.”¹

Assessing the Situation

There are a few critical facts that must not be overlooked regarding 3-7 CAV’s experiences. First, as a result of the fast pace of modern combat, enemy actions usually occur without warning and require split-second decisions. Major Lyle later explained that regardless of the formal missions he had been given, everything from the border to Baghdad turned out to be a movement to contact because of the uncertainty and chaos of a fluid and dynamic battlefield. Trying to develop the situation out of contact is a worthy goal, but one is rarely afforded the luxury to do so, even with technological overmatch as great as what we enjoy over Iraq; a potent adversary will make things even more difficult.

Second, because the enemy was successful in avoiding detection from the enormous, unprecedented, and unchallenged array of sensors, satellites, high-altitude reconnaissance aircraft, signals intercept, and UAVs, the squadron was often and repeatedly attacked from unexpected locations with weapons ranging from heavy machine guns and RPG fire to cannon fire from tanks and APCs. Third, particularly regarding the 4 April tank battle in southwestern Baghdad, the squadron unexpectedly ran into significant enemy armored formations where they were not expected.

Finally, Major Lyle explained that after many days of uninterrupted combat, his troopers were feeling the strain of combat. This is significant because the Iraqi enemy, although armed with heavy weapons and second-generation armor, was possibly one of the poorest trained and led forces of its size in the world. If, in the future, the United States must fight against something close to a peer competitor, who is armed with modern weapons, well trained, well led, and motivated to fight, even an organization as good as 3-7 CAV will have a significantly more difficult time accomplishing its assigned missions.

These facts are of critical importance when considering that the reorganized reconnaissance formations that replaced the DIV-CAV organization, and those we have designed for the future, are



“Currently, the reconnaissance squadron for the HBCT is composed of wheeled vehicles and some Bradley fighting vehicles. This compares with the now-defunct DIVCAV squadron that had 27 M1 tanks, 41 cavalry fighting vehicles (CFVs), 16 scout helicopters, and a mortar platoon; the disparity in combat power couldn’t be starker. If war broke out tomorrow with a North Korea-caliber or greater enemy, this less capable, less survivable HBCT reconnaissance squadron would be required to accomplish the same mission assigned 3-7 CAV during OIF, but against a more heavily armed, trained, and led opponent; they would likely not survive the first 24 hours of combat.”



"One of the most often cited reasons officials have given in the past as justification for reducing the cavalry's heavy armor and weapons has been the increased situational awareness afforded by the UAV and other sensors. Those who could someday fight against the United States are well aware of the utility of these platforms and are aggressively pursuing the ability to counter their effect. China is particularly advanced in this area."

less capable than the organization under which 3-7 CAV fought during OIF. Let us then consider how the reconnaissance squadron of today's heavy brigade combat team (HBCT) would fare if it had to execute a mission similar to that required of Major Lyle during OIF. This particular assessment is not encouraging.

Today's Capabilities

As mentioned earlier, it would seem reasonable to accept as an article of faith that the Army would not eliminate a robust combat capability in its formation until something of equal or greater capability was available to replace it. Since the Army inactivated two ACRs and disbanded all of its heavy DIVCAV squadrons, one would assume that the organizations that replaced them are as, or more so, capable of executing the same missions. Such an assumption would be wrong.

Currently, the reconnaissance squadron for the HBCT is composed of wheeled vehicles and some Bradley fighting vehicles. This compares with the now-defunct DIVCAV squadron that had 27 M1 tanks, 41 cavalry fighting vehicles (CFVs), 16 scout helicopters, and a mortar platoon; the disparity in combat power couldn't be starker. If war broke out tomorrow with a North Korea-caliber or greater enemy, this less capable, less survivable HBCT reconnaissance squadron would be required to accomplish the same mission assigned 3-7 CAV during OIF, but against a more heavily armed, trained, and led opponent; they would likely not survive the first 24 hours of combat. To demonstrate this unpleasant fact in sharper detail, let us examine what sort of threats an HBCT recon squadron might actually face if war was about to happen.

Tomorrow's Challenges

Just as most countries learned to use past break-through military technologies, such as machine gun, airplane, submarine, and tank, they will learn to use today's so-called revolution in military affairs and apply this technology on future battlefields in more or less similar ways. Therefore, regardless of who we may someday face, there will be certain similarities in the weapons and tactics we face. Since it is beyond the scope of this article to examine military doctrine and weapons systems of multiple nations, we will examine the most potent foreign force we could someday face — The People's Liberation Army (PLA) of China — and examine the weapons and tactics they employ, which are common to other potential adversaries.

I must clearly point out, however, that this work takes no position whatsoever on the likelihood of whether we will ever go to war against China — indeed, it is in our interest to develop friendly relations with them to develop the best chance for world peace. Rather, this article seeks solely to identify the *capabilities* that exist, which pose the greatest *potential* threat to American forces and examines how we would fare in the event of conflict. It bears pointing out that it is not only China, but the greater part of Asia that is modernizing its military, and thus many of the capabilities associated with China discussed in the following sections may also be associated with a number of other states with whom the United States may someday find itself engaged.

In the early 1980s, it was a commonly held opinion that anything bearing a "made in China" label was understood as being cheaply made. Many Americans still believe China to be a backward, unsophisticated country that produces standard "knock-off" products and is inferior to the West in most important categories. This unsubstantiated belief, unfortunately, extends to many in the U.S. military as well. The truth is, today's China has many significantly advanced weapons, and because of advanced training methods copied from the United States, is producing a quality military capable of competing on the modern battlefield. We will now examine their capabilities as they relate to what present and future American cavalry units might face.

One of the most often cited reasons officials have given in the past as justification for reducing the cavalry's heavy armor and weapons has been the increased situational awareness afforded by the UAV and other sensors. Those who could someday fight against the United States are well aware of the utility of these platforms and are aggressively pursuing the ability to counter their effect. China is particularly advanced in this area.

On the strategic level, China has demonstrated its understanding of the criticality of space-based assets and the impact they have on the operational and tactical fight. Most are aware that the Chinese successfully demonstrated the ability to launch an anti-satellite missile in January 2007 when they attacked and destroyed one of their own weather satellites. What is less known, however, are statements made by leading Chinese military thinkers in officially sanctioned People's Republic of China (PRC) military journals on the subject.

As part of a master's program given to senior Chinese officers by the Academy of Military Science in Beijing, two text books, *Teaching Materials on Combined Arms Offensive Combat* (hereafter referred to as *Offensive Combat*) and *Teaching Materials on Combined Arms Defensive Combat* (hereafter referred to as *Defensive Combat*), were published in May 2000, and are still apparently used to educate future senior leaders.² The information contained in these two books provides important insight for those who may someday have to fight against the Chinese or a similarly arrayed foe.

An excerpt from *Defensive Combat* clearly articulates the Chinese understanding of the danger they face from aerial reconnaissance: "In a battle fought under modern conditions, in particular, high-tech conditions, aerial reconnaissance has become the basic means of acquiring battlefield information for the forces.... As a result, the mission to prevent the enemy from conducting aerial reconnaissance before the start of the battle is in general carried out by an anti-aircraft artillery force and a subunit equipped with portable surface-to-air missiles formed into a highly maneuverable elite air defense subunit."³

In addition to focusing significant assets on shooting down aerial platforms, China devotes considerable resources to countering the electronic aspect of the battlefield. Knowing how re-

liant we are on command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), China has incorporated special units into their combat formations to attack this capability. *Offensive Combat* explains, “Three-dimensional posting refers to adding army aviation troops and electronic countermeasure troops within the combat organization of a combined arms corps.... In order to fully make use of the combat effectiveness of helicopters, electronic warfare equipment, and various air defense weapons, commanders should carry out deployments or conduct maneuvers in the airspace most beneficial to executing tasks...while battling enemies in multi-dimensional space.”⁴

Moreover, they have resourced their maneuver formations with organizations whose express purpose is to conduct electronic countermeasures. *Offensive Combat* explains, “Electronic countermeasure (ECM) groups are also called electronic reconnaissance and jamming groups.... They are mainly used for continuous interception of enemy radio communications and radar signals; capturing the technical parameters of enemy radio emitters and obtaining their locations; jamming enemy’s main radio network and radar at important times; and guiding firepower strikes against enemy electronic targets.”⁵

Additionally, as has been their historic norm, the Chinese give extensive focus to deception and camouflage and are among the best in the world in the application of both. An article on 31 December 2007 in the Chinese military newspaper, *Beijing Jiefangjun Bao*, describes how a Chinese armored unit on maneuvers executed battle drills to hide its vehicles. “A warning voice could suddenly be heard: ‘Have personnel disperse, conceal the vehicles!’ The reporter saw vehicles rapidly move to the side of the road and into depressions, as well as being concealed on mountain slopes.... Currently, anti-visible camouflage burlap covers, anti-infrared camouflage nets, and the like, used on the division’s equipment afforded a relatively good solution to the problem of concealment in the high plateau wilderness.”⁶ Aside from countering UAVs, attacking in the electronic realm, and practicing effective camouflage in the field, it is the Chinese firepower at the tactical level that should most get the attention of the cavalryman.

There has been debate among Western military theorists for decades as to the relative importance between maneuver and firepower. Many will argue that maneuver is of highest importance and firepower secondary, pointing to historical examples to support their views. The Chinese view articulated in *Offensive Tactics*, however, comes to the conclusion that firepower is of primary importance and maneuver — while important — is subordinate.⁷ Whether we agree or disagree with this thinking is irrelevant. If we have to face an enemy who has this belief, the only thing that matters is understanding how they operationalize their theory. This has particular importance for reconnaissance elements that may someday fight against the Chinese.

In most of the major combat operations scenarios used by the U.S. Army in the majority of its command post exercises, the enemy portrayed is mainly equipped with second-generation armored vehicles, a small number of equally old helicopters, poor air defense, and moderate-to-poorly trained soldiers. When reconnaissance operations are conducted in this enemy environment, there is very little in the way of enemy artillery, rocket fire, attack aviation, or effective direct fire with which to contend. In contrast, the reconnaissance force that engages Chinese forces will encounter a rather different reality.

Offensive Combat devotes significantly more space to the subject of firepower, particularly regarding artillery, than any other subject.⁸ The Chinese believe the application of extensive fire-



“*Offensive Combat* explains, ‘Electronic countermeasure (ECM) groups are also called electronic reconnaissance and jamming groups.... They are mainly used for continuous interception of enemy radio communications and radar signals; capturing the technical parameters of enemy radio emitters and obtaining their locations; jamming enemy’s main radio network and radar at important times; and guiding firepower strikes against enemy electronic targets.’”

power against the enemy is the key to ultimate triumph because of their definition of success — annihilation. They do not seek to simply “outmaneuver” an opponent; they seek to wipe him out. Recognizing the importance of their opponent’s reconnaissance forces, they devote important resources to eliminating that capacity.

One of the primary purposes of artillery in the forward area is, according to Chinese doctrine, expressly to counter enemy reconnaissance elements. To overwhelm those and other mechanized forces, *Offensive Combat* explains that “on the main line of attack suppressive artillery should be 5-6 times that of the enemy, and antitank weapons should have about 6-8 units for each armored target of the enemy [I use the italics for emphasis].”⁹ In practical terms, if a Chinese unit were to conduct offensive operations against a U.S. squadron-sized unit with an artillery battalion in direct support, the Chinese side would seek to engage with five to six artillery battalions and ideally attack with several hundred anti-armor platforms!

Today’s American soldiers simply cannot fathom the power of that much artillery because we have never seen anything like it. In a recent interview, Raymond Wells, a former noncommissioned officer in the 36th “Texas” Division and winner of the Silver Star for actions at the 1944 Battle of San Pietro in Italy, was one of the toughest infantrymen in World War II. And yet, this battle-hardened veteran recalled the fear he experienced under artillery fire. “The helplessness and hopelessness you feel is overwhelming as you try to squeeze yourself into a tiny ball to escape the flying shrapnel and the sounds of the bombs and exploding shells. It is something that a body does not get used to,” he said. “As morbid as it may sound, while in an active combat zone, an infantryman eventually gets numb to the killing and even the deaths of his buddies, but he never gets used to the fear

“...we must ensure that we field a formation, particularly the reconnaissance squadron, which can take a slug to the mouth, can endure a bloody nose, and yet still be able to continue the fight and accomplish the mission. When forced to engage in sub-optimal conditions, we must have a cavalry organization that can fight for information critical to the needs of the maneuver commander.”



of those screaming sounds of shells coming his way; no matter how many men are with you when the rounds start falling, you always feel like its directed personally at you, and you feel completely isolated and alone.”¹⁰

During one of 3-7 CAV’s engagements against Iraqi armor, Major Lyle’s unit came under artillery fire. Compared to historical norms, it was light both in number of rounds and duration. And yet, even of this so-called “light” attack he said, “There is nothing that can ever simulate the effects of receiving artillery. The earth shakes, the sound is deafening, the concussion is numbing, and smoke and dirt are thrown everywhere.”¹¹ Imagine if instead the strike had been fired by several battalions and lasted hours. Tanks and CFVs are not impervious to heavy artillery, but do provide meaningful protection. Now imagine being on the receiving end of such an attack protected only with the high-mobility, multipurpose wheeled vehicle (HMMWV) of an HBCT reconnaissance squadron. You do not have to have much of an imagination to understand you would not long survive. Artillery, however, is only one of the dangers a Chinese-like force poses.

Unmanned aerial systems (UAS), perhaps as much as any technology, represent the modernization of the U.S. military. We rely on UAS for visual reconnaissance of the battle area to remotely fire weapons against point targets, direct precision-guided weapons, and in the future act as communications relays to help enable networks. In every scenario I have seen used to depict future or current battlefields in simulation, UAVs of several varieties are depicted as providing significant enhanced capabilities to the blue force, assisting them in bringing overwhelming firepower to bear on the enemy. What has been lacking, however, is any depiction of a robust enemy capability in kind. Particularly in regards to China, that is a dangerous omission.

The January 2008 issue of the Chinese magazine, *Tank and Armoured Vehicle*, publicly reveals for the first time that the PRC has a 35mm anti-air weapons platform that uses Swiss-designed advanced hit efficiency and destruction (AHEAD) technology.¹² This system uses either radar or a passive computer-aided optics system to acquire targets. It fires 35mm shells at a rate of 500 to 1,000 rpm. These shells contain 152 tungsten steel sub-projectiles that are expelled from the primary shell casing between 1 and 40 meters prior to impact that spreads a shotgun-type blast pattern on the target. This weapon would be devastating against any UAV (or manned aircraft for that matter) operating within visual range of the enemy. But recognizing the tactical utility UAVs confer on their owners, China is not only interested in shooting down its adversary’s systems, they are equally concerned about possessing a fleet of their own.

On 1 March 2007, the Chinese magazine *Xian Binggong Keji*, published by the Shaanxi Province Science and Technology Association, reported on a number of the most modern Chinese UAVs and their functions in combat.¹³ Demonstrated at the Sixth Zhuhai Aviation Exhibition, the “Dark Sword, Sky Wing, and Flying Dragon” are among the most advanced unmanned aerial systems in the world. According to the magazine, these platforms contain “a color image platform, infrared imager, digital camera, and other such mission equipment. ... (It) can also complete wireless communications interruption, electronic countermeasures simulation,” and direct precision-guided weapons on target.¹⁴ And while the U.S. Army is excited about the development of a future unmanned helicopter, the Chinese already have three variants in various stages of production.

Richard D. Fisher, Chinese military expert and Vice President of the International Assessment and Strategy Center in Washing-

ton, DC, explained that if China and the United States were to fight a war, the Chinese would attack both America's manned and unmanned aerial reconnaissance systems, "(U.S. aerial reconnaissance assets) will face a phalanx of PLA air force and army surface-to-air missile and AAA gun systems. The PLA air force is on its way to purchasing up to 1,000 of the deadly Russian S-300 surface-to-air missile systems," he continued. "Organic army anti-air systems include the formidable Russian TOR-M1 short-range surface-to-air missile, which can also intercept precision-guided munitions, and an array of mobile short-range, self-propelled anti-air gun/missile and surface-to-air missile systems."¹⁵

Moreover, China doctrinally understands the critical nature of reconnaissance in modern battle and the role technology plays. As a result, they expressly emphasize the need to use all means necessary to knock out the enemy's capabilities in this area. *Defensive Combat* specifies that, "(I)n a battle fought under modern conditions, in particular, high-tech conditions, aerial reconnaissance has become the basic means of acquiring battlefield information for the forces. In wars of the future, in order to identify the defensive force deployment, positional organization, firepower system, and other information about our side, the enemy will inevitably use all means of airborne surveillance to conduct repeated aerial reconnaissance of the front line and the depth of our defense before launching an attack all through the course of a battle.... As a result in a defensive battle, in order to positively assist with the counter-surveillance actions of the defense forces, air defense forces must also actively fight the aerial reconnaissance weapons of the enemy by jamming and preventing their surveillance actions."¹⁶

One can reasonably assume, therefore, that in the future, if the United States has to fight a force with the same doctrine as China, that our UAV and helicopter fleet will suffer some degree of potentially significant attrition; our signals and computer networks will suffer to some degree as a result of being blocked, jammed, and attacked; we will potentially suffer limited to catastrophic loss of satellites that will degrade or temporarily eliminate our navigation ability, impact our strategic and operational communications, and impact our ability to fire precision-guided munitions; and our physical platforms will occasionally face withering artillery and anti-armor fire. Given these facts, it becomes clear beyond doubt that the reconnaissance squadron for an HBCT that is sent to do battle against an armored or mechanized enemy cannot be equipped with HMMWVs and a few CFVs and without the firepower and protection afforded by tanks.

These same fundamentals apply to our future force reconnaissance organizations as well. Without question, China will continue to focus its research and development efforts with a view toward creating the ability for its armed forces to compete with or defeat future American forces. But China is not alone in this effort. Since the U.S. military's burst from its post-Vietnam malaise with its stunning rout of Iraq in Desert Storm during 1991, every potential adversary on the planet has been studying every aspect of American military action, both in the current fights in Iraq and Afghanistan, as well as on presumed future capabilities. We must, therefore, devote an equal amount of mental energy to finding creative ways to counter those opponents.

As part of that effort, we must ensure that we field a formation, particularly the reconnaissance squadron, which can take a slug to the mouth, can endure a bloody nose, and yet still be able to continue the fight and accomplish the mission. When forced to engage in sub-optimal conditions, we *must* have a cavalry organization that can fight for information critical to the needs of the maneuver commander.

Given all the above, it is crucial, therefore, that both the current HBCT and FCS reconnaissance squadron reflect these realities so that they will have a fighting chance to succeed in their missions.

Recommendations

The U.S. Army's Field Manual 17-95, *Cavalry Operations*, describes the utility cavalry provides for the battlefield commander: "For maneuver to be successful, the commander must have a high degree of situational awareness. He must reduce the enemy, terrain, and friendly unknowns of the battlefield to fight effectively and to operate within the enemy's decision cycle. The successful execution of maneuver warfare continues to be the product of thorough reconnaissance and continual security. As the 'eyes and ears' of the commander, cavalry provides the commander with situational awareness and enhances his ability to maneuver successfully."¹⁷ To effectively execute the twin requirements for reconnaissance and security in the threat environment described in the preceding sections, we must alter our cavalry organizations. That said, we will examine recommended changes for the current force, followed by those for the future force:

Current force HBCT. When designing a fighting organization, it is important to ascertain the most dangerous situation in which that organization could someday find itself, and then ensure it can both survive and succeed; if it can accomplish its mission under the most difficult circumstances, it can survive and succeed against anything less. For the HBCT, that means it must be able to operate against a China-caliber enemy force that can destroy or degrade the satellites on which we rely, can launch mass



"The successful execution of maneuver warfare continues to be the product of thorough reconnaissance and continual security. As the 'eyes and ears' of the commander, cavalry provides the commander with situational awareness and enhances his ability to maneuver successfully.' To effectively execute the twin requirements for reconnaissance and security in the threat environment described in the preceding sections, we must alter our cavalry organizations."



“When designing a fighting organization, it is important to ascertain the most dangerous situation in which that organization could someday find itself, and then ensure it can both survive and succeed; if it can accomplish its mission under the most difficult circumstances, it can survive and succeed against anything less. ... The current force HBCT reconnaissance squadron should be reconfigured to eliminate soft-skinned wheeled vehicles and reequipped with CFVs and M1 tanks.”

indirect fire strikes, has the ability to bring modern heavy armor to bear, has robust anti-air capabilities, and is equipped with its own fleet of UAVs. In other words, our fighting formation must be able to defeat a modern near-peer enemy force.

The current force HBCT reconnaissance squadron should be reconfigured to eliminate soft-skinned wheeled vehicles and reequipped with CFVs and M1 tanks. The squadron should be organized with a headquarters troop and three line troops; each troop would include two scout platoons and two tank platoons. The scout platoon should include six CFVs, manned with two crewmen per vehicle and four dismounts, and be equipped with one PakBot Explorer for dismounted operations. The tank platoon would have four M1A2 tanks. The troop headquarters section would have one Raven UAV and one M1 tank for the troop commander. The squadron headquarters troop would have one M1 tank for the squadron commander, one CFV for the S3, one mortar platoon (to be used as the squadron commander sees fit), and two Raven UAVs.

A force organized as such could take a slug to the face and still fight back, gaining critical information so that the supported maneuver commander can develop the situation while his main body is still out of contact and adjust his scheme of maneuver as the situation dictates. Even if the enemy knocks down all the satellites in a theater of operations, brings heavy artillery and tanks to the battlefield, uses his own UAVs, and/or attains parity in the air, this formation could still function. If the enemy force is less capable in any of the aforementioned categories, the cavalry squadron would be all the more effective.

Future force. The cavalry organization for the future force must likewise be able to take the most severe blows any opponent could inflict and still accomplish its mission. Although we are building an impressive array of state-of-the-art technologies

that are designed to provide overmatch against our opponents, we must *assume* that in some cases, against some opponents, this overmatch will not exist. Sometimes we may face an enemy who can, at times, gain temporary tactical superiority. The FCS reconnaissance formation must be able to accomplish its mission when there is no satellite coverage, when the network has been degraded, when sensors are temporarily unavailable, and against a heavily armored foe with the ability to bring robust firepower to bear at the point of contact.

In a future, chaotic, uncertain enemy environment, the cavalry formation we field in the future must be able to conduct not only reconnaissance and surveillance, but also the full array of security missions — screen, guard, cover, and area security missions. Without adequate armored ground platforms, security missions become impossible. Additionally, particularly in the modern and future eras, commanders at each echelon, from battalion to corps, have a specific set of reconnaissance/security objectives and must have an adequate cavalry force to execute those requirements.

In the future, each combined arms battalion (CAB) commander will require a cavalry troop to aid him in accomplishing his mission. This troop should be composed of three scout platoons of six FCS reconnaissance and surveillance vehicles (RSV); each RSV would include two vehicle crewmembers and four dismounts; and each platoon should have one small unmanned ground vehicle (SUGV) and one class I UAV. Further, each troop should have one mounted combat system (MCS) platoon of four MCS vehicles to provide robust direct fire capability for the troop commander. Finally, the troop headquarters should have two class I UAVs and one mortar section.

The cavalry squadron for the FBCT should be organized with a headquarters troop, a surveillance troop, three ground troops,

an air cavalry troop, and a support troop. The three ground troops would be organized and equipped the same as a CAB troop (except for the mortar platoon being organic to squadron control for use as the squadron commander sees fit). The surveillance troop will be composed of four UAV platoons equipped with one combat observation team and eight class IV UAVs. The flight troop would be composed of three reconnaissance platoons containing 15 scout helicopters and one headquarters platoon. This organization enables the squadron to fully exploit all possible benefits when the system is working as designed, providing unprecedented reconnaissance and security capabilities to the supported maneuver commander; but critically, it will permit the squadron to function even in suboptimal conditions, providing the maneuver commander the critical time and space necessary to accomplish his mission.

Paying the Bill

Particularly for the current force, one of the first questions a reasonable person would ask is, "How ya gonna pay for it?" Adding a squadron of tanks, CFVs, and additional dismounts to the 25 HBCTs of the current force is a significant bill to pay. The Army has recently decided to grow the force, adding an additional 65,000 soldiers to its Active Duty rolls. Concurrent with this effort, the Army plans to add an additional six infantry brigade combat teams (IBCTs) to the force. If we alter this additional number of IBCTs to three instead of six, we would be able to afford the increase of both soldiers and equipment. To add a squadron's worth of equipment and soldiers (M1 tanks and CFVs, plus soldiers to man them) for 25 HBCTs would increase the manpower requirement by approximately 5,500 (which also accounts for the increased requirement for maintenance and support personnel), and add 675 M1 tanks and 450 CFVs.

One of the main arguments against lowering the number of new IBCTs is the effect it will have on Army Force Generation (ARFORGEN) models regarding the Iraq and Afghanistan BCT rotation policy. The theory is that the larger number of IBCTs will enable soldiers to have more dwell time and shorter deployments in theater. Frankly, that is a solution to a short-term problem that cannot and must not impact on long-term force manning decisions. Consider the results of such a policy: in the interests of capping soldiers' tours in Iraq and Afghanistan to 12 vice 15 months, we would accept a force of 25 HBCTs (and building to 43 IBCTs) whose reconnaissance squadrons would be incapable of surviving against even the woeful Iraqi armed forces we fought in March and April 2003. It would be a significantly better course of action to field 25 HBCTs (increasing to 40 IBCTs) that include robust armored cavalry squadrons that can fight against the best the world has to offer.

Cause for Hope

Although my assessment is that neither the current heavy cavalry squadrons nor the projected future reconnaissance units are adequately organized or equipped for the combat missions they could someday be called to execute, there is reason for optimism. There is at this time a debate occurring within the Army at the highest levels on the need to correct the deficiencies that have been identified by many in uniform. Some of the most capable and experienced officers and noncommissioned officers in the force are arguing for a change in the way cavalry squadrons are organized and equipped to more reasonably prepare them for the rigors of combat. Early indications are that the Army's senior leadership is listening and may soon make the nec-

essary adjustments. That is encouraging and a good start; but that alone is insufficient. There are many officers and enlisted soldiers of all ranks who have critical combat experience that need to make meaningful contributions to this debate. I have met soldiers of all ranks whose combat experiences and informed opinions could be of great value to the force; we need to hear from them!

Of equal importance, I have had numerous discussions with field grade officers and senior noncommissioned officers who have both the understanding, education, and tactical experience to know what needs to happen, and yet they muzzle their own voices because all too often they say, "But I can't do anything; no one is going to listen to me." To those officers and men, I say, "you are wrong!" I would argue that we *need* to hear from them because they have a point of view and experiences that the Army needs and can acquire from no other source. If the men who have the best ideas and most applicable combat experience remain silent, who does that leave expressing the ideas that will eventually shape our force?

As soldiers, we should all have a great interest in trying to become part of the solution to rectify shortcomings in our current and future reconnaissance forces. If we pool the ideas, thoughts, and energy of our experienced officers and noncommissioned officers, these problems can be turned from shortcomings to strengths. We owe it to the current, and future, force to get this right.



Notes

- ¹Personal conversation between Major H. Clay Lyle and author.
- ²Academy of Science in Beijing, Text Books, *Teaching Materials on Combined Arms Offensive Combat and Teaching Materials on Combined Arms Defensive Combat*, Academy of Science, Beijing, China, May 2000.
- ³*Teaching Materials on Combined Arms Defensive Combat*.
- ⁴*Teaching Materials on Combined Arms Offensive Combat*.
- ⁵*Ibid.*
- ⁶Li Qinwei, "Elevation 5,000 Meters: High Plateau Crack Force Travels the Length and Breadth of Kala Kunlun (Mountain)," *Jiefangjun Bao*, Beijing, China, 31 December 2007.
- ⁷*Teaching Materials on Combined Arms Offensive Combat*.
- ⁸*Ibid.*
- ⁹*Ibid.*
- ¹⁰Personal conversation between Raymond Wells and author.
- ¹¹Personal conversation between Major Lyle and author.
- ¹²*Tank and Armoured Vehicle*, January 2008.
- ¹³Mu Xiaoming and Fan Yong, "A Review of China's Military UAV Development," Shaanxi Province Science and Technology Association, *Xian Binggong Keji*, Beijing, China, 1 March 2007.
- ¹⁴*Ibid.*
- ¹⁵Personal conversation between Richard D. Fisher and author.
- ¹⁶*Teaching Materials on Combined Arms Defensive Combat*.
- ¹⁷U.S. Army Field Manual 17-95, *Cavalry Operations*, Headquarters, Department of the Army, U.S. Government Printing Office, Washington, DC, 24 December 1996.

Major Daniel L. Davis is currently a doctrine writer at Fort Bliss, TX. He received a B.S. from Texas Tech University and an M.S. from Troy University. His military education includes Armor Captains Career Course, Field Artillery Officer Basic Course, Combined Arms and Services Staff School, and U.S. Army Command and General Staff College. He has served in various command and staff positions, to include XO, 1st Squadron, 1st U.S. Cavalry, Buedingen, Germany; liaison officer, Central Command, Combined Forces Command, Afghanistan; action officer, Army Operations Center, Department of the Army, Pentagon; and assistant G3, 1st Infantry Division, Wurzburg, Germany.