

# The Evolution of Reconnaissance In the 21st Century

by Sergeant First Class Frank R. Belonus

**Authors Note:** *I wrote this article five months before the tragic events of September 11th and the war we now find ourselves in. The operations our armed forces are now conducting emphasize the need to understand the complexities of an asymmetrical environment like Afghanistan. This article addresses the expanded, "multidimensional" aspect of reconnaissance needed to combat guerrilla units and terrorists in complex terrain. It also highlights some of the distinctive characteristics of the RSTA Squadron found within the IBCT, identifying some of its unique assets and capabilities when working in this environment. The recently released Quadrennial Defense Review re-emphasizes the need for such an organization by making the IBCT a priority and accelerating its fielding. I would also like to extend my thoughts and prayers to those who have lost loved ones, and to all that place themselves in harm's way in order to protect and serve this great country and its people.*

SFC Frank Belonus  
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## Introduction

With the continued technological developments in intelligence, surveillance, and reconnaissance (ISR) assets, the reconnaissance scout still remains the commander's primary information gatherer. Information collected from a human source is the most reliable form of information gathering.

The fundamentals of reconnaissance have not changed much over the last 50 years,<sup>1</sup> but the focus, tempo, and engagement criteria for reconnaissance continue to evolve.

Today, many factors influence the focus of reconnaissance. The type of reconnaissance unit conducting the operation, its capabilities, its limitations, the types of operations it normally conducts, and the environment it operates in, all help drive the reconnaissance focus.

*"Normally, Recon Platoon's primary function in life was to patrol an area for reconnaissance purposes only, avoiding — if possible — detection and contact. We were chartered to collect information for use by higher headquarters, all (hopefully) without the enemy's awareness of our surveillance."*

Sergeant Major F. Miller<sup>2</sup>  
Medal of Honor Recipient

There are two types of reconnaissance organizations. One type relies solely on passive surveillance, human intelligence (HUMINT) derived from human interaction, and technical means to perform reconnaissance. The other type uses these techniques and assets, but has the additional capability of fighting for information.<sup>3</sup>

Reconnaissance organizations found in the first category, such as task force scout platoons found in armor or mechanized infantry battalions, Brigade Reconnaissance Troops (BRTs), light cavalry units, and rece units in the Reconnaissance, Surveillance, and Target Acquisition (RSTA) squadron of the Interim Brigade Combat Team (IBCT), focus purely on information gathering. They are not capable of surviving protracted engagement with threat forces and, therefore, rely on stealth and the integration of other ISR assets for survivability and success. These types of organizations avoid direct fire contact and engage threat forces with direct fire weapons only in self-defense. They lack the capability to fight for information.

Reconnaissance organizations such as armored cavalry regiments (ACR) and division cavalry squadrons not only use the common techniques and assets (HUMINT, passive surveillance, and technical means) but also are capable of employing combat power to fight for information. Because these units are usually the forward-most elements in major theater of war (MTW) environ-

ments, they must have the capability to survive meeting engagements and to destroy or impede threat forces as necessary to sustain operations in high-threat areas. These unique, combined arms organizations employ tanks, attack helicopters and, usually, Bradley Cavalry Fighting Vehicles (CFVs) to enhance survivability and to sustain the aggressive tempo required for operations in this environment. The capabilities of the integrated weapons platforms, working together, allow these organizations to fight for information using a higher level of engagement criteria and tempo than those reconnaissance organizations not organized in this manner. These units are capable of fighting through threat reconnaissance (destroying the threat's "eyes and ears") to gain combat information needed by higher unit commanders. In shaping operations, the ability to fight for information is important in determining the intent of a threat (for example, whether the threat is willing to defend, withdraw, or fight when confronted) without committing main body infantry or armor units.

These two types of reconnaissance organizations are mutually supporting. Organizations working forward in an area of operations provide the initial information that may allow the refinement of focus for follow-on reconnaissance elements. This information can also enhance survivability and mission success by enabling the follow-on organization to maneuver out of contact (using stealthy movement) and then make initial contact on the most favorable terms, at the time and place(s) of their own choosing.

The RSTA squadron is much better suited to conduct the multidimensional aspect of reconnaissance (further explained later in this article) in complex terrain, as well as integrating and maximizing multiple, layered ISR assets in permissive/semi-permissive, or small-scale contingency (SSC) environments, whereas division cavalry, with its superior firepower and survival

capabilities, is much better suited for a conventional, force-on-force, gun-to-gun form of conflict in a MTW environment. The focus of these two units is vastly different, but both are equally needed to deal with today's threats. Although the difference in these two forces is obvious, they both must be prepared to transition to operations outside their normal realm, based on continuously changing operational environments. Three major issues are driving the current change in reconnaissance focus; they are the environments where scouts will operate, the impact of evolving technology, and the nature of threat forces in the future.

Future trends suggest that operations in stability and support operations, and small-scale contingencies, are much more likely for U.S. forces versus the conventional MTW that U.S. forces currently train for, focus on, and are structured to fight. Threats of the future include mid- to low-end industrial-age forces, guerrilla forces, or terrorists (commonly the type of forces found in small-scale contingencies), capable of communicating rapidly with cell phones and the internet, working in small, decentralized teams, and focusing on U.S. forces' weak points. There are very few forces in the world that could compete with U.S. forces in a heavy, conventional force-on-force meeting engagement in an environment that permits large armor forces the flexibility to maneuver freely.

Because of this, the weaker foe must find ways to even the odds, and against a conventional, heavy force like the U.S. Army, this will be done by drawing us into difficult operating environments, such as urban environments, while attempting to sway U.S. public opinion by creating casualties and manipulating the media.

By the year 2010, it is anticipated that 75 percent of the world's population will reside in, or around urban areas.<sup>4</sup> Because of their seaports and airports, these hubs are key to the deployment of U.S. forces into theaters of operation. Moreover, urban areas are where stability, support, and SSC operations tend to occur. Another of our weaknesses is the large logistical footprint required for a heavy force. History shows many instances where it is the large logistical tail that wags the dog.

These types of threats and environments, coupled with today's technology, drive the reconnaissance focus

into the 21st century. Today's scout must be proficient at information gathering in any terrain and be capable of maintaining the flexibility to do these operations in a permissive environment, a MTW, or anywhere in-between. He must understand the capabilities of evolving ISR assets and how they support the reconnaissance and surveillance effort. Scouts must understand digitization, how this will streamline reporting and enhance situational awareness (SA). Digitization facilitates achieving a common operational picture (COP), which is multiple leaders seeing the same operational picture. An operational picture (OP), in analog terms, would be like an overlay with friendly and known enemy locations posted. Digitization is also the key to achieving situational dominance on the battlefields of tomorrow. Digitization is discussed in further detail later in this article.

*"Modern command, control, and communications technology forms the neurons and synapses that make agility possible by tying together the brains and muscles of a field army... Agility should be limited only by the mental and physical capability of the force, not by the communications that link them together."*

*Certain Victory – The U.S. Army in the Gulf War*<sup>5</sup>

## Cold War Transition

The narrow, Cold War reconnaissance focus of identifying military movement and communications or reconnoitering terrain is derived from the Cold War-era form of maneuver. Maneuver commanders would maneuver to make contact. Once contact is made, they would develop the situation and maneuver, while still in contact. They then conducted decisive close combat operations in order to destroy the enemy.

This type of maneuver does not allow the commander the ability to strike at the enemy's weakest point/points, with surprise, at a time of his choosing. Today's technology allows us to now make initial contact using ISR assets while still out of direct contact; this includes scouts with the long-range acquisition capability of the Long Range Advanced Scout Surveillance System (LRAS3)(Figure 3). With this capability, the commander can maneuver his forces freely and conduct deci-

sive operations at his own chosen time and place. This type of maneuver requires the scout to expand his focus to include other ISR assets in the reconnaissance plan, as well as capitalizing on information sources and tactics, techniques and procedures (TTP) not previously maximized.

Some of the key collection disciplines in the ISR architecture are HUMINT, signal intelligence (SIGINT), imagery intelligence (IMINT), and measurements and signature intelligence (MASINT – a combination of electronic imagery and signal intelligence). The assets within these disciplines must be understood and properly integrated into reconnaissance and/or surveillance operations when available. The RSTA squadron of the IBCT is structured to maximize these assets in order to provide the information needed by the brigade commander. Legacy forces (current heavy forces) in places like Kuwait and the Balkans are currently using many of these ISR assets.

HUMINT refers to information gathered by human sources. Some HUMINT assets are scouts, military intelligence personnel, engineer recon, chemical recon, military police, and civil affairs. Military police and civil affairs could play key roles in the multidimensional aspect of reconnaissance and security (the multidimensional aspect of reconnaissance is explained further later in the article).

SIGINT gathers information from electronic and communications sources. Some of these assets are the ground-operating Prophet (Figure 1), aircraft-based Guardrail, and UH60-based Quickfix.

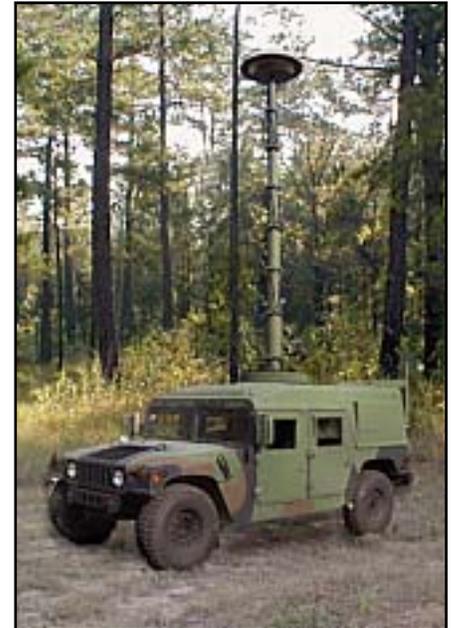
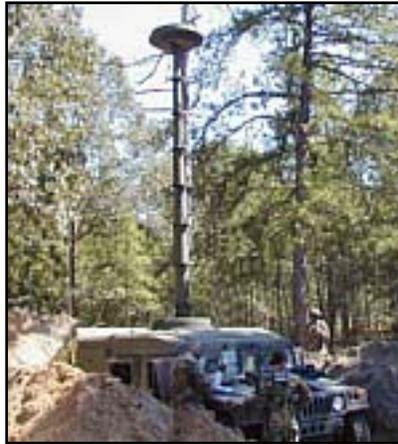
IMINT refers to assets that gather information using visual photographs, infrared sensors, lasers, electro-optics, and radar sensors. The primary IMINT asset is the Tactical Unmanned Aerial Vehicle (TAUV) (Figure 2).

MASINT gathers information from directed-energy weapons. Some examples are Ground Surveillance Radars (GSR), Remotely Monitored Battlefield Assessment (REMBASS) that detects seismic, acoustic, magnetic, and IR signatures, and the Q36 and Q37 radars, which detect and track incoming mortar and artillery rounds to enable rapid counter-fires.

These ISR assets play a key role in the transition from the Cold War focus. They not only support reconnaissance



Fig. 1 The Prophet ground SIGINT system



and security operations in any environment, but also enhance the likelihood of making initial contact with the threat while still out of direct contact. The reconnaissance scouts can also maneuver while still out of contact in order to gain and maintain contact and continue information collection. Assets such as the LRAS3 (Figure 3) allow the scouts to acquire targets at a greater range, thus increasing their survivability.

ISR assets can also be used to help develop and refine reconnaissance and surveillance operations during the planning phase. For example, using UAVs to check danger areas (such as dominant, influencing terrain) and proposed infiltration routes prior to the scouts moving into sector<sup>6</sup> increases scout survivability and overall operational success as well. All scouts must know how to use, and maximize, these ISR assets in support of their missions.

It should also be stressed that these ISR assets primarily **support** the reconnaissance/surveillance effort, they do not conduct it by themselves. In order to maximize its time on station, a UAV, for example, needs to be focused on the information needed. UAVs are also good for confirming initial reports, but scouts need to factor in their vulnerability and lack of stealth.

Assets, such as GSRs, can be used as tactical triggers, allowing scouts to focus on primary avenues of approach. A GSR team reporting initial contact can trigger the scouts to shift focus and acquire the potential target. Once acquired, both may maintain contact to allow layered redundancy until handover of the confirmed target, or the GSR team may be directed to reestablish “observation” of its initial NAI while the scouts maintain contact.

These are just some examples of ISR integration in support of the reconnaissance/surveillance mission.

### The Multidimensional Aspect of Reconnaissance

The multidimensional aspect of reconnaissance expands on the traditional **focus** of reconnaissance and surveillance by obtaining more detailed information about an area than scouts have traditionally gathered:

- Enemy**, threat forces (military, paramilitary, criminal, and other types)

- Society**, civilian demographics

- Infrastructure** (including utilities, transportation, and the political, economic, and agricultural situations) route obstacles, etc.

- Terrain**

This kind of reconnaissance focus, deliberate and detailed, requires scouts and HUMINT collectors (97B organic to the recce platoons) to develop relationships with the local military/civilian leaders to gain information that may prove pertinent to current, or future operations in that area. This is time-consuming and may continue indefinitely. While the threat level determines the level of interaction with local personnel, even in a MTW environment, local non-combatants may provide valuable information. And when working in a permissive, or semi-permissive environment, maximum use of this kind of reconnaissance can provide the commander with information that may prevent future escalation of hostilities.

If area stability deteriorates and hostilities escalate to the point where maneuver forces are needed, the maneuver commander must have the information necessary to defeat the threat using the contact paradigm discussed earlier. This further identifies a potential requirement of prioritizing types/focus of the information initially collected, in anticipation of the maneuver commander’s information needs. This may be

standardized in unit SOPs. In the event of layered reconnaissance efforts, the brigade’s reconnaissance assets may be initially working in the area focused on the collection of the brigade commander’s critical information requirements (CCIR) or intelligence requirements (IR) to fill voids in the brigade’s intelligence preparation of the battlefield (IPB). As hostilities escalate, reconnaissance handover (further explained later in this article) may be conducted with the battalion maneuver commander’s reconnaissance assets, who will then, in turn, focus their reconnaissance efforts for their commander, fulfilling the maneuver commander’s CCIR or IR (which may be different than the brigade commander’s), facilitating successful operations by the maneuver force.

In the 1970s, Rhodesia’s Selous Scouts became world-renowned for their ability to gain information in their environment.<sup>7</sup> Their ability to provide crucial information to their leaders in a timely manner allowed the country’s small security forces to be at the right place at the right time to interdict raiding enemy forces. They accomplished this task by working in small, dismounted teams for extended periods in enemy territory, establishing observation posts (OPs) to observe main avenues of approach. Another frequent method used to gain information was to make contact with village communities within the area to glean pieces of information on enemy movement, intended targets and rendezvous locations. This often led to penetration of enemy camps and neutralization of complete enemy groups. This example



Fig. 2. The Tactical Unmanned Aerial Vehicle (TUAV)



Fig. 3. The Long Range Advanced Scout Surveillance System (LRAS3) as mounted on a HMMWV's roof.

of the multidimensional aspect of reconnaissance shows that this is not something new. This aspect of reconnaissance is being conducted today in the Balkans, showing the need for today's scouts to understand this dimension of reconnaissance.

Emerging doctrine for scouts expounds even further on this subject. It explains intelligence collection operations and activities, defining the HUMINT collector as the subject matter expert, but the reconnaissance leader must understand how to properly focus scout/HUMINT information collection. Higher headquarters may provide assessment forms to further focus scout/HUMINT information collection efforts. These products help the unit to gather information on enemy, terrain, society, and/or infrastructure in an urban environment. They also address the requirement to identify the basic human needs of the society (such as food, water, and shelter).

This information gives the higher command the ability to influence the society based on these identified needs. Scouts and HUMINT collectors also identify potential information sources that can be further queried by follow-on

military intelligence (MI) units.<sup>8</sup> These MI units collect the scout's information, and the information from HUMINT operators, and analyze it to develop intelligence for the commander. This form of information collecting is critical in urban environments because of the difficulty of gathering information in such complex terrain. Developing doctrine also goes on to describe other factors related to civil-military operations, such as local customs, bribery, gifts and liaison operations.<sup>9</sup> The multidimensional aspect must be considered in the planning phase of all operations. "Multidimensional" is not an operation of its own, it is part of every recon-

nnaissance and surveillance operation that scouts conduct, regardless of the terrain and the environment in which they will operate.

### Urban Operations

Developing doctrine further defines the scout's role in urban operations. The extent of the urban reconnaissance is based on the threat level of the environment. When working in a permissive, or semi-permissive environment, plan for all aspects of urban reconnaissance, to include the multidimensional aspect.

Initially, during the planning phase, all existing intelligence is retrieved and analyzed prior to the upcoming reconnaissance. Assets like Trojan Spirit — a system enabling reach-back to imagery and video from worldwide sources — greatly enhance this intelligence retrieval. ISR assets are deployed also to confirm or deny reported information and to conduct preliminary reconnaissance.<sup>10</sup>

Scouts conduct reconnaissance outside the urban area and establish OPs to observe the urban area prior to movement into the built-up area. They develop urban operations sketches prior to entering the urban environment.

Once in the built-up area, they confirm and refine urban mapping. They may develop urban overlays (Figure 4) reflecting known hostile areas, main routes, and subterranean routes. Scouts may be used to confirm existing overlays, or gain the information required for higher to develop these overlays, which also facilitate rapid information handover to other units. They may establish OPs in urban areas to continue surveillance.

Buildings can make good OP locations, but scouts should not enter buildings in a high threat environment. Scouts primarily **do not** clear buildings; rather, they reconnoiter buildings for potential OP locations or to meet the requirements of a compliance inspection. Building clearance is normally an infantry task associated with urban assaults and usually requires a large number of soldiers. Scouts must know, however, how to move securely in a building and how to check rooms as they move past them. Reconnaissance elements moving mounted and/or dismounted in urban areas, building entry techniques, movement techniques within buildings, and engagement techniques within buildings are now addressed in emerging reconnaissance doctrine.<sup>11</sup> Emerging doctrine also addresses the role of reconnaissance in support of infantry assaults of an urban area.

ISR assets can collect some of the information needed from within an urban area, but you need human involvement to determine such things as crowd mood, a factor that could assist the commander in anticipating their next action, and tactical questioning of potential information sources. Moving crowds may now be NAIs for scouts.

Scouts may also conduct presence patrols within an urban area in order to support stability operations. As stated earlier, scouts can support combat operations in urban areas, but they normally operate as part of the fire support element or the security element in assault operations in urban areas.

### Digitization and Situational Awareness

Situational awareness is the ability to maintain a constant, clear mental picture of relevant information (information important to the commander for C2) and the tactical situation. Digitization can now support the commander's

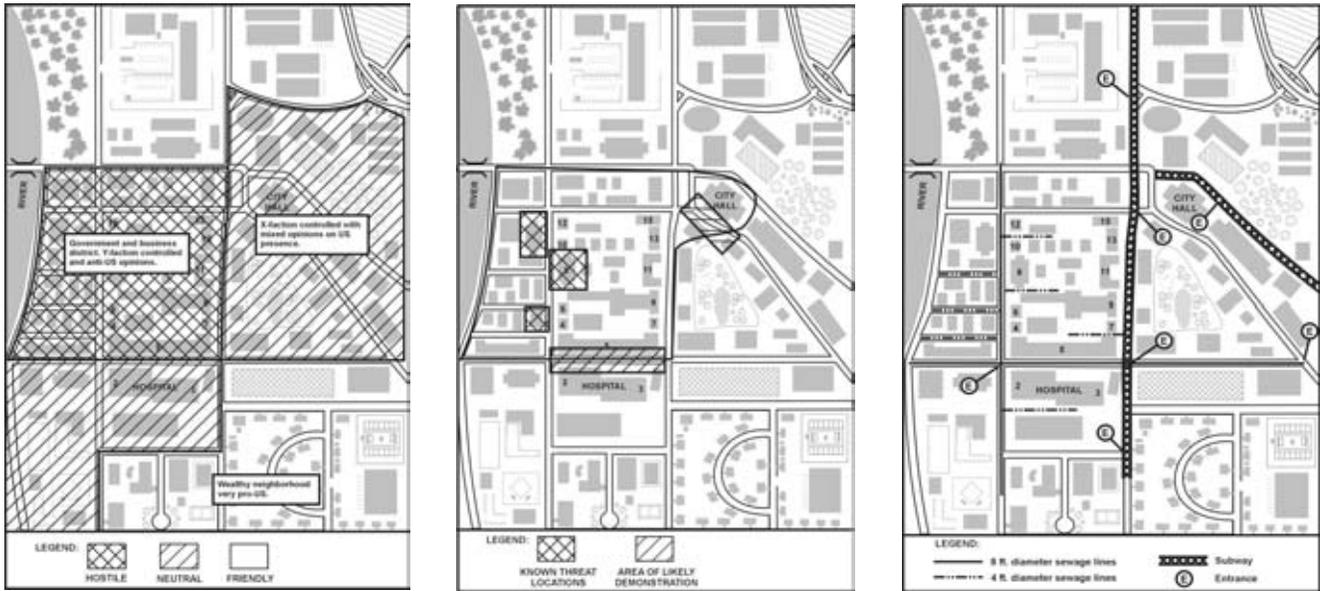


Fig. 4. Some examples of urban overlays tracking, from left, allegiances, likely disturbance sites, and sewer mains.

situational awareness. Technological advancements such as the Force XXI Battle Command Brigade and Below (FBCB2) (Figure 5) provide the user a degree of the operational picture (OP), which is unit icons on the screens of the units within their command, or the common operational picture (COP), which presents the identical operational picture shared by more than one command.

This has also opened the door for digital reporting and coordination, which saves time. But it also contributes to information overload. It will be up to every user to act as a filter to prevent overloading the system with redundant information. Filters will also have to be standardized, possibly in SOPs, to sift out everything that is not relevant. This technology will have a tremendous impact on how scouts will send and receive information. To maintain a significant information advantage (situ-

ational dominance [SD]), threat information collecting assets may become priority targets to be immediately destroyed during reconnaissance operations.

Scouts at the lowest level must understand the COP and how the actions in someone else's area of operation may affect what may occur in his. This is especially true in urban operations. Digitization is also assisting with coordination with forward, rearward, and flank units. The digital information and enemy icon(s) on the FBCB2 help reconnaissance elements remain situationally aware, and supports better reconnaissance handover.

### Reconnaissance Handover

The subject of reconnaissance handover is currently part of emerging doctrine. It is defined as a task between two units/elements that coordinates transfer of information and/or responsi-

bility for observation (reconnaissance and surveillance) of an assigned area, or contact from one unit/element to another, if they were initially separated by time and space. Unlike battle handover, it does not imply assumption of a battle. This task provides information connection, overlapping communications, and focus on their commander's CCIR and reconnaissance objectives (which may be a different focus for each echelon). Reconnaissance handover is normally associated with a designated area or reconnaissance handover line [phase line]; it may be of a sector/zone, NAI, TAI, and/or threat contact. Reconnaissance handover can be visual, electronic, digital, or analog. It applies not only from OP to OP within a platoon, but links ACR, division cavalry, BRT, and task force scouts, ensuring reconnaissance layering, or interlock. Reconnaissance handover is also used to integrate ISR assets, ensuring they are properly integrated into the reconnaissance operation, as explained earlier in this article. Reconnaissance handover begins in the planning phase of an operation, and must be rehearsed at all levels.

### Scout Issues

Dismounted operations continue to be the key to success for scouts. Scout survivability tremendously increases when they are dismounted. The recon platoons of the RSTA squadron conduct the majority of their operations dismounted and have designated dismount teams in each squad.

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Fig. 5

The FBCB2 system presents a common view of the area of operations



## Evolution of Reconnaissance Continued from Page 24

Organic to each squad is a HUMINT soldier, usually MOS 97B, who is also cross-trained to conduct dismounted reconnaissance and surveillance. Although scouts in this organization are cross-trained in tactical questioning, the HUMINT collectors play a vital role in the platoon by advising the platoon's leaders, identifying potential sources to be exploited by the squadron's MI company, and are the primary reporters on the CHATS system, a network system specifically for reporting HUMINT information.<sup>12</sup>

Although the recce platoon is ideally suited to conduct the multidimensional aspect of reconnaissance, support operations, stability operations, and small-scale contingencies, it is the legacy force scouts that are conducting these operations right now, and there is a doctrinal need by all scouts to have information in support of these operations.

Developing doctrine also addresses the distance each echelon of reconnaissance is deployed. The BRT now fills the void that existed between the task force scouts and the division cavalry, but now there is a concern for how far they are being deployed. The distance should be based on METT-TC and the capability to support them, support being CASEVAC, indirect fires, communications, and so on. This may, in turn, drive how far forward the division cavalry may operate. There may need to be a designated reconnaissance hand-over line between each element to prevent confusion and loss of targets in the folds between elements. This line also defines areas of responsibility for direct and indirect fires, and maneuver.

There is a need for standardization between the different branches of service to allow digital support of future joint operations. Currently, the different branches of the Army are working closely together to standardize evolving doctrine to ensure true combined arms capability. Emerging reconnaissance doctrine will also address operations for both digital and analog units.

Information dominance will become increasingly more difficult. Technology now allows the smallest of threats the ability to communicate and gain intelligence immediately through the use of cell phones, the internet, and CNN. Computer hackers, computer viruses, and worms are now major concerns to

U.S. forces. These are threats the Army has not previously faced, threats which must be addressed with minimal, if any, historical precedence.

### Notes

<sup>1</sup>FM 17-22, *Reconnaissance Platoon and Reconnaissance Company*, 1 May 1950.

<sup>2</sup>F. Miller & E. Kureth, *Reflections of a Warrior*, Presidio Press, 1991, p. 59.

<sup>3</sup>MAJ G. Athey/SFC F. Belonus, developed for FM 3-20.98 *Reconnaissance Platoon*, Coordinating Draft, May 2001.

<sup>4</sup>Defense Science Board, 1996.

<sup>5</sup>BG R. Scales Jr., *Certain Victory: The U.S. Army in the Gulf War*, 1994.

<sup>6</sup>FM 3-20.98, *Reconnaissance Platoon*, Coordinating Draft, May, 2001, Infiltration.

<sup>7</sup>F.A. Godfrey, *War in Peace, War in the Bush*, Orbis Publishing, 1981, p. 82.

<sup>8</sup>FM 3-20.971 *Reconnaissance Troop*, Coordinating Draft, May 2001.

<sup>9</sup>FM 3-20.98, *Reconnaissance Platoon*, Coordinating Draft, May 2001.

<sup>10</sup>FM 3-20.96, *RSTA Squadron*, Coordinating Draft, date pending.

<sup>11</sup>FM 3-20.98, *Reconnaissance Platoon*.

<sup>12</sup>MAJ Petery, RSTA Squadron Armor Conference Brief, 22 May 2001.

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