Military Intelligence
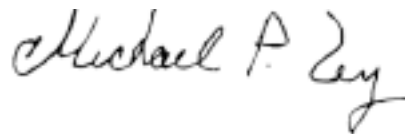## Professional Bulletin

IPB

FROM THE EDITOR

This issue of the **Military Intelligence Professional Bulletin** focuses on the heart and soul of our intelligence tasks: intelligence preparation of the battlefield (IPB). The threats, missions, and challenges facing today's Army are more diverse than ever before. Added to the complexities of current Army operations are the recent tragedies in New York, Washington, D.C., and Pennsylvania, as well as a wide range of multifaceted missions the Army may soon conduct to defeat the terrorist threat. A common element and requirement of all of these missions and operations, however, is IPB, a systematic process of analyzing the weather, terrain, and threat in a specific geographic area. IPB integrates threat doctrine with the environment (to include far more intricate factors than weather and terrain) as they relate to the mission within a specific area of interest. IPB is a four-step process: define the battlefield environment; describe the battlefield's effects; evaluate the threat; and determine the threat's courses of action (COAs). Additionally, a crucial and often under-emphasized element of IPB is truly understanding the entire environment.

The IPB process drives the entire military decision-making process (MDMP). The staff uses a systematic approach and different techniques to analyze all aspects of the environment and threat in order to develop possible threat COAs that drive all subsequent planning. The staff presents the results of IPB in several appropriate formats to facilitate operational planning and to provide an initial framework for intelligence, surveillance, and reconnaissance (ISR) planning, situational development and understanding, and decision-making. IPB provides the foundation on which the commander makes decisions concerning the threat. The IPB process drives the wargaming process, which allows the G2 or S2 and the rest of the staff to integrate ISR into the MDMP and facilitates the synchronization of reconnaissance and surveillance (R&S) operations with the other unit operations, ultimately leading to a staff recommendation to the commander. At all echelons, IPB is critical to the success of a unit's mission. Without having the staff develop IPB products and integrate those products into the rest of the MDMP, the likelihood of a successful mission is remote.

This issue will address many of the tactics, techniques, and procedures (TTP), lessons learned, and tools available to the intelligence analyst in the performance of the IPB mission. In particular, our approach with this issue is to examine some of the specifics of the IPB process in the combat training centers, special operations and jungle environments, and actual conflicts. We expand our view to tie information operations into the joint intelligence preparation of the battlespace process and look at effective scenario development permitting varied IPB training.

The excellent lead-off article by Colonel Thomas Smith (U.S. Army, Retired) and Major David Puppolo appears in a somewhat condensed form in this printed issue. **MIPB** plans to include the entire article with all the examples and graphics on our website when we post this issue in six months. Our final feature presents a number of IPB-related lessons learned from Major John Blaxland (Australian Army), who was the senior Australian intelligence officer in East Timor.

Michael P. Ley

Writer of the Quarter

MIPB is pleased to announce that Lieutenant Colonel Michael T. Flynn is our **Writer of the Quarter** for the article "Understanding Our Future Battlespace: Why We Need to Integrate IO Into the IPB Process." Congratulations to LTC Flynn and thanks to all of our authors for their great articles, book reviews, and letters to the editor. Contributions like yours make **MIPB** the professional forum for military intelligence professionals.

How to Submit an Article to MIPB

MIPB is always seeking good articles on a variety of topics as well as action photographs of MI soldiers. Please see page 56 for instructions on submitting your articles, photographs, and book reviews. Our upcoming themes include analysis, **FM 2-0** (**Intelligence Operations**), IPB in special terrain, and strategic operations and organizations.

MILITARY INTELLIGENCE

PB 34-01-2
Volume 27 Number 2
October-December 2001

Purpose: The U.S. Army Intelligence Center and Fort Huachuca (USAIC&FH) publishes the *Military Intelligence Professional Bulletin* quarterly under provisions of **AR 25-30**. *MIPB* disseminates material designed to enhance individuals' knowledge of past, current, and emerging concepts, doctrine, material, training, and professional developments in the MI Corps.

Submissions: Please send your manuscripts, letters to the editor, photographs, and any inquiries to: Commander, USAIC&FH, ATTN: ATZS-FDR-CD, Fort Huachuca, AZ 85613-6000; send via E-mail to michael.ley@hua.army.mil; or telephone (520) 538-0979 or DSN 879-0979.

Subscriptions: Subscription rates are $19.00 per year (Domestic, APO, and FPO) and $22.50 per year (Foreign). Send changes of address and subscriptions (see page 29) to Commander, USAIC&FH, ATZS-FDR-CD, Fort Huachuca, AZ 85613-6000. For further information, telephone (520) 538-0979 or DSN 879-0979 or E-mail ATZS-FDC-D@hua.army.mil. Rates are going up this fall.

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FEATURES

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By order of the Secretary of the Army:
Official:

[signature]

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General, United States Army Chief of Staff

VANTAGE POINT

by Brigadier General James A. Marks

As I assumed the responsibility of the Chief of Military Intelligence on 11 September 2001, the terrorist attacks on the United States changed our world-view forever. We grieve the loss of many comrades in arms and fellow civilians. However, it is also a time full of opportunities as our nation remains strong, and we continue to serve as a force of stability throughout the world. In turn, the nation continues to depend on the Army as a major pillar of our national security. The Army will carry on both in its rich tradition and in its efforts to look forward to the future as we transform. For us specifically, the capabilities and missions of the intelligence community, Army Military Intelligence, and the Intelligence Center remain largely unchanged. We will continue to train soldiers and grow leaders for the many challenges ahead. I am positive that the Army will rise to the occasion again in service to our great nation in the aftermath of the events of that terrible day.

In the wake of the recent tragedy, I call on all intelligence personnel—military, civilian, and contractor—to recommit themselves to our profession. We witnessed a reminder of the importance of what we do and why we do it. An awesome responsibility to shoulder, this is a burden we can bear together. Although we must look inside and consider our roles in this endeavor, we can rest assured that we have a vast store of corporate strength within our great Army institution.

The very core of our profession has always been our people. We must zealously ensure that we credit our soldiers and civilians, not systems or technology, as by far the most important factor in intelligence. Our new capstone Army doctrine (**FM 1**, **The Army**) emphasizes the importance of information as an element of combat power and how we conduct operations to gain information superiority. Systems and data alone will never provide information superiority or situational awareness.

The United States and her allies must compete with a thinking and adaptive enemy to find and develop an operational advantage through the effective use of information. In order for the commander to make decisions that lead to an operational advantage, our forces must collect and process information and produce intelligence to facilitate the commander's situational understanding. Therefore, successful operations

Brigadier General James A. Marks

are the result of careful analysis, an understanding of the complex aspects of intelligence, and a high level of training and experience. Too often, we are enamored with systems and technology, and we lose sight of the fact that the systems are just tools in the hands of highly skilled personnel.

Army intelligence personnel must stand ready to integrate intelligence within full-spectrum operations in a highly complex and evolving operational environment. To meet the substantial demands of the future, we must—

❑ Mentally and doctrinally codify intelligence as an integral part of all operations.
❑ Ensure intelligence, surveillance, and reconnaissance integration is a part of every battlefield operating system.
❑ Place a premium on filling our Branch with adaptive analysts. These analysts must excel in the performance of our core competencies (for example, intelligence preparation of the battlefield, situation development, and integration with targeting) in any environment against an asymmetric threat.
❑ Emphasize and inculcate continuous learning, strong mentoring, and professional development.

CSM FORUM

**by Command Sergeant Major
Lawrence J. Haubrich**

The last decade has changed our Army in many ways; the Army is much smaller now with a higher operational tempo (OPTEMPO). Our missions are considerably more diverse, and we are undergoing a major transformation in our structure and institution. Through all the changes, the Military Intelligence (MI) soldier has served *always out front*, by acting as the eyes and ears of the Army.

MI soldiers are multi-talented, multi-skilled, and multi-functional, and they effectively accomplish today's unique missions throughout the world. The concepts of the Legacy Force and the Objective Force in Army Transformation are important ones. The senior leadership of the MI corps is part of the Legacy Force; we must continue to train our MI soldiers for combat while we assist them in the continuous transformation process. These soldiers going through initial training and attending the basic and advanced noncommissioned officer (NCO) courses, the officer basic or transition and advanced courses, and the warrant officer courses will comprise part of the Objective Force in the next decades.

These talented MI soldiers receive their initial training from these sources, but they must continue to learn through their units' development programs. Their success in the enhancement of their knowledge and skills relies on the MI officer and NCO leadership around the world. I am confident that our leaders are prepared and up to this challenge.

I have been fortunate to visit many of our units as the MI Corps Sergeant Major. In the past nine months, I visited a number of MI units including the Army Reserve Intelligence Support Center (ARISC) and 221st MI Battalion (Tactical Exploitation [TE]) (a U.S. Army National Guard unit) at Fort Gillem, Georgia; the MI Total Army School System (TASS) Battalion and four airborne units—the 525th MI Brigade, 319th MI Battalion (Operations), 519th MI Battalion (TE), and the 313th MI Battalion—at Fort Bragg, North Carolina; and the National Training Center at Fort Irwin, California. I want to personally thank these units for their hospitality.

U.S. Army Photo.

**Command Sergeant Major
Lawrence J. Haubrich**

Words cannot express my exhilaration at seeing our great MI soldiers, Department of Defense (DOD) civilians, and contractors working together so hard to sustain and develop our MI Corps. This team is the future of the Corps, for they are truly an *"Army of One."*

With great sadness, I must mention the terrorist attacks against our nation that occurred 11 September 2001. This is a difficult time for our nation and her Army. The people of the United States depend on the Army for their national security. We must all stand tall and proud; keep the faith. The leaders of this MI Corps must stay focused and provide a reassuring presence for our soldiers, their families, the Army, and the Nation. I ask that we all treasure each other and work together to protect the nation we all love so dearly.

Please take the time to reflect on the past, present, and future; give yourself credit for what you have done and then carry on with your mission. Continue to train hard, encourage recruiting, and take care of your soldiers and their families. Peace needs protection.

ALWAYS OUT FRONT!

IPB with a Purpose

by Lieutenant Colonel Thomas M. Smith (U.S. Army, Retired) and Major David G. Puppolo

Editors' Note: The Center for Army Lessons Learned (CALL) published a condensed version of this article in 1998. We have edited this article from the original 8,600 words to 3,660 and the graphics from 22 to 10. We plan to put the entire article with all the graphics on our website when we load this issue.

Intelligence preparation of the battlefield (IPB) is a complex process. Simply creating the listed products from our doctrine is not enough. This does not mean more products and more work but **better** products to help the commander see the enemy. This article provides S2s with some tactics, techniques, and procedures (TTP) for the IPB needed to help their commanders achieve success on the battlefield.

The doctrinal tenets of IPB are sound; however, we often have a hard time explaining **why** we do IPB. **FM 34-130**, **Intelligence Preparation of the Battlefield**, states that we do IPB to…

support staff estimates and military decision-making. Applying the IPB process helps the commander selectively apply and maximize his combat power at critical points in time and space on the battlefield.

While this is all true, there are very simple but critical pieces that are missing, both in doctrine and in the conduct of the IPB process at the National Training Center (NTC). They are **visualization** and **communication**.

We do IPB because it is the primary mechanism a commander uses to develop his mental vision of how an operation will unfold. S2s must do two things to make this happen. First, they must help **create the vision**, and second, they must **communicate** it to the commander (and staff) so that he can do the same for his soldiers. Familiar experts in the vision business are television announcers at National Football League games who use very effective visual aids to create and communicate a clear vision or concept. Look at what slow motion, instant replay, zoom in/out, reverse angle, and John Madden's "Chalkboard" have done to help the viewer really see and understand a critical play. S2s must do the same for their commanders by using simple, clear techniques (many not found in any field manual), tailored to the specific eccentricities, strengths, and weaknesses of their commanders to create and communicate the IPB vision (see Figure 1).

IPB Process. The four steps of the IPB process are—

❑ Define the battlefield environment.
❑ Describe the battlefield effects.
❑ Evaluate the threat.
❑ Determine enemy courses of action (ECOAs).

IPB Products. The standard products of the IPB process include—

❑ Modified combined obstacle overlay (MCOO).
❑ Situation template.
❑ Event template.

Will these products alone create and communicate a simple, clear vision of the battlefield for a commander? Most will answer with a resounding **no**! These products typically do not come close to portraying the dynamic nature of the way an enemy fights, nor do they effectively illustrate the significance of terrain. That is why we have written this article: to add TTP to the menu. TTP originate from good ideas on the job and from the pure neces-

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IPB Products Must—
○ Assist the commander's visualization process
○ Help drive course of action (COA) development
○ Help refine friendly COAs
○ Help in analysis and synchronization of COA (wargame)
○ Help program flexibility into our plan
○ Drive reconnaissance planning
○ Assist decision-making during execution
○ Assist subordinate units in their visualization process

To Do This, IPB Products Should—
○ Address enemy commander's expected mission and intent
○ Describe how the enemy sees us
○ Offer the commander an array of capabilities
○ Portray an uncooperative, adaptive, and thinking enemy
○ Describe the way the enemy will fight and maneuver— including all of his combat multipliers, not just how and where he will move
○ Analyze the enemy to the appropriate level of detail (changes with the audience)
○ Be as user friendly as possible

Figure 1. The Intended Purposes of IPB Products.

sity to take doctrine one step further. Our intimacy with IPB normally occurs during the military decision-making process, and involves requirements and products for each piece of the MDMP.

IPB and The Military Decision-Making Process

IPB products and requirements surface during the following five phases of the MDMP:

❑ Mission analysis.
❑ Course of action (COA) development.
❑ Wargaming.
❑ Operations order (OPORD) issue and refinement.
❑ Rehearsals.

Each phase is different, so the products, requirements, and presentations for each phase should also vary. S2s are not effective when they stand up for a mission analysis or OPORD brief in front of a 1:50,000 map with a sheet of paper in hand and rambo on superficially.

An S2 will never paint a good picture of a future battle with a narrative, an MCOO, and a busy, dusty (or muddy) acetate situation template. How **do** you paint a picture that the commander remembers, and at the same time keep the rest of your audience informed? Let us start with the mission analysis brief.

Mission Analysis Brief

The S2 can present a successful mission analysis brief by considering the following nine points, each of which deserves some discussion. They comprise:

❑ Terrain.
❑ Enemy force structure.
❑ Enemy commander's intent.
❑ ECOA.
❑ ECOA sketches.
❑ What we know.
❑ What we do not know.
❑ Recommended priority intelligence requirements (PIR).
❑ Tentative reconnaissance concept.
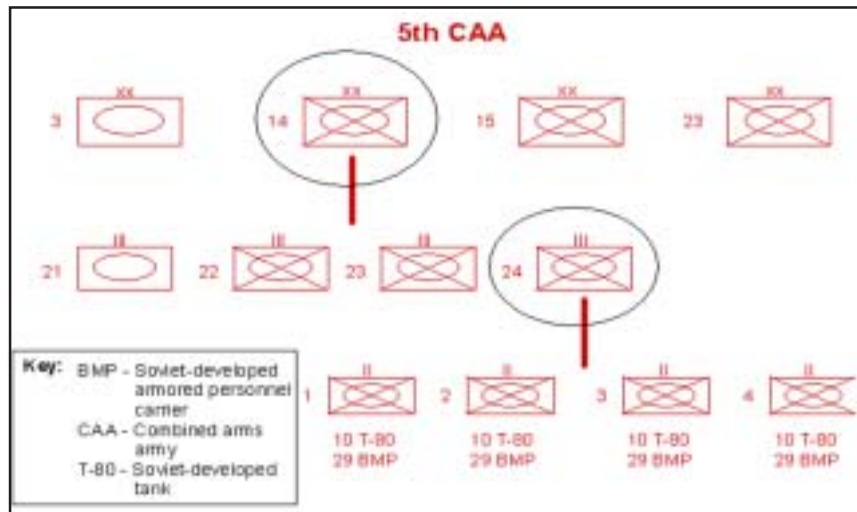
Figure 2. Briefing the Enemy Structure.

Terrain: Line of Departure to Objective. Do not brief a MCOO. S2s should take their commanders on a "terrain tour" from the line of departure (LD) all the way to the objective. Highlight the effects of critical terrain, intervisability (IV) lines, covered and concealed avenues of approach, and the **significance** of key and decisive terrain.

The Enemy Force Structure: From Big to Small. Once the S2 briefs the critical terrain, he should introduce the enemy, from major elements to subordinate units. This part does not need a lot of explanation. A neat line-and-block chart as shown in Figure 2 will do the job. Producing a graphic timeline

(see Figure 3) will assist the commander in developing his own COAs and associated decisions.

The Enemy Commander's Intent and Purpose. What does the enemy commander want to do? What is the scope and purpose of his operation? How will he accomplish his mission? How does he think we will fight? S2s must do a little homework for this one, because it requires some thought. If you immediately dive into templating the enemy on a 1:50,000 map overlay without first considering his intent or purpose, you may incorrectly assess his intended actions. We are good at fitting the enemy doc-

Figure 3. A Two-Day Graphic Timeline of Projected Enemy Forces.

trinal templates onto terrain, but sometimes miss the critical step in assessing the enemy's mission and purpose.

Before the S2 submerges himself in templating ECOAs, he must first ensure he understands the enemy commander's purpose and how it ties into the plans of his higher headquarters. We recommend considering intent at three distinct levels—same level, one up, and two up. Another tool to assist S2s in developing ECOAs is to step mentally into the enemy commander's shoes and determine how the enemy sees **our** fight. S2s normally do not consider this and fail to consider the threat's perception of the Blue Forces (BLUFOR) when they are trying to determine their COAs. S2s currently do not perform this process (called "reverse IPB") very well.

Enemy Course of Action Development. S2s often depict one or two ECOAs depending on time constraints, standing operating procedures (SOPs), or the belief that the enemy can fight only one way. The enemy (opposing forces [OPFOR]) at NTC, however, will use decision points (DPs) and quickly change his mind at different junctures in a battle, before or even after the LD. S2s must help the commander and staff plan for these changes by considering **all** feasible enemy options, because this is when we begin building **flexibility** into the commander's plan. It is not okay to wait until after the commander gives his guidance or after we have developed the friendly COAs to finish ECOA development. If the staff develops friendly COAs without a complete set of ECOAs, the friendly COAs will be invalid as soon as the S2 catches up and presents additional ECOAs. Remember that all the ECOAs produced at mission analysis are an initial assessment because we have not developed our friendly COAs, which should eliminate or reduce the likelihood of some ECOAs.

Figure 4. A Storyboard for Presenting Multiple Possible ECOAs During an MRR Attack.

It is best to develop ECOAs from large units to small. Use cartoon sketches to show a broad picture of all feasible ECOAs. Although the S2 can realistically develop more than three ECOA sketches, he may not have the time to develop as many detailed ECOAs. He can provide his commander with two or three well-developed ECOAs and, possibly, two or three additional ECOAs that give him options on how those fights might unfold to help build more flexibility into his plan.

This is not to say that S2s should not produce acetate situation templates for the mission analysis brief. They should be available if the commander wants to see the details of the terrain and its relation to the enemy. Additionally, situation templates are necessary tools that the staff will use during COA development and wargaming.

Figure 4 shows a tool called a "storyboard" that portrays broad multiple ECOAs in terms of critical events during a motorized rifle regiment (MRR) attack. A benefit of this tool is that when the S2 presents this simple, clear picture of all enemy options to the commander during the mission analysis brief, he has assisted in developing flexible friendly COAs. Another benefit of this tool is that it drives the initial reconnaissance planning. This method also provides an opportunity to see all enemy options at once, without swapping acetate situation templates back and forth on a 1:50,000 map.

The storyboard effectively depicts an ECOA, but only in broad terms. It does not do a very good job in showing how the enemy will look, for example, in the close fight as he attempts to suppress, breach, and penetrate our defense. The storyboard may not show all the combat multipliers the enemy will employ during the fight. We do a good job at showing **how the enemy will move** in formation, for example in a *meeting engagement*, but not in showing **how the enemy will fight us**. S2s need to be well versed in maneuver.

Snapshot ECOA Sketches. S2s must provide the commander *"the method by which the threat will employ his assets, such as dispositions, location of main effort, the scheme of maneuver, and how it will be supported"* (**FM 34-130**). An effective way to do this is to create "snapshots" of how the commander expects the enemy to look at critical places and times on the battlefield. Figures 5 through 7
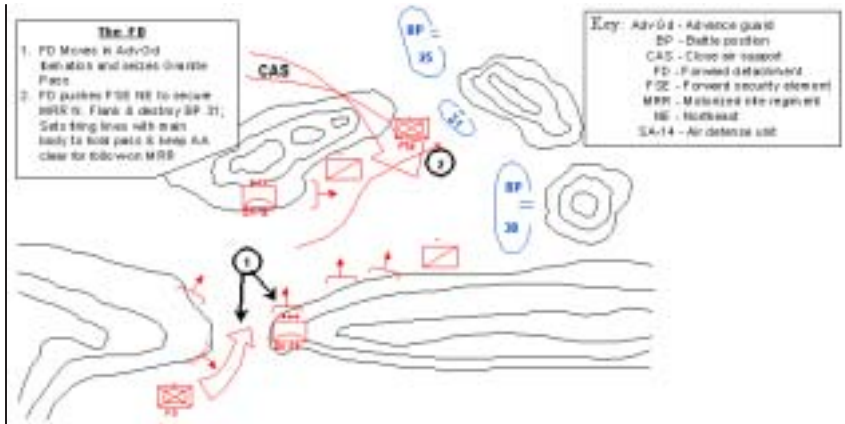
Figure 5. Snapshot Sketch #1 of the Enemy Forward Detachment.

show a technique to display snapshots of critical events of an MRR in the close fight.

What We Know (Targeting Implications). So far, we have discussed critical terrain and its significance and introduced a dynamic, thinking enemy, a full range of ECOAs, and how we think the fight may unfold. As we are approaching the end of the mission analysis brief, it is critical that the S2 tells the commander what he knows so far. Figure 8 shows a tool the S2 can use to illuminate what we know and how it fits the template. For example, the division G2 provided a satellite photo, clearly showing a small piece of a motorized rifle company (MRC) defense. The black outline represents the photo. The picture shows tanks and BMPs (Soviet-developed armored personnel carriers) dug in, a wire obstacle, and a minefield. The photo does not show the entire defense, but the S2 can tell the commander, *"Sir, this is what we know [photo], and this is what we don't know [templated sketch]. We can target these vehicles now."* That information immediately goes into the Fire Support Officer's plan. However, what are we missing?

What We Do Not Know (Reconnaissance Implications). We do not know anything about the southern piece of the defense. That is the job for our reconnaissance. *"Sir, let's focus our recon plan in the south.*

*We could go a bit lighter in the north since we know something is up there, and maybe send a combat observation lasing team (COLT) north to call and adjust fires onto the known targets. Based on what we **do not** know, here are the recommended PIR."*

Recommended PIR. PIR are often vague and unfocused. For example, *"Will the enemy use chemical munitions to support his attack?"* This is not a very difficult question to answer. The answer is most probably **yes**! If we can answer the PIR without conducting reconnaissance or requesting information from higher, are the PIR adequate? Consider the following "PIR equation" as a guide to assist you in formulating PIR that meet the commander's needs: **PIR = DPs + HPTs + Special Munitions** [high-payoff targets]. If

we look closely at these three areas and determine what it is that the commander **must** know, we can write more effective PIR that are truly the **priority** intelligence requirements.

Perhaps the most common mistake S2s make in recommending PIR is that they do not link them to their commanders' DPs. Of course, when the S2 recommends initial PIR at the end of the mission analysis brief, no one yet knows the DPs. The S2 must be able to anticipate a few DPs and come up with some meaningful PIR. The S3 can be very helpful in developing a list of recurring DPs for each type of mission.

If we have done a good job of analyzing the terrain and enemy, especially what we **do not** know, we will have an adequate set of initial PIR. Additionally, if the PIR do not drive the reconnaissance and surveillance (R&S) plan, they are useless.

Remember the PIR equation (PIR = DPs + HPTs + Special Munitions)? As we progress through the MDMP and build a friendly COA that deals with all of our ECOAs, our PIR may, and probably should, change. As we develop friendly DPs and HPTs, we need to examine whether our PIR address the commander's need for the intelligence required to make each decision, kill the HPTs, and protect the force. If not, adjust the PIR.
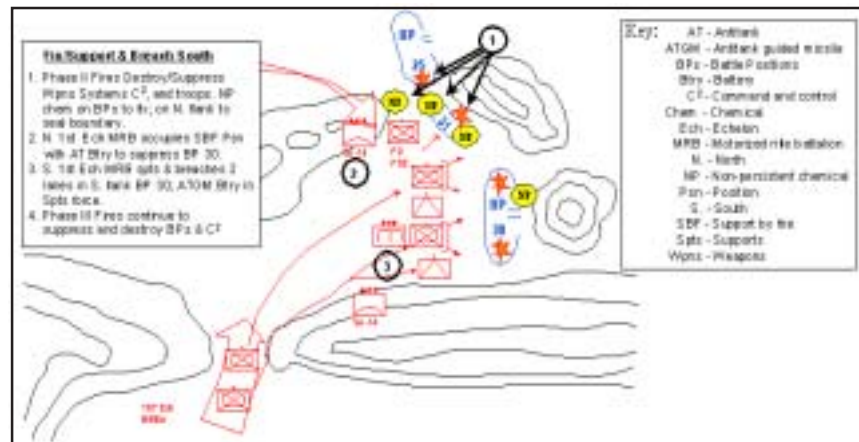

Figure 6. Snapshot Sketch #2 Shows Support and Breach South.

Tentative Reconnaissance Concept. Now, armed with what he knows, does not know, and the initial PIR, the S2 can present a tentative reconnaissance concept. This should consist of at least a reconnaissance mission statement, task organization, timeline, necessary movement, time of reconnaissance OPORD, and a draft event template.

A Consideration in Focusing Reconnaissance

S2s often **over-focus** their intelligence collection assets by assigning too many small named areas of interest (NAIs) that do not use our collectors' greatest asset (their ability to think). For example, in Figure 9, the S2 has over-focused the collectors by creating numerous small NAI locations. In the open and unvegetated terrain depicted, one properly sited observer can see most of the NAIs in the larger enclosed area. If the S2 **really** needs to know where the enemy goes as he moves between the large hill masses to the north and south, then he should task the collectors properly and assign an NAI encompassing the larger area.

Further MDMP Preparation

COA Development. The S2, or his planner, must be involved in
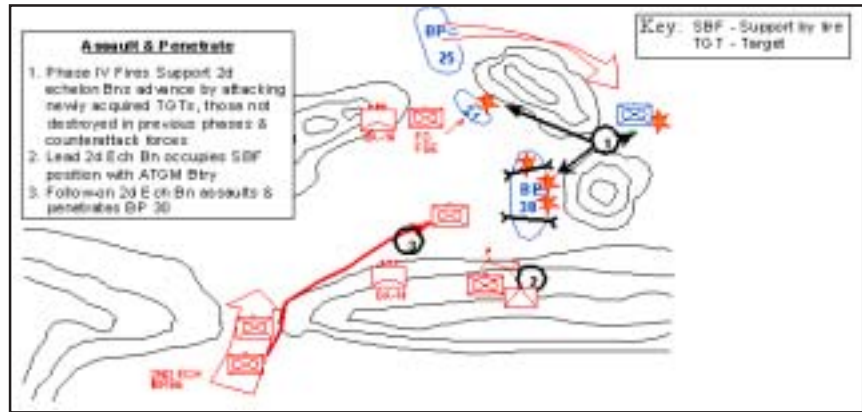

Figure 7. Snapshot Sketch #3 Shows an Assault and Penetrate Action.

COA development. He must help in two distinct areas. First, the S2 can ensure that the initial array of forces in the friendly COAs makes sense against the ECOAs developed in the mission analysis. He should also assist with the calculations involved in force-ratio analysis, specifically ensuring that both operations and intelligence use the same system of calculation.

The Wargame. The wargame is a very different event and requires a novel type of participation by the S2. The wargame audience is the brigade staff, which has recently heard the S2's pitch at the mission analysis brief. What they have not seen is this dynamic enemy in action and played against the

Figure 8. What Is Known and How It Fits the Template (With Targeting Implications).

friendly COA just developed. The S2 must take some tools with him to the wargame. We recommend the following items:

❏ Replication of the enemy's assets using small stickers, pushpins, and mini-models.
❏ 1:24,000 map.
❏ Situation templates.
❏ Snapshot ECOA sketches.
❏ Initial reconnaissance plan and event template.
❏ MicroDEM[1] products at critical points.
❏ Critical events list and timeline.

Note that any new enemy information gained since conducting the mission analysis will require introduction into the wargame. The staff must be prepared to reevaluate the COAs for feasibility. Moreover, as in COA development, the wargame may refine our PIR.

The OPORD. The OPORD brief has a different audience than the mission analysis brief, and therefore requires a distinct presentation. Subordinate commanders have not yet seen any of the information the S2 briefed during mission analysis, and they are looking for information tailored to their levels.

Task force (TF) S2s cannot generate all the products that a brigade S2 shop can. The brigade S2 can supply some of the close fight sketches (mentioned above under ECOA development) to the TF
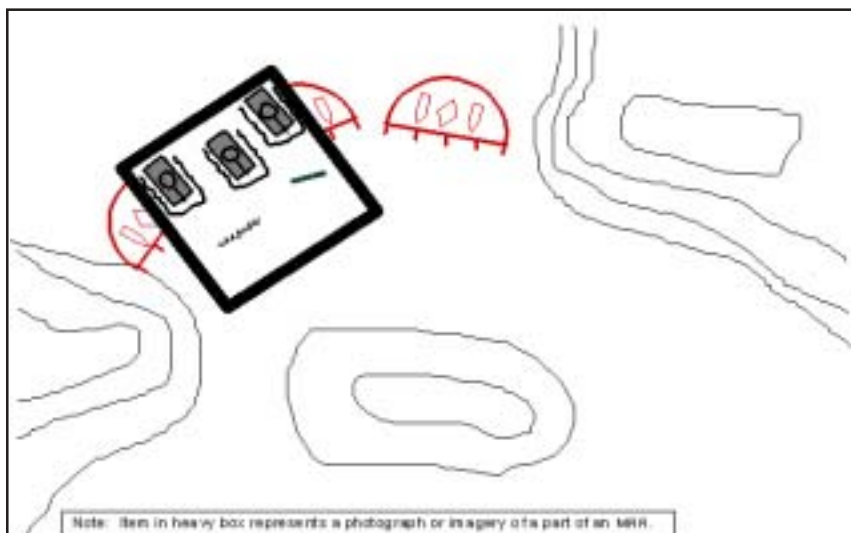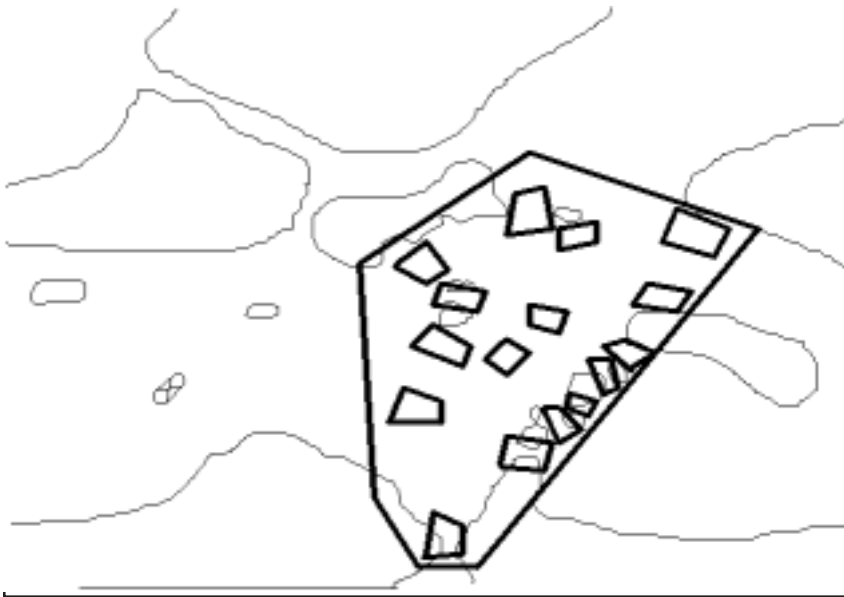
Figure 9. The S2 Has Over-Focused the Collectors on Too Many NAIs.

commanders. Any other products such as satellite or unmanned aerial vehicle (UAV) photos, Joint Surveillance Target Attack Radar System (Joint STARS) products, or any new information gained from reconnaissance may assist the TF commander.

Finally, take the opportunity to sell the reconnaissance plan at the OPORD brief. The TF assets are pertinent to answering your PIR.

The Rehearsal. The S2 must ensure he takes the following actions at the rehearsal:

❑ Discuss any new information gained since the brigade issued the OPORD that may affect our maneuver and reconnaissance plan, and update associated products.

❑ Propose changes to the reconnaissance plan that require us to redirect our effort to find the

If We Find This:	We Should Do This:
❍ Direct fire weapons locations/ holes	❍ Refine the close air support (CAS) target box, artillery targets, and groups ❍ Refine situation template ❍ Begin maneuver ❍ Begin bounding overwatch ❍ Acquire and kill enemy
❍ Composition, location, orientation of obstacles, gaps, and by-passes	❍ Define possible zone of penetration, points of breach
❍ Forces repositioning	❍ Kill, suppress, avoid ❍ Block, fix
❍ Counterattack	❍ Adjust, redirect reconnaissance ❍ Activate triggers and destroy or suppress with artillery or CAS

Figure 10. Actions to Take with Receipt of Intelligence Items.

remaining pieces of the puzzle. Discuss new reconnaissance objectives and show the location of new NAIs.

❑ As in the wargame, play a dynamic, uncooperative, thinking enemy.

IPB and Mission Execution

Thus far, we have stepped through IPB, discussed how we weave it into the MDMP, and provided TTP to help S2s visualize and communicate the vision to the commander and staff of how the enemy will fight. We will now take a look at some intelligence issues that occur during the execution phase of an operation and some TTP to help resolve them, specifically:

❑ Monitoring and executing the R&S fight.

❑ What to do with the intelligence once we get it.

❑ Situation development.

Monitoring and Executing the R&S Fight. Someone must be **in charge** of the R&S effort to ensure proper execution. Simply waiting for the intelligence to flow in will not satisfy the commander's PIR. We must understand the R&S plan, and the plans of our subordinates that work to fulfill tasking we assign. We must constantly track the execution of the R&S plan. We must also be ready to adjust our plan at any time. The person in charge of the R&S effort must do more than actively monitor the R&S fight, he must be empowered to make changes to the plan at any time. Finally, we need to keep track of what intelligence we are collecting and, specifically, whether or not we have answered any of the PIR.

What to Do with the Intelligence. Once S2s have information, they must analyze it to make it **intelligence**. They must decide if it

answers PIR or if it involves HPTs or critical enemy events. Figure 10 offers some examples in an enemy defense.

Situation Development. This is the third category of TTP to help resolve intelligence issues that occur during the execution phase of an operation. These TTP include the areas of tracking and correctly labeling the enemy and of predictive analysis.

Tracking the Enemy. Enemy combat strength tracked as an aggregate total does not do a great deal for the commander. It does not allow him to see where the enemy is weak or strong so he can make informed decisions on the battlefield. The following rules will help. **If the enemy force attacks, track it by major formation** (for example, the forward security element [FSE], advance guard main body [AGMB], motorized rifle battalion [MRB] #1, MRB #2, MRB #3, etc.). **If the enemy force defends, track it "geographically"** so the S2 can see enemy weaknesses developing as they occur. For example, set up battle damage assessment (BDA) charts to mirror the situation template. If the situation template shows the enemy defending with three MRCs abreast with a 3:8 ratio (tanks to BMPs) in each MRC, we should set up our BDA charts showing three MRCs abreast, with starting strengths of 3:8 in each MRC. Draw and number every vehicle in each battle position. As the fight progresses and you find that the situation template requires adjusting, make the same adjustment to the BDA chart. This is critical because it allows us to assess where our enemy may be weak or strong, and provides the commander with an opportunity to make important decisions that may trigger critical events.

Labeling the Enemy. S2s should carefully label the enemy element when tracking it, because as the fight develops, certain labels may become confusing. For example, during an enemy attack, a trail MRB may be the first element to break through our defense, and is no longer a trail MRB. A better technique is to label it MRB #4. In an enemy MRB defense, what we labeled the center MRC may become a meaningless term after an hour of repositioning resulting in the MRC now being the northern MRC. A better technique is to label it MRC #2. When the enemy is defending, our situation template will change during the battle. To communicate these changes effectively, we recommend passing the grids for the end points of enemy defensive positions, their orientation, and current strength; for example, "MRC #1 from NK 123456 to NK 128473, oriented west-northwest, at 20-percent strength."

Predictive Analysis. First, do not simply disseminate the spot reports received. All too often, we see S2s who get a great piece of information, hastily make sure that the commander and other S2s have the information, and consider the job done. Things that may seem obvious to us may not be to our commander who is bouncing over the battlefield in his M113 or, even worse, running from an enemy tank. He counts on his S2 to do the analysis for him, so go beyond reporting history. We are good at telling him what **has happened**, and reasonably good at telling him what **is happening**, but need to work on telling him what **will happen**. This seems simplistic, and you may be saying to yourself, *"Of course! Who wouldn't do that?"* The answer is that most of us do not. It is not that we cannot, but we simply do not. We need to discipline ourselves to ask the question *"What will happen?"* based on every piece of new information we receive**.** Fifteen seconds of analysis on the command net on a regular basis will keep us focused on what our commanders need to fight and win. If we keep asking ourselves that question, and informing the command of what we think will happen in the future, we will have gone a long way toward providing our commanders and staffs what they need to succeed.

Conclusion

IPB has come a long way since its adoption. **FM 34-130** does a great job of laying out a lot of the "what to do's" that we have needed for a long time. Although it states why we do IPB, we think that we are missing the larger point. IPB does not just support decision-making—it also contributes to creating the vision of the terrain, weather, and how the enemy can fight and the ability to communicate that information effectively. We believe the TTP discussed will help S2s establish what is necessary to create the IPB vision, and communicate it quickly and effectively to commanders and staffs.✴

Endnote

1. MicroDEM, formerly known as Terrabase II, is terrain evaluation and visualization software.

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Named Areas of Interest (NAIs): Knowing when Too Many Is Too Much

by Major David H. Carstens

A disturbing trend involving named areas of interest (NAIs) continues to recur at the infantry battalions and brigades. Based on past observations from the Joint Readiness Training Center (JRTC), S2s are simply nominating too many NAIs in their respective reconnaissance and surveillance (R&S) plans. The result is a poor overall R&S effort at all levels, with a lack of prioritization of critical collection targets. The operation in which "NAI abuse" is most apparent is in the *movement to contact* phase, applying the **search-and-attack technique**.

Editor's Note: The current R&S terminology is undergoing change due to the introduction of the term "intelligence, surveillance, and reconnaissance (ISR)" into FM 3-0, Operations. The U.S. Army Intelligence Center and Fort Huachuca (USAIC&FH), the U.S. Army Training and Doctrine Command (TRADOC) Combined Arms Doctrine Directorate (CADD), and the combat arms centers are working on FM 3-55, Intelligence, Surveillance, and Reconnaissance (ISR). FM 3-55 will address ISR and the role of R&S within the new framework.

The search-and-attack technique is a decentralized *movement to contact* requiring multiple, coordinated patrols (squad- and platoon-sized) to locate the enemy. Units use this method most often when in a low-intensity environment against an enemy operating in dispersed elements.[1] Due to the rifle-strength of company and lower units executing search-and-attack missions and the decentralized nature of the enemy and area of operations (AO), it is often necessary to manage NAI taskings and prioritization intensely.

The goal is to avoid overwhelming the infantry units.

One of the major problems concerning NAI development, particularly when employing the search-and-attack technique, is the tendency of battalion S2s and S3s to develop the rifle company scheme of maneuver through overwhelming collection taskings. **FM 7-10**, **The Infantry Rifle Company**, outlines the company commander's responsibilities during R&S execution: "*[after receiving the mission] He obtains enemy information from the S2, conducts troop-leading procedures, and coordinates and develops a plan.*" Outlining the company commander's tasks in the search and attack, **FM 7-10** goes on to state: "*Checkpoints and NAIs are assigned to focus the subordinate on specific locations.*" Only in doing so can the commander make the best use of the available intelligence to maximize his combat power, develop his own AO, and find the enemy.

When an S2 assigns too many NAIs to the company commander, he removes the flexibility that the commander needs to develop his AO. An overly centralized R&S plan destroys the benefits of decentralized execution.

This does not mean that companies should never receive taskings to cover NAIs. When they do, they must relate them directly to a vital decision or high-payoff target (HPT). At the company level, the commander—not the S2 or S3— doctrinally develops his own AO. According to **FM 7-10**, this includes determining the answers to the questions in Figure 1. Of course, the company commander receives guidance from higher levels that he, in turn, refines.

Before understanding how many NAIs are excessive, one must first consider the definition and overall planning intent of NAIs. An NAI, as outlined in **FM 34-130**, **Intelligence Preparation of the Battlefield** (IPB), is—

The geographical area where information that will satisfy a specific information requirement can be collected. NAIs are usually selected to capture indications of threat courses of action (COAs) but also may be related to conditions of the battlefield.

FM 34-2-1, **Tactics, Techniques and Procedures for Reconnaissance and Surveillance and Intelligence Support to Counterreconnaissance**, further defines the development of NAIs and their relationship to the tactical decision-making process. In addition to reinforcing the fact that NAIs confirm

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❑ What are the information requirements?

❑ What are his security requirements (to include taskings from his higher headquarters)?

❑ What are the priorities for these requirements?

❑ What assets are available to meet these requirements?

❑ How much time is available to collect the information?

❑ What is the most critical?

❑ To whom will R&S tasks be assigned?

Figure 1. AO Requirements Determinations Made by the Company Commander.

or deny enemy activity at a specific place and time on the battlefield, **FM 34-2-1** goes on to establish the linkage between NAIs and commanders' decisions. The development of NAIs goes through the following phases:

❑ Initial NAI development.
❑ NAI time synchronization.
❑ NAI refinement.

Initial NAI Development. Develop initial NAIs based on the commander's priority intelligence requirements (PIR). Identify the NAIs that specifically relate to the PIR and compare them to the enemy situational template: the S2's analysis as to how the enemy will execute its doctrinal tactics given the effects of weather and terrain.

NAI Time Synchronization. Develop time phase lines (TPLs), which depict doctrinal rates of enemy advance and infiltration modified to reflect the effects of weather and terrain. Combine NAIs to form the event template: when and where you would expect to see enemy critical events occur. This is a very important IPB product during mission analysis, for it provides the basis for operational synchronization against the known threat. Another necessity for wargaming is the event matrix. This tool "*supports the event template by providing details on the type of activity expected in each NAI, the times the NAI is expected to be active, and its relationship to other events on the battlefield.*" [2]

NAI Refinement. The commander, S2, and S3 use the aforementioned products at the wargame to facilitate the development of the decision support template (DST). With the rest of the staff, they develop friendly COAs, which consider the S2's possible enemy COAs (ECOAs).

The focus for DST development is to identify those critical decisions that the commander may need to make during the battle. Such events, as outlined in **FM 101-5**, **Command and Staff Decision Processes**, may influence (but are not limited to) such critical decisions as location and commitment of the reserve, location of the commander and his headquarters, and launching of a counterattack. During *movement to contact* operations, critical decisions may relate to—

❑ Shifting of the main effort.
❑ Repositioning the AN/TPQ-36 and -37 Firefinder radar.
❑ Reprioritizing HPTs.

Additionally, the wargaming process highlights the development of HPTs. HPTs are those targets whose loss to the enemy will contribute to the success of the friendly COA (**FM 34-130**). Once the staff develops the HPTs, it is time to decide where they can best interdict those targets. At this point, these NAIs become target areas of interest (TAIs).

The preceding process highlights the linkages among the PIR, NAI, and HPT: synchronization of all three must occur to ensure that the commander makes critical decisions at the right time and place on the battlefield. NAIs must therefore have a link to a decision, priority target, or both. **FM 7-20**, **The Infantry Battalion**, further reinforces this by stating: "*The commander and his subordinates rely on IPB, a sound R&S plan (NAIs), and accurate reports to quickly understand enemy intentions.*"

S2s and S3s should not task out all templated enemy positions as NAIs to their commanders. Rather, subordinate commanders receive NAIs as a tasking in order to provide indications of enemy intent or to identify essential targets to the S2.

One must understand the importance of assigning an appropriate number of NAIs at the battalion level. Consider first the number of command decisions identified during wargaming and add the templated HPTs (prioritized and relative to PIR) identified during the wargaming process. By understanding the capabilities of available assets as well as the operational considerations during search and attack, you can refine the NAIs further. The battalion's organic information collection assets include the scout platoon and infantry patrols. Battalions often receive assets from their brigade's Direct Support MI Company. These may include ground surveillance radar (GSR), Remotely Monitored Battlefield Sensor System (REMBASS) teams, human intelligence (HUMINT) collectors, counterintelligence (CI) agents, and unmanned aerial vehicle (UAV) teams.

The scouts form the basis of the commander's R&S effort at battalion level. They can reconnoiter to determine enemy dispositions and occupy observation posts (OPs) from which they can observe the battlefield and relay information to the commander. According to **FM 7-20**, "*Scouts should concentrate on the most important information requirements: they should not be over tasked.*" According to **FM 34-2-1** and **FM 17-98**, **The Scout Platoon**, the scout platoon at full strength can accomplish the missions stated in Figure 2. In past post-rotational surveys conducted at JRTC, the scout platoon leadership overwhelmingly agreed that operating at three NAIs for a particular R&S mission was a reasonable expectation.

❑ Reconnoiter only a single route reconnaissance.
❑ Reconnoiter a zone 3 to 5 kilometers wide (for dismounted airborne or light infantry organic scouts, consider zones 500 to 1,000 meters for most missions).
❑ Operate 6 OPs for limited periods (less than 12 hours) or 3 OPs for extended periods (12 hours or more).

Figure 2. The Missions of a Full-Strength Scout Platoon.

Given the R&S focus outlined in **FM 7-20** and previously mentioned scout platoon limitations, it would stand to reason that the scouts should focus on those NAIs that directly relate to crucial decisions for the battalion commander. Ground surveillance assets may provide additional coverage, provided the battalion's intelligence reporting (communications) plan adequately incorporates them and the S2 or S3 specifically tasks them in the R&S plan. It is important to include the ground surveillance team leader supporting a battalion during the R&S planning process to determine his ability to cover a particular NAI. He should likewise be present at battalion rehearsals to cover the synchronization of their R&S tasking.

Rifle platoons should have similar tasking limitations; unlike the scouts, they often focus on more than just R&S. With this in mind, bat- talion S2s and S3s should consider assigning no more than three NAIs (one per platoon) to each rifle company.

The answer to the question of how many NAIs are acceptable to task out to battalions from brigade is slightly more subjective. Consider first the **FM 7-20** definition for *movement to contact* operations: "*...an offensive operation conducted to gain or reestablish contact with the enemy. Its purpose is also to develop the tactical situation.*" **FM 7-20** goes on to state that, "*the battalion tries to establish contact on ground of its own choosing and to develop the situation.*" In keeping with the definition and purpose, it would stand to reason that through internal R&S planning development, the battalion, not the brigade staff, would develop and refine the AO during the *movement to contact*.

The majority of the direction the battalions receive on enemy locations should not be a laundry list of NAIs, but well-defined and continuously updated enemy situation and event templates that the battalion staff can refine. NAIs from the brigade should include only those critical areas that drive the brigade commander into a significant decision. The brigade manages the R&S process, but the companies and battalions should refine it from bottom to top. Proposed are the steps in Figure 3 to avoid over-tasking units and to ensure bottom-up refinement of the collection process.

The refinement process for NAIs is essential to the development of the event template, which in turn drives the commander's DST and the overall operational synchronization. It is important to tie NAIs to decision points or critical HPTs from the tar-

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STEP 1: The brigade S2 disseminates a collection plan (resulting from the wargame) along with the brigade commander's PIR, brigade situation and event templates, and the HPT list. NAIs are limited, focusing only on crucial decisions and HPTs that may significantly affect the ECOA if destroyed. In a best case situation, the staff should disseminate these products in a fragmentary order (FRAGO) before the brigade operations order (OPORD). At a minimum, the staff should list the R&S tasking in paragraph 3b (Tasks to Subordinate Units) and Annex L (R&S Annex) of the OPORD, to ensure that commanders, not just S2s, understand their R&S responsibilities.

STEP 2: The battalion staff takes all of the products and orders from brigade and conducts IPB for their identified AO. The S2 reviews and refines situational and event templates. He then develops R&S taskings to cover specified brigade NAIs as well as the essential decision points and HPTs that the battalion commander identifies. The disseminated copies go to brigade as well as the rifle companies and battalion scouts. The key to success for this step in the process is to communicate changes from lower to higher and higher to lower echelons. In doing so, one can avoid the creation of dual taskings and preserve precious R&S assets.

STEP 3: Armed with the R&S plan (taskings) and a current set of situational and event templates, the rifle company commanders go through the troop-leading procedures (TLP) to develop the situation and issue R&S taskings within their assigned AOs. The commanders disseminate their plans to battalion and the tasked platoons and sections. Platoon leaders should identify their R&S taskings during company rehearsals; company commanders should do the same at battalion-level rehearsals.

STEP 4: The battalion S2 and S3 review the company scheme of maneuver and R&S taskings to ensure that the company will meet the commander's intent, answer the PIR, and target the HPTs in priority order. The S2 reviews for collection gaps and coordinates with the S3 to adjust R&S taskings if necessary. The brigade S2 executes the same process for R&S plans sent up by the battalions.

STEP 5: The staff should track the R&S plans and report their progress from company through battalion to brigade. The brigade and battalion should constantly refine their daily target synchronization meetings. The staff should include any changes to the R&S plan in the daily FRAGO.

Figure 3. Proposed Steps to Prevent Over-Tasking and Permit Bottom-up Refinement of the Collection Process.

geting process; units should not use NAIs as a means of directing ground forces. S2s must resist the temptation to develop overwhelming R&S plans that stifle subordinate unit initiative. Only in doing so can units properly focus the limited R&S assets available at the brigade and battalion levels at the right time and place on the battlefield. Additionally, companies and battalions must have the flexibility to develop their own AOs, particularly during *movement to contact* operations. The task of planning, prioritizing, and executing R&S within the rifle company and battalion AOs, must rest in the hands of the unit commander.✷

Endnotes:

1. **FM 7-20**, **The Infantry Battalion**, dated 6 April 1992.

2. **FM 34-130**, **Intelligence Preparation of the Battlefield**, dated 8 July 1994, page 2-51.

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MI Corps Hall of Fame

The Military Intelligence Corps Hall of Fame (HOF) recognizes those individuals who have made a lasting contribution to the MI Corps or have distinguished themselves as intelligence professionals. Commissioned officers, warrant officers, enlisted soldiers, or professional civilians who have served in a U.S. Army intelligence unit or in an intelligence position in the U.S. Army are eligible for nomination for induction into the Military Intelligence Corps HOF.

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Each Hall of Fame nomination packet must include the following:

✴ A nomination letter signed by the nominator that includes his or her current postal and E-mail addresses and telephone numbers.
✴ The full name and official rank or grade of the nominee at the time of departure, retirement, or death.
✴ A career biography, to include the crucial assignments and accomplishments of the nominee that warrant induction into the HOF.
✴ A narrative justification specifically stating the major accomplishments and achievements of the nominee and his or her impact on the Army and MI.
✴ The current address, E-mail, and telephone number of the nominee (if living), or the address and telephone number of a surviving family member.
✴ The nominee's Social Security Number/Service Number.
✴ An 8" x 10" photograph of the nominee, if possible. If an 8" x 10" is not available, any photo that clearly shows the nominee is acceptable.

Nomination packets must be complete. Any nomination packet received without the first four items above will not go before the Selection Board until receipt of the missing item(s). The HOF Action Officer will review all packets and, if needed, will ask the nominator to provide more information in order to ensure the nominee receives the fullest consideration by the Selection Board.

Send your nominations to Headquarters, U.S. Army Intelligence Center and Fort Huachuca, ATTN: ATZS-CDR (Jim Chambers), Fort Huachuca, Arizona 85613-6000, or by E-mail to james.chambers@hua.army.mil. The HOF telephone numbers are commercial (520) 533-1178 and DSN 821-1178. HOF will notify the nominators of the receipt of their packets and the date of the next Selection Board, as well as update them on the packet's strength, completeness, and the results of the Selection Board.

IPB and Defensive Fire Planning

by Major R. J. Leach, USMC

In the movie "Gettysburg," actor Sam Elliott plays Brigadier General John Buford, Jr., the first Union general to arrive on the famous battlefield. His cavalry division has just encountered skirmishers belonging to Confederate General Harry Heth's infantry, who were on their way into town to look for shoes. Buford's staff assumes he will withdraw, but he stops them, relating a dream he had about another opportunity lost by ceding the good ground (and the initiative) to the Confederates. One of the events contributing to General Buford's bad dream was the previous winter's disastrous assault on Fredericksburg, Virginia, by Major General Ambrose E. Burnside. General Burnside faced General Robert E. Lee with a numerically superior force, well supported by artillery, but was decisively defeated. The reason was that General Lee, General James Longstreet, and Lieutenant General Thomas J. Jackson had conducted intelligence preparation of the battlefield (IPB). They seized the best terrain for their defense, enhanced their positions, and made maximum use of existing obstacles (like the Rappahannock River) to increase the effectiveness of synchronized artillery fires. The synchronization of their collection activities within their defensive plan also gave them a distinct advantage. An example of this is the Confederate generals ensuring their skirmishers and pickets could observe the potential Union fording and bridging sites. General Buford was tired of losing and wanted to enable General George G. Meade to do what General Lee had accomplished at Fredericksburg. He ordered his units to hold Seminary Ridge.

The quality and detail of an S2's IPB can be decisive in ensuring the commander has the opportunity to imitate Lee at Fredericksburg. To be more effective in a defensive operation, an S2 needs to do three things proficiently:

❑ Recognize the importance of the interaction between the S2, fire support officer (FSO), and senior engineer officer (as opposed to the interaction with the commander and S3) in order to maximize the effects of the defensive fire plan. Become an active member of an effective "triad."

❑ Employ resourceful and innovative techniques to tailor IPB for defensive fire planning.

❑ Translate the intelligence requirements of the defensive plan into a viable collection strategy.

The Targeting Triad

When it comes to fire support planning—arguably the most important part of the operations plan in the defense—the S2 needs to shift some of the focus from supporting the commander and S3 to directly supporting the FSO and the senior officer from the attached engineer unit. Each of these individuals has an inherent interest in synchronizing his planning efforts with the S2. The FSO wants to maximize the effects of organic fire support capabilities. Since the Army does not have fire support available in quantity, quality becomes even more essential. He expects the S2 to maintain the threat portion of the common operating picture (COP) that facilitates accurate and timely targeting of enemy forces. The FSO is also responsible for minimizing the degree to which the unit must rely on its direct fire weapons to achieve victory. The FSO uses quality intelligence products to gain greater external fire support. The U.S. Air Force and other external support agencies are ready and willing to support the defense; however, there will be ferocious competition for employment of external assets. An S2 can help the FSO acquire support by giving him a detailed picture and the confidence that a target will appear at the predicted time and place.

Attached engineers often act as consultants. They are spread throughout the battlefield to provide limited countermobility and survivability support to many units. The effort expended on each of their projects must be worthwhile. An S2 ties the engineer's needs to those of the FSO by employing the proper tactics, techniques, and procedures (TTP). In many cases, **an obstacle not covered by fire is not an obstacle**, so the engineers must thoroughly integrate their countermobility efforts with the overall defensive plan. Engineers also rely on a definitive picture of the enemy force to ensure the obstacles and minefields are of the right type and composition to provide the maximum delaying effect. An S2 can help them maximize the effects of a limited obstacle and minefield capability by providing quality IPB products.

The first step is to start with the commander's intent and guidance. An S2's initial intelligence support, including IPB products (which clearly spell out the enemy center of gravity and critical vulnerabilities), helps the commander formulate his intent. The S2 must use the commander's intent as a guide to performing his role as a member of the targeting triad. The scheme of maneuver contains the commander's intent, but his additional guidance often addresses the targeting priorities. The fire support plan needs to satisfy the defensive scheme of maneuver and targeting guidance. The FSO should also base his plan on a valid wargame with S2 support. When the S2, FSO, and senior engineer have reached a common un-

derstanding of the fire support role in the battle plan, the S2 should examine the resources available.

Fire Support. At this point, the FSO has a solid feel for what he can use in the way of organic fire support, and formulates plans for employing a greater degree of external support based on the quality of the intelligence. For example, he can expect to gain a greater share of general support (GS) artillery to fire at confirmed targets, rather than suspected targets. He can also discuss with the S2 and the senior engineer any limitations that he may face, particularly in the area of specific ammunition availability (such as the allocation of family of scatterable mines [FASCAM] throughout the area of operations [AO]). He will work with representatives of aviation elements to determine the types of aircraft and weapons already distributed for planning purposes, and the nature of on-call support.

Engineer Support. There is never enough engineer support to satisfy everyone; therefore, the S2 may have to operate with minimal assets. Again, the quality of the S2's intelligence concerning the enemy may enable the engineers to solicit higher echelons for specific support. Brigade-sized units often receive generic engineer support, rather than specifically requested support, to perform a known task. For example, the task of driving engineer stakes in certain soil types may be impossible without mechanical support. The S2 must understand the engineer's capabilities and limitations in order to assist the engineers in requesting a more suitable mix of materials.

Tailoring IPB

The next process is to tailor the completed S2 products to the needs of the triad. The S2 must review and explain the products, in detail, with the engineers and the FSO. The FSO and engineers will usually ask questions that cause the S2 to investigate more thoroughly. As they further ana-

lyze the details of their fire and obstacle planning, the S2 should be able to give them more detail on the specific areas in which they are interested. For example, the S2 does not show soil composition on the initial modified combined obstacle overlay (MCOO), but he may need to provide it to improve the evaluation of certain areas for minefields and obstacles.

Using thorough IPB helps the S2 create a collection plan flexible enough to focus on maneuver decisions and fire support decisions. Priority intelligence requirements (PIR) focus on decision points, but not necessarily maneuver decision points. After the commander and S3 decide how to defend against an enemy, they have very few maneuver decisions to make. The majority of decisions left are fire support decisions, and the collection plan should reflect that fact.

Use of Intervals and Timelines

Throughout the planning process, the Army doctrinally describes enemy speed in terms of kilometers (km) per minute. An FSO or air liaison officer has a requirement to think in terms of minutes per km, in order to back-plan from a desired time on target. The Army also tends to describe unit intervals in terms of distance; for example, the forward security element is 12 to 15 km in front of the advance guard. The preferred method is to track unit intervals in terms of unit separations by time.

S2s should adjust timelines for units with limited nighttime battlefield experience and inferior night-vision capability—such as the Iraqi forces during Operation DESERT STORM. S2s must find a method that is effective in producing easily understandable graphic timelines, and they must adapt these timelines accordingly.

Operational Norms

As we all know, the U.S. Army is not required to adhere to doctrine; similarly, the enemy forces will often

stray from their doctrine. Enemy doctrine is merely a starting point for the S2's analysis of the enemy. The S2's analytical performance depends on his ability to establish operational norms. "Operational norm" is a term analysts use to describe the result of insightful fusion of all known factors that affect the actions of an enemy unit. Here are some thoughts in five areas that may help an S2 with his analysis.

Equipment. It is important for the S2 to analyze the enemy elements to determine their actual movement rates, instead of relying on doctrinal movement rates. Numerous factors will alter the standard doctrinal movement rates of the enemy; for instance, different combinations of wheeled and tracked vehicles and combinations of vehicles from different nations could change the movement rates significantly.

Training. In Operation DESERT STORM, Iraqi officers were poorly trained in open desert navigation. U.S. units, like the 2d Armored Cavalry Regiment (ACR), achieved outstanding success against Republican Guard units set in potentially lethal defenses (oriented 90 degrees off heading) based on an assumption that the U.S. forces were traveling similarly. Syrians have marked significant tactical failure because they do not effectively train officers in passing effective tactical intelligence back and adjusting rates of march accordingly.

Patterns of Previous Activity. S2s do not always have to conduct this analysis alone. Commanders who have fought enemy units that are similar to the one you are facing often have ample information concerning the enemy that one cannot find in doctrinal manuals. They may know how the enemy operates at night, or how the units react to indirect fire. Also, S2s must not disregard any information prematurely. Intelligence summaries (INTSUMs), unmanned aerial vehicle (UAV) video, and Joint Intelligence

Center threat guides may contain important information concerning a particular situation.

Effects of Weather, Terrain, and Friendly Action. S2s must analyze how environmental factors will affect enemy actions. They must anticipate how the enemy will react to neutral factors like dust and heavy rains. S2s must also foresee the enemy's reaction to heavy direct or indirect fires.

Command and Control (C²). The enemy's C² assets will play a significant role in the units' decision-making process. The enemy may be using visual signals, like flags, instead of radios for communicating during movement. This will certainly decrease their unit intervals.

Analyzing the above factors, with numerous other unmentioned factors, will ensure the S2 produces a thorough analysis of the enemy. The S2 and the staff can then use this analysis to produce a comprehensive collection strategy.

Collection Strategy

The first step to creating a viable collection strategy is to understand the reconnaissance and surveillance (R&S) assets of the unit. There are never enough organic R&S assets to investigate every named area of interest (NAI) and target area of interest (TAI); therefore, the S2 must remember that every soldier is a potential collector. Combat observation lasing teams (COLTs), for example, are often a superb source of information, and certain combat engineers have ample experience in reconnaissance. The S2 must also justify requests for division, corps, echelons above corps (EAC), and joint assets supporting the collection plan. Units should not use systems like the UAV for random search missions; instead, they should employ them to confirm the data from other sensors or collectors. The S2 must be fully aware of the strengths and weaknesses of every available R&S asset. For instance, ground surveillance radar (GSR) can provide superb cueing for other systems, but it cannot identify the target as friendly or enemy.

TAI placement is critical in creating a useful collection plan. TAIs are often an afterthought in the IPB process because the S2 and the FSO do not know their locations until the final stages of the staff planning process. The S2 must support the FSO's decisions concerning TAI placement by supplying him movement rates and unit intervals as discussed above. The FSO is an essential contributor in adjusting the locations and times of TAIs as the situation develops.

The collection plan is a living document. The S2 can facilitate its flexibility by dynamically updating the plan as the battle unfolds. The locations of NAIs and TAIs will often change drastically during the course of the battle; therefore, the S2 must maintain close and constant communication with the FSO to be successful.

Final Comments

The job of an S2 is not easy. It is extremely difficult to analyze an enemy that is 100 km away moving toward you at 20 km per hour while actively engaging the friendly unit to your front. That is why S2s must not try to do it by themselves. There must be a cohesive relationship between the S2, the FSO, and the senior engineer officer for the unit to achieve success. The S2 must also realize that doctrinal publications will not provide a complete analysis of the enemy. One must use innovative techniques to conduct a proper analysis. Do not be afraid to use your own individual thought. Lastly, S2s must not waste this analysis by creating a static, predictable collection strategy. They must produce a plan that correctly prioritizes enemy information and uses R&S assets to their full potential.✳

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In addition to knowing the capabilities and limitations of the unit's organic R&S assets and justifying requests to higher echelons, the S2 may be able to use intelligence reach operations to satisfy specific information requirements**. FM 2-33.5(ST)**, **Intelligence Reach Operations**, 1 June 2001, defines "intelligence reach" as a process by which deployed military forces rapidly access information from, receive support from, and conduct collaboration and information sharing with other units (deployed in theater and from outside the theater) unconstrained by geographic proximity, echelon, or command. The U.S. Army Intelligence Center (USAIC) published the intelligence reach manual under the "Emerging Doctrine" series of special texts. It contains discussions on each of the subcomponents of reach as well as the various Department of Defense Intelligence production centers and the types of databases and information for which they are responsible. Readers may access **FM 2-33.5(ST)** on-line at the USAIC website at: http://usaic.hua.army.mil/doctrine.htm (password required).

TTP for the Special Forces Battalion S2 at JRTC and NTC

by Major Jay B. Fullerton

The purpose of this article is to offer Special Forces (SF) battalion S2s some tactics, techniques, and procedures (TTP) for Joint Readiness Training Center (JRTC) and National Training Center (NTC) rotations. After analyzing the after-action reviews (AARs) that the Special Operations Training Detachment (SOTD) S2 observer/controllers (O/Cs) have conducted during the past two years at JRTC and NTC, I have determined there are seven areas that challenge SF battalion S2s. Throughout this article, I use the term "S2 section" to refer to the actual S2 staff section and military intelligence detachment (MID) in the SF battalion.

After the receipt of the mission tasking order (MTO) at the forward operating base, the unit begins its cycle of preparing, executing, and recovering from a mission. The Joint Special Operations Task Force begins with the isolation period, followed by infiltration, mission accomplishment, exfiltration, recovery, and debrief of Special Forces Operational Detachments-Alpha (SFOD-A) and Support Operations Teams-Alpha (SOT-A)[1]. The seven critical areas are:

❑ MTO and target intelligence package (TIP).
❑ Intelligence preparation of the battlefield (IPB) support to the military decision-making process (MDMP).
❑ Message flow and tracking.
❑ Collection management.
❑ Request for information (RFI) tracking.
❑ Analysis and dissemination.
❑ Debriefing.

MTO and TIP

The S2 section cannot afford to waste any time in dissecting the MTO and TIP and must get right to work on the IPB products. The MTO will usually have an accompanying TIP for each mission. **Everyone** in the S2 section needs to know how to read United States Message Text Format (USMTF) messages and understand the header and body information. Julian dates, date-time groups (DTGs) in Zulu time (Greenwich Mean Time), plain-language addresses, message identification abbreviations, references, amplifications, and message precedence are just a few of the parts in a properly formatted message. If you do not know how to read USMTF messages, I recommend referring to **FM 101-5-2**, **U.S. Army Report and Message Formats**. Do your homework and identify the message formats that are particular to the S2 section. Practice formatting these messages in Microsoft® Word and educate the **entire** section on this procedure. Once you know how to read the MTO and other messages in general, you can quickly extract the facts about the enemy. S2s need to continue the IPB they started at their home stations, before the deployment.

IPB Support to MDMP

S2 sections must have realistic intelligence production timelines.

I recommend reading, **FM 101-5**, **Staff Organization and Operations**, Chapter 5 and **FM 34-130**, **Intelligence Preparation of the Battlefield**, and merging the IPB products into the MDMP steps. **FM 34-8-2**, **Intelligence Officers Handbook**, Chapter 3 actually discusses this merging of IPB and MDMP. This technique helps the S2 determine his intelligence production timelines; the timelines focus priorities of work. Coordinate with the S3, executive officer (XO), and commander for their approval on the timelines and then task-organize the section to meet the production effort. This will build a solid foundation for the staff's planning by incorporating IPB products at the right time during the MDMP.

During mission analysis, all four steps of the IPB process are applicable, to include the products. **FM 101-5**, page 5-6 states, "*The results of initial IPB are the MCOO and enemy SITTEMPs.[2] The event template is not required for the mission analysis briefing. However, it should be done prior to the staff's COA development….*" Logically, then, the staff needs an event template near the end of mission analysis to transition directly into course of action (COA) devel-

Readers can currently reference these field manuals under the given nomenclature. In the future, readers should use the newer nomenclature:

FM 34-130	= **FM 2-01.3**, **Intelligence Preparation of the Battle-field**
FM 34-2	= **FM 2-33.3**, **Collection Management**
FM 34-8-2	= **FM 2-50.5**, **Intelligence Officer's Handbook**
FM 101-5	= **FM 5-0**, **Army Planning and Orders Preparation**
FM 101-5-2	= **FM 6-99.2**, **U.S. Army Report and Message Formats**

1. Significance of Target:		4. Enemy Situation (AO & AOI):	
			Key: AO: Area of Operations AOI: Area of Interest COA: Course of Action EW: Electronic Warfare
2. Weather: Light/Lunar, Forecast For AO/AOI		Reaction Force/Time	
		EW Threat	
Effects on Enemy COA	Effects on Friendly COA	Weapons and Equipment	
3. Terrain (AO/AOI):		Size of Force	
Obstacles		Composition	
Avenues of Approach		Disposition	
Key Terrain			
Observation and Fields of Fire		5. Enemy Capabilities/Vulnerabilities:	
Cover and Concealment			
		Enemy Most Probable COA	
Effects on Enemy COA	Effects on Friendly COA	Enemy Most Dangerous COA	

Figure 1. Intelligence Estimate.

opment, or the MDMP stalls while the S2 produces the event template. The template of events also provides the basis for the collection plan and ties into the last item of step 4 (identify initial collection requirements) of the IPB process.

The majority of the S2's workload is during mission analysis, and time is critical. This is also a test of the S2's task organization—can you get products done on time and to standard? One technique is to use a one-page initial intelligence estimate (see Figure 1) to glean information from the MTO and the TIP, order of battle books, etc. This product keeps the S2 focused and helps when creating the written estimate. For graphics products, start at the target and work your way out, smallest to largest; it may sound simple, but if you run out of time, the most important analysis is already complete. In addition to the requisite IPB products, another effective product is an enemy timeline (see Figure 2). This complements the staff timeline, which starts at mission receipt and runs through exfiltration of the team. Write in the light, lunar, and weather data, as well as the enemy times on the staff timeline. This product is exceptionally useful for developing the collection plan at the staff level and is very useful for "actions on the objective" at the team level.

The IPB products have a two-fold purpose in SF Battalions. First, they support the staff's mission planning and are useful for the team's mission planning (for example, products made for the staff's MDMP should be of use to the SFOD-A's intelligence sergeant so he can conduct his micro-terrain analysis). Second, during team visits, the S2 must look at what products the teams are actually using. He should determine whether the team understands the products (overlays, satellite images, timelines, etc.) and conduct an azimuth check with the team intelligence sergeant to ensure that there is a joint understanding of the enemy.

Message Flow and Tracking

Over the course of a rotation, the S2 section will process more than 700 internal and external messages. One effective technique to keep track of the message traffic is a master message log (MML). The MML provides a library from which anyone in the S2 section can research a document. I recommend the S2 log every message, in or out, in the MML. I also recommend RFI and mission folders. The S2 will copy RFI-related messages, leaving one copy in the MML and putting one copy in the RFI folder. Many S2 sections try to track messages using **in** (only) and **out** (only) folders, but this has proven to be a cumbersome technique for message tracking and analysis. The S2 must also use mission folders to keep track of information to and from the teams in isolation. Some units have tried to maintain an electronic

A tactical operations center during an SF rotation.

copy of the different message logs and the messages. The "choke point" in this method is that only one person knows where everything is on the only computer with the information. This system is vulnerable to power outages and computer problems (e.g., viruses and crashes). Maintaining hard copies in the MML, RFI, and mission folders pays off in several ways. First, anyone has access to the hard copies at any time. Second, the person conducting the S2 portion of the debrief can use the mission folder as a single-source document from which to develop his questions. Finally, at the end of the rotation, the S2 section will have a complete library of all the messages to use as training aids at its home station for future exercises.

Collection Management

Successful S2s brainstorm priority intelligence requirements (PIR) indicators. The indicators will assist the S2 in developing specific intelligence requirements (SIR) and then specific orders and requests (SOR). The SOR are the intelligence acquisition tasks (IATs) the team receives in the battalion operations order (OPORD) and then deploys to collect. The S2 and SFOD-As often misunderstand this small but important fact. The teams collect and report SOR. Often, however, teams report back that they have "*answered PIR #__.*" While it is good to know the SFOD-A understands the "long-term contract" (the PIR), the S2 needs the "short-term contracts" (the SOR) filled first. The S2 updates his collection plans based upon information from the deployed teams and notifies the S3 and the battalion commander when collectors have answered the PIR. The S2 and the SFOD-A intelligence sergeant need to come to an agreement on the tasking document. According to **FM 34-2**, **Collection Management**, page 3-17, "Paragraph 3of the intelligence annex, Intelli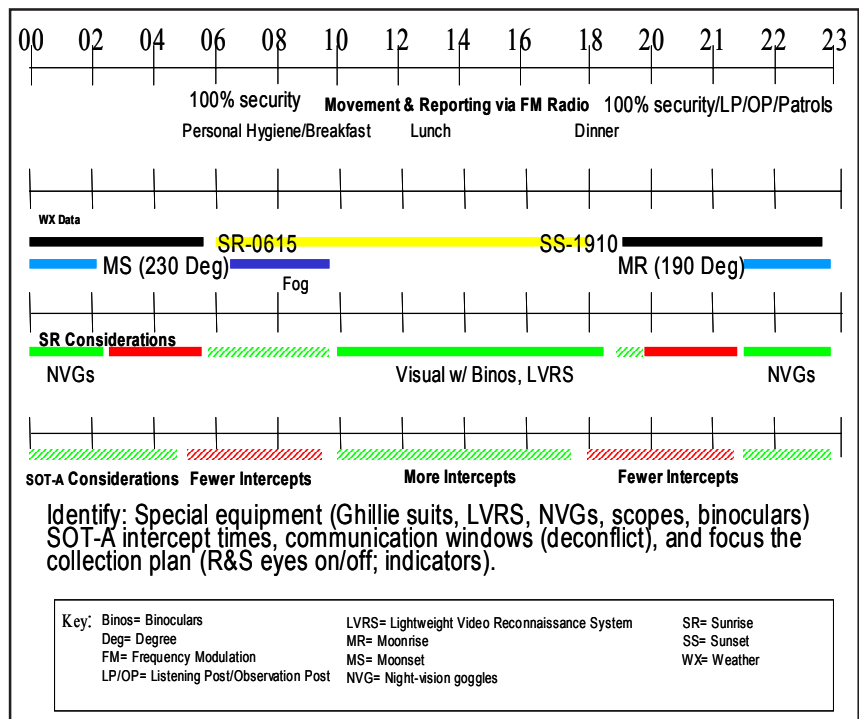gence Acquisition Tasks, *implements the collection plan.*" The tasking document can also be an appendix to Annex B to "*relay lengthy intelligence tasking orders and requests.*" Historically, S2s used the collection plan worksheet to task the team (see **FM 34-2**, Appendix A). While intended as a tool for the collection manager, the worksheet has become the document that S2s produce for two reasons. First, the teams understand the document because it is a matrix and not just words in Annex B. Second, it is what they are used to seeing. They base their reconnaissance and surveillance of an objective on this document and often create their own if they do not receive one from the S2. In addition, the S2 can post the worksheet next to the map to aid in visibility of the collection plan for a particular mission and area of operations (AO). In other words, the collection worksheet saves time because the S2 creates only one document for use by both the section and the team.

Teams in isolation need to receive a tasking document they understand. In this case, a collection plan worksheet meets that need, saves time, and the technique helps S2s to avoid confusing a team by relaying tasks in Annex B, an appendix, and in a worksheet. S2s need to visit the SFOD-As and talk to the team leaders, warrant officers, team sergeants, and intelligence sergeants before the rotation. They need to show them the differences between the products and ask them what product they want. Collection management is a **team** effort, from the intelligence staff to the collection team.

RFI Tracking

As mentioned above, the S2 keeps a copy of the RFI messages in the MML and in the RFI log. S2s need to develop a DA Form 1594-style, duty officer's log tracking sheet. I recommend using Microsoft® Excel to create a spreadsheet with the following headings from left to right: NUMBER, THEIR RFI #, OUR RFI #, DTG REC'D, TO, FROM, DTG MSG TO HIGHER, DTG ANSWER REC'D, DTG SENT TO REQUESTOR, and LTIOV (last time information is of value). This document will work and does a better job of

Figure 2. Enemy Timeline.

tracking incoming and outgoing RFIs than does the DA Form 1594.

LTIOV is very important for two reasons. First, the LTIOV will drive the priority put on the RFI message header: the sooner you need it, the higher the priority. Second, the S2 must strive to answer all questions from the teams in isolation **before** they deploy. Too many times, the S2 section loses visibility on outstanding RFIs because it does not have a practical tracking system.

Analysis and Dissemination

S2s must read and analyze hundreds of messages and disseminate the "what happened?" and the "so what?" Simply reporting the news is not enough, there has to be analysis in the intelligence summaries (INTSUMs) and in the commander's update briefs. During a rotation, the S2 receives sufficient information for conducting analysis. The challenge to dissemination is mission-specific compartmentalization among teams in isolation.

S2s have a requirement to send INTSUMs to their higher headquarters. The Joint Special Operations Task Force (JSOTF) needs information from the forward operating base (FOB), not a reiteration of the JSOTF messages to date. The technique for sending information about the FOB to the JSOTF begins with an FOB collection plan and a threat vulnerability assessment (TVA). The base defense operations center (BDOC) and the FOB guard force have to know the SOR in the FOB collection plan. The BDOC will brief the incoming guard shifts. The counterintelligence (CI) agents and the human intelligence (HUMINT) collectors need to interface daily with the BDOC, conduct debriefs of the finished guard shifts, and receive distribution of all SALUTE (size, activity, location, unit, time, and

equipment) reports from the guards to the BDOC. The Center assists the CI soldiers in conducting pattern analysis, updating their TVAs, and making recommendations for the upgrading or downgrading of the Threat Condition (THREATCON) level to the S2, S3, and battalion commander.

Completing analysis and dissemination is one of the hardest tasks during rotations. The large volume of message traffic takes time to read and analyze, and it competes with other important S2 tasks. Every analyst in the S2 section needs to be able to do this job.

Debriefing

When teams return to the FOB, the staff must use the debrief to gather information before the team recovers and prepares for future missions. Before the debrief, the FOB needs to answer the following questions in its standing operating procedures (SOP):

❑ Who is in charge of the debrief to include the location, set-up, time, tempo, format, staff rehearsal, and direction?
❑ Who must attend the debrief?
❑ What is the timeline for post-mission summaries to higher echelons?

I recommend the FOB director (battalion XO) direct the taskings, the isolation facility (ISOFAC) set up the debrief area, and the team area specialist team (AST) bring the team's mission folder, maps, overlays, and any mission planning tools the team used during isolation. In addition, the S3 section ensures all the essential personnel are present and conducts a rehearsal. The S2 must have a representative at the debrief, preferably a HUMINT collector (military occupational specialty 97E) with strategic debriefing training (additional skill identifier N7). The S2 representative needs to read the

mission folder and be ready to ask good questions (e.g., unanswered SOR). The technical control and analysis element (TCAE) needs to conduct a separate technical debrief for special operations teams-alpha (SOT-As). Each SF battalion runs its debriefings in a different manner. The important point is to have a plan and conduct a rehearsal to prevent wasting anyone's time.

Conclusion

The S2 has a multitude of functions in an SF battalion. I have only scratched the surface with these seven general areas. An internal SOP, coupled with a common-sense approach to task-organization of organic and attached assets, will enable the SF battalion S2 to manage his time and workload during Special Operations Forces Combat Training Center rotations.✳

Endnotes:

1. The "alpha" in SFOD-A and SOT-A designates the team as an operational team. A "bravo" in the same acronyms designates them as support teams.

2. "MCOO" is the modified combined obstacle overlay and "SITTEMPS" expands to situation templates.

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Intelligence Operations in a Jungle Environment—Lessons Learned

by Major Darryl E. Ward

As an intelligence trainer at the Jungle Operations Training Center (JOTC), I had the opportunity to act as the observer/controller (O/C) for battalion S2s during their rotations through the Jungle Warfare Course (JWC). The jungle at Fort Sherman, Panama, provided a unique environment in which to train, one we can not replicate at any of our remaining combat training centers—such as the National Training Center (NTC) or the Joint Readiness Training Center (JRTC). While much of our doctrine concerning intelligence preparation of the battlefield (IPB) and collection management (CM) applies in the jungle environment, the S2 had to adapt to the special challenges the jungle presented. The last rotation at the JOTC occurred in March 1999. Although this training center is gone, I feel that we should not forget the lessons learned there. These lessons are just as important today as they were then. The following contains lessons that I have learned and discussed in O/C intelligence after-action reviews (AARs) following several JWCs at the JOTC.

Jungle Characteristics

The jungle at Fort Sherman presented an S2 with single- to double-layer canopy, cross-compartmented dense terrain, numerous sharp-sloped ridges, streams, and swampy mangrove lowlands. These characteristics degraded communications and mobility. The S2s had to consider all of these factors when developing their collection plans.

The vegetation in the jungle diminishes one's ability to see. Compounding this issue is a jungle canopy that prevents ambient light from penetrating. As a result, night observation devices are mostly ineffective under the canopy. Due to the dense vegetation, scouts and similar collection assets must learn to use their other senses—such as hearing. As the vegetation limits our ability to see, it also traps noises and forces us to become better listeners. The canopy is also difficult to penetrate from above, limiting effective aerial collection. Many rotational S2s requested imagery; however, the jungle canopy prohibits this except in locations such as landing zones (LZs) and drop zones (DZs). I found that sketches were more successful than photographs when working under the canopy.

This type of terrain has a tendency to isolate forces, making it difficult to move collection assets once they are in place. It also makes for slower foot movement, as doctrinal rates of movement do not apply here.

Intelligence Preparation of the Battlefield

One of the critical ingredients to any successful operation is the S2's IPB. It is no different in the jungle; success or failure often hinges on the S2's ability to predict the enemy's location. Sound terrain analysis is crucial in assessing the location of the enemy and possible directions of movement. When considering the OCOKA (observation, concealment, obstacles, key terrain, and avenues of approach) factors, remember these crucial points:

❑ Observation is often limited to five to ten meters due to vegetation. Consequently, hilltops may not be key or decisive terrain because you cannot observe through the canopy.
❑ Trails, waterways, and LZs are often key terrain because they either aid in insertion or extraction or assist in mobility and navigation.
❑ Avenues of approach tend to canalize the enemy due to the parallel ridges through which he must move.

As the staff wargames possible courses of action (COAs), the S2 should consider the effects of weather and terrain on both friendly and enemy forces. The COA selected should take advantage of the enemy's reaction to his environment. S2s who worked the IPB process and implemented it into their wargaming were usually accurate in predicting what the enemy would do. After the wargame, the S2 was able to create—

❑ An event template to aid in determining the enemy's actions and focusing the intelligence effort to confirm or deny possible COAs.
❑ A high-payoff target (HPT) list.
❑ Command-approved priority intelligence requirements (PIR) and information requirements (IR).
❑ A collection plan designed to answer the commander's PIR.

Collection Management

One of the common mistakes made at the JOTC was a robust, unfocused collection plan covering the entire area of operations. S2s need to focus their collection effort since it is impossible to cover all areas in the jungle with a battalion's limited collection assets. By placing collection assets in specified areas based on your event template, you do not need to cover the entire jungle, but you can focus on the essential areas. One other area of weakness for the S2s was their failure to develop deadlines for PIR. When developing PIR and IR, the S2 or collection manager must determine how the information influences the commander's decision point

(DP). The S2 can relate the DP to a time or event. Intelligence synchronization matrices are an excellent tool to assist the S2 in tracking DPs. S2s at the JOTC often failed to consider this, resulting in old PIR that required updating.

Determine what resources can best satisfy the collection requirement. The JOTC provided a unique environment in which battalion S2s worked with unfamiliar information-gathering units and systems. As a result, they often did not fully exploit their capabilities. This situation is not unique to a jungle environment and could happen on any deployment with attached intelligence assets. Seek out and learn their capabilities and limitations as potential sources for gathering information. S2s at the JOTC had the following attached assets:

- ❑ Naval special boat units (SBUs).
- ❑ Army rotary-wing aviation.
- ❑ Low-level voice intercept (LLVI) teams.
- ❑ Counterintelligence (CI) agents.
- ❑ Human intelligence (HUMINT) collection teams.
- ❑ Remotely Monitored Battlefield Sensor System (REMBASS).

When tasking your resources, make sure the plan is feasible. S2s and collection managers often over-tasked scouts with ambitious collection plans due to their lack of understanding of the limitations imposed by the jungle. As mentioned before, the jungle environment restricts observation and mobility. One's auditory ability exceeds visual ability in the jungle. Do not run your scouts ragged by expecting them to move long distances and cover numerous named areas of interest (NAIs). Sensors such as REMBASS (seismic-acoustic, infrared) worked well and added great flexibility to the S2's collection plan. In addition to REMBASS, other signals collection assets such as AN/PRD-10 or PRD-12s worked well in the jungle. Some

LLVI teams did not fare well at the JOTC, but this was not due to the equipment. Poor line-of-sight (LOS) analysis often resulted in a poorly placed baseline that could not cover the area in which the S2 expected the enemy to be. I also noticed that LLVI teams were not testing their equipment before their insertion. This results in deviated azimuths on their lines-of-bearing (LOBs). Team chiefs should test their equipment frequently. I served with a unit that conducted military intelligence (MI) gunnery at home station semiannually to verify and qualify its teams. Just as a tank crew must boresight its weapon system, you must perform predeployment operational tests on your MI systems as well.

Processing and Reporting Information

S2s had a hard time evaluating and reporting information for several reasons. Often, they had a poor communications plan with no established redundancies. Using the command net as the primary operations and intelligence (O&I) net can cause serious delays in reporting. Successful units used the scout platoon net as the battalion O&I with the battalion S2 acting as the net control station.

The processing of information was often absent, and the S2s were not correlating their specific information requirements (SIR) to their PIR. An example of this, in one rotation, was a commander's PIR stating, "In what size element is the enemy traveling?" After two separate contacts with enemy elements of approximately 14 to 16 personnel, it did not register with the S2 that the enemy moved in sections. Already knowing that the enemy company they were up against was at 80-percent strength, he could have determined that the enemy was traveling in sections (reinforced squads) of 14 personnel. Instead of facing three platoons with three squads apiece, they were actually facing three platoons of only two sections each. They never made this correlation, and subsequently the PIR remained unanswered.

Keep your collection plan updated and current. As information comes in, process it and decide what PIR it can answer. Refine your requirements as needed. You may have to make your SIR more specific to answer the

Soldier manuevers trough flooded basin.

U.S. Army photo.

PIR. Make sure you are recording this information by use of a collection management board and log.

Reconnaissance and Surveillance (R&S) Planning in the Jungle

A great collection plan without a supporting R&S plan is useless. The S2s' collection plans often lacked the necessary plan to implement it. You must have a plan to get your collectors into an advantageous location that will allow them to collect **and** stay alive. The S2 alone cannot create the R&S plan. There are several essential players in its development:

❏ Scout platoon leader and other collection team leaders such as LLVI, ground surveillance radar (GSR), REMBASS.
❏ Fire support officer (FSO) to coordinate restricted fire areas (RFAs), target areas of interest (TAIs), suppression of enemy air defense (SEAD), and more.
❏ Signal officer to coordinate communications requirements. This is critical in the jungle where conditions often degrade communications. You must have good communications including a backup plan to transmit and receive information.
❏ Battalion S3 to give the approval for implementing the plan. This ensures the plan meets the commander's guidance, is compatible with all battalion maneuver elements, and reduces the risk of fratricide.

Approximately 10 to 20 percent of all casualties at the JOTC resulted from fratricide.

Time-phase the emplacement of collection assets. As mentioned before, doctrinal rates of movement do not apply in the jungle. The average rate of movement for an infantry squad conducting a *movement to contact* is approximately 500 meters per hour; scout elements generally move even slower. Given this fact and your event template, you must predict how long it will take collection assets to move into position. Many times at the JOTC, S2s failed to do this. As a result, the enemy had already passed an NAI because the S2 did not calculate the time needed to move into a given position, install a sensor string, establish a signals intelligence (SIGINT) baseline, and be ready to operate. This lesson is not unique to the jungle; you can apply it to any situation.

Remember these considerations when putting your R&S plan together:

❏ A unit's operational tempo (OPTEMPO) is slow in the jungle. Patience is crucial in waiting for the enemy.
❏ Prioritize your NAIs; you cannot cover everything.
❏ Do not walk your scouts to exhaustion and task them to observe too many NAIs. This will have your scouts moving rapidly in terrain in which they are susceptible to ambush.
❏ Do not abandon your plan because you fail to get information at the beginning of the operation. More times than not, the S2's IPB is correct but the enemy is moving slower than anticipated.
❏ Do not always rely on LZs for insertion since the enemy usually observes them. As an alternative, consider rubber boats (RB-15s) and fast rope insertion extraction system (FRIES) as alternate means of insertion.
❏ Plan for backup communications, emergency exfiltration, casualty evacuation, and fire support.
❏ Global Positioning System (GPS) units do not work well due to the jungle canopy's interference with satellite signals. You must rig an external antenna to make it work. Land navigation skills are essential.

❏ Rehearse your R&S plan with all critical players. Things never go as planned in the jungle. The more synchronized everyone is with the plan, the greater your chances are for success.

Conclusion

The jungle challenges the S2's ability to template the enemy through sound IPB, identify gaps in intelligence, develop a collection plan to answer those gaps, and to develop an R&S plan to make it all happen. There is no school solution on how to tackle this problem. With very little in writing on how to wage war in a jungle environment, much is left to the ingenuity of the soldiers to find, fix, and destroy the enemy. The JOTC was the proponent for **FM 90-5**, **Jungle Operations**, and at the time of this writing, it was under revision at Fort Benning, Georgia. Readers can find more information on jungle operations in the **Center for Army Lessons Learned Handbook No. 95-5**, **Winning in the Jungle**.✷

Understanding Our Future Battlespace:
Why We Need to Integrate IO into the IPB Process

**by Lieutenant Colonel
Michael T. Flynn**

Exponential increases in the availability of information will lead to an era of cheap information available to anyone anywhere. This will vastly change the nature of the battlespace and the nature of war itself. As we attempt to understand our future battlespaces and prepare them for the full spectrum of operations, we need to apply sound, proven methods that will allow us to shape them to our advantage. This shaping must include information operations (IO).

This article addresses the question, "Why do we need to integrate IO into the intelligence preparation of the battlespace (IPB)[1] process?". The short answer is that we need a proven, systematic process that enables planners to integrate all facets of IO into our operations. The IPB process, a thoroughly developed and proven method of understanding the battlespace, provides commanders and staffs an analytical approach toward examining an adversary and themselves in order to set the context the staff uses in the military decision-making process (MDMP) to determine a proper course of action (COA) to take.[2]

Successful IO require a thorough and detailed [intelligence preparation of the battlefield] IPB. IPB includes information about enemy capabilities, decision-making style, and information systems. It also considers the effect of the media and the attitudes, culture, economy, demographics, politics, and personalities of people in the [area of operations] AO.

—FM 3-0, Operations

Defining IO

When defining the IO environment, the IPB process provides a systematic approach allowing commanders to better understand the nature of the enemy, terrain, environment, and themselves. Performing the IPB process enables the development of extensive databases for potential AOs. The staff will systematically update these databases as the environment changes.[3]

FM 3-0 defines information operations as follows:

IO are actions taken to affect [an] adversary, and influence others' decision-making processes, information and information systems while protecting one's own information and information systems. IO are primarily shaping operations that create and preserve opportunities for decisive operations. IO are both offensive and defensive....The value of IO is not in their effect on how well an enemy transmits data. Their real value is measured only by their effect on the enemy's ability to execute military actions....[4]

IO contain critical elements of activities that require analysis when preparing the battlespace for full-spectrum operations. These elements include "perception management actions" such as psychological operations (PSYOP), military deception, electronic warfare (EW), operations security (OPSEC), counterpropaganda, counterintelli-gence (CI), computer network attack, computer network defense, physical destruction, and information assurance. The related IO activities are public affairs and civil-military operations. Each component orchestrated within the overall plan produces a synergistic effect against the elements of an adversary's decision-making process, information, and information systems.[5]

Today's environment goes beyond what previously was a land-centric focus and deals with more abstract concepts. Concepts such as "network-centric warfare" fall within IO and require a greater awareness of a variety of elements. According to John Gartska, "*The idea of networking the force provides the warfighter access to new frontiers in the information domain.*"[6] These include: knowledge of the on-going information revolution; the importance of automation and its impact on enemy and friendly weapons systems; proliferation of global communication; and the expansive nature of computer technology.[7] It also goes beyond this notion into areas that allow planners and commanders to gain relative advantages in combat power. These advantages can include greater shared awareness, a higher degree of collaboration, and expanded information reach. This leads

> **Offensive information operations** are the integrated use of assigned and supporting capabilities and activities, mutually supported by intelligence, to affect enemy decision-makers or to influence others to achieve or promote specific objectives.
>
> **Defensive information operations** are the integration and coordination of policies and procedures, operations, personnel, and technology to protect and defend friendly information and information systems. Defensive information operations ensure timely, accurate, and relevant information access while denying adversaries the opportunity to exploit friendly information and information systems for their own purposes.
>
> (**FM 3-0**, **Operations,** page 11-17)

to greater survivability, increased efficiency and lethality from our superior weapons platforms, and a higher degree of control over our operational tempo.

IO contain both offensive and defensive components. Offensive IO include activities such as those mentioned above, whereas defensive IO contain objectives established to protect and defend our information systems.[8] IO can be either direct or indirect. Direct IO "*bypass the adversary's perceptive or observing functions*" such as a direct attack against a computer network.[9] Indirect IO involve creating information that an "*adversary must observe if the intended effect is to be achieved.*"[10]

Information preparation of the battlefield is the best process that military planners currently have for understanding the battlespace and the options it presents to friendly and enemy forces. Applying the IPB process and integrating IO enable a commander to maximize his combat power at critical points in time and space to best affect his battlespace.

IO must become a complementary part of the IPB and targeting processes; IPB, targeting, and IO are interrelated by the nature of the environment. We must examine our enemy's IO strengths and weaknesses, much as we have done using conventional systems in the past, and match them against our own. To do this, we need to understand how IO fits into the IPB process and keep in mind that our future opponents are doing the same.

Knowing what types of operations future belligerent states are planning and conducting is important. For example, some of our potential adversaries have already begun preparing the operational environment for a future conflict. In order to determine what our counteractions might be,

we first need to understand what they are thinking.

Step One: Defining the Battlespace

Defining the battlespace environment identifies, for further analysis, specific features of the information environment, activities within it, and the physical space where activities occur that may influence available COAs or affect the commander's decisions.[11] The critical first step is to determine the commander's battlespace. This means identifying geographic and information environmental factors where friendly forces will operate. It establishes "boundaries" but neither limits nor contains a commander within a set "box," especially as it pertains to information operations.

Regardless of the level of execution, AOs are usually geographical boundaries specified on an operations overlay that we receive from our higher headquarters. In terms of time, it is always for the duration of the operations specified in some operations order. However, the nature of the area of interest (AOI)[12] and the types of information activities with

which a command is concerned vary significantly according to the echelon that is doing the IPB. Figure 1 enumerates considerations when integrating IO into the IPB process in order to construct the AO and AOI for each level of war.

Establishing an AOI that exceeds the limits of the AO and the commander's battlespace allows the commander to anticipate future developments and determine appropriate countermeasures to take. Other AOI examples at the tactical level of war include local radio facilities, communication stations tied into an existing telephone system, designated microwave antenna sites, and enemy command and control (C^2) nodes the staff has targeted for destruction. The same thinking applies to the operational and strategic levels of war. Although the commander is assigned the AO, the AOI must include consideration of its effects on information operations as well. For instance, AOI considerations might be a regional or national telecommunications facility, fixed structure C^2 nodes, urban population centers that access cable, satellite, and other commercial systems. Figure 2 depicts an example of a com-

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Tactical
- ❑ Ability of the local infrastructure to support information operations.
- ❑ Availability of press coverage or known threat propaganda systems.
- ❑ Identified deception capabilities or previous patterns of deception techniques employed.

Operational
- ❑ Known or templated command, control, communications, computers, and intelligence (C^4I) sites within the theater, region, or assigned AO.
- ❑ Previously identified critical node analysis operations, other significant computer-based capabilities, or knowledge and development of virus protection or attack software capabilities.
- ❑ Known public affairs capabilities or media outlets of the adversarial state or belligerent.

Strategic
- ❑ Ability to affect public support in the United States.
- ❑ Identity of regional/national telecommunications infrastructure.
- ❑ Known capability or development of weapons of mass destruction (WMD).[13]

Figure 1. Considerations When Integrating IO into the IPB Process.

mander's battlespace as it relates to the information environment.

This figure portrays for a commander the information network that he controls within his assigned AO. An essential characteristic of this step focuses a commander and staff on those aspects that will have the greatest effect on friendly and enemy information operations. It ensures that he understands the IO situation as he moves into the next phase, which enables him to grasp what effects the battlespace will have on his operations.

Step Two: Describing the Battlespace Effects

The next step is to describe how IO affect the battlespace. Describing these effects includes determining how the information environment affects both an adversary and our own friendly operations. In this step, analysts must avoid the common mistake of presenting commanders with large amounts of data about the battlespace without describing how it will shape his fight. If done
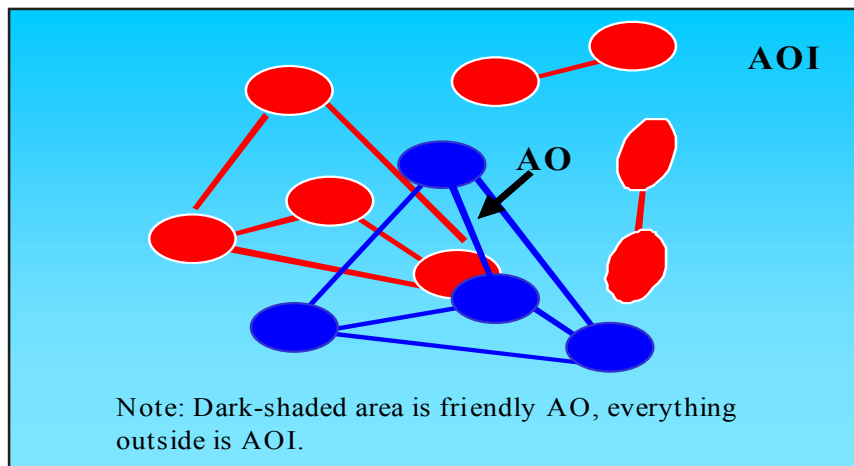
Figure 2. The Assigned Battlespace and Information Networks Available to Friendly and Enemy Forces.

properly, this step paints a clear picture of the opportunities and limitations the information environment presents. One way to examine the effects is to look at our own and an enemy's "information potential" when it comes to both peacetime and wartime operations. Information potential considers friendly and enemy capabilities that can affect the outcome in peace or war.

Figure 3 shows how the considerations of the relationship of IO and their potential effects on the

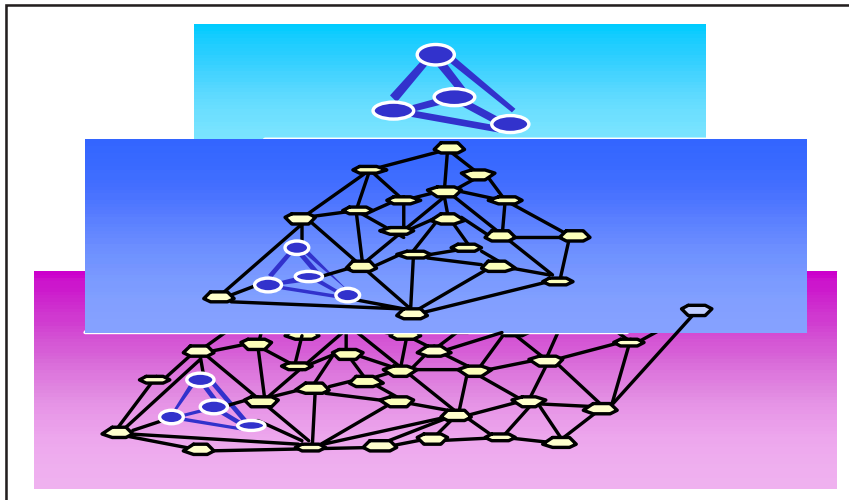battlespace environment differ for each level of war.

These considerations are clear examples of the importance of integrating IO into the IPB process. When determining our desired battlespace effects, IO may play a more important role than conventional weapons have in the past.

Step Three: Evaluating the Threat

Evaluating the threat requires analysis of threat force capabilities and any known doctrinal principles or patterns of behavior they prefer to employ. This step requires an evaluation of the adversary's information operations network without regard for the effects of weather or geography. At this point, an analyst must limit the description of an adversary's capabilities to those that will affect the commander's operations (directly and indirectly). For example, while presenting information about the entire country's C^2, communications, computers, intelligence, surveillance, and reconnaissance[15] architecture may sound like a good idea, the intelligence officer should limit the presentation to those critical nodes and networks within the theater that the commander can affect (see Figure 4).

Tactical
- ❑ The U.S-Korean Treaty does not allow us to conduct information operations in specific areas.
- ❑ The enemy cannot establish an information grid for a period of six weeks because the logistics system will not support faster movement of critical equipment to the forward AO.

Operational
- ❑ Terrain throughout the AOI hinders capabilities of friendly and enemy tactical C^4I systems, creating a greater need for space-based and cellular system use.
- ❑ Ability of enemy information networks to support movement of forces in the theater is susceptible to electronic deception operations and CNA.

Strategic
- ❑ Enemy popular support only in the regions surrounding the built-up areas and those within the cities themselves.
- ❑ Enemy has networked strategic air defense systems into two belligerent nations adjacent to the assigned theater of operations. Both nations have bilateral treaties with the United States.[14]

Figure 3. Differing Effects of IO on the Battlespace.

Figure 4. Critical Friendly Nodes Affecting a Commander's Battlespace.

Figure 4 enables a commander to visualize how his and his adversary's information networks fit into the operational environment.[16] The example depicts, from top to bottom, a commander's information network transposed over successive friendly information grids. This enables a commander to visualize how his information system fits in relation to those of other friendly forces. A similar approach to take is to depict the enemy's information grids. This provides the decision-maker expanded battlespace visualization, greater knowledge, and increased awareness of his information environment. It also allows him to visualize how it may affect his operations and how he may affect the enemy's. Using this technique enables the commander to view his battlespace to prioritize his network, and to link combat power to weapons systems more efficiently. This also broadens his understanding of where the networks are in relation to his ability to apply their capabilities. Lastly, it will provide the time-space advantage by knowing when to make decisions relative to available sensors and shooters. Analysis of these information networks facilitates a commander's gain of tactical, operational, and strategic advantage over his opponent.

Step Four: Determining Available Threat COAs

The final step is to identify and develop likely threat courses of action (COAs) that will influence accomplishment of the friendly mission. How does the enemy present himself within our battlespace with regard to his IO capability? This important question requires detailed consideration in order to develop a suitable and feasible friendly COA. At the operational and strategic levels, analysts must present several enemy COAs. At the tactical level, at a minimum, the intelligence officer must present the enemy's most likely and most dangerous COAs. This allows the commander to visualize in time and space how an adversary may use his IO systems to attack or defend against our own actions. For instance, an adversary will use direct and indirect methods to get at our information centers of gravity (COGs). **The information COGs are where a confluence of automation, communications, collection of information, thinking, planning, and decision-making activities occur.**[17]

Conclusion

IPB is a valid, existing process that provides a framework for analysis of the information operations environment. Without some set-piece structure to begin analyzing a given battlespace, IO will remain a concept reserved for esoteric, intellectual discussions. Once we integrate the IO concept into a valid, well-known process, commanders will come to understand better the true nature of their operational environments. Our desire must be to achieve information superiority over future opponents. Having information superiority increases the speed of the command's preempting adversary options, creates new options, and improves the effectiveness of selected options.[18] Integrating information operations into the IPB process is not simply another task in an already complicated approach; it will play a critical role in a future war and may determine its outcome.✸

Endnotes

1. IPB expanded to intelligence preparation of the battle*field* [italics added]. However, with the advent of space operations and the multidimensional operational environment that we deal with today, IPB has evolved into intelligence preparation of the battlespace. This term will appear in the next version of **FM 34-130** and is already used in newer versions of other doctrinal manuals.

2. IPB is a process developed over the past two decades. Numerous doctrinal manuals address the concept and application of IPB. The principal manual is **FM 34-130**, **Intelligence Preparation of the Battlefield**; another is **FM 101-5**, **The Military Decision-Making Process**. It is also discussed in numerous joint publications, including **Joint Pub 3-13**, **Joint Doctrine for Information Operations**.

3. **Joint Pub 3-13**, page GL-8.

4. Department of the Army **FM 3-0**, **Operations,** defines IO on page 11-16.

5. **Joint Pub 3-13**, page II-3.

6. This quote is attributed to Mr. John J. Gartska, co-author of **Network**

Centric Warfare: Information Age Organizations**, during a presentation he gave to the elective Information Operations Course on Network Centric Warfare at the Naval War College, 6 December 2000.

7. Department of the Army, **Information Operations Challenge**, Office of the Deputy Chief of Staff, Intelligence (Washington, D.C., 1999), page 1-6.

8. **Joint Pub 3-13**, page viii.

9. Jane's Information Group, Chapter III, "Operational Concepts, Information Warfare Like Air and Space Power," **U.S. Information Warfare**, 1996, page 60.

10. Jane's Information Group, page 60.

11. Department of the Army, **FM 34-130**, **Intelligence Preparation of the Battlefield** (Washington D.C., 1994), page 2-2.

12. The acronym "AI" which meant "area of interest" changed to "AOI" with **FM 101-5-1**, **Operational Terms and Graphics**, dated 1997.

13. **FM 34-130**, pages 5-1 and 5-2.

14. Ibid, pages 5-2 to 5-4.

15. C^2, communications, computers, intelligence, surveillance, and reconnaissance are all components that play a vital role in the understanding of IO and how it affects our operational environment.

16. During his December presentation, John J. Gatrska discussed the Global Information Grid. He described "networking the force" as a combination of sensors (regardless of the platforms), the decision-makers (regardless of their locations), and the shooters (regardless of the Service). He describes these in relation to our priorities for networking information, the linkage of IO to our combat power, and the determination of the value added to the warfighter.

17. **Information Operations Challenge**, page 1-6.

18. John J. Gartska, et al., **Network Centric Warfare: Implications for Military Operations**, Figure 7, "Full-Spectrum Dominance Enabled by Information Superiority," at <http://www.dodccrp.org/NCW/imply_mil_ops.htm> [7 January 2001].

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DESIGNING AN ISLAND: JRTC SCENARIO DEVELOPMENT

by Master Sergeant Gordon L. Rottman (U.S. Army, Retired)

As the Joint Readiness Training Center (JRTC) enters its twelfth year of operation, thousands of soldiers, airmen, Marines, and sailors have immersed themselves in its joint exercise scenario. The JRTC, or Island of Aragon, scenario has significantly evolved in complexity and depth over the years. Individual military intelligence officers, noncommisioned officers (NCOs), and soldiers who have participated in previous rotations will usually find that missions and situations, especially with regard to intelligence, change and grow in complexity from rotation to rotation. A common mistake made by some JRTC participants is the assumption that we use a "canned" scenario that will be much the same as one they had previously experienced. Another frequent mistake is not allowing for the frequently changing weather conditions. The countries, armies, and other factors on the Island of Aragon may be fictional, but the weather is not. The JRTC needs to develop alternate plans for every operation in the event that rapid weather changes prevent flying.

Center Relocation

The JRTC scenario matured to its present, but still changing, configuration when it relocated from Fort Chaffee, Arkansas, to Fort Polk, Louisiana, in the summer of 1993. This relocation required that the JRTC change the "baseline documents" (those documents that are common to all rotations) to reflect the available training areas and an expanded joint environment. The baseline documents include—

- ❑ Country area studies.
- ❑ Orders of battle.
- ❑ Psychological operations (PSYOP) studies.
- ❑ Unified Command, Joint Task Force (JTF) and Joint Special Operations Task Force (JSOTF) Operation Plans.
- ❑ Intelligence estimates.

The JRTC incorporated lessons learned, problem-area fixes, and information shortfalls into the new baseline documents. These documents had to be flexible enough to allow the details of any given rotation to change to support the exercising units' mission essential tasks list (METL). The JRTC uses division operations orders and pre-rotation intelligence message traffic to adapt to rotationally unique situations and to make any additional changes.

The JRTC scenario and the critical factors driving it changed as well. Influencing the ultimate design of the island were the sizes and types of participating units and their missions. The Center considered maneuver terrain availability, environmental restrictions, and exercising units' operational reaches. Future expansion of the JRTC's scope of exercises was another consideration. JRTC began in 1987 by exercising a single light-infantry battalion. Special operations forces (SOF) participated the following year; two-battalion rotations began in 1992, soon followed by increasingly larger brigade task forces with significant corps support slices.

Increasing Training Relevancy

The U.S. Armed Forces began experiencing increasingly complex contingency operations the same year that the JRTC moved. The following year's rotations demonstrated that the basic or "standard" JRTC rotation was becoming the exception rather than the rule. "Special" rotations, each one unique, included corps-level contingency operations, Ranger, SOF, counterdrug, peace-enforcement, Partnership for Peace, and mission readiness exercises (MREs), all conducted in a joint environment with varying degrees of complexity. A high degree of Air Force participation (tactical and air mobility), operating from several bases on the notional island, demanded other design considerations.

In order to support this variety of exercise scenarios, the new JRTC scenario had to be broad-ranging, flexible, and, to the extent possible, all-inclusive. A high order of foresight, informal wargaming, brainstorming, study of earlier and current real-world military operations, emerging events, and trends were necessary. It was important that the area studies, orders of battle (OBs), and other baseline documents be realistic. They also had to offer complex and in-depth information to avoid an overly simplistic background from which to develop scenarios.

Commanders frequently made two comments regarding the JRTC area studies: "*They're too long, no one will read them,*" and "*They contain more information than normally found in real-world area studies.*" Both comments are true; however, they are misunderstandings of the area studies' intent. The area studies are lengthy, but no one needs to read them in entirety. Readers need only to focus on the areas of direct concern and some related areas and be familiar enough with the organization of the area studies to find additional information, when necessary.

The quantity and detail of some information found in the Island of Aragon area studies are often more extensive than that found in actual area studies. This is because the Aragon area studies are virtually the only initial information sources available. There are no country studies, State Department reports and studies, national agency reports, news magazines, or any of the other open sources normally available to planners and intelligence staffers.

Atlantica's Inadequacies at Fort Chafee

The Army developed the original Island of Atlantica, located at Fort Chaffee from 1987 through 1993, to provide a broad background exercise setting. All exercise activity originally took place only within the boundaries of Fort Chaffee. Supporting intelligence documents (intelligence summaries [INTSUMs], periodic intelligence reports, etc.) provided a basic tactical intelligence picture that the single light-infantry battalion task force needed and that the Center required for an overall island-wide intelligence picture. The "island" encompassed most of Arkansas, some of eastern Oklahoma, and a bit of southeast Tennessee.

As stated, the two-country Atlantica Island provided only a background setting for exercises conducted within the Fort Chaffee "player box." After three years, it became apparent that the ever-expanding scenario, increasing intelligence play, and growing SOF and Air Force participation were proving the island's design, area study, and OBs to be inadequate.

The reasons for this inadequacy included increasing integration of military intelligence, civil affairs (CA), PSYOP, judge advocate general, and numerous other activities. The increasing Air Force participants were interested in an island-wide air war. SOF units (Special Forces, Rangers, Special Opera-tions Aviation) began executing missions at out-stations across the island (e.g., target sites located outside the Fort Chaffee "player box"). This included "cross-border" operations into the People's Democratic Republic of Atlantica (PDRA). Sufficiently detailed island-wide intelligence information was inadequate or nonexistent.

Atlantica was inadequate in many ways, and the expanding training requirements overwhelmed its design. As the scope of exercise scenarios and intelligence play grew, critical deficiencies became apparent.

The coastline, international border separating Cortina and the PDRA, and administrative boundaries (states, provinces) were random and failed to use actual administrative boundaries, especially county lines. This prevented, or at least made it more difficult, to use actual demographic data in providing population, economic, and cultural information to support CA and PSYOP requirements. It forced unnecessary effort in creating this data from scratch, which often proved to be less than realistic or inappropriate to the overall background of the island. A little foresight would have allowed the use of existing data, impossible with actual counties randomly chopped in two by artificial notional administrative boundaries or two-thirds of a county dropped into the ocean.

The random drawing of the coastline and boundaries resulted in numerous illogical circumstances on the "island." Examples included a lack of coastal roads in many areas, lack of ports on coasts with significant nearby inland cities, coastal cities with their airports dropped into the ocean, large portions of a country inaccessible by highways or railroads, and failure to include existing training areas suitable for out-stations (resulting in a rush to create small islands to accommodate them).

The area study and OB for Atlantica were also deficient in many areas. The two countries were too small to support realistic population and industrial bases. They lacked a government organization below national level, non-governmental organizations (NGO) and humanitarian relief organizations (HRO), multiple host-nation police agencies, multiple internal security organizations, fully developed air and naval forces (to include their support infrastructure), and various secondary threats (multiple guerrilla factions, organized crime rings, bandit gangs, smugglers, etc.). These threats need not play a role in every given scenario, but they should be available if required.

Inviolate But Flexible Base Documentation

Before discussing the aspects and considerations employed to design the new Island of Aragon, it is important to understand that any notional island's design, its administrative boundaries at all levels, military bases, unit stationing, basic military force structure, government infrastructure, and so forth, remain inviolate. International boundaries never change. On the surface this may appear restrictive to scenario development, but it is not.

By maintaining the sanctity of baseline documents, developers can plan the exercises and prepare supporting intelligence documents with a minimum expenditure of time and resources. Changing baseline documents can lead to many difficulties because of their in-depth integration with all other rotational documents. The problem of deconflicting so many complex documents and ensuring continuity between them is obvious. A computer's "universal change" function does not catch everything; however, this does not translate to a rigidly inflexible scenario. The baseline documents reflect the

situation 165 days prior to exercise hostilities, or D-165. This is the key to JRTC scenario-development flexibility.

This five-month window allows the JRTC staff to modify the "standard scenario." JRTC can disband existing military units and security forces or create new ones to adjust the force ratio and increase or decrease their training levels. Likewise, on-hand equipment levels can decrease through poor maintenance practices or the lack of spare parts. Since the OBs depict peacetime garrison stationing, units can redeploy tactically before D-Day to accommodate any desired scenario situation.

New guerrilla factions can emerge and existing ones can split or merge during the 165-day window. Drug cartels, organized crime rings, bandit gangs, and renegade militias can develop into new threats to support the desired scenario. In the same vein, new political leaders, warlords, or political factions can gain power through legitimate or illegal means.

The JRTC can introduce such changes through pre-exercise JTF periodic INTSUMs covering the D-165 to D-Day period. This provides the flexibility necessary to modify scenarios while conserving planning and development resources. The only pitfall is that exercising units must not use documents from previous rotations.

Development of the Aragon Scenario

For the new island, the designers first determined the location of the island on the globe (see Figure 1). Regional considerations and realistic flight times and distances to off-island staging bases are two major considerations. Aragon's mid-Atlantic location places it in a strategically important position. If one desires an island nation from which refugees are traveling by leaking boats to the United States, it is probably not too realistic to position the island in the mid-Atlantic. Actual latitude and longitude locate cities, airports, seaports, etc., but of course these do not reflect the island's notional position. However, Aragon "moved" east from its south-central U.S. origin and retained its actual latitude.

The development of Aragon began a year before the move to Fort Polk. The aspects and considerations for Aragon included a broad range of factors. A major change from the Atlantica scenario was the inclusion of a third country. While the neutral country rarely participates in the conflicts, Victoria reflects the fact of third-country involvement in some capacity in every post-World War II U.S. conflict. Victoria can serve as a U.S. staging base, favored sanctuary for insurgents, an additional threat, or any number of other scenario variants.

The shape of the island is far from random. A variety of factors affected its ultimate design:

❑ The three countries had to be of sufficient size to support the desired population and industrial-economic bases and, thus, the nations' military force structures. The developers used actual county or parish population figures and demographics for this purpose.

❑ The next step was to identify all military installations (all Services) and potential training sites throughout the general region. These represent the staging bases, launch sites, out-stations for SOF targets, and flex mission objectives.

❑ The Center could not place the "player box" (Fort Polk) on the beach because exercising units traveled the north-to-south High-
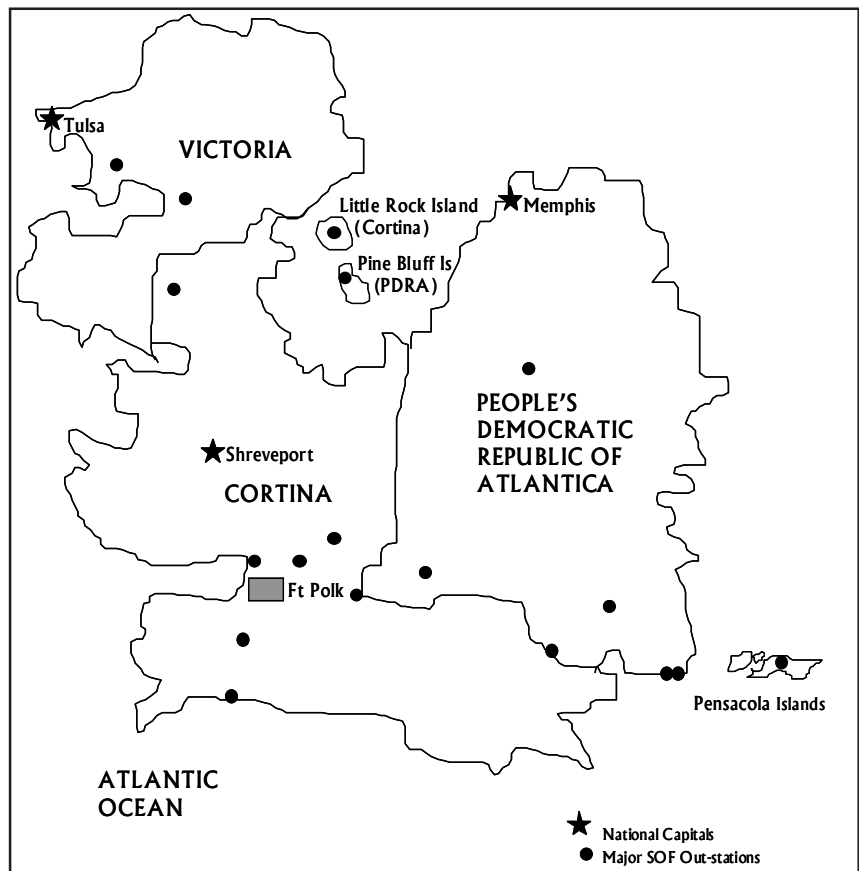

Figure 1. Map of the Island of Aragon Showing the Three Countries Inhabiting It.

way 171 to the post's west. This placed Fort Polk farther from the ocean and prevented notional naval gunfire support into the eastern third of the training area. To provide sufficient naval gunfire coverage, they had to create Rosepine Basin south of the post.

❑ The JRTC selected every kilometer of the island coast with equal care to ensure rationality. They did not draw them at random or trace them along highways, as is done on some fictitious islands. They followed county or parish lines to allow for logical government administrative infrastructures at all levels by permitting the use of actual demographic, economic, and other data in the development of area studies, psychological studies, and target intelligence packages.

Many county (or in the case of Louisiana, parish) lines follow streams or rivers and these, when possible, formed the coastline. The developers rounded square-cornered counties to provide a realistic shoreline trace. Of course, they actually used the Gulf Coast for Cortina's and the PDRA's southern coast. Developers determined coastal highways, bays, coastal cities (including airports and appropriate seaport notional data), and railroad access to all parts of each country.

The selection of international and internal administrative boundaries was equally important. All actual state borderlines remaining on the notional island are now either international or state-equivalent boundaries. The Cortina-PDRA border follows the actual Louisiana-Mississippi state line along the Mississippi River, which follows the river's original 1857 boundary course, so it now crosses back and forth over the river. Other state-equivalent boundaries not following actual U.S. State lines followed a series of county lines

Cortina	PDRA	Victoria	United States
Department	Province	State	State
Parish	District	County	County
Military Region	Military Zone	Military District	Army Area

Figure 2. Administrative Subdivisions of the Island of Aragon and the United States.

to retain the integrity of county-equivalents. Figure 2 shows the administrative subdivisions of the island's three countries and those of the United States. The developers named the state-equivalents and selected the national and state-equivalent capitals, taking into account demographics, history, and other considerations. They retained actual county or parish seats. They also selected major military regional command boundaries, which generally coincided with state-equivalents, although there were boundary adjustments because of operational considerations.

The structure of the three countries' armed forces could not be merely a collection of random formations and units. The friendly and neutral countries' armed forces did not model U.S. forces. The developers structured and designated these differently, based on notional French and British military influence to provide distinctly foreign-appearing forces. Such foreign designations and organizational principles have confused intelligence personnel. There is a reason for this. A basic precept for combat training centers is to have U.S. forces face worse-case situations (e.g., light infantrymen fighting tanks [T-72s] and infantry fighting vehicles [BMP-2s]). Unusual host-nation unit designations and organization serve the same purpose for intelligence personnel and prepare them to look for such differences when dealing with real-world allied forces.

The **FM 100-60**, **Armor- and Mechanized-Based Opposing Force: Organization Guide**, opposing force (OPFOR) series manuals dictated the armed forces units' organization in the PDRA. However, the government's political goals (unification of the Island of Aragon), real terrain geo-military considerations, notional history, and economic and population bases dictated its overall structure. The developers gave equal consideration to the other countries' armies, air forces, navies, security forces, and police agencies.

Other comparatively minor considerations can have a major impact on island design. The draft Aragon did not have a Little Rock Bay dividing the PDRA from Victoria. Instead, Victoria shared a common boundary with the PDRA along the Mississippi River, and the Cortina-Victoria border was farther south. The developers created the bay to place Little Rock Air Force Base on a Cortinian island with U.S. basing rights, allowing the U.S. Air Force to operate from a secure base. Actual air operations take place from the base in support of JRTC rotations. To accommodate this desire, they pushed the Cortina-Victoria border north so that U.S. Air Force aircraft could avoid over-flying Victorian airspace while using actual air routes. The Ouachita Mountains on the border allow the Air Force to conduct terrain masking from a potentially hostile Victoria. As the bay swallowed much of eastern Victoria, the landmass of the country extended west and north to provide sufficient size and population.

Conclusion

Aragon is a rather large island. The pro-United States Republic of Cortina (host nation) includes the state of Louisiana, parts of east Texas, and southwest Arkansas. The hostile PDRA encompasses all of Mississippi, a strip of western Alabama, and a bit of southwest Tennessee. The neutral Republic of Victoria covers northwest Arkansas, eastern Oklahoma, and southwest Missouri. The result is a multi-country island with all of the ingredients necessary for developing virtually any scenario deemed necessary to support the training of U.S. armed forces. The development of the Island of Aragon has not ceased. An archipelago, some 35 miles to the east of the PDRA, the Pensacola Islands— encompassing all of Eglin Air Force Base— will be part of the future revision of the area studies. It will be available in three forms, each with its own area study: as a semi-autonomous region of the PDRA, an independent Pensacola allied with the United States and Cortina, or as the People's Republic of Pensacola allied with the PDRA—a Grenada-style situation. Each area study offers different anti-government insurgencies, which may or may not be pro-United States/Cortina. As always, flexibility is the keystone.

While JRTC took great pains to provide as realistic as possible geo-military, political, economic, and cultural environments for joint exercises, we must accept certain artificialities. For example, the Mississippi River has both north and south mouths; but then, it is not a perfect world. ✳

Gordon Rottman is a retired master sergeant with active duty Special Forces, National Guard Airborne Infantry and Long-Range Reconnaissance Patrol (LRRP) experience, and U.S. Army Reserve Military Intelligence experience. He is currently a contract special operations scenario writer for the Joint Readiness Training Center, at Fort Polk, Louisiana. He has published 19 military history books. Readers may contact Mr. Rottman via E-mail at gordon.rottman.controller@polk.army.mil or telephonically at (318) 531-2550 or DSN 863-2550.

Photos courtesy of U.S. Army

Soldiers prepared for the enemy.

An Avenger stands ready to defend against hostile aircraft.

Operations in East Timor: Experiences of the Australian 3d Infantry Brigade Intelligence Officer

by Major John C. Blaxland, Australian Army

The views expressed in this article are those of the author and may not reflect the official policy or position of Headquarters, 3d Brigade, the Australian Army, or the Australian Defence Force.

A version of this article also appeared in The Australian Army Journal, Edition 1/2000.

"If you know the enemy and know yourself, you need not fear the results of a hundred battles....The skillful leader subdues the enemy's troops without fighting."

—Sun Tzu

As the first Australian brigade intelligence officer to deploy with his brigade headquarters since the 1st Australian Task Force deployed to South Vietnam in 1966, I feel a certain responsibility to record the experience. In this paper, I will provide some background on the operation, discuss the S2 cell's composition, and describe the working relationships within the cell. I will also discuss the relationships with the various attached elements allocated to the Brigade in East Timor. These units' missions included the management of brigade-level information operations (IO), reconnaissance, surveillance, and intelligence (RSI).[1]

Background

The Australian Defence Force's (ADF's) Brisbane-based Deployable Joint Force Headquarters (DJFHQ), then commanded by Major General Peter Cosgrove, founded the Headquarters (HQ), International Force in East Timor (HQ INTERFET). The main combat-force component to deploy to East Timor, subordinate to HQ INTERFET, was the ADF's Ready Deployment Force, incorporating Townsville's 3d Infantry Brigade as the basis for the Land Component INTERFET. This force deployed by air and sea to secure Dili on 20 September 1999. As soon as sufficient forces moved into East Timor, the Brigade redeployed by air, land, and sea to the border with West Timor in early October. Our mission became securing the border area and preventing further mili-

A map of Indonesia and the Timor area.[2]

The 3d Infantry Brigade normally comprises:
- ❏ Two light infantry battalions.
- ❏ Combat engineer regiment.
- ❏ Light artillery field regiment.
- ❏ Logistics battalion.
- ❏ Armored personnel carrier (APC) squadron.
- ❏ Signals squadron.
- ❏ Headquarters company.

Common augmentation consisted of—
- ❏ A light reconnaissance helicopter squadron.
- ❏ Blackhawk helicopters from the 5th Aviation Regiment collocated in Townsville.
- ❏ Special Forces teams (if required).

Figure 1. Normal Composition of the 3d Infantry Brigade.

tia activity. At this point, the Brigade, renamed WESTFOR, became the western force of INTERFET with headquarters in the town of Suai. It remained there until the transition to the United Nations Transitional Authority in East Timor (UNTAET) took over in February 2000 and released the Brigade to return to Australia.

Brigade Composition in East Timor

Figure 1 shows the normal organic and augmented composition of the Brigade. The 3d Infantry Brigade never had its own intelligence company, electronic warfare (EW) squadron, or topographical detachment. Higher headquarters would allocate the necessary attachments from the 1st Intelligence Company, the 1st Topographical Survey Squadron, and the 7th Signal Regiment when the need arose. We practiced this procedure on command post exercises and on combined field exercises such as Tandem Thrust 97 and Swift Eagle 98.

For the second phase of the operation in East Timor, one infantry battalion remained in Townsville. The DJFHQ supplemented the Brigade with—
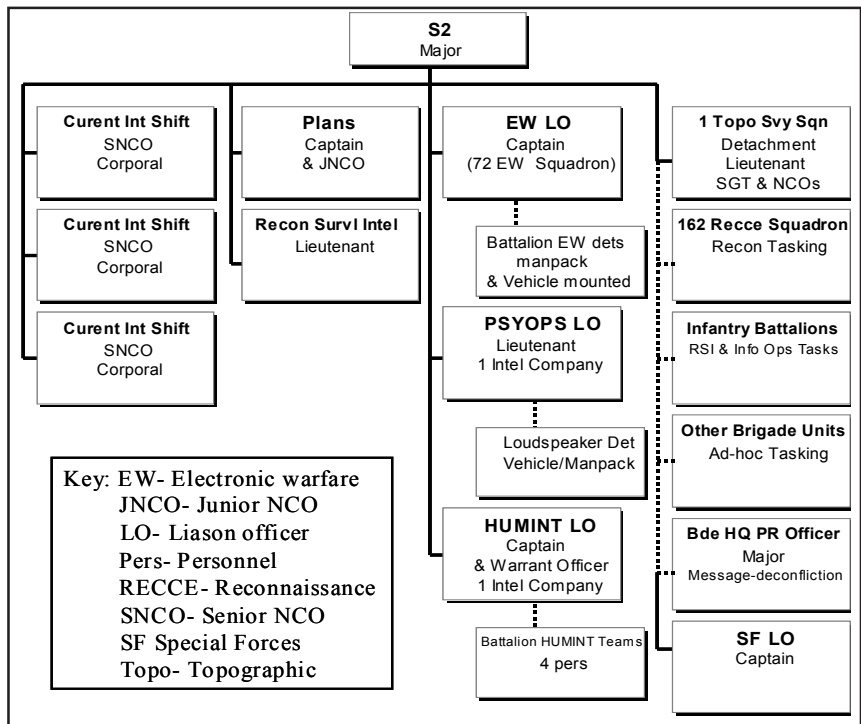

Figure 2. RSI and Information Operations Organisation in East Timor.

- ❏ A parachute infantry battalion.
- ❏ A company of British Ghurkas.
- ❏ The 1st Battalion, Royal New Zealand Infantry Regiment.
- ❏ A Canadian infantry company group.
- ❏ An Irish reconnaissance platoon.
- ❏ A Fijian infantry company.

Loading HMAS TOBRUK, Australia's main amphibious ship.

Preliminary Planning

In late 1998, the Brigade Commander, Brigadier Peter Leahy, directed the Brigade to do preparatory work on contingencies in East Timor for 1999. The 3d Brigade completed a rudimentary intelligence preparation of the battlespace (IPB) by early October 1998. The S2 cell (see Figure 2) produced a product that clearly and graphically explained the terrain, culture, history, and current situation in East Timor and was suitable for the tactical-level planners.

As we neared our departure date, the S2 cell condensed the planning process. We gained the following assets:

- ❏ A plans officer (captain), who doubled as a linguist.
- ❏ An RSI coordinator and collection manager (lieutenant).
- ❏ Detachments from the 7th Signals Regiment, the 1st Intelligence Company, and the 1st Topographical Survey Squadron.

The 3d Infantry Brigade uses battlefield operating systems (BOSs) for

INTERFET troops searching for weapons...

... and the confiscated weapons.

planning purposes. The S2 was responsible for coordinating the IO BOS as well as the RSI BOS, which encompasses much more than just the terrain study and the intelligence estimate.

S2 RSI Supervision

The RSI planning process is a collection plan, integrating priority intelligence requirements (PIR) and converting them into requests for information (RFIs).[3] The S2 cell develops these in conjunction with a list of named areas of interest (NAIs) that spring from the initial IPB work. The cell uses the terrain study and intelligence estimate from the IPB process to determine the NAI locations and the information gaps, which form the basis for the RFIs. The S2 cell then uses the surveillance matrix to task assigned units with relevant NAIs and RFIs.

Before deploying to East Timor, the S2 cell completed an RSI plan to cover the primary NAIs and RFIs identified for the Dili area.[4] The main units involved were the 162d Reconnaissance Squadron and the infantry battalions. They completed daily tasking during the first few weeks while operating in Dili, as patrols could report frequently. The Brigade did not use B Squadron, 4th Cavalry Regiment, for reconnaissance in the initial phases of the operation be-

cause they were providing armored personnel carrier (APC) mobility support to other units. C Squadron, 2d Cavalry Regiment, worked in the APC role except for a brief period when they had their own area of operations. Once the Brigade deployed to the area along the border with West Timor, it made sense to alter the daily tasking program, as patrols would go out for several days at a time. The S2 cell provided the infantry battalions with broad parameters for their RFIs and NAIs. Given the operational constraints, the infantry battalions ran their own patrol programs and reported to the Brigade in accordance with the agreed-upon priorities.

The relationship between the S2 and the 162d Reconnaissance Squadron differed because the S2 tasked this squadron daily throughout the entire operation. As soon as the helicopters were in-theatre and serviceable, they began monitoring NAIs and responding to on-call tasking. The S2 assigned both day and night missions, particularly during the first two weeks. In Dili, for instance, they monitored the town from the air at night, spotting and reporting on suspicious activity. This had the effect of intimidating troublemakers in town, boosting the confidence of the

force, and significantly adding to the Brigade's situational awareness. They often provided the only imagery available to the Brigade, particularly in the first weeks while the higher echelon support systems were setting up. Eventually, other reconnaissance platforms began delivering crystal-clear vertical imagery of villages, hamlets, roads, and border-crossing points.

S2 IO Supervision

IO is part of the S2 cell's portfolio because there are close links between IPB and the important IO area of operational security (OPSEC), psychological operations (PSYOP), EW, and deception. These all spring directly from a sound IPB or terrain study and intelligence estimate, including a counterintelligence (CI) estimate. During the operation, as the 3d Brigade Headquarters had so few principal staff members, it was only natural that the S2 took charge of these issues for the S3 and the Commander. Several attachments from outside the Brigade, including the EW Liaison Officer, the PSYOP Liaison Officer (LNO), the Human Intelligence (HUMINT) Control Officer (HCO), and a topographical detachment aided the S2 in this process. This helped ensure that a consistent and coordinated IO effort would serve to complement the operation of the IO BOS.

At HQ INTERFET, a separate cell—unique to this operation and set apart from the Combined Intelligence (C2) cell—directed IO matters. The Brigade S2 cell conducted liaison between the Battalion S2 cell and C2 cell on a regular basis. In conjunction with the assigned specialist staff, the S2 cell was prepared to handle the IPB while simultaneously handling the other RSI and IO issues.

S2 Relationships with Supplementary Elements

S2 Relationship with 1st Intelligence Company. On predeployment exercises, the PSYOP LNO, 1st Intelligence Company, often helped

United Nations Assistance Mission in East Timor (UNAMET) Headquarters after a militia attack.

develop the PSYOP plan with appropriate themes, target audiences, essential messages, and modes of delivery. This preparatory work enabled the S2 cell to tie in PSYOP support during the early stages of the operation in East Timor. Once the Brigade deployed, the PSYOP LNO coordinated the Brigade requirements and effectively pre-positioned assets for the distribution of leaflets and newsletters, as well as loudspeakers for broadcasts.

While the PSYOP LNO worked for the Brigade, the 1st Intelligence Company's PSYOP Platoon was in Dili, focusing on broader tasks and working with the IO cell rather than the C2 cell. The 3d Brigade had to work carefully to accommodate its specific requirements among a series of competing priorities.

The HCO—also detached from the 1st Intelligence Company in Dili—played a significant role in coordinating the field intelligence (FI) reporting. For most of the time, each battalion received a four-person FI detachment (some included women) that worked directly with the infantry battalion through the battalion S2. The S2 then reported the relevant information gathered by the FI detachment. The FI detachments also sent reports directly to the HCO, providing additional detail to complement their original reports and identifying their sources.

The FI detachments often had to work in one- and two-person teams, instead of the ideal four-person teams, due to the limited number of soldiers available. To their credit, they demonstrated their ability to succeed, given the necessary infantry protection and a sufficiently benign environment. However, the lack of a controller at battalion level and the lack of integral, secure communications significantly constrained their ability to report timely and detailed information. Furthermore, the shortage of adequately trained linguists significantly hindered their ability to collect information. Finally, the large collection areas forced them to move continually, leaving inadequate time to develop sources. Despite these difficult limitations, the FI teams accomplished their mis-

sion. In fact, the infantry battalions requested additional FI support.

S2 Relationship with 72d EW Squadron. Once the Brigade deployed to East Timor, the Squadron Commander (Officer Commanding [OC]) acted as the Formation EW Officer, or FEWO. The OC and Operations Officer coordinated the technical advice, while EW analysts provided timely and valuable reports, which added to the Brigade's understanding of the situation.

Relationship with 1st Topographical Survey Squadron. Another asset that proved its worth was the detachment from the 1st Topographical Survey Squadron, lead by a lieutenant. He and his team of geomatic technicians greatly contributed to our team. Working with new equipment, they performed tirelessly, both before the deployment and throughout the operation. They created terrain visualization and analysis products ranging from standard map enlargements to a fly-through of three-dimensional maps. One of their most useful products was the Dili township fly-through, incorporating three-dimensional elevation data and high-resolution imagery. All levels of the Brigade appreciated the products that the 1st Topographical Survey Squadron Detachment created.

S2 Communication with Subordinate Battalion S2 Staffs. The limitations of the communications network from the Brigade Headquarters to the subordinate units caused great frustrations within the Brigade. The 103d Signals Squadron worked hard to ensure the communications links were working. However, their systems provided only limited communications links down to subordinate units. For example, during the first week in Dili, S2s had to pass situation reports and intelligence sum-

maries over the command radio net, which threatened to clog the net. The 103d Signals Squadron had to establish a dispatch rider service as quickly as possible. Through hard work, the squadron eventually provided a secure message system down to the battalions.

S2 Relations with Other Subordinate S2 Staffs. Working with subordinate unit S2 staffs from the United Kingdom (UK), Australia, and New Zealand gave the S2 cell an ideal opportunity to compare its methods and standards with those of these other nations. The UK Intelligence Officer with the Ghurkas demonstrated that British S2 formats and procedures were compatible with those of the Australian 3d Brigade. The New Zealand Infantry Battalion S2 procedures were also compatible, effectively validating the combined training conducted with the 3d Brigade in the past.

The most noticeable differences occurred between the Australian Battalion S2s. The differences related directly to different levels of experience and training. We learned that the S2 staff should have completed regimental training in one of the combat arms.[5]

S2 Relationship with HQ INTERFET

Several factors affected the way Headquarters, 3d Brigade, related to HQ INTERFET. These included the different cell responsibilities, the multinational nature of HQ INTERFET, and the fact that many on the staff of HQ INTERFET were augmentees who had not worked as part of the DJFHQ before the operation. The head of the intelligence cell (or C2) of HQ INTERFET, a Lieutenant Colonel, also controlled a wide range of intelligence organisations, including the 1st Intelligence Company (incorporating PSYOP, HUMINT, FI, and CI teams), attached U.S.

teams, and other international allied staff working with HQ INTERFET. This meant that the C2 cell had to establish and operate a multinational intelligence system, a feat never before attempted on such a scale by an Australian-led headquarters. Providing intelligence support to a wide range of national components while supporting subordinate units and providing the intelligence advice to the force commander and to higher authorities was quite a task. The challenging circumstances meant that C2 INTERFET had difficulty providing comprehensive and timely collection management and forward-looking analysis support, particularly in the first few weeks of the operation.

Conclusions

Operations at brigade level, including the RSI, IO, and topographical systems, worked well. Moreover, the allocation of responsibility for RSI and IO matters appeared to fit well within the confines of the S2's domain, as long as the S3 and commander provided clear guidance and actively participated. The cell composition provided appropriate support for their assigned tasks.

The preliminary planning period demonstrated the value of forward-looking intelligence assessments and estimates at the tactical level. The work of the various RSI assets demonstrated that, despite the limited "eyes and ears" available to the Brigade, we could establish a significant degree of situational awareness with effective coordination of the RSI collection effort. The IO components demonstrated the clear need for such assets to be readily available for the tactical ground forces commander to use. This intelligence perspective taught us an important lesson: it is very difficult to lead and coordinate a multinational force and

maintain its situational awareness, while making the most of specialist and sensitive collection assets.

Overall, it is fair to say that the tactical-level intelligence system proved equal to its complex tasking in East Timor. The fact that the operation under the INTERFET mandate went so well was a direct consequence of the Brigade's training as it deploys. ✴

My successor as S2, Major Dan Weadon, who took over in early December 1999, and the S3, Major Marcus Fielding, have kindly contributed their comments to this article.

Endnotes

1. We generally consider IO to incorporate aspects of psychological operations (PSYOP), electronic warfare (EW), operations security (OPSEC), deception, and—in wartime—destruction. At the tactical level, we also call IO "command and control warfare" or "C^{2}W". The Australian term "RSI" is equivalent to the U.S. term "ISR".

2. Map courtesy of www.theodora.com. Map used with permission.

3. The Australian term "requests for information" is equivalent to the U.S. term "specific orders and requests" (SOR).

4. We did not call it a Surveillance and Target Acquisition Plan or STAP because target acquisition was not the highest priority.

5. Infantry (and Armour) units in Australia have a preference for corps-coded intelligence, signal, and transport officers. When given the choice of a poor-to "middling" non-infantry officer, or a good infantry officer with training, the choice is clear.

Major John Blaxland left the Australian Army's 3d Brigade in December 1999. His previous publications include **Organising an Army: The Australian Experience 1957 to 1965**, *SDSC, ANU, Canberra, 1989; and* **Swift and Sure: A History of the Royal Australian Corps of Signals 1947 to 1972**, *Signals Committee, Melbourne, 1999. He is currently working as an Exchange Officer at the Defense Intelligence Agency in Washington, D.C. Readers can contact him via E-mail at john blaxland@hotmail.com.*

DOCTRINE

FM 3-0 Provides Basic Operational Doctrine for the Army

FM 3-0, Operations, is the fourteenth in the series of Army manuals dating back to 1905 that provide basic operational doctrine for the Army. This edition supersedes the 1993 edition of **FM 100-5**, **Operations**. **FM 3-0** expands on the capstone Army doctrine contained in **FM 1**, **The Army**. From that foundation, **FM 3-0** provides overarching doctrinal direction for the conduct of full-spectrum operations (FSO). It lays the foundation for the development of the tactics, techniques, and procedures (TTP) detailed in other Army manuals.

The 2001 edition represents a major shift in Army doctrine—arguably as significant as the adoption of Air-Land Battle in 1982. **FM 3-0** reflects eight years of experience gained in Somalia, Haiti, Bosnia-Herzegovina, Kosovo, central Africa, the Pacific, and Kuwait, as well as in domestic contingencies. This is the first Army operations manual to complement joint doctrine properly. It recognizes a profound shift in threats to U.S. interests and forces, and it examines the increased complexity of modern operations. For the first time, it lays out the Army Mission Essential Task List (Army METL). The doctrine is fundamentally offensive in nature, stressing operations that are nonlinear, noncontiguous, and simultaneous as well as operations that the Army conducts throughout the full depth of expanded areas of operations (AOs). Army operations are full spectrum, spanning decisive offensive action in major theater war to peacetime military engagement and domestic support activities.

FM 3-0 is commander-focused and expands the importance of battle command—the ability to visualize, describe, direct, lead, and continually assess operations. Information technologies exert a powerful influence on the way we view battlespace, how we plan and operate, and the way we engage adversaries. This is doctrine for a transforming force—it captures how we do things now, even as it pulls the Army toward Objective Force operations. While much is new or different, some is very familiar. The manual retains and restates hard-won lessons from 226 years of Army experience—principles of war, tenets, and forms of maneuver, to cite a few.

With **FM 1**, **FM 3-0** incorporates the joint doctrinal numbering system and initiates the transition of the entire family of Army doctrinal literature into the new convention. This edition of the Army operations manual is the first to support an authoritative and mature body of joint doctrine. The manual describes Army forces in unified action—part of the joint force, often with multinational forces and interagency elements. It recognizes that Army forces are an indispensable component of the joint force and will be the decisive component of sustained land warfare.

The Army METL provides the operational discussion of the Army core competencies from **FM 1**. The list of tasks includes—

- ❑ Shape the security environment.
- ❑ Respond promptly to crisis.
- ❑ Mobilize the Army.
- ❑ Conduct forcible entry operations.
- ❑ Dominate land operations.
- ❑ Provide support to civil authorities.

Training and operations are closely linked, and their connection determines the responsiveness of Army forces.

The operational environment that **FM 3-0** describes is multidimensional and includes threat, political and unified action, land combat, information, and technology dimensions. This edition sets the tone for the complex challenges of full-spectrum operations; FSO are a flexible means of conceptualizing Army operations through the integration of offensive, defensive, stability, and support operations throughout war and military operations other than war. Versatile, adaptive Army forces combine and transition between these operations throughout the conduct of the campaign or major operations. This comprehensive view of ground operations requires a more flexible battlefield organization than the Euro-centric, Cold War construct of close, deep, and rear operations. The new field manual provides a pur-

pose-based battlefield organization that uses decisive shaping and sustaining operations. This permits our view of operations to accommodate increasingly simultaneous, noncontiguous, nonlinear operations in greater depth than ever before.

Strategic responsiveness is a primary theme of **FM 3-0**. It is more than simply deploying faster. Strategic responsiveness is generating, training, swiftly deploying, and simultaneously employing the right forces at the time and place required by the joint force commander. It is about giving the joint force commander options using decisive land power, while creating operational dilemmas for the adversary.

Advances in information technology change the way Army forces operate, just as it continues to change every aspect of our society. The manual adds information as an element of combat power—joining leadership, firepower, maneuver, and protection. Army forces must see first, understand first, and then act first—out of contact with the enemy—to deliver a decisive combination of combat power.

FM 3-0 introduces stability operations and support operations as part of FSO. Stability operations include such activities as peace operations, noncombatant evacuation, and foreign internal defense. Support operations respond to disaster relief and domestic issues, normally in support of civil authorities. The manual provides guidance for domestic uses of Army forces, particularly for consequence management in incidents involving chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE).

The manual concludes with a chapter devoted to combat service support (CSS). The emphasis is on CSS reach operations. "*Combat service support reach operations involve the operational positioning and efficient use of all available CSS assets and capabilities, from the industrial base to the soldier in the field*."

The U.S. Army released **FM 3-0**, **Operations**, on 14 June 2001. Readers may view **FM 3-0** at the General Dennis J. Reimer Training and Doctrine Digital Library at www.adtdl.army.mil.

Vantage Point

I plan to discuss many other aspects of the intelligence profession in future issues of the *Military Intelligence Professional Bulletin (MIPB)*. I seek your input as I try to shape the discourse and truly transform our intelligence contributions to warfighting.

Army intelligence professionals come from a broad and varied background. We are a family scattered across various national agencies and joint positions—U.S. Army Deputy Chief of Staff, Intelligence, U.S. Army Intelligence and Security Command, the tactical maneuver force, and many other parts of the Army. We will succeed in the future only through a constant dialogue and a cooperative atmosphere.

I will use *MIPB* as one of many mechanisms to ensure that the Intelligence Center is your conduit to shape the future, develop our doctrine and force structure, train the current force, field our intelligence and electronic warfare systems, and maintain our Corps. Every entity within Army intelligence plays a unique role in the overall community; only through collaboration and a team effort can we effectively accomplish these complex tasks.

I look forward to working with all of you in the future in order to take advantage of the many opportunities that stand before us.

ALWAYS OUT FRONT!

Contributing Editors and Proofreaders

We thank the following officers for their many contributions to the *Military Intelligence Professional Bulletin* for October-December 2001. They worked in the *MIPB* Office while on casual status. We wish them all the best in their classes and their follow-on assignments!

Contributing Editors: CPT Robert S. Davidson, Jr., CPT Brian E. Jackson, CPT Timothy W. Johnson, and CPT Thomas H. Nguyen.

Editing, Proofreading, and Other Contributions: CPT Felix J. Almaguar, CPT Thomas H. Anderson, 1LT Marco M. Ciliberti, 2LT Laurel M. Denniston, CPT Lakisha H. Edwards, CPT Adam T. Fain, 2LT Robert D. Giuliano, CPT Joshua A. Grimm, CPT Michelle E. Harriss, 2LT Cheryl A. Martin, 2LT Cory D. Poppe, and CPT Cayla W. Slusher.

FORCE DESIGN

Colonel Charles Atkins, Director for Requirements Determination, Development, and Integration, Mr. Charles Hayward, Technical Director for Combat Developments, with additional officers, civilians, and noncommissioned officers (NCOs) comprise the Force Design Division (FDD) located at Fort Huachuca, Arizona (ATZS-CD-W), and Fort Belvoir, Virginia (ATZS-CD-E). FDD works directly for Brigadier General James A. Marks, Commanding General, U.S. Army Intelligence Center and Fort Huachuca (USAIC&FH).

FDD's mission is to convert emerging force concepts and designs into table of organization and equipment (TOE) documents; oversee the development of the TOEs for Department of the Army (DA) approval; and to modernize the units over time. It does this by reviewing the application of documents called basis-of-issue plans (BOIPs) to the TOE.

A BOIP is a document that adds new or improved equipment or capabilities to a TOE. This document "modernizes" a TOE unit to improve its capability to accomplish assigned missions. Every piece of standard equipment has a BOIP. Through what seems like an infinite number of checks, the FDD ensures correct manpower requirements criteria (MARC), BOIPs, and TOEs—both personnel and equipment—so that the unit will have the capability to accomplish its assigned missions.

Differences Between TOE, Modified TOE (MTOE), and Tables of Distribution and Allowances (TDA)

The TOE is a proponent-developed **requirements document** that pre-scribes the wartime doctrinal mission, capabilities, organizational structure, and the minimum essential wartime personnel and equipment requirements for a given unit. It standardizes like units and identifies three distinct authorized levels of organization (ALOs) for personnel. The Army developed every TOE as a model to satisfy specific unit requirements. An important part of any TOE is its mission statement. The personnel and equipment paragraphs in the TOE support the mission statement. TOE modernization reflects the current status of a TOE unit with respect to its equipment and personnel changes.

There are three basic types of TOE:

❑ Base (least modernized).
❑ Intermediate (more modernized).
❑ Objective (fully modernized).

We modify the TOE to improve units' abilities to accomplish their missions. While the basic mission statement may not change as a unit modernizes, the unit's capability statement often does. We modify a base TOE by applying incremental change packages (ICPs) over time, which can add and delete equipment or change the structure of the unit. An ICP is a grouping of one or more BOIPs. Few units ever achieve their objective TOE status. We are continually developing new designs as well as new systems that will capitalize on the latest emerging technologies.

An MTOE is a major Army command (MACOM) document that we develop for a specific unit, which prescribes the structure for military personnel and equipment, **taking into account the unit's unique mission and geographic requirements.** The MTOE documents people and equipment based on the unit's mission and ALO.

TDAs are installation-developed command documents that prescribe the structure, personnel, and equipment requirements and authorizations (often containing civilian personnel and commercial equipment) of an activity not normally intended to transit to a wartime theater of operations. During times of war, TDA units may increase in size as the need for more people and equipment to support the war effort expands.

Questions?

If you have further questions, your force integration staff officer (found at divisions, corps, installations, and MACOM levels [also known as force development or force modernization personnel]) should be able to answer your questions. Readers can also contact us through our website at http://138.27.35.32/forcedesign/homepage.html, for more information.

2001 Military Intelligence Corps Hall of Fame

The Military Intelligence Corps is proud to honor two more of the five most recent inductees to the Hall of Fame. This high honor recognizes the outstanding contributions made by these distinguished Americans to our country, our Army, and our Corps. The Hall of Fame 2001 Induction Ceremony to honor these distinguished Military Intelligence (MI) professionals took place on 29 June 2001.

Command Sergeant Major Randolph S. Hollingsworth (U.S. Army, Retired)
Discipline: Imagery Interpretation

Randolph S. Hollingsworth entered the Army as an imagery interpreter. As a specialist, his imagery section of the 73d Surveillance Aircraft Company (Mohawk) provided crucial intelligence to three corps (II, III, and IV Corps) in the Republic of Vietnam. Supporting the 1st, 3d, 9th, and 25th Infantry Divisions, the 1st Cavalry Division, and the 199th Light Infantry Brigade, his team was responsible for early warning of upcoming attacks on thousands of U.S. soldiers, South Vietnamese soldiers, and civilians during the Tet Offensive of 1970.

As a sergeant, he became the noncommissioned officer in charge (NCOIC) of an imagery interpretation section while stationed in Long Thanh, South Vietnam. The 23-soldier section provided intelligence and early warning intelligence support to the III and IV Corps. The intelligence production spearheaded by Hollingsworth was instrumental in the success of the U.S. Army and the Army of the Re-

public of Vietnam (ARVN) forces stopping the infiltration of the North Vietnamese Army (NVA) and Viet Cong soldiers and supplies entering South Vietnam. He also was vital in determining avenues of entry as U.S. soldiers pushed into Cambodia and destroyed NVA and Viet Cong infiltration areas and supply depots. Hollingsworth also served as the Intelligence Noncommissioned Officer (NCO) for testing and evaluation of the Y-O3A Silent Surveillance Aircraft. This aircraft was critical in stopping the Viet Cong's nighttime movement in the IV Corps area of operations (AO). Furthermore, he developed a plan that successfully used the Tactical Imagery Interpretation Facility (TIFF), a computer-driven imagery intelligence and analysis program.

Serving in the 1st MI Battalion, he worked as the Assistant Imagery Interpretation NCOIC. In this capacity, he was responsible for all individual and collective training for the detachment. Additionally, he served as the Detachment Motor NCO; as the Nuclear, Biological, and Chemical (NBC) NCOIC, he contributed to the detachment's receipt of the highest Inspector General rating in the Battalion. Always looking for ways to improve training, Hollingsworth revitalized the role of the NCO in planning, conducting, and coordinating intelligence and common-core training. He established the first Noncommissioned Officer Professional Development Program (NCODP) for the Battalion.

During a period of five months, then Staff Sergeant Hollingsworth served as an MI Detachment First Sergeant. Earning praise and ad-

CSM Randolph S. Hollingsworth

Photos courtesy of U.S. Army

miration from the 82d Airborne Division Commander and the XVIII Airborne Corps Commander, he and his soldiers provided accurate and timely intelligence products, increasing the overall readiness of the Division and Corps. The detachment also gained praise for its ability to provide real-world intelligence on Cuba to the Army Intelligence Agency.

Upon arriving in Germany for his next assignment with the 3d Armor Division, the Division G2, Lieutenant Colonel George Walker, personally selected Hollingsworth to develop the Division Air Reconnaissance Section. A natural choice for this assignment, Hollingsworth, through his expertise as an imagery interpreter, built the best G2 Air Section in V Corps. Again, his section gained praise and admiration from the Division and Corps Commanders and the Corps G2. Furthermore, the Corps G2 requested that he assist the 11th Armored Cavalry Regiment (ACR) S2 in the preparation of the regimental defense and the positioning of MI

assets in response to Warsaw Pact units. He reacted quickly and diligently, implementing his plan within 90 days. Responsible for the evaluation and execution of the first Army Training and Evaluation Program (ARTEP) of an Armor Division, and the total MI system from the ground to the air, the exercise was rated a complete success and became the standard for evaluations of other MI units. Before leaving Germany, Hollingsworth paved the way for the SOTARS Project (the predecessor to the Joint Surveillance Target Attack Radar System, or Joint STARS). His dedication and hard work on the project enabled testing, training, and development of the new Joint STARS system, which would become a "hero" of Operation DESERT STORM.

Returning to Fort Bragg, North Carolina, Hollingsworth worked as both the Imagery Detachment Sergeant and the Operations and Training NCO for the 525th MI Brigade. He provided real-time, real-world intelligence support to the light and Special Forces units during the coup in Iran and throughout the U.S. hostage crisis.

After a tour as a recruiter in Ohio, Hollingsworth distinguished himself again through his meritorious service as the Strategic Branch Chief in the Photographic Interpretation Center-Korea, Office of the Assistant Chief of Staff, J2, at Headquarters, U.S. Forces, Korea. In this capacity, he continually demonstrated an unusual degree of professionalism, initiative, sound judgement, and perceptive recognition of critical Republic of Korea and U.S. intelligence requirements. Through his devotion to duty, expertise, and demand for excellence, the quality of reports improved and the error rate dropped significantly, which contributed to the Center's excellent reputation. His effective planning and allocation of resources, anticipation of potential problem areas, and development of

training programs resulted in a 156-percent increase in the quantity of reports produced in a year. He was also directly responsible for the production and dissemination of a revised edition of the **Know Our Enemy Handbook**.

Coming to Fort Huachuca, Arizona, Hollingsworth served as an instructor for the MI Officer Basic, Officer Advanced, and Foreign Officer Courses. He then became the First Sergeant of B Company, 1st Training Battalion, and subsequently the CSM of the Battalion. During this time he developed a new system for the 96B (Intelligence Analyst) and 96D (Imagery Analyst) courses. Afterward, he served as the Sergeant Major (SGM) for the Department of Tactical Intelligence and Military Science.

Specifically chosen by Command Sergeant Major David Klehn, then Command Sergeant Major of the Military Intelligence Corps, Hollingsworth became the G2 SGM of the 6th Infantry Division (Light). His work in the 3d Armor Division, his expertise, and his professionalism gained him and the Military Intelligence Corps respect from combat arms officers and soldiers. He established an extensive training plan based on **FM 25-100**, **Training the Force**, and **FM 25-101**, **Battle Focused Training**, for all MI soldiers from squad through divisional level. The training plan contributed to the 6th Infantry Division's successful rotations at the Joint Readiness Training Center (JRTC), Combat Gold Korea, Japan, and internal and external evaluations from other light infantry divisions. As the 106th MI Battalion CSM, Hollingsworth succesfully led the Battalion through five JRTC rotations and three National Training Center (NTC) rotations, while still providing real-world intelligence, training, and language support for the United States Army Chief of Staff, as well as linguist support for the State Department.

Returning to Fort Huachuca, Hollingsworth served as the 111th MI Brigade CSM. During his tenure, the 111th field-tested the All-Source Analysis System (ASAS), Joint STARS, and an unmanned aerial vehicle (UAV), and rewrote MI doctrine from the NCOs' perspective. Chosen as the Command Sergeant Major of the Military Intelligence Corps in 1995, Hollingsworth worked diligently to improve the NCO Academy, revise MI doctrine, and prepare the Military Intelligence Corps for the 21st century.

CSM Hollingsworth retired from the Army in 1995. He had dedicated his life to making the focal points of the MI NCO—training, leading, and caring for soldiers—through his constant development of training plans, as well as his determination and willingness to work with the soldiers and officers of the combat arms units he supported.

Lieutenant General Patrick M. Hughes (U.S. Army, Retired)

Patrick M. Hughes joined the Regular Army on 2 January 1962. He served from January 1962 until January 1965 on active duty as a Combat Medic with the 5th Infantry Division (Mechanized) and the 249th Helicopter Ambulance Detachment (H-21), an element of U.S. Strike Command. Following his active duty, Specialist Five Hughes remained in the U.S. Army Reserve until 1967.

He later entered Montana State University and joined the Army Reserve Officer Training Corps (ROTC) program. Second Lieutenant Hughes received his commission in the Regular Army Infantry in June 1968 from Montana State University, graduating as a Distinguished Military Student.

His first assignment was as a Platoon Leader and Battalion Adjutant in the 2d Battalion, 504th

LTG Hughes

Airborne Infantry, 82d Airborne Division. During this period, he was a member of the security cordon in Washington, D.C., for the first inauguration of President Richard Nixon.

He next served as a Platoon Leader in the 4th Battalion, 39th Infantry, 9th Infantry Division at Fire Support Base "Danger" in the Mekong Delta. There, he participated in both airmobile and riverine combat operations.

Subsequently assigned to Hawaii with the 25th Infantry Division at Schofield Barracks, Captain Hughes Branch-transferred from Infantry to Military Intelligence in 1970. Following training at Fort Bragg, North Carolina, and Fort Holabird, Maryland, Captain Hughes returned to Vietnam for one year as the Province Phung Hoang (Phoenix Program) Advisor and Province Intelligence Advisor on Advisory Team 49, Long Khanh Province, Military Region III. During this period, Captain Hughes worked with the Police Special Branch and the Provincial Reconnaissance Unit (PRU) against the Viet Cong infrastructure.

Following the Military Intelligence Officer Advanced Course at Fort Huachuca, Arizona, Captain Hughes worked as the Deputy and subsequently Commander of the

Special Security Office (SSO) at Camp Zama, Japan.

After completion of the Command and General Staff College (CGSC) at Fort Leavenworth, Kansas, and the Masters Degree program at Central Michigan University, Major Hughes went to work for the Deputy Chief of Staff, Intelligence (DCSINT), Army Staff. He first worked as a Foreign Liaison Officer, then as an Intelligence Doctrine and Special Activities Staff Officer, and finally, as the Intelligence Assistant to the Director of the Army Staff.

Major Hughes then traveled to Fort Lewis, Washington, after his recruitment into the 9th Infantry Division and the U.S. Army High-Technology Test Bed. His assignments there included Executive Officer of the 109th MI Battalion (Combat Electronic Warfare and Intelligence, or CEWI) and Commander of the Division's Operational Support Detachment. Following his promotion to Lieutenant Colonel, he became Director of Intelligence, G2, 9th Infantry Division; then he took command of the 109th MI Battalion. This period included the development, acquisition and testing of MI and Army operational equipment and advanced operational concepts, and he played a significant part.

He returned to Fort Leavenworth for two years as a Fellow at the School of Advanced Military Studies (SAMS). In 1988, after his promotion, Colonel Hughes assumed command of the 501st MI Brigade in the Republic of Korea, followed by a six-month period as the Executive Officer to the Commander-in-Chief, United Nations Command/Combined Forces Command/U.S. Forces, Korea. His tour included direct involvement in the 1988 Seoul Olympics and numerous operations with South Korean intelligence services.

Selected for Brigadier General in 1991, he became the Commanding General, U.S. Army Intelligence Agency, during Operations DESERT SHIELD and DESERT STORM and the post-conflict period. His duties took him to Saudi Arabia and led him to direct involvement in successful military operations against Iraq. This experience led to his selection as the Director of Intelligence, J2, U.S. Central Command, an assignment that included combat operations against Iraq and direct involvement in the U.S. military action in Somalia.

In June 1994, Major General Hughes accepted the position of Director of Intelligence, J2, Office of the Joint Chiefs of Staff (OJCS) and Defense Intelligence Agency (DIA). He was responsible for current and crisis intelligence and indications warnings for U.S. operational forces.

In February 1996, Lieutenant General Hughes became the 12th Director of the Defense Intelligence Agency. His duties included acting as the General Defense Intelligence Program Manager, a major element of the National Foreign Intelligence Program and the Defense General Intelligence Applications Program, part of the Department of Defense budget. He also managed the Central Measurement and Signature Intelligence (MASINT) Program for the U.S. intelligence community.

He formally retired from the United States Army on 1 October 1999.

Warrant Officers of the MI Corps

The MI Corps inducted its first honorary Warrant Officer during the Hall of Fame Ceremony on 29 June 2001. Chief Warrant Officer Five Michael L. Fried (U.S. Army, Retired) became the first honorary MI Corps Warrant Officer.

To recognize the important contributions of our warrant officers and to ensure that we properly identify and address warrant officer issues, Major General John D. Thomas, Jr., established the active duty position of Chief Warrant Officer of the MI Corps in 1999. Unlike the honorary positions with the MI Corps, the warrant officer in this position is the senior active duty warrant officer assigned to the Office of the Chief, Military Intelligence (OCMI), at Fort Huachuca. The second warrant officer so honored is CW5 Lon D. Castleton, who will replace CW5 Rex A. Williams in that position in November 2001.

Chief Warrant Officer of the MI Corps

Chief Warrant Officer Five Lon D. Castleton enlisted in the U.S. Army in February 1973. He attended basic training at Fort Ord, California, and advanced individual training (AIT) for MOS 71N (Transportation Movement Specialist) at Fort Eustis, Virginia. After arrival at his first duty assignment, Fort Huachuca, Arizona, he applied for MI and graduated from the 97D MI Coordinator Course in December 1974.

From January 1975 to July 1976, he served with the 470th MI Group in the Republic of Panama.

In December 1976, CW5 Castleton completed the 97B Counterintelligence Agent Course at Fort Huachuca. As a CI Agent, he completed tours at the 525th MI Group (which later reorganized and became the 902d MI Group at Fort MacArthur, California, in Los Angeles) and the 209th MI Battalion, in Seoul, Korea.

In January 1981, CW5 Castleton established the 902d MI Group's office at the newly activated National Training Center (NTC), at Fort Irwin, California. As the Special Agent in Charge, he supervised a five-person office that provided CI support to the NTC and conducted

CW5 Castleton

CI Investigations in the Mojave Desert area to include Las Vegas, Nevada, and the Nevada Nuclear Test Site near Tonapah. He also provided CI support to special mission units that trained in the California high desert.

After completing the MI Warrant Officer Advance Course at Fort Huachuca in April 1984, CW5 Castleton became the Chief of the CI/Security Platoon, 11th ACR, in Fulda, Germany. Although this was a tactical assignment, CI personnel liaised with local German authorities, conducted CI investigations within the 11th ACR AO, and trained with the interrogators to provide tactical human intelligence (HUMINT) support to the unit during major exercises and in case of war. The CI and HUMINT personnel conducted border patrols continuously along the inter-German Border and also provided CI support to special MI missions such as target exploitation (TAREX).

In 1987, he gained acceptance in the U.S. Army **Great Skill** Program and trained as an Area Intelligence Technician. His first assignment was as a Project Officer with Team 6, at Headquarters, Department of the Army, where he developed and executed special plans in support of combat commanders in chief

such as the Commander in Chief, U.S. Central Command, during Operations DESERT SHIELD and DESERT STORM; the CINC, U.S. Army-Europe, and CINC, U.S. Forces, Korea.

In 1992, CW5 Castleton joined the Army Field Support Center, Hanover, Maryland, as the Chief of the Operations Branch. His element provided specialized support to special mission and special intelligence units throughout the world, including direct support to the Rangers in Somalia.

In 1995 after successfully completed Airborne Training at Fort Benning, Georgia, CW5 Castleton became the CI Functional Manager in the Defense HUMINT Service (DHS), at DIA in Arlington, Virginia. In this capacity, he coordinated DHS operations with the Central Intelligence Agency, National Intelligence Agency, and the military services.

From 1997 until his current assignment at Fort Huachuca, CW5 Castleton served as the Chief of the Area Intelligence Branch at the Great Skill Division at Fort Meade, Maryland. He was responsible for recruiting, training, and assigning all MOS 35F (HUMINT) commissioned officers and 351C (Area Intelligence Technician) warrant officers in the Great Skill Program. These officers' assignments are to special mission and special intelligence units worldwide.

CW5 Castleton is the Chief, Counterintelligence and Human Intelligence Committee, in the 309th MI Battalion at Fort Huachuca. He is currently serving on a special G2 task force.

In addition to being a graduate of the U.S. Army Warrant Officer Staff Course and the U.S. Army Warrant Officer Senior Staff Course, CW5 Lon Castleton holds a Master of Business Administration degree from Central Michigan University.

PROPONENT NOTES

Military Intelligence Transformation

**by Lieutenant Colonel
Eric W. Fatzinger**

This is truly an exciting time to be a part of the Military Intelligence (MI) Corps. As the transformation of the Army continues, so too does the transformation of the MI Corps. New technologies coupled with the fluidity of the future battlefield will continue to challenge MI soldiers at all levels. By the time you read this, the Army will have approved the Military Occupational Classification Structure (MOCS) proposals for this year. As a result of a lot of hard work and input from the field and the MI senior leadership, Army MI efforts to merge the functionalities of military occupational specialty (MOS) 98J (technical electronic intelligence [ELINT] functions) with 98K (signals collection/identification functions) to create the new multimode 98Y signals intelligence (SIGINT) soldier should be one step closer to reality.

We are now ready to turn our attention once more to the recruiting and retention of the quality soldiers that we will need. Our first effort will be to poll the field to determine where and how we need to better apply our limited resources. SGM Crossman will discuss this effort in a bit more detail below. I only ask that you provide us your assistance and input, as this may well be the most serious challenge we face in the future.

Enlisted Actions

STAR MOSs. STAR MOSs—those MOSs for which we have insufficient soldiers qualified for promotion but a sufficient population available—continue to be of great concern to our MI senior leadership. After numerous notes to the field from all levels of command, we still have a large number of MI MOSs on the Army's STAR list. We can fix this challenge only at the unit level. [All MI leaders, both officer and noncommissioned officer (NCO), must take a close look at their respective organizations and determine whether or not the Specialists and Sergeants in their units who are eligible for promotion (based on time-in-grade and time-in-service) are deserving of that next promotion.] As a Corps, we need to ensure that the failure of anyone to be on a promotion list is a conscious decision on the part of the command and that necessary remedial actions are in place. The efforts of MI leaders at the lowest unit level are the singular cornerstone to successfully resolving this issue.

Survey on the Horizon. The recruitment and retention of quality soldiers continue to be paramount to the success of the MI Corps as we move into the new millennium. It is a fact of life that civilian agencies will continually seek out MI soldiers due to their expertise and discipline. If the MI Corps is to recruit and retain the Army's finest, then we must better understand the reasons soldiers choose or do not choose MI at enlistment or reenlistment windows. To this end, the Office of the Chief, Military Intelligence (OCMI) is developing a web-based survey instrument, which we hope to start using in the very near future—no later than November 2001. Our intent is to execute separate surveys for each MI MOS for both junior soldiers and NCOs. There will be additional survey instruments available for officer and warrant officer MOSs as well. These surveys, when taken together, will provide the MI Corps with an opportunity to tell us what incentives and opportunities truly motivate them to join and stay with the MI Corps. This data will be vital to OCMI as we work with the U.S. Total Army Personnel Command (PERSCOM), the Army Staff, and the U.S. Army Recruiting Command (USAREC) to address recruitment and retention issues. Your input is critical to us. Watch for the opportunity to participate this winter.

New OCMI Sergeant Major. SGM Walter Crossman is the new OCMI Sergeant Major. Among his other duties, he will be responsible for the smooth operations of the Enlisted Life Cycle management for our MI Corps. His most recent assignment was as the SGM, 527th MI Battalion (Provisional). His background includes both cryptologic and SIGINT skills. Readers may contact SGM Crossman via E-mail at walter.crossman@hua.army.mil and telephonically at commercial (520) 533-1174 or DSN 821-1174.

Warrant Officer Actions

Accessions Working Group. For the past several months, we have asked for input on issues that affect the MI Warrant Officer Corps. The U.S. Army Deputy Chief of Staff for Intelligence (DCSINT) and Commanding General (CG), U.S. Army Intelligence Center and Fort Huachuca (USAIC&FH), have also distributed various surveys, questionnaires, and messages to the field relating to the Warrant Officer Corps. We received many responses from our warrant officers, commanders, and NCOs. The need to address these issues led to convening a war-

rant officer work group here at USAIC during the week of 30 April 2000 to document concerns and develop decision papers with our recommendations. The work group consisted of 17 warrant officers with representatives from the Warrant Officer Career Center, Office of the Deputy Chief of Staff for Personnel (ODCSPER), U.S. Army Forces Command (FORSCOM), U.S. Army Intelligence and Security Command (INSCOM), U.S. Army Reserve (USAR), U.S. Army National Guard (ARNG), PERSCOM, and critical positions here at the Intelligence Center. The senior leadership in the Intelligence Center, the Commanding General, INSCOM, and the DCSINT all viewed the group's recommendations and they all concurred with the group's ideas. They have sent the decision papers to the Deputy Chief of Staff for Personnel (DCSPER) for action. At this time, these are just recommendations that the DCSPER has not staffed for approval. DCSPER has approved the first three, which are MI-specific. The remaining 15 are moving through the staffing process now.

New Chief Warrant Officer of the MI Corps. Major General John D. Thomas, Jr., former Chief of the MI Corps and CG, USAIC&FH, named a new Chief Warrant Officer of the Military Intelligence Corps. MG Thomas established this active duty position in the MI Corps to recognize the important contributions of our warrant officers and to ensure we properly identify and address warrant officer issues. CW5 Lon D. Castleton succeeds CW5 Rex A. Williams in this position in November.

CW5 Castleton is a counterintelligence (CI) technician who is coming to OCMI from his position as Chief, Counterintelligence and Human Intelligence Committee, in the 309th MI Battalion. Readers may contact CW5 Castleton via E-mail at lon.castleton@hua.army.mil and telephonically at commercial (520) 533-1183 or DSN 821-1183.

Officer Actions

A major event during the past quarter was the General Officer Steering Committee (GOSC) held to review the current state of Officer Personnel Management System (OPMS) XXI implementation. A number of issues were covered, but the bottom line is that OPMS XXI is pretty much on track. Two issues that did generate considerable discussion were the Chief of Staff's (CSA's) guidance that all Majors need to receive intermediate-level education (ILE) and secondly, we need to identify funding for required functional area training before the officers' first utilization assignments.

ILE. There continues to be discussion on how the Army will implement a Universal Military Education Level-4 (UMEL-4) program. Fort Leavenworth is moving forward on the development of a Common Core Course available at Leavenworth, Kansas, and at extended campus locations. It is likely that officers will earn UMEL-4 after they complete the Common Core Course and any career field-specific training, whether it is at Fort Leavenworth or at one of the extended campuses. This is not final yet, but it is the direction in which things are moving. More information on this subject will follow in the coming year.

Functional Area (FA) Funding. The Army staff is still working with the challenge of funding FA training. There is substantial agreement that the functional proponents should establish the training requirement for newly designated officers entering FAs, but to date that has not translated into funding of the programs. The Army has a lot of work to do on the issue. In the meantime, those officers selecting FA34 (Strategic Intelligence) should continue to anticipate attending the Postgraduate Intelligence Program (PGIP) to obtain a Master of Science in Strategic Intelligence (MSSI) degree from the Joint Military Intelligence College (JMIC).

Promotion List. The next Colonel Promotion Board Results will be from the first promotion board under the OPMS XXI rules. This means that this will be the first selection list for which officers compete exclusively within their Career Fields for promotion. Obviously, there is a high level of interest in this "first" list under OPMS XXI.

The primary POC for officer actions is Ms. Charlotte Borghardt. Readers may contact Ms. Borghardt via E-mail at charlotte.borghardt @hua.army.mil and telephonically at commercial (520) 533-1188 or DSN 821-1188.

OCMI Leadership Changes

New OCMI Deputy. In addition to our new Sergeant Major and Chief Warrant Officer of the MI Corps, we also have a new Deputy Director of OCMI, Robert C. White, Jr. (Colonel, U.S. Army, Retired). Mr. White, served in numerous Military Intelligence and Aviation command and staff positions from Vietnam to Europe. His final assignment was as the Chief of Staff, USAIC&FH. Readers may contact Mr. White via E-mail at robert.white@hua.army.mil and telephonically at commercial (520) 533-1190 or DSN 821-1190.

OCMI Website

The OCMI website contains timely information on proponent issues ranging from enlisted career management field (CMF) overviews by MOS to warrant officer current and archived newsletters. The address is http://huachuca-usaic.army.mil/ocmi/. We regularly update this site, and it has undergone recent improvements. Please add our site to your "favorite" resources for the latest information on the MI Corps.

LTC Eric Fatzinger is currently the Director, OCMI. Readers may contact him via E-mail at eric.fatzinger@hua. army.mil and telephonically at commercial (520) 533-1173 or DSN 821-1173.

TSM NOTES

ASAS Users Conference 2001

by Michel M. Strack

The U.S. Army Training and Doctrine Command (TRADOC) Systems Manager (TSM) for the All-Source Analysis System (ASAS) hosted the 2001 ASAS Users Conference from 13 through 16 August 2001. Military Intelligence (MI) units from around the world sent representatives to Fort Huachuca, Arizona, to discuss how to employ ASAS and to make suggestions to the ASAS program development team for improving the system. For the first time, the Reserve Components (RC) fully participated in the ASAS Users Conference. In all, more than 270 ASAS users, maintainers, and developers attended.

The structure of the conference provided the units with updates from the TSM and Program Manager on the future of ASAS. The U.S. Army Communications-Electronics Command (CECOM) updated the users on the overall maintenance strategy, specifics on how to get maintenance support, and planned improvements for future maintenance software drops. The units, to include the RC, also had the opportunity to brief how they employed ASAS, what they liked about the system, problems they were experiencing, and suggested improvements. The conference also included several demonstrations on future ASAS development efforts as well as systems that will interface with ASAS.

The 312th MI Battalion, 1st Cavalry Division, briefed an excellent approach to using ASAS and developing MI analysts. They have created a full-scale training program for their analysts that includes use of ASAS in their day-to-day operations. They map out a program for analysts as they arrive in the unit, with the goal (besides having great analysts) being to prepare their young analysts for the ASAS Master Analyst Course (AMAC). Training includes individual and unit training, including a quarterly "intelligence gunnery"—a term that the combat arms soldiers understand, so they should give the training the proper emphasis. This program helps them develop and maintain a much higher number of ASAS Master Analysts than do most units.

Combining the RC and the Active Component (AC) into the same conference proved a good idea. This was the first year we truly combined the RC in the conference. The RC comprised about 50 of the 270 total attendees and provided 4 of the 13 unit briefs. The interaction between the two components was worthwhile for both.

A few of the comments made in several of the unit briefings included:

❑ The units like and depend on the contracted maintenance support, to the point where the units cannot deploy without them.

❑ Units are finally getting the needed stability in Version 4 of the software but are afraid that the stability will be lost for awhile when migrating to Version 6. They would rather wait a while longer before getting upgrades to allow for better stability when they do field the new software.

❑ Nearly every unit mentioned interoperability and communications problems as the biggest issue they have in making ASAS work.

❑ Units are well below the personnel resources levels they need to do the job right.

❑ All units wanted more AMAC graduates.

❑ They want newer, more powerful hardware so they can do more with the system.

The overall tone of the conference was positive, and attendees received answers to most of their questions and were able to pick up a few ideas to help them do their jobs better. The developers heard what the users need and will work to incorporate these ideas into future ASAS systems. It is great to know that so many folks are helping us improve the ASAS product line and ultimately provide the commanders with superb, timely intelligence support.

Mr. Mike Strack is the acting TRADOC System Manager TSM for ASAS. Readers may contact him via E-mail at mike.strack@hua.army.mil and telephonically at (520) 533-3507 or DSN 821-3507. Lieutenant Colonel Vic Fink, the Deputy TSM, readers can reach him by E-mail at james .fink@hua.army.mil and by telephone at (520) 533-5145 or DSN 821-5145.

Army Transformation and the Tactical Unmanned Aerial Vehicle (TUAV) System[1]

by Colonel William M. Knarr, Jr., Ph.D., Sonny Haskins (USMC, Retired), and Lieutenant Colonel Theodore P. Mouras (U.S. Army, Retired)

The end of the Cold War and the subsequent rise of a multi-polar international environment present the U.S. Army with a significant challenge. The varied array of potential adversaries has led to a significant reassessment of how our Army can remain relevant across the spectrum of conflict and continue to be the dominant land combat force in the 21st century. This reassessment is resulting in a radical transformation of the Army to meet the challenges of the changing operational environment. Success in that environment depends on our capability to "*see first, understand first, act first, and finish decisively across the full spectrum of operations.*" Essential to our seeing and understanding first will be unmanned aerial vehicles (UAVs).

The Vision and Challenges

The Army envisions one Tactical UAV (TUAV) system with Army UAVs directly supporting commanders at all echelons and a capability to access non-Army theater- and national-level UAVs. The advent of aerospace-related "miniaturization" technologies is allowing the Army to capitalize on micro- and mini-UAV support to battalion-level forces and below. Additionally, the ever-increasing variety and capability of UAV payloads have highlighted the versatility and critical value of the UAV. Of particular importance is the emergence of a systems approach toward linking UAVs with manned Special Electronic Mission Aircraft (SEMA), COMANCHE, APACHE, and assets such as the Army Tactical Missile System (ATACMS), as well as potential lethal applications.

The Paradigm Shift. Lessons learned from past operations, reinforced with the successful Advanced Warfighting Experiments (AWEs) at the National Training Center (NTCs), the Joint Readiness Training Center (JRTC), and real-world deployments into hostile environments, show us that the commander with the capability to see, understand, and act first will almost always finish the battle decisively. Army UAVs are a crucial and essential component in contributing to the commander's vision and understanding of the battlefield. UAVs have allowed the Army to redefine the paradigm, "*gain and maintain contact and develop the situation*," to a more proactive "*develop the situation, then gain and maintain contact at the location and time of your choosing.*" As the Army transforms itself to remain the most dominant ground force on any future battlefield, the utility and importance of UAVs continues to grow.

The United States and its Army face a rapidly changing and often unpredictable world with a bewildering array of potential adversaries. We can no longer afford to focus our attention on just a handful of potential threats but, instead, must be prepared to operate against a wider range of threats in any terrain and located at any point on the spectrum of conflict. Adversaries are revising their doctrine, strategies, capabilities, and technologies to mitigate our strengths. We must account for adaptive threat strategies that blend doctrine with advanced technologies and employ asymmetric approaches to wage war. The Army must be decisive at every point on the conflict spectrum. We must become more responsive, more deployable, more agile, more versatile, more lethal, more survivable, and more sustainable to meet the wide range of potential threats.

Army Transformation: The New Operational Concept

In an effort to account for changes in the operational environment and meet the emerging challenges, the Army is developing a new operational
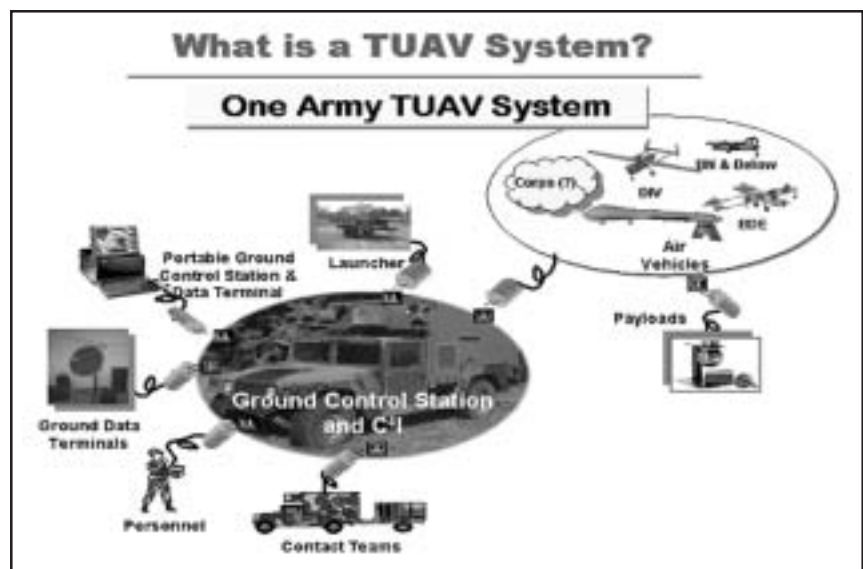

Figure 1. One Army TUAV System.

concept to guide the Army Transformation. In accomplishing the transformation to the Objective Force, the Army must determine not only what that force will look like and how it will fight but also maintain and upgrade the Legacy forces of today during the transformation. Simultaneously, the Army must continue to address the current operational demands—a daunting task. It is possible, as well as desirable, to provide Interim Force units with capabilities offered by next generation TUAVs.

The Tactical UAV System

System Description. As the Army begins transformation to the Objective Force, it is redefining how UAVs will support future operations (see Figure 1).

At brigade and above, the TUAV system will consist of common ground components (Ground Control Stations [GCSs]) with the capability to operate various types and configurations of air vehicles. All of these air vehicles and payloads will operate within a framework of common standardized hardware and software components to simplify maintenance, training, and overall system cost. The Tactical Control System (TCS) will provide the capability to access and control air vehicles from other Services (and gives other services the capability to access and control Army UAVs). The Army TUAV System will support the varying needs

and missions of commanders and units at all echelons.

Brigade Tactical UAV. The Army's top priority UAV is the brigade commander's TUAV (see Figure 2).

This system's requirements specify a TUAV designed to provide the ground maneuver brigade commander with reconnaissance, surveillance, and target acquisition (RSTA) support. The overall emphasis for this program is on providing a simple, reliable, electro-optical/infrared (EO/IR) capability on a TUAV to be fielded as quickly as possible. The Army is accomplishing this with the current Shadow 200 program and its associated acquisition strategy. Fielding of production systems will begin in fiscal year 2003 (FY03).

Division and Corps Extended Range/Multipurpose Tactical UAV. Given the nature of the anticipated roles of division and corps under Army Transformation, the requirement for an Extended Range/Multipurpose Payload (ER/MP) TUAV is critical. As capable as the Shadow 200 brigade commander's TUAV may be, it lacks many of the characteristics deemed essential to the ER/MP TUAV.

Mission duration, payload limitations, line-of-sight (LOS) limitations, and related air vehicle-range limitations render the Shadow 200 an unacceptable air vehicle for ER/MP TUAV missions. The ER/MP TUAV must—

❑ Have the range and endurance to support shaping operations.
❑ Be able to facilitate support to decisive operations missions at division and above.
❑ Be compatible with Army and Joint aircraft in the shaping of the battlespace.

The missions and roles envisioned for the UAV at division (for example, long-range RSTA, communications relay, aviation manned and unmanned teaming, signals intelligence [SIGINT], and attack) all require greater capabilities than are available with the Brigade TUAV (see Figure 3). Longer dwell times (8 to 12 hours), greater range requirements (200 to 300 km), and a larger payload capacity (100 to 200 pounds) are all necessary to support these missions. The greater range requirement forces a non-LOS solution. Non-LOS operations, similar to how we may employ the ER/MP TUAV, were critical in Operation ALLIED FORCE.

The ER/MP TUAV must have a footprint on the battlefield that is compatible with the Objective Force—less is better. It must also be compatible with the Brigade TUAV in keeping with the one system concept and to reduce system costs. The Army is defining division and corps UAV requirements through a series of experiments and analytical efforts that range from TRADOC-funded Concept Experimentation Programs (CEPs) through Advanced Concepts Technology Demonstrations (ACTDs).

Emerging ER/MP Tactical UAV Missions. The Army is considering a number of new missions and roles for the ER/MP TUAV including manned-unmanned (MUM) teaming and employment as an armed platform. These are likely to have a significant impact on the ultimate system requirements. One of the critical emerging missions for the ER/MP TUAV at division and above is that of MUM teaming (see

Priority

Field a capable UAV system to the ground maneuver Brigade Commanders as quickly as possible.

Concept/Charter
- Ground maneuver brigade commander's UAV
- Simple, basic EO/IR (no bells or whistles)
- Operating in an Army 2010 environment
- Meet situational awareness needs
- Part of the brigade RSTA triad (Scout, ACT, UAV)

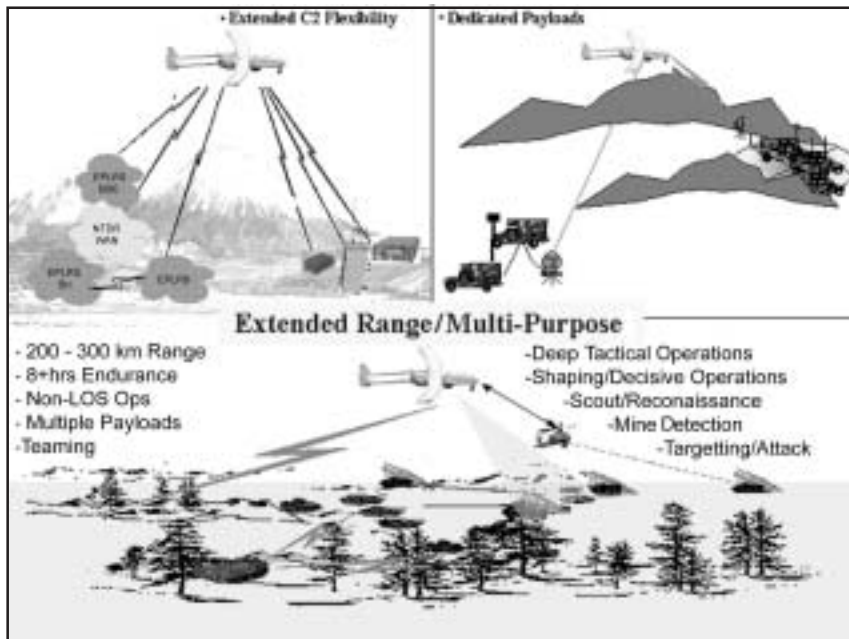Figure 2. Brigade Commander's TUAV Requirements.

Figure 3. ER/MP TUAV.

Figure 4). Armed reconnaissance and attack helicopters (Comanche and Apache) can employ UAVs as an extension of their organic reconnaissance and target acquisition capabilities, thereby extending their reach, increasing their lethality, and enhancing their survivability. ER/MP TUAVs will also provide similar support to the Army's corps-level SEMA, such as the future Aerial Common

Sensor (ACS) system. Armed UAVs could support a range of missions including working in conjunction with attack helicopters during mobile strike operations and attacking fleeting high-value targets (HVTs). Concepts for armed UAVs range from mounting ordnance on multipurpose UAVs to development of optimized unmanned combat air vehicles (UCAV).
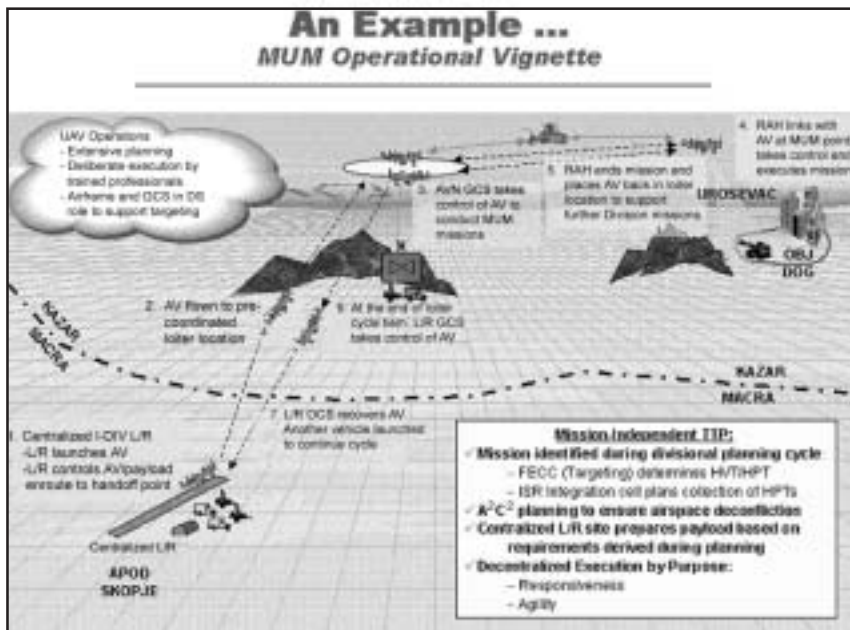
"Surrogate TUAV." Despite lacking several of the desired characteristics of the TUAV system, the Hunter UAV continues to serve as a surrogate Army UAV platform. Presently, the Hunter supports experimentation to define MUM doctrine and to define and evaluate TUAV payload requirements. In addition, the Hunter UAV has flown as a surrogate TUAV at the JRTC and operates at Fort Lewis, Washington, in support of the Interim Brigade Combat Team (IBCT). The Hunter UAV's characteristics also make it a possible surrogate for the ER/MP TUAV in the Interim Division (I-DIV), thus providing the bridge to the Objective Division and above-level ER/MP TUAV.

Payload Development Efforts. While the major emphasis of payload development efforts has been on the baseline EO/IR payload for the Brigade TUAV, the Army has also been actively pursuing a variety of objective payloads for the TUAV system. Figure 5 shows the TRADOC-approved prioritization of payloads for the Brigade, Division, and Corps TUAVs (as well as recommended payloads for the Air Force Medium-Altitude Endurance [MAE] and High-Altitude Endurance [HAE] UAVs). While EO/IR payloads remain the top priority, the Army is also experimenting with synthetic aperture radar (SAR), moving target indicator (MTI), communications relay package (CRP), hyper-spectral imager/ultra-spectral imager (HSI/USI), and laser rangefinder/laser designator (LRF/LD) payloads.

An advanced EO/IR system is under development to provide a significant improvement over today's EO/IR systems. This should markedly improve our ability to detect, recognize, and identify targets of interest.

A demonstration of a SAR or MTI payload capable of integration into an Army UAV was held this summer at Fort Huachuca, Arizona. The SAR

Figure 4. MUM Teaming.

Prioritization Top Five			
DCSCD TRADOC Approved 22 November 1999			
TUAV (BDE)	TUAV (Div/Corps)	MAE	HAE
1. EO/IR	EO/IR	EO/IR	SAR/MTI
2. SAR/MTI	SAR/MTI	SAR/MTI	EO/IR
3. CRP	CRP	CRP	SIGINT
4. HSI/USI	LRF/LD	HSI/LD	ACN
5. LRF/LD	HSI/USI	SIGINT	HSI/USI

Figure 5. Army UAV Payload Prioritization.

or MTI payload will allow TUAVs to operate more effectively in cloudy, overcast, and adverse weather conditions.

The Army is investigating three types of CRP payloads:

❑ The Light CRP payload, using either the Enhanced Position Location Reporting System (EPLRS) or the Single-Channel Ground and Air Radio System (SINCGARS) Advanced System Improvement Program (ASIP) radio (both available for the brigade commander's selection of one or the other), would fly with an EO/IR payload, not in lieu of it, to provide voice or data relay.

❑ The Medium CRP payload will employ both EPLRS and SINCGARS radios and, again, fly in conjunction with an EO/IR payload for simultaneous voice and data relay.

❑ The Heavy CRP payload includes one EPLRS, two SINCGARS, and one near-term data radio (NTDR) on a dedicated air vehicle to support tactical operations center (TOC)-to-TOC communications.

The HSI/USI payloads will provide imaging through camouflage and vegetation, while the LRF/LD will provide accurate target location information and designate targets for attack by laser-designated munitions. Chemical reconnaissance payloads will be tipping and cueing assets to other nuclear, biological, and chemical (NBC) sensor systems to confirm, deny, and map the presence of chemical agents.

Small UAV. The small UAV (SUAV) must be a man-packable system with a range of at least 12 km (terrain permitting) (see Figure 6). It must be soldier-operated with minimal training and be capable of launch and recovery (L/R) from a constrained space. The SUAV must fly using autonomous or manual control to selected points. The SUAV provides EO/IR near-real-time (NRT) imagery to the operator and provides two benefits:
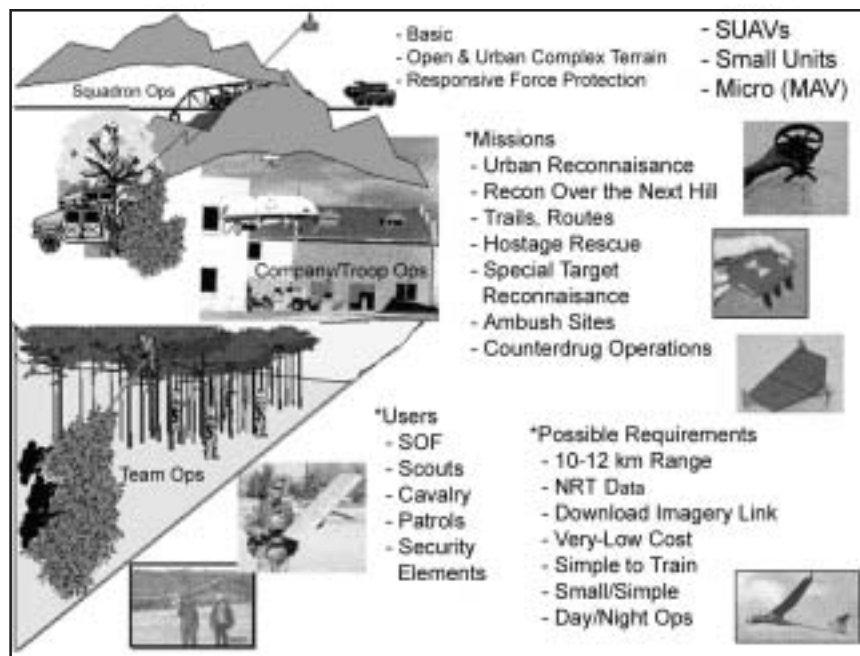
first, the soldier is not put in a potentially dangerous situation; second, when targets are found, the commander and small unit are afforded more reaction time. The traditional reconnaissance role is to gain and maintain contact and to develop the situation. The new paradigm with SUAV allows reconnaissance elements and small-unit commanders first to develop the situation and then to make and maintain contact at the time and location of their choosing. We are currently staffing the SUAV operational requirements document (ORD) within the Army community.

TUAV Integration with the Future Combat System. The crucial enabler to expanding the roles, missions, and functions of UAVs in the Transformation Army will be the ability to address the commander's critical information requirements (CCIR) in support of military decision-making. As the battlespace becomes more complex, we will rely more on advanced, aided decision-making software incorporated into the TUAV operational architecture. The combat battalion equipped with the Future
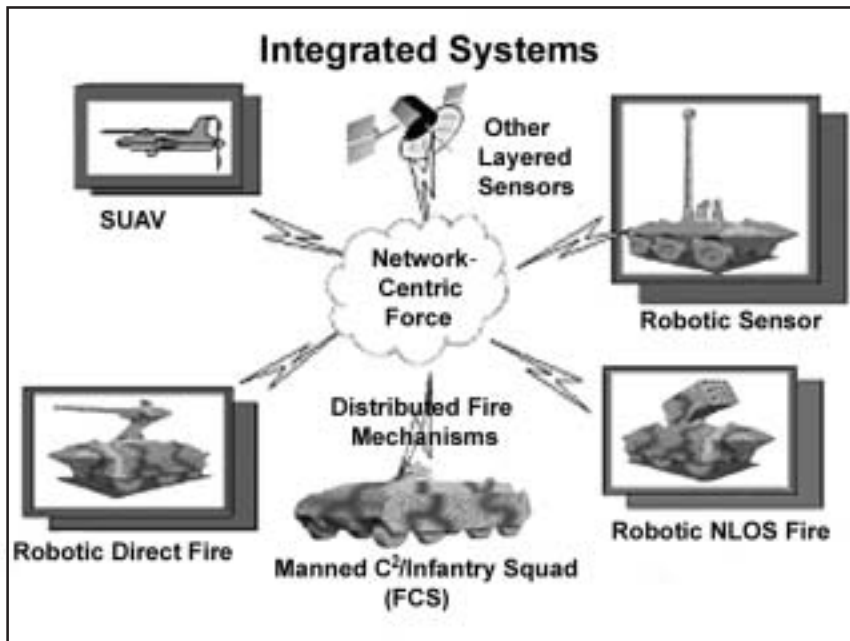

Figure 6. Small UAVs (SUAVs).

Figure 7. TUAV Integration with FCS.

common hardware components and software applications and provide support that meets the specific needs of each commander at each echelon.

Conclusion

The end of the Cold War has presented the US Army with a radically different operational environment—one that has resulted in the Army's pursuing a path of transformation to ensure that it remains relevant on the future battlefield. The commander's capability to "*see first, understand first, act first, and finish decisively across the full spectrum of operations*" defines success in this environment. UAVs are critical elements in this process because they provide integrated responsive support from team level to corps, across the spectrum of conflict, on varied terrain, and across the battlefield operating systems.

Just as the Army is migrating to the vision of a highly flexible, responsive, and lethal Objective Force, so too is the Army developing a TUAV migration strategy that provides integrated, responsive support to commanders at all echelons. While consisting of a variety of air vehicles and payloads
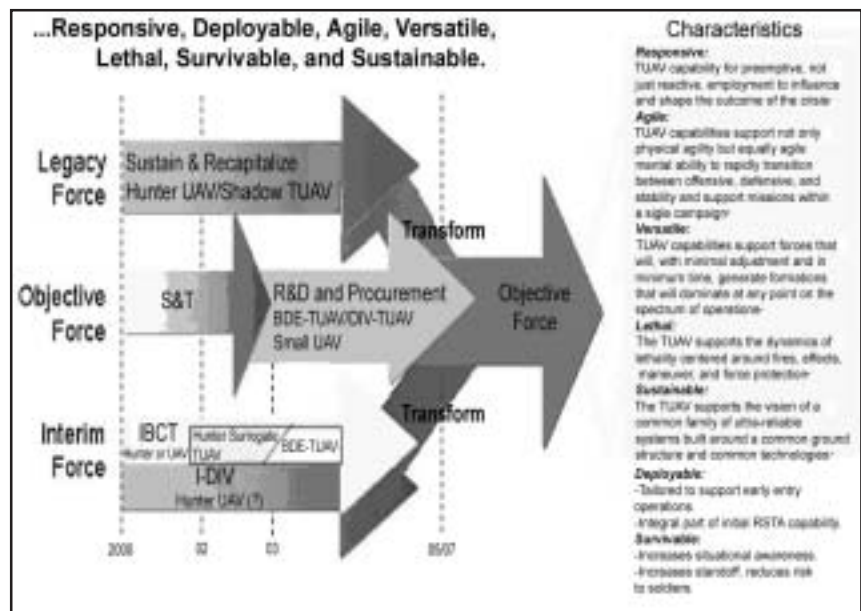
Combat System (FCS) "system of systems" will serve as the centerpiece for maneuver.

The ability to perform decisive operations through the three-dimensional (3D) battlespace will require a degree of situational awareness previously unthinkable at battalion level. The FCS-networked systems will be the hub of these operations, and the TUAV will be one of several robotic systems linked to the FCS (see Figure 7). As such, we must fully integrate the TUAV with the FCS. The brigade commander's TUAV will transmit imagery to other platforms on the FCS network, and the SUAV will be an organic component of the FCS.

TUAV Support to Legacy, Interim, and Objective Forces. The path to the "Transformed" Army of the future will involve not only Objective Forces but also Legacy and Interim Forces. Elements of the TUAV system will provide support to all of these. Figure 8 graphically represents the manner in which the transformation process will take place and also identifies the elements of the TUAV system that will provide support to each of

these forces. Legacy Forces will receive support from the Shadow 200 (Brigade) TUAV. The Brigade TUAV will support the Interim Forces; the Division TUAV may also take the same role. Objective Forces will include the Brigade TUAV, objective Division TUAV, SUAV, and potentially the objective Corps TUAV. All of these elements will operate with a core of

Figure 8. Army Transformation and the TUAV System.

Acronyms Used in the Figures

A²C² = Army Airspace Command and Control
ACN = Airborne Communications Node
ACT = Analysis control team
APOD = Aerial port of debarkation
AV = Aerial vehicle
AVN = Aviation
BDE = Brigade
BN = Battalion
C² = Command and control
C⁴I = Command, control, communications, computers, and intelligence
CRP = Communications relay package
DCSCD = Deputy Chief of Staff, Combat Developments
DIV = Division
DS = Direct support
EO/IR = Electro-optical/infrared
EPLRS = Enhanced Position Location Reporting System

ER/MP = Extended Range/ Multipurpose Payload
FCS = Future Combat System
FECC = Fires and effects coordination cell
GCS = Ground control station
HAE = High-Altitude Endurance
HPT = High-priority target
HSI = Hyper-spectral imager
HVT = High-value target
I-BCT = Interim Brigade Combat Team
I-DIV = Interim Division
ISR = Intelligence, surveillance, and reconnaissance
LD = Laser designator
LOS = Line-of-sight
L/R = Launch/recovery
LRF = Laser rangefinder
MAE = Medium-Altitude Endurance
MAV = Micro Air Vehicle
MTI = Moving target indicator
MUM = Manned-Unmanned
NLOS = Non-line-of-sight

NRT = Near-real time
NTDR = Near-Term Data Radio
OBJ = Objective
OCS = Operator control station
OPS = Operations
RAH = Reconnaissance attack helicopter
R&D = Research and development
RSTA = Reconnaissance, surveillance, and target acquisition
SAR = Synthetic aperture radar
SIGINT = Signals intelligence
SOF = Special Operations Forces
S&T = Scientific and technical
SUAV = Small Unmanned Aerial Vehicle
TRADOC = U.S. Army Training and Doctrine Command
TUAVs = Tactical Unmanned Aerial Vehicles
UAV = Unmanned Aerial Vehicle
USI = Ultra-spectral imager
WAN = Wide-area network

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optimized for the specific types of support required at each echelon, common hardware and software components in the TUAV system will minimize cost and simplify operations, maintenance, and training at brigade and above. At battalion and below, the TUAV system links to FCS. Additionally, the TCS will provide the Army access to other services' UAVs. The TUAV system will be instrumental to ensuring the continued dominance of the world's premier ground combat force now and in the future.

Endnote

1. Extracted and edited from a TSM-UAV report prepared for the U.S. House of Representatives Appropriations Committee–Defense.

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Prophet Ground and Air Systems Update

by Colonel Kevin C. Peterson

Prophet Program is on a Roll. After a successful Initial Test and Operational Test (IOT&E), the US Army awarded a production contract to Titan Systems (Santa Clara, CA) for Prophet Block I, electronic warfare support (ES), the next-generation, tactical signals intelligence (SIGINT) system. The contract calls for 83 AN/MLQ-40(V)2 Prophet ES systems.

The system includes Titan's AN/PRD-13 direction-finding gear; a laptop computer, displays, a new man-machine interface; and built-in test equipment. Modifications to the system have made it more ergonomi-

cally correct. The manufacturer changed the layout of the components in the vehicle, leaving more room in the vehicle for the operator.

The Army will conduct a follow-on test after it accepts delivery of the first six vehicles in June 2002, and then field these vehicles with the first Initial Brigade Combat Team (IBCT) at Fort Lewis, Washington. Full fielding will begin in fiscal year 2003 (FY03), with fielding of the remainder of the systems in FY04 through FY05. The options extending procurement to FY08 would equip the U.S. Army National Guard (ARNG) with Prophet Block I as well. Currently, however, the ARNG has no funded requirement.

The Army restructured the spiral development of Prophet Blocks II through V to field a relevant SIGINT receiver with a commensurate electronic attack (EA) capability. We combined Blocks II and III with an expanded requirement for Block II to match the EA system with the new modern signals receiver the Army would like to purchase as part of Block III.

Slated for production in FY08, the Army will field Prophet Block IV—configured for measurement and signature intelligence (MASINT), either late that year or early in the next year. The MASINT system will require a separate vehicle. When the full Prophet capability is fielded, each "Prophet system" will consist of two ES/EA vehicles and two MASINT vehicles, along with a Prophet command and control vehicle (for a total of five vehicles).

Divisional TUAV SIGINT Payload. The U.S. Army has selected three contractors to move forward with Phase I of the service's Division TUAV (Tactical Unmanned Aerial Vehicle) SIGINT Payload (DTSP) program, it-self essentially a restructured version of the Prophet Air program. Under the DTSP program, the Army will procure a SIGINT system to be flown on its Shadow 200 TUAV or an Extended Range UAV. The three winning contractors selected to take part in Phase I of the DTSP program will demonstrate their systems over the next 12 to 18 months. The Army will select for Phase II those contractors that meet its needs. Phase II will consist of flight tests at Fort Huachuca, Arizona, in June 2003.
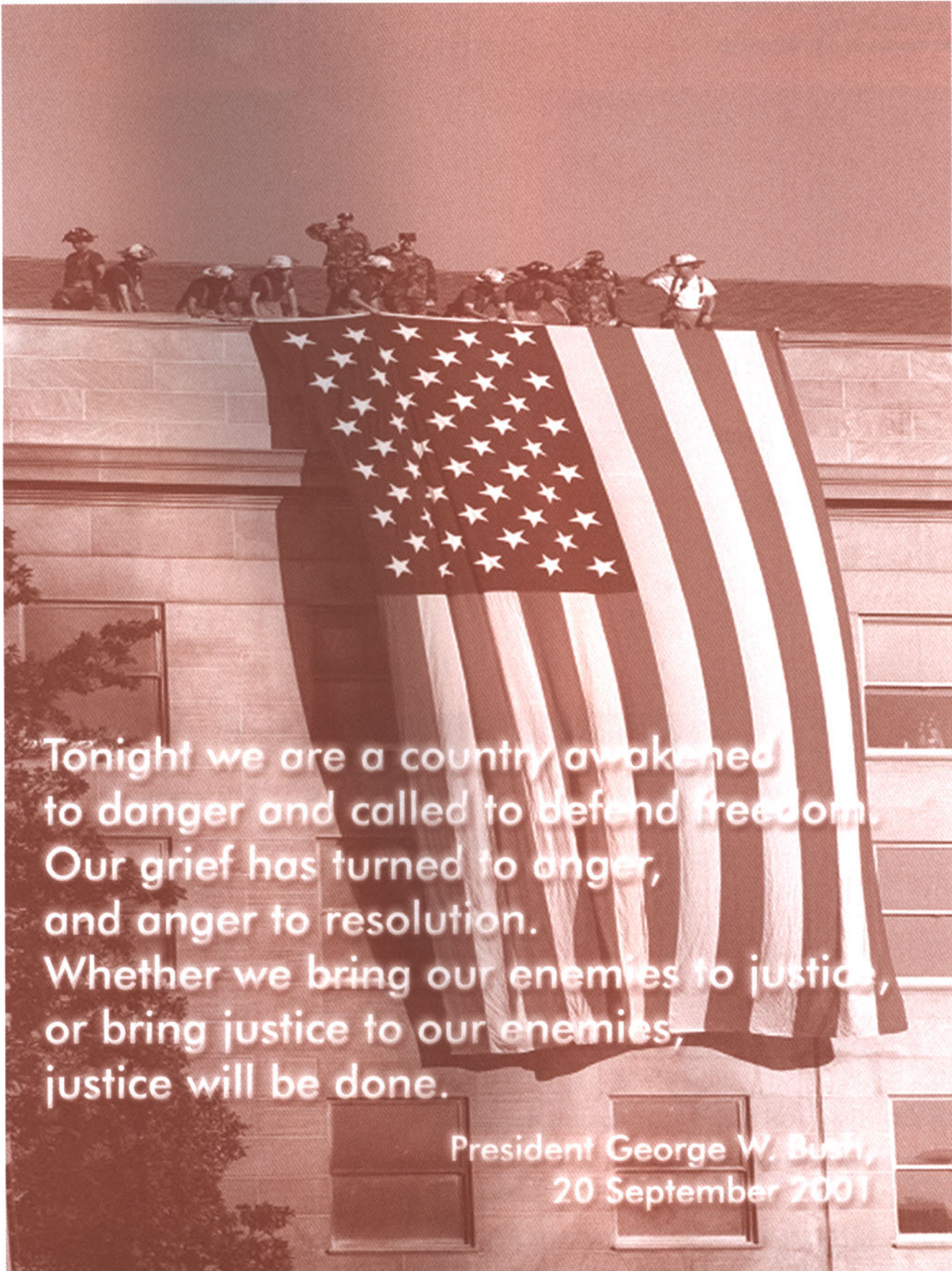
Colonel Kevin Peterson is the U.S. Army Training and Doctrine Command (TRADOC) System Manager-Prophet (TSM Prophet) at the U.S. Army Intelligence Center and Fort Huachuca (USAIC&FH). Readers may contact him via E-mail at kevin.peterson@hua.army.mil and telephonically at (520) 533-5579 and DSN 821-5579. You may also contact the Deputy TSM, Major Mark Oleksiak, at mark.oleksiak@hua.army.mil.

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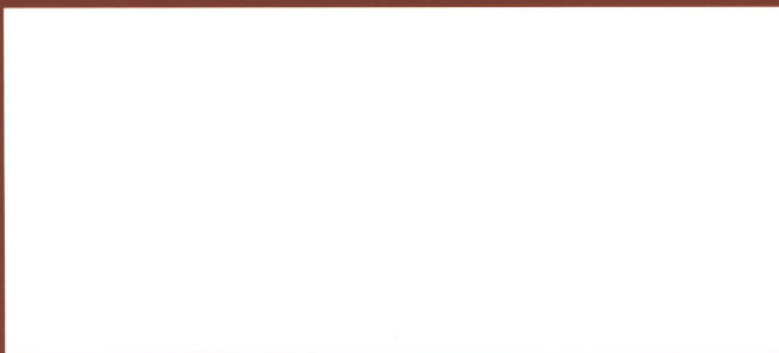
Tonight we are a country awakened
to danger and called to defend freedom.
Our grief has turned to anger,
and anger to resolution.
Whether we bring our enemies to justice,
or bring justice to our enemies,
justice will be done.

President George W. Bush,
20 September 2001

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