INTEL XXI and the Maneuver Commander - Redefining Execution of Tactical Military Intelligence Operations

A Monograph
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Abstract

INTEL XXI AND THE MANEUVER COMMANDER - REDEFINING EXECUTION OF TACTICAL MILITARY INTELLIGENCE OPERATIONS.
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The military's response to changes within the world political and technological environment has been termed a Revolution in Military Affairs (RMA). This monograph summarizes the effects that these changes will have on intelligence operations at the tactical level, or more specifically, the interaction between the tactical commander and the intelligence system which supports him.

Though the definition of RMA varies from source to source, it can be distilled to the cumulative effects brought about by the progress of technology, doctrine, organization, and behavior. Recognition that the military is amidst the throes of a Revolution in Military Affairs is not sufficient to produce necessary and meaningful change. A strategy is needed in order to chart the Army's course for the near future and beyond. This concept is formulated in Army programs and has come to be known as "Force XXI". Concurrently, the Military Intelligence community is drafting its own, complementary program: "Intelligence XXI" - "INTEL XXI".

An brief historical overview is presented in Section 2. A summary of the characteristics of future forces and operations as envisioned by the Force XXI and INTEL XXI programs is found in Section 3. The impact of these programs for tactical intelligence operations is discussed in Sections 4 through 7. The implications of these concepts is framed in terms of their impact on the TRADOC domains - Doctrine; Leadership; Organization (and Manning); and Training. Finally, a summary of what has been construed and recommendations are contained in the Conclusion.

Whether the changes encompassed within the INTEL XXI concept actually signal a revolution in military affairs could be debated. Many changes have been proposed and experimented with in the past. Perhaps this revolution will not be gauged by the extent of the proposals, but rather by the degree to which commanders and intelligence operators and analysts maximize the potential of these evolving concepts.

The length and depth of this subject is far too extensive to address in complete detail. This thesis does not portend to distill the optimal tactical intelligence organization. Equally, it is beyond the scope to address joint doctrine, research, development, and funding issues. What will be addressed, however, is a view of the consequential effects that future programs will have on the tactical Army commander's ability to leverage intelligence support in order to accurately see his battlefield environment.

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Section 1 - Introduction

"The times we live in are times of profound change, dramatic and fundamental change - political, ideological, and technical. We must adapt to that change, and we must grow."

GEN Gordon R, Sullivan, 23 May 1993[1]

GEN Sullivan's statement is readily apparent to anyone acquainted with the altered dynamics of the world during the past two decades. The consequence to our daily lives may seem subtle, even transitory. However, when viewing the effect these changes have on institutions, the transformation is nothing less than dramatic. No organization, governmental, corporate, or social, can sustain itself through this period without adapting to the setting in which it operates. The Army is no exception.

The ongoing nature of these changes makes a complete assessment of their impact not possible at the present. Instead, this paper will examine how these changes will be manifested for intelligence operations within tactical combat units, particularly within battalions and brigades.

To appreciate the striking circumstances in which the Army is evolving one must first concede the current shift in the global state of affairs. "We live in a dynamic world, an era of contradictory trends shaped by two great forces, one strategic, the other technical - the advent of the Information Age."[2]

For the military, the most significant transition began with the end of the Cold War - a "war" which dramatically shaped the United States' position in the global community; from political to economic to military. Although the United States and its military no longer faces the threat posed by the Soviet Union, new

and increasingly abstruse threats have emerged. While several nation-states still possess considerable conventional armies, the U.S. must also contend with a multitude of more "ambiguous threats" or what has been termed as "niche threats".[3] New dangers are increasingly posed by "a bewildering diversity of separatist wars, ethic and religious violence, coups d'etat, border disputes, civil upheavals, and terrorist attacks, pushing waves of poverty stricken, war ridden immigrants (and scores of drug traffickers as well) across national boundaries".[4] Additionally, "non-national players like global business, cross-border political movements like Greenpeace, religious movements like Islam, and burgeoning pan-ethnic groups who wish to organize the world along ethnic lines"[5] will make future battlefields more difficult.[6] Coming hostilities may presumably be directed by political, business, and military organizations that "are likely to be constructed along charismatic lines . . . and be motivated less by 'professionalism' than by fanatical, ideologically-based loyalties".[7]

The advent of the Information Age, or Information Revolution, has affected comparable challenges. "Developments in information technology [have and will continue to] revolutionize . . . how nations, organizations, and people interact".[8] The growth of technology continues to accelerate by exponential proportions. For much of the developed world traditional measures of political and economic strength, such as territorial holdings and manufacturing infrastructure, have been supplanted by the possession and exploitation of the technical-information domains.

The operational environment today is significantly different from that which

faced the US at the fall of the Soviet Union. "The lack of an easily identifiable threat, the decline of 'traditional' order based on national lines, the rise of ethnic/cultural sources of power, and the proliferation of military and information technology combine to pose an increasingly disordered world."[9] In this changing environment, the US military is increasingly called upon to intervene over the more traditional political and diplomatic means of the past.[10] One can reasonably assume that there will be a continuing reliance on military means for global engagement until a balance or status quo is established in post-Cold War politics and diplomacy.

The military's response to these changes has been termed a Revolution in Military Affairs (RMA).[11] Though the definition of this RMA varies from source to source, it can be distilled to the cumulative effects brought about by the progress of technology, doctrine, organization, and behavior. Albeit no country can claim the "Superpower" status presently held by the US, nor match its technological and military preeminence, the Army has recognized that "innovations in technology and doctrine are the harbingers of change in warfare".[12]

Ongoing redesign strategies within the military endeavor to integrate the great changes that technology will have on organizations and operations. The Information Revolution "challenges the relevance of traditional organizational and management principles. The military implications of new organizational sciences that examine internetted, nonhierarchical verses hierarchical management models are yet to be fully understood."[13]

History illustrates that the end of an era of conflict (even one such as the

Cold War) invariably brings about what Walter Millis termed a "hypertrophy"[14] in military means; that is, as nations see the disappearance of considerable, longstanding rivals, they turn their attention elsewhere. And, as armies tend to consume large portions of national resource - both in people and monies - this "turning away" results in significant reductions in military manpower, funding, and research.

The US military is currently experiencing such a hypertrophy. Within this environment Army leaders have come to recognize that the "force will not grow, [as] mission sets and customers are growing".[15] Most apparent of these reductions is the drawdown of US forces from overseas posts. With this decrease in forward presence has come the concurrent requirement that continental forces come to be "rapidly deployable".[16] "The forward deployed forces of the past are being replaced by forces prepared for world-wide short notice contingency operations across the spectrum of conflict."[17] Even those forward positioned forces which remain respond to crises in other theaters; such as those European units called upon for intervention in Bosnia and Kosovo.[18]

For the tactical commander these pronounced developments have called into question the very way in which he sees himself in relation to potential adversaries. During the Cold War era commanders, both in the US and overseas, were able to maintain a regional orientation and train to confront a reasonably known threat. This no longer applies in an Army which must be capable of projecting force to any corner of the globe against often ill-defined menaces. This has resulted in an Army typified by a marked "genericism"; a

transition from a threat-based military to one defined as mission/capability-based - a "come as you are force".

This mode of employing the military poses a dilemma for initially-deployed, "early entry" forces. Early entry "is one of the battle dynamics where change is most dramatic - where the relevance of the force-projection Army to the current and near future strategic environment is most notable".[19] Commanders now face potential enemies, traditional and nontraditional[20], of which they may have little familiarity and limited time to prepare their soldiers or themselves. With a media capable of near-instantaneous broadcast of world incidents, where the actions of a tactical commander "on the ground [may likely] . . . have strategic and international repercussions"[21], the ability rapidly gather, assess, and use information will be imperative.

To collect, analyze, and disseminate information regarding potential threats and environments is the role of the Military Intelligence Corps. It will be to military intelligence (MI) leaders, soldiers, and units that commanders will increasingly turn as the Army enters this new age of operations. Recent MI literature outlines the need for extensive reordering of the intelligence force in order to support their "commanders [who] will fight simultaneous, distributed, non-linear operations against enemies ranging from the conventional to the criminal, and will demand an immediate, all-source intelligence product tailored to their needs".[22]

The drawdown of forces presents a challenge to military intelligence organizations similar to its combat counterparts. During the Cold War, a period

punctuated by the singular threat, MI units could focus their collection and analysis efforts. Forward-positioning allowed MI to process information on the very ground on which battles would be fought. They could maintain fixed complexes and databases granting an unprecedented level of expertise and continuity. The monolithic view of the Soviet threat drove the entire defense intelligence structure. It was a simple task to link resources from tactical to national levels.

The "mature picture" developed of the Cold War enemy no longer exists, as the rapidly deployable MI force must respond to a wide range of threats and "gather timely information that does not require lengthy processing and analysis".[23] MI must now train for a broad (strategic) range of contingencies, but quickly transition and narrow its focus to the operational and tactical level and rapidly discern intelligence requirements during crises.

Recognition that the military is amidst the throes of a Revolution in Military Affairs is not sufficient to produce necessary and meaningful change. A strategy is needed in order to chart the Army's course for the near future and beyond. This concept is formulated in Army programs and has come to be known as "Force XXI". Concurrently, the Military Intelligence community is drafting its own, complementary program: "Intelligence XXI" - "INTEL XXI".

"Tactical intelligence is distinguished from other levels by its perishability and ability to immediately influence the outcome of the tactical commander's mission. Tactical intelligence normally supports operations by echelons corps and below."[24] The remainder of this thesis will concentrate on the effects that

these changes will have on intelligence operations at the tactical level; or more specifically, the interaction between the tactical commander and the intelligence system which supports him.

In order to appreciate the sweeping nature of the changes to tactical intelligence envisioned for the future, one must understand what shaped the intelligence force of the near-past and present. An brief historical overview is presented in Section 2. A summary of the characteristics of future forces and operations as envisioned by the Force XXI and INTEL XXI programs is found in Section 3.

The impact of these programs for tactical intelligence operations is discussed in Sections 4 through 7. The implications of these future concepts is framed in terms of their impact on the TRADOC domains - Doctrine; Leadership; Organization (and Manning); and Training. Finally, a summary of what has been construed and recommendations are contained in the Conclusion.

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Section 2 - An Historical Perspective

To understand the advent of tactical military intelligence (MI) organizations as they exist today, one must trace their history through the Cold War, specifically the events of the 1960s to present.

During the early 1960s, the American defense establishment was focused toward the Soviet threat to western Europe. Accordingly force structure, manning, and resources were directed to defending against this enemy to the near-exclusion of all else. Military Intelligence units were no different.

Forward positioned MI units came to "know" the terrain of western Europe extensively. Permanent units and facilities fostered a level of intelligence clarity unprecedented in history. Personnel and installations located near or on the terrain of forecasted battles allowed MI analysts the ability to literally "train as they would fight". With nearly unlimited resources, these installations had the ability to span intelligence sources up to and including the national level.

Routine interchange of data facilitated a common understanding across all echelons. With routine "bottom-up" and "top-down" transfers of information and analysis, these forward deployed units had the luxury of constructing databases and collection plans with a precision often greater than found at the national level. Eventually, the national command authority came to rely upon the early warning capability of these forward units to provide the first indicators of impending attack.

A military intelligence structure resulted from this single-mindedness in

which "tactical...units were to be the principle sources of tactical intelligence flowing up to divisions, corps, and theater. Intelligence, in general, would flow from the ground up to higher echelons. And, because the US focused the national intelligence effort on our nation's most likely threat, [it] possessed in-depth, continuous, nearly automatic intelligence on the forces of the Soviet Union."[25] An assignment to Germany to face the Red Menace was considered a hallmark in the training and education of MI officers.

Events of the mid-1960s began to raise doubts about these organizational pretenses as the Army embarked on military operations in Viet Nam. Despite the greatly disparate environments, MI officers brought to Southeast Asia those skills learned in the plains of Europe. With a shortage of national level information regarding Viet Nam (for little existed at the time) and equipment ill-suited for this jungle environment, tactical military intelligence was seen as serving little if any value to ground commanders.

Tactical commanders sought and devised numerous methods to fill this intelligence gap. Ad hoc units, missions, and tasks were developed. Intelligence patrolling from squad to brigade-level became common. Soldiers assigned to combat units were reformed into information\intelligence collection forces. Although not officially authorized, units like the distinguished Long Range Reconnaissance Patrols (LRP\LLRPs) became standard within each division and corp. Aviation units formed aerial scout sections, often ferrying commanders ahead of their troops to reconnoiter the battlefield.

In 1973 another watershed event occurred which would come to vastly

shape the tactical MI community. In the Fall of that year, the entire Israeli defense organization was overwhelmed by an enormous assault of Egyptian and Syrian forces. Despite tremendous expenditures for defensive early warning equipment, a lack of synchronization between Israeli national level collection agencies and their tactical commanders lead to a near-debilitating setback within the first few hours of the Yom Kippur War.

In response to these and other conflicts, US intelligence agencies began to evaluate their effectiveness. In 1975, the Department of the Army commissioned a study of MI design known as the Intelligence and Organization Stationing Study (IOSS).[26] The inquiry concluded that Army intelligence forces were only well prepared for a Soviet threat to western Europe. "The IOSS conducted by MG James J. Ursano...was designed to break down excessive compartmentalization of sensitive intelligence...and make military intelligence more responsive to the combat commander."[27]

It became evident that in order to respond to threats elsewhere in the world, tactical commanders would need dedicated MI assets to gather and analyze information; anywhere - anytime. Accordingly the IOSS recommended a force structure which provided collection assets to each tactical level.[28] The organization developed to provide support to divisions and below, known by the moniker CEWI (Combat Electronic Warfare and Intelligence), came as a direct result of the IOSS's work.[29] This CEWI organization, of nearly identical construct, continued to serve until the late-1990s.

Despite the impetus to affect these broad changes (Viet Nam and Yom

Kippur), the Army's MI community remained Soviet-focused and regionally-oriented. Events in the 1980s would question the relevance of this new MI structure. In 1983 the Army executed its first force projection deployment, Operation Urgent Fury, against the island nation of Grenada. Again, in 1989, force projection was used to topple the regime of Panamanian General Noriega. Although combat operations were successful, the contribution of tactical MI units was doubtful. For both deployments forces were mustered immediately prior to execution. Little time was available for tactical intelligence units to collect and analyze information beyond what was provided by higher echelons. Once deployed, these units proved equally ineffective in employing assets and accessing national sources. Their actions failed to provide commanders on the ground with an intelligence awareness any clearer than that with which they had left the US.[30]

In 1990 and 1991, MI units faced their biggest Cold War challenge, Operations Desert Shield and Desert Storm (DS/S). Although many tactical units were in theater months before ground operations, their contribution was minimal. During Desert Shield, the danger of approaching the Iraqi border prevented the use of tactical MI human intelligence soldiers. Realizing the US's ability to identify and track radio communications, the Iraqi army forbade such transmissions amongst front line forces until after ground operations began; effectively eliminating tactical signals collection. Once ground operations commenced, these CEWI units were unable to move rapidly while performing their collection and dissemination tasks.[31]

Unable to obtain the information they required, tactical commanders became increasingly dependent on national level intelligence. They found higher echelon aerial (aviation and satellite) imagery and signals interception support more responsive and effective, while at the same time less vulnerable than ground-based, tactical systems.[32]

In the "aftermath of DS/S, intelligence in support of the war was arguably the most controversial topic of the operation's post-mortem".[33] Compounding mobility and survivability issues, post-conflict studies revealed that tactical MI units remained acutely incapable of accessing intelligence from higher level sources. Systemic obstacles at all levels prevented effective information passage. Information obtained from national assets could not be transmitted rapidly through the intelligence hierarchy due to inadequate communication architectures. Additionally, the "secret" classification of much of this information made analysts reluctant to release it to their counterparts at lower echelons.[34]

Again, the MI community was forced to reevaluate its role on the tactical battlefield. In the Fall of 1991, facing the suboptimal performance of the Gulf War and reductions in defense spending, the Military Intelligence Center commissioned another study.[35] "Called the MI Relook Task Force, the study group met from June to September 1991. Their mission was to conduct a total review of Army intelligence and recommend ways to improve intelligence [support] to the warfighter [tactical commander]."[36] "Their mandate was similar to that of the IOSS, ... [the] study done in the early 1970's."[37] Additionally the group was tasked to reduce assets and determine the "minimal essential

capability"[38] required within tactical units. It even went as far as to posit whether collection assets "should be eliminated from the divisional MI Bn"[39] altogether.

While the MI Relook sought to reduce collection assets at the tactical level, concurrent programs set about to upgrade these same systems. The Relook concluded that the hierarchical structure of the IOSS organization was inefficient and that information would serve commanders better if it were sent in a "skip echelon" manner, known as "broadcast intelligence". All the while new but untested equipment was fielded to "old-design" CEWI units; with numerous proposed and promised improvements planned for the future.

Throughout the 1990s, the MI community responded to the considerations put forth by the Relook and a post-war drawdown of forces. As with the entire US military, MI organizations were required to eliminate manpower positions. Despite their inclusion in MI manuals as late as 1996[40], corps-level Tactical Exploitation Battalions (human and signals intelligence), Long Range Surveillance units within the mechanized corps and divisions, and numerous individual positions within remaining units were eliminated.

During this same period, the Army responded to multiple crises and humanitarian situations. US interventions in Somalia, Haiti, Bosnia, and Kosovo have become prototypical of near-term military operations. Despite the differing natures of these actions, they were characterized by several common traits. In each instance: action was taken with little or no notice; forces were deployed from outside the theater and went into action immediately upon arrival; tactical commanders were required to tailor their forces to accomplish the specific

missions they were assigned; unneeded forces were redeployed as soon as possible or left a home bases entirely; none involved large scale combat operations; and, commanders discovered the irreplaceable need for responsive and accurate intelligence support.

Again, the force projection nature of these operations did not lend itself to the development of a "mature" tactical intelligence picture. Tactical MI units found the need and value of connectivity to higher echelon intelligence support and cooperation with the collection and analysis efforts of other agencies.[41] Surprisingly, tactical commanders discovered the need for intelligence support to be even more critical during peace-keeping operations.[42] External agencies familiar with the particular area or type of crisis were invaluable in helping to determine and direct initial tactical intelligence efforts; preventing tactical assets from becoming overloaded with extraneous, non-essential tasks.[43]

Proposed reductions to the intelligence force structure and equipment will continue to limit the tactical commander's ability to apply MI assets at his own discretion, for his own purposes. Evolving technologies will increase the "flow-down" of information within human and electronic "push" systems. As FM 34-1 states: "*No echelon has all the organic intelligence capabilities it needs to fully support the commander...Commanders and MI leaders at higher echelons should* [must][44] *anticipate the intelligence needs of the lower echelons and "push" tailored intelligence support down to them.*"[45]

In response to the aforementioned studies and lessons learned during

recent operations, the Army has set about to redesign the way in which it organizes, trains, and equips its forces. Specific guidance is contained within the Army's newest organization strategy, Force XXI. To avoid the risk of once again being lost to the irrelevant, the Military Intelligence Center has embarked on a concurrent, complementary, and equally ambitious scheme of redevelopment, INTEL XXI.

Section 3 - Force XXI / INTEL XXI

The Army's capstone program for reorganizing and modernizing the 21st century force is known as Force XXI. This program recognizes the impact of the changing world situation which has brought about the current Revolution in Military Affairs (RMA). Force XXI program seeks to incorporate and exploit developments within the global and technological environments since the close of the Cold War era. The vision of this future force in light of forecasted requirements is defined in the Army's TRADOC Pamphlet 525-5, Force XXI.[46]

The cumulative effect of these changes has forced the military to turn away from the Soviet-focused tenets of the mid-1980s, with its massive personnel reserves and extensive global infrastructure. Although not authoritative, Force XXI describes an army designed, trained, and equipped to support six Patterns of Operations which replace Airland Battle doctrine: Project the Force; Protect the Force; Gain Information Dominance; Shape the Battlespace; Decisive Operations; and, Transition to Future Operations.[47]

Tomorrow's force must be capable of swift action during "regional conflicts; crisis response; power projection; joint, coalition, and interagency operations".[48] Its units will focus on broad capabilities and effects, moving away from yesterday's threat-based Army. Deployments will be characterized by economies of force and scale. Commanders will deploy with smaller, modular, tailored, mission-oriented units - leaving unneeded forces at home stations prepared to respond to other contingencies. Deployed units will draw support

where available, from both near and distant locations.

These "split-based", often independent, missions will involve units of any conceivable size and configuration. During these dispersed, distributed operations commanders will frequently answer to authorities outside their usual chains-of-command. The non-standard integration of command structures will call into question traditional, hierarchical views.

Like Force XXI initiatives, MI recognized that similar "factors influencing the development of the intelligence force over the next two decades include: reduced defense spending, significant growth in information technologies and digitization, reduced forward presence, stability and support missions (peacekeeping, humanitarian assistance, ...) and the proliferation of weapons and technology which could make our potential adversaries more lethal and dangerous then (sic) ever before".[49]

The INTEL XXI program "describes how the intelligence force will support multi-dimensional decisive operations and the role intelligence will play in 21st century reconnaissance, surveillance and target acquisition... [providing] insights into how the Army's intelligence system will be organized, equipped, trained, and employed as an integral part of our future forces".[50] For MI organizations, this RMA has produced an "unprecedented...evolution in its operational thinking, caused in large part by an on-going technological revolution in collection, processing, analysis, presentation and dissemination systems development".[51]

TRADOC Pam 525-75, INTEL XXI, details the holistic approach which Army intelligence will take to meet future requirements.[52] INTEL XXI seeks to

"refocus its intelligence programs according to mission requirements of anticipated contingencies and rebalance systems types and quantities appropriately".[53] It acknowledges that future tactical collection systems will be fewer in number and more modular and tailorable in design.[54]

To a greater extent than any other branch or service, intelligence organizations are knowledge-based[55]; more dependent upon information and information technologies. Like its combat arms counterparts, tactical MI units will be unable to maintain a "regional orientation"[56] for every possible contingency. The pace of rapid deployment operations will not allow tactical units the time to develop a "mature" picture of the battlefield and will "amplify the role technology will play".[57] A broad baseline knowledge is required[58], focused primarily on the ability to access information from sources outside their control.

It is not possible at this time to outline the exact structure of the future tactical MI force. The preceding summarizes the major characteristics which describe this force. The proposed MI organization will be constituted with fewer assets and soldiers resident (assigned) at the tactical level. "In force projection operations, commanders depend on small, deployable teams with access to national and joint intelligence. Intelligence in the initial stages of the operation will flow from higher to lower."[59]

With fewer MI soldiers resident within the lower echelons, tactical units will require a greater connectivity to higher level sources and agencies. New and emerging technologies are translating this requirement into a reality. "Broadcast intelligence" sent through satellite down-links, multi-echelon intelligence

internetted vertically and horizontally across echelons, and automated data transmission, analysis, filtering, and routing will by-pass the conventional intelligence hierarchy of the past. INTEL XXI proposes a systems (or rather "system of systems") approach to collecting, analyzing, and disseminating intelligence, where the continuing accumulation of data far exceeds the capability of any one of its component parts.

INTEL XXI poses a ground-breaking manner for resource control. Assets will be managed by need and effects rather than by structure and form. From the vantage of economy of force and effort, as well as, maximizing the leverage of new technologies, this intelligence vision is quite revolutionary. However, for the tactical commander it is a matter of concern. From the most apparent viewpoint it equates to operating in a vaster, more uncertain environment, with fewer assets at his disposal.

In 1996, TRADOC revised the Requirements Determination Process. In this, it established Integrated Concept Teams (ICTs) within each branch. These ICTs were tasked to determine the future requirements for their particular branch in support of Force XXI initiatives.[60] MI's response came in the form of the INTEL XXI program which answered future force needs, as well as, deficiencies noted in recent operations. While many of the weaknesses associated with recent intelligence missions were identified by non-MI leaders, few tactical commanders would have proposed a reduction in tactical MI forces as the remedy.

Therein lies the predicament. The future intelligence organization is

clearly in line with the precepts of Force XXI. The direction set by these programs will set the course for intelligence operations for decades to come. The Army MI community has staked its future to improve its support to commanders at all levels . It must now be determined how tactical commanders can ensure that INTEL XXI works for them.

Section 4 - Doctrine

Doctrine is the statement of how the Army intends to organize, equip, and train its forces to operate in war and operations other than war. While doctrine is based upon principles designed to serve the contemporary force, it is written so as to account for changes in the environment for the foreseeable future.[61] This is the goal for emerging doctrine of Force XXI.

The Army has been proactive in updating many of its capstone manuals to address for changes in the post-Cold War world[62], but an all-encompassing (service, joint, or combined) doctrine has not yet been completed. Whatever form it takes, such as the six (6) Operational Patterns of warfare[63], it will be a significant departure from Airland Battle Doctrine of the 1980s and 90s.

As doctrine becomes available, the tactical commander must integrate it into the forces assigned to him. However, it is reasonable to question how he will affect such changes upon units which support him but are not under his control. This raises concern with the proposed changes to tactical military intelligence (MI) organizations.

As with all Army doctrine, MI principles and tenets are currently under review. The migration of assets to higher echelons appears to signal a doctrinal shift away from support to the tactical level. Though the MI community envisions "modifications to existing regulations and significant revisions to numerous field manuals"[64], no such wholesale abandonment of tactical intelligence precepts is proposed. The six (6) Intelligence Functions (Indications and Warning,

Intelligence Preparation of the Battle Field, Situation Development, Target Support, Force Protection, and Battle Damage Assessment)[65]remain in current MI doctrine. Even more rudimentary, the Intelligence Cycle - Direct, Collect, Process, and Disseminate[66] - continues to serve as the basis for all MI activities. While TRADOC Pam 525-75 proposes a new design for Intelligence Tasks (Present, Manage, Collect, Process and Analyze, Disseminate, and Information Operations)[67], these are essentially a refinement of the existing theme contained within the Functions. INTEL XXI maintains that the cycle, functions, and tasks will continue to apply across the continuum of operational requirements[68] allowing the tactical commander "offensively to achieve and defensively avert surprise".[69]

As the basics of MI doctrine remain, envisioned force structure reductions at the tactical level will necessitate the use of new tactics, techniques, and procedures (TTPs). While consistent with former principles, these new TTPs will require the commander to reevaluate how he leverages the most from the MI force. Because he cannot control assets of unknown type, size, and configuration outside his command, he must maximize the capabilities resident within his own force; namely the intelligence staff and analysts. To do this he must become a master of the doctrinal processes at his disposal.

The tactical commander usually receives orders specifying given a set of tasks in support of higher echelon objectives. Success is determined by the commander's ability to gain information, understand the problem to be solved, and make timely, well-informed decisions. The procedure used for the analysis

and planning of operations is appropriately termed the Military Decision Making Process (MDMP). It is during the MDMP process that the commander can most constructively influence the outcome of the intelligence effort. In fact, as FM 100-5 (Operations) plainly states: in planning - "the commander drives the intelligence effort".[70]

The tactical commander must develop an expertise concerning the MDMP. Although supported by a dedicated intelligence staff, it is the commander who provides direction to their efforts. To gain the information he needs, he must have a clear understanding of the problem to be solved. If he does not, he must convey his information shortfalls clearly to the staff and ensure that they have the time and assets to gather what he needs.

In the future, the commander's intelligence staff will have less direct access to resources for collection operations. INTEL XXI envisions collection capabilities resident predominantly at echelons apart from the tactical level. Rapid deployment operations may not even allow the commander to employ assets he does possess. The commander must therefore clearly articulate what he needs to know and when he needs to know it early in the planning process. His ability to convey these requirements will influence the employment of collection assets at higher levels and the affect the quality of the information returned.

When support from dedicated assets is indicated, apportionment will again be governed by the commander's competence. Scarce resources demand that they be employed where most critically needed. The timing and precision to

which the commander is able to ascertain what he needs will determine what he receives. Gone are the days when the commander could "saturate" his area of operations with collection assets. His requests and subsequent employment of forces must be marked with precision.

Vital to the commander's understanding of a tactical problem is his ability to "visualize" the battlefield, or gain, as Clausewitz termed, "a sense of locality"[71]. This is accomplished through effective Intelligence Preparation of the Battlefield (IPB).[72] Although closely related to the MDMP, the products of the IPB process are so critical to the commander's decision-making and subsequent staff planning that it is a distinct function.[73] The IPB is the centerpiece of intelligence doctrine.[74]

During the IPB, enemy forces and doctrine are analyzed in relation to a given battlefield environment. The impact of weather and terrain are examined. The IPB seeks to determine enemy missions and intents. The IPB culminates with a posit of the most probable action an enemy will pursue.[75] As with MDMP, the IPB process is not altered by INTEL XXI.

The IPB is an intensive study used to analyze, visualize, and detail the battlefield. It can be applied in many different directions depending upon the needs of the commander. In order for the IPB to focus on those issues most essential to decision-making, again the commander must provide clear, concise guidance. While the process further identifies information requirements and may generate collection tasks, the primary focus of IPB is the analysis of information collected, regardless of the source. The source of the information is of

secondary importance to the analysis process and the resulting intelligence products. The value of the IPB is gauged by the useful intelligence products it can produce prior to the commander making a decision. Properly executed, it allows the commander to make decisions faster than the enemy. Effective evaluation by the intelligence staff requires that the commander communicate those types of information he needs most in order to make crucial decisions. Only the commander can provide these instructions.

The commander communicates these intelligence needs through arguably his most potent planning instrument: the Commander's Critical Information Requirements (CCIR).[76] Within these CCIR, the commander highlights his most urgent demands by specifying Priority Intelligence Requirements (PIR).[77] PIR notifies the staff what information the commander needs, why he wants it, in what format he needs it, and when the information is required. These PIR serve to concentrate the intelligence effort throughout the remainder of the MDMP, as well as, during execution of the operation. PIR is decision-oriented. Based upon these PIR, collection assets are employed as higher echelons are notified of critical information voids and are able to adjust collection management accordingly.[78]

Tactical commanders must accept their responsibility in providing PIR. While existing doctrinal manuals may alternatively confer the responsibility for PIR development to the intelligence staff[79], it is a command obligation. Explicit and well-thought PIR ensures the commander receives the information he requires and economizes the intelligence force. Effectively used, PIR "asks only

one question, focuses on a specific fact, event, or activity, and provides the intelligence to support a single decision".[80] Poorly worded, unclear, and generalized PIR wastes resources and does not allow the collection and analysis effort to concentrate on those decisions the commander must make.[81]

The nature of rapid deployment operations has not changed the criticality of tactical intelligence; the MI principles continue to support the commander's decision cycle. However, these operations will change the environment in which these decision are made. In the future, the commander will have less time to provide direction and make essential decisions. Timely "IPB takes on an increased importance, in a power projection army".[82] The traditionally autonomous, time-consuming IPB may prove inadequate[83] and must be reexamined; superseded with one more reliant and confident of non-assigned resources. Dependent upon external assets, the commander must provide this direction sooner than in the past.[84] The commander's guidance and intent will generate information requirements which require answers often before he enters the theater of operations and must therefore be clearer and more directive.

The purpose of the tactical intelligence functions can be distilled to the requirement to answer Commander's Critical Information Requirements.[85] Changes to information collection and dissemination methods require the commander to gain a deeper understanding of internal and external intelligence functions. His ability to gain the information he needs will be more dependent upon his knowledge of processes than of physical collection systems. Success will only be achieved if the commander's ability to leverage external support and

expertly manage internal staff processes exceeds the demands new environments place upon him. These new requirements will require the commander to relook how he defines his leadership role. The future tactical commander must be a leader who manages systems and processes as much as he is a leader of soldiers.

Section 5 - Leadership

> *"Digital technology has a lot to offer, but don't be fooled. A video image of a place, or an organization can never substitute for the leader's getting down on the ground with the soldiers to find out what's going on. Technology can provide a great deal of information, but it may not present a completely accurate picture. The only way leaders can see the urgency in the faces of their soldiers is to get out and see them. As with any new weapon, the Army leader must know how to use technology without being seduced by it. Technology may be invaluable; however, effective leaders understand its limits."*[86]

The above quote from the Army's most recent leadership manual reveals a realm for which the tactical commander must be wary in order to successfully employ INTEL XXI assets. While this contemporary publication places appropriate emphasis on the importance of the human (soldier) aspects of leadership, it does so to the near exclusion and detriment of other considerations. The criticality of proper leadership in the training, mentoring, and care of soldiers cannot be denied, but the veiled suspicion of technology that this (above) type of statement conveys will serve to undermine the foundation upon which Force XXI and INTEL XXI are based.

Battle Command describes the art of influencing and motivating soldiers, command, and balanced decision-making.[87] Traditional leadership education focuses on leader-soldier interaction. However, Force XXI organizational designs recognize that "future technology will require the Army to reassess time-honored means of battle command... [resulting in the] coexistence of both hierarchical and internetted, nonhierarchical processes. Order will be less physically imposed than knowledge imposed."[88]

Current doctrine prescribes that a commander be provided the assets he needs to accomplish the missions assigned by higher echelons.[89] Until recently,

this has meant that the commander was given missions for which he usually possessed the physical means to accomplish. This resulted in a "organizational bias"[90] wherein given a particular mission, the commander had a reasonable expectation of determining how his intelligence force would be structured. The assets provided for his use predicably took the form of soldiers and equipment of which he was familiar. Leadership was defined by the commander's recurring influence upon these human and mechanical resources with whom he established a habitual relationship. This is known as "personal leadership".

INTEL XXI collection management challenges this paradigm. With the majority of intelligence soldiers and equipment resident outside the tactical domain, the commander may receive only the minimal "push" of resources deemed absolutely necessary; assets which must be returned to originating units after the task is complete. In such cases the leader may not be given authority to control collection activities beyond ensuring the security and safety of his own soldiers. His leadership role is one of coordination. This can be termed as "leadership through management".

In other situations, assets will be manifested solely through a specified relationship with a supporting intelligence force headquarters. The resources given to the tactical commander will essentially be the effects or end products of an independently acting force - a force over which the commander has no visibility or control.

Direct control is accomplished through personal leadership. While the term *management* is conspicuously absent from the Army leadership manual[91], it

is generally accepted that a present-day leader must possess a degree of managerial proficiency in order to oversee assets outside of his domain. But what is the commander to do regarding the regulation of *effects*?

The modularity of the INTEL XXI "push-pull" system will change the way the commander must look at Battle Command and the way he leads.[92] While he may be loathe to redefine leadership in such terms, Force XXI proposes that effective transference of information will be a hallmark of good leadership.[93] The efficiency by which a commander leads his substantive force must be equaled by his ability to leverage outlying effects.

The tactical leader must have the same confidence and expertise in serving this new unconventional model as he has for more customary ways. This facility originates with the commander's competence in accurately determining the effects he needs combined with the expertise to communicate these requirements. All the while, his expectations must be moderated by a realization of the limitations within the force. His presumptions should be as realistic as they are discerning. This will require a in-depth knowledge of the INTEL XXI structure and functions, both within and outside his command.

Recent advents in information technologies and access may persuade a future commander to demand flawless intelligence. However, the leader must not assume that emerging technologies will perfect intelligence forecasting.[94] Unlike more quantifiable domains, such as logistics or communications, information analysis will remain an art. No amount of computing power or electronic gadgetry can predict the actions of a free-thinking adversary. The

speed and accuracy of information flow will continue to improve, but the accuracy of the intelligence forecast will remain in the hands of an analysts - a soldier.

Current doctrinal publications tend to overemphasize the "predictive nature" of the IPB. While the end product is to assume what course the enemy will take, it must be viewed for what it is - a projection. Even given unlimited time and access to innumerable information sources, the intelligence analyst can at best produce is a speculative assumption as to what an enemy force will do. The commander must accept MI operations for the evaluative function that they are, and assume the leadership responsibility for drawing final tactical conclusions.

Conversely, the leader must maintain a sense of patience as INTEL XXI precepts are examined. Experimentation will be necessary and will prove frustrating in the near term. Recent Army Warfighting Experiments (AWE) at the National Training Center (NTC) have not been entirely successful.[95] New systems and techniques must be given the opportunity for trial and test. They will meet with varying degrees of success; along with varying degrees of disappointment for the supported tactical commanders. These emerging "digital duties" are as foreign to the intelligence specialists as they are to their commanders. Tactical commanders must be allow the developing MI support force a degree of impunity if they are to learn and develop.

With information management emerging as a dominant force within the tactical setting, leaders must reevaluate their proper place on the battlefield.[96]

Typically the tactical commander could place himself at or near the front lines. Access to non-organic and higher echelon resources will require the leader to relocate near information nodes, i.e. his headquarters. The technology required to receive and process intelligence is extremely vulnerable to enemy attack and may not be able to travel to the forward lines. Future leaders must be able to balance the requirement for crucial information with the need to get close to the soldiers and the fighting.

Leaders must accept the limitations the leaner tactical MI structure will impose and assume the responsibility to accurately convey information requirements. Fewer assets will demand a closer link and dependance on adjacent and higher echelons. Commanders must develop the ability to communicate the effects they require, not the soldiers or equipment they want. Objectivity will ensure that adequate intelligence support is received, without excessively tying up assets needed by fellow commanders. The skill to formulate and process such requests will demand a greater degree of foresight and intellectual honesty.

While the responsibility for INTEL XXI rests with the MI ICT (Integrated Concept Team), the tactical commander must become familiar with new and proposed systems. The intelligence community will be able to properly support the tactical leader only if he is willing to provide appropriate guidance and feedback during its development. This responsibility does not rest with the intelligence supporters, it is a leader obligation.

Tactical commanders must come to accept that Force/INTEL XXI will

mark a change in the dynamics of the tactical battlefield and that Battle Command will "shift in focus from the positioning of forces to the art of orchestrating the effects of those forces".[97] A leader's awareness of the tactical battlefield will require a "visibility [and understanding] of the status and location of... [intelligence] assets horizontally and vertically so that efficient coordination and synchronization can be achieved".[98] In this environment, the leader will become more dependent on his MI staff. While he does not have control over the availability and organization of supporting collection resources, his input regarding the composition of intelligence staffs will be vital.

Section 6 - Organization and Manning

"We know more, but this makes us more, not less, uncertain."
Clausewitz[99]

INTEL XXI is still in the developmental phase. While the final force structure cannot be determined at this time, it will undoubtedly follow the Force XXI tenets of modularity, scalability, and tailorability.[100] The most dramatic changes will be evident in the echelonment (separation) of collection and analysis capability. This section explores the impact of future organizational trends for these two intelligence functions.

As *collection* activities are necessary, they are merely the means by which information is gathered for the more critical task of *analysis.* Properly focused collection is best performed by the most capable and ready force, regardless of where it is located. Whereas separation between the collection force and the unit it serves is acceptable, and often desirable, such does not follow for the analysis effort. While Army and military intelligence doctrine do not mandate that particular collection systems reside within each echelon, it does, however, specify that each headquarters (battalion and above) be capable of receiving information, conducting unit specific analysis, and disseminating tailored intelligence products.

Collection units of the future will be assigned based upon effects and need rather than more traditional, common architectures. Moreover, common (standardized) organizational structures undermine those very principles of Force XXI designed to ensure economy of force and effort. In fact, recent literature has

even proposed that these collection forces can and should be removed from the tactical (division and below) level altogether.[101] There will be no typical configuration. With ever-dwindling resources "the quantity and variety of... systems would seem excessive if the systems were equally distributed across all [echelons]... using a common organizational structure. Therefore, they ... [will] be authorized to organizations according to specific requirements within a given region and mission."[102]

INTEL XXI forecasts an "open architecture"[103] which will provide the Army "with tailorable, multi-spectral collection capabilities to deal with emerging capabilities and technologies".[104] Most collection assets will be consolidated at corps-level and above. The strength of the new design will reside in its ability to "surg(e) support between the operational and tactical levels".[105]

The types of intelligence collection systems and units the tactical commander is likely to encounter will differ little in appearance from what exists today. However, there will be dramatic changes to the amount and frequency to which he typically applies them. Section 2 alluded to the concern that, lacking dedicated assets at the tactical level, commanders may receive inadequate support. In order to serve many tactical commanders, collections requirements will be managed using a method known as "dynamic retasking".[106]

Based upon mission requirements, the controlling MI headquarters "will either put requisite capabilities resident at ECB or have the ability to push capabilities to the lowest tactical level from the operational level".[107] Dynamic retasking allows collection assets to receive additional tasks or be redirected to

other areas and missions as priorities change. Commanders will receive assets based upon the overall criticality of the request. An asset might conduct additional collection in its operating area or its mission might be canceled in lieu of more pressing requirements. Likewise, assets may be recalled from areas in which they are being employed below their fullest capability. In doing so, collection management at higher echelons can monitor and maximize economy of force and effort.

New and emerging technologies will allow tactical level headquarters to forward requests for information and intelligence to higher level echelons where the actual tasking of collection forces will be accomplished. Additionally, through analysis of these requests asset managers will be more able to anticipate future information requirements and begin collection or "push" assets down to where they might be needed.

Controlling collection assets will take on lesser importance within tactical units. For the tactical commander the mark of intelligence effectiveness will be the ability to receive data, the quality of the analysis conducted, and the ability to get the product to the right consumer. Collection will become a sometimes employed capability, not the ends for the tactical MI force. With an intelligence support staff properly focused on the information the commander has identified to make decisions, where the information is generated or collected will become immaterial. This new environment will alter the organizational dynamic for tactical intelligence forces.

This new paradigm will change the focus of tactical MI activities from the

traditional intelligence cycle of directing assets / collecting and sorting data / conducting analysis / and disseminate intelligence products, to receive and sort information "pushes" / conduct analysis / and disseminate products. To a much lesser degree will tactical units be required to continually employ and sustain collection units and soldiers. These tasks will be handled by the higher echelons where these forces are assigned.

The amount of information passed through new skip echelon and broadcast intelligence means will increase. The advent of intelligence processors distributed throughout the battlefield, as well as, the internetted capability of units will increase traffic exponentially. The expansion of available data will require increased ability to cull through information (often from unknown sources), determine reliability and applicability, and analyze it for the specific needs of the unit. While the intent and guidance of the commander will serve to aid in sorting through the increased data, the tactical intelligence staff will require additional analytical skill.

This new mode will in one regard lessen the tactical MI workload. Intelligence staffs will receive information primarily through electronic media. To take the tactical intelligence force in this direction, new organizations for analysis are being developed. The intelligence force which supports the division, formerly CEWI battalion (refer to section 2), is changing its focus toward better support of analysis.[108] MI companies of the CEWI battalion are shifting their role away from solely directing employment and sustainment of collection assets. A new analysis element, the ACT (Analysis and Control Team), has been established

within tactical MI companies to serve as an agent for assembling information and conducting analysis for brigades and battalions.[109] While still responsible for supporting whatever minimal collection forces might remain at the tactical level[110], new and emerging lines of communications will link the MI company to assets and echelons up to and including national sources. Within the divisions and corps, tailorable intelligence support elements (DISE-Division Intelligence Support Element and CMISE-Corps Military Intelligence Support Elements) are being developed. Similarly, these units' primary focus will be to receive information produced by outside sources and conduct analysis directed to the tactical commander's decision-making.[111]

In the future the tactical force may receive collection support from a single individual with electronic connectivity to higher echelon sources and data. New technologies are being tried to electronically and automatically sort through this information. However, the majority of this task must still be accomplished by the tactical commander's intelligence staff. New analytical requirements will place a greater intellectual burden on this intelligence staff. A clearer vision of what the commander needs will be required to sort through these new and abundant information sources. The increased speeds at which information is transferred will increase stress for the analyst. Availability of information may prove as great a challenge as it is a benefit. Intelligence analysts may quickly become overburdened within this information overload.

Recent experiments at the National Training Center have demonstrated that the current manning structure is encountering such difficulties as described

above. Junior intelligence officers (usually with less than 5 years of experience[112]) still man the intelligence officer positions within brigades and battalions. Their experience level tends to impede their ability to effectively manage this vast increase in information. As one MI company officer stated: "We soon realized that this was an extraordinary amount of information and we were not able to properly manage all the data."[113] While emergent technologies may alleviate certain overload problems, they cannot overcome the inexperience of these analysts.

Although the tactical commander may be unable to predict what collection assets he will receive, to effectively employ the INTEL XXI concept, he must now identify the requirements for his tactical intelligence staffs. "The [current] grade structure... does not support timely, accurate intelligence production and dissemination. The soldiers lack the experience and training . . . They do not have the data base of knowledge and experience to work through complicated intelligence problems."[114] To overcome this, commanders will require a more experienced staff, greater numbers of analysts, or both. To assume that the current skills of junior intelligence analysts will be sufficient in the future would be mistaken.

Under the current MI structure, soldiers and officers usually begin their career at the lower tactical levels, progressing to higher echelons as they become more senior and experienced. Under the new paradigm, greater analytical skill must be resident at the tactical level. This means that the MI community must in essence reverse the current course of career progression.

To an even greater extent, the requirement for timely analysis and dissemination at the tactical level will only increase within the rapid deployment force. The ability to receive information quickly and draw proper conclusions the first time will require analysts with more experience.

As the commandeer is required to determine what he needs in a more timely manner, the intelligence staff will be required to more clearly articulate what the commander needs. They must also be more skilled in the ways and means for seeking out this information. These additional skills can only be developed with experience. The commander's confidence in this new manner only increases through exposure. This exposure will increase his trust in electronic connectivity as the primary means for information gathering.

With this new force, where collection and analysis functions are delineated through different echelons, the old paradigm for increasing proficiency through traditional, habitual contact will no longer exist. It would appear difficult to gain the necessary experience and exposure under this new structure. However, the very technologies which make the upward migration and connectivity of collection assets possible, opens new avenues for gaining experience and exposure. Technology will pave the way for new paradigms in training.

Section 7 - Training

The dramatic proposals for Force XXI organizations will result in significant changes to the way in which tactical commanders train soldiers, specifically their intelligence force. Current training manuals stress the singular importance of training as a "combined arms team".[115] That is, training events are executed to simultaneously employ the many branches (infantry, armor, intelligence, ...) and soldiers as they would be for actual operational situations. However, the force structuring and modularity of Force XXI and INTEL XXI pose a challenge to the tactical commander. How is the tactical commander to train an intelligence force of which the majority resides outside his command and authority and whose composition is dependent upon the situational assessment of a higher headquarters? Herein lies a reversal in which the tactical commander must retrain himself and his staff to gain proficiency in managing effects, rather than physical assets.

Training designs are typically developed wherein a commander assesses the skills his soldiers are most in need of training. This process, therefore, begins with a capability assessment of the forces assigned to the unit. The force projection design of Force XXI requires a rethinking of this model. In the future, the point of departure for tactical training must begin with the mission. Assessment of this mission will determine what forces will be needed to accomplish the required tasks. Only then can a properly organized and resourced force be determined. Assessment of this force, as determined by mission requirements, will guide training requirements.

As previously stated, the quality of future tactical intelligence operations will be moreoverly judged by the ability to access and analyze information rather than the employment of collection capabilities. The tactical commander must therefore redirect the training program for his permanent intelligence force, namely analysts and system operators, to this end.

No training scenario can be developed to fully replicate a wartime environment. Training events are typically limited to using US soldiers and equipment to replicate enemy forces. For combat arms units, this provides the benefit of allowing units to face "opponents" with capabilities usually far greater than would be seen in actual conflict. This environment prepares the maneuver arms to practice against forces with the most advanced weapon systems and tactics, namely US.

For the intelligence force, however, this poses a unique challenge. US intelligence collection equipment is not designed to be employed against our own forces. Additionally, these soldiers gain little benefit from training to analyze units and equipment of which they are thoroughly familiar. They can only be trained if matched against an "enemy" which uses different and uncertain means to move, communicate, and fight. So while training events tend to maximize maneuver (combat arms) training, the wide variety of intelligence systems and soldiers, ranging from signal collection nodes to linguists and electronic warfare specialists to interrogators, remains largely underemployed and unchallenged.[116]

With the migration of collection assets to higher echelons, the special skills training required by these intelligence operators can be consolidated and

training can be designed to focus on those particular skills. For the tactical commander, this move will eliminate intelligence training requirements for which he was ill-suited, at best, to develop.[117] What remains for the tactical commander is the responsibility to train the resident tactical analysts and staff.

The tactical intelligence force of the future will become more dependent upon new and emerging information and information technologies than ever before. These very technologies which have brought about this dramatic restructuring of the intelligence force, will usher in a training capability not previously realized. As mentioned, technologies have allowed upward migration of collection capability and connectivity, and it is these very same technologies which possess the ability to routinely and effectively train the tactical intelligence force. New and evolving technologies will allow this to be accomplished through the use of simulations.

While the use of simulations is often seen as a less than optimal method for training combat arms units, it is perfectly suited for future tactical intelligence forces. Because the tactical intelligence function will be primarily the manipulation of information and information systems, intelligence training through simulations can be conducted as part of or independently from maneuver training. Electronic simulations will allow tactical intelligence operators to practice access, analysis, and dissemination through the very systems within their organizations.

Technological mediums allow tactical intelligence forces to electronically link to higher echelons. Entire intelligence training events can be developed

which require minimal employment of other forces. The difference between these training events and actual combat employment should be negligible.

Simulations of this sort are currently employed at the Army's training centers. Units undergoing training relay intelligence requests to notional "higher headquarters". The training center staff then uses simulations to generate responses bases upon the quality, specificity, and practicality of these requests. Intelligence products are electronically transmitted back to the requesting units. Through this electronic interaction, units receive feedback as to the proficiency of the commander and intelligence staff. Expanding this simulation environment will allow this training to occur at all tactical levels throughout the Army.[118]

The acceptance and use of simulations will take on a more prominent role in future tactical training. This will be of enduring benefit to the commander as he learns to manage effects rather than assets. Through simulation, the commander can practice his art of providing direction to his intelligence staff. The commander can experiment with differing means for communicating his requirements. Based upon his guidance, priority requirements can be analyzed and conveyed to higher echelons. These requirements can then be translated into "action", with the results relayed back to the commander. With feedback, the commander can determine which methods most effectively achieved the results he sought.

Concurrently, headquarters charged with managing subordinate unit information requests can receive training in assessment and prioritization. Asset management elements could simulate tasking collection headquarters.

Collection units would then simulate employing assets to gather the required information. The accuracy of each of these headquarters actions could then be run back through the simulation to determine the effectiveness of the entire system. Interactive after action reviews would provide the basis for measuring successes and identifying areas needing further training. Altogether, this interaction increases the familiarity and efficiency of the system.

In that the equipment needed for such simulations based-training would be the same as would be employed for actual operations, the medium of electronic simulations will allow such training to be accomplished on a routine and habitual basis. The skills gained through repetition of electronic effects generation will take the place of traditional, face-to-face combined arms training. Additionally, as commanders and asset managers at higher echelons gain proficiency, tactical commanders will likewise gain confidence in these new, unfamiliar systems and this mode of operation.[119]

Simulations will not be able to provide for all intelligence training. Tactical units must still train with collection forces which might be "pushed down" depending upon a given situation. However, these collection units can still train with their tactical counterparts aside from field training. The headquarters of these collection units could link into tactical intelligence training simulations. Based upon tactical intelligence requests, as processed and tasked through the higher echelons, collection forces would produce practice employment instructions. These instructions could then be used as the basis for future field exercises.

Simulations have the added benefit in that they can be easily tailored to the particular needs of the commander and staff. If a commander wished train in a time-constrained environment, the simulation could be sped up. If the effects of battle damage to collection equipment was to be investigated, asset managers would simply remove their effects from the system. If request management needed training, a unit might access a timed database where information requirements are received in a random order, requiring the staff to prioritize and develop taskings. If system operator skills needed evaluation, a routinized module could be accessed which tested such tasks. As analytical skills needed refinement, programmed information of varying quality would be evaluated. The possibilities are nearly endless.

Simulations will also provide benefits to real world operations. As differing scenarios are trained and tested, process databases can be constructed. At the tactical level, the commander and his intelligence staff might maintain a database of the most effective formats used for a particular information need. By accessing the various intelligence levels during simulations, records would be maintained outlining the most responsive sources for specific requests. As higher echelon asset management elements train through simulations, continuity and standardized operating procedures would be developed for incorporation into real world systems. Collection units could learn through simulations the various command relationships which might be employed based upon particular tactical situations. In each case, such databases serve to increase the effectiveness and responsiveness of the entire system in time of crisis, and as

the genesis of remedial field training exercises.

With simulations, the tactical intelligence staff can conduct training year-round in almost any environment. By gaining the skills simulations afford in garrison, more time could be devoted to those events which can only be executed in a field environment. As specialized system and process skills are trained prior to going to the field, the intelligence staff would devote more time to common tasks such as security, camouflage, survivability, and debriefing. Time gained could be used to train combat arms soldiers and units to serve as auxiliary collection means.[120] These skills could then be incorporated into an intelligence system with which the staff was already familiar.

As information is gained through simulations, this electronic information can be integrated into not only more effective simulations, but into the actual intelligence force itself. System requirements discovered through the simulated environment can be incorporated into future system fieldings. Additionally, as technology continues to develop, new means for conveying and analyzing requirements can be rapidly tested through systems simulations.

The effectiveness of the INTEL XXI force will be judged by its ability to answer intelligence needs the commander requires to make decisions, and by the commander's familiarity with the systems. With little time required to train and maintain collection assets, repetitious training with intelligence simulations will provide the commander and his staff the necessary skills and confidence to accomplish the required tactical intelligence skills - access, analysis, and dissemination. Special collection skills will be trained at appropriate levels where

these tasks can be properly resourced and trained. Databases for specific threats will be maintained at the national level, while tactical units focus and refine their ability to maximize information access.[121]

Conclusion

Without a doubt, the changing dynamics of the world political and technological environment will have profound effects on the manner in which tactical commanders train and employ their intelligence forces. Although perhaps misdirected in previous efforts to provide support at this echelon, INTEL XXI forces are being organized and equipped to shape the intelligence battlefield in support of Force XXI. Although orchestrated from within the military intelligence community, the success of these future ventures will depend equally on the foresight and efforts of tactical commanders.

While the overt employment of intelligence collection is scheduled for substantial revision, tactical commanders must not over-react, either positively or negatively, to proposed force structure changes. As tactics, techniques, and procedures are developed and evolve, the basic intelligence doctrine remains virtually unchanged. The criticality of intelligence needs at the tactical level has not diminished, nor has the alteration of the intelligence force made analysis a simple, automatic function. Although collection operations will exercise an unprecedented degree of responsiveness and economy of force, analysis will remain an arduous, mentally intensive task. No amount of technology can ease this responsibility.

Tactical commanders must be willing to adapt their notions of leadership and command. Appropriate confidence must be developed and sustained for forces at all echelons under various means of command and control. Management of information and effects must be seen as coequal to traditional

direct leadership. These dynamics must be accepted as additions to command responsibility, rather than reluctantly taken as deficient replacements.

Together, commanders and the MI community must relook manning requirements at all the various levels. Junior officers and analysts should begin their careers at higher echelons, from whence collection assets are deployed. Here they can gain the experience necessary to master equipment capabilities and all aspects of where, how, and why collection activities are conducted. As they develop system employment skills, they can then migrate to lower echelon assignments where the need for system proficiency is replaced by the requirement for analytical expertise.

The force projection army of tomorrow will be reliant on distant and often unidentified intelligence collection resources. While these forces may be rarely if ever seen, the tactical commander and his supporting staff of analysts will receive more than adequate support once they master the art of leveraging intelligence effects rather than regulating physical forces. Clear articulation of information requirements and a fully developed skill to access the emerging sources of information will be paramount.

Entrenched biases against "high-tech" approaches to training must be abandoned. Simulations must be accepted as training multipliers of the future. Old-style intelligence training techniques are not longer applicable on the modern technological battlefield. Commanders must be willing to venture into new domains of training, unlike any used in the past, in order to maximize the effectiveness of their forces.

Whether the changes encompassed within the INTEL XXI concept actually signal a revolution in military affairs could be debated. Many changes have been ventured and put to trial in the past. Perhaps this revolution will be gauged not by the extent of the proposals, but rather by the degree to which commanders and intelligence operators and analysts maximize the potential of these evolving concepts.

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43. Thomas R. Wilson. "Joint Intelligence and UPHOLD DEMOCRACY." Joint Forces Quarterly (Spring 1995): p. 56-57.

44. author's note.

45. FM 34-1, 1-2.

46. TRADOC Pam 525-75, 1-4.

47. Ibid., 1-1.

48. Ibid., 1-2.

49. Ibid., 1-1.

50. Ibid.

51. Ibid.

52. "White Paper, Army CI/HUMINT", 3.

53. John R. Bondanella, et al. Estimating the Army's Intelligence Requirements and Capabilities for 1997-2001. Santa Monica, CA: RAND, 1993, xxxvi.

54. TRADOC Pam 525-75, 2-15.

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60. "White Paper, Army CI/HUMINT", 5.

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62. Grimsley, 5.

63. "White Paper, Army CI/HUMINT", 3 & 4.
Project the Force; Protect the Force; Gain Information Dominance; Shape the Battlespace; Decisive Operations; and, Transition to Future Operations.

64. Ibid., 11.

65. Ibid., 19.

66. Cesar, 2-1.

67. TRADOC Pamphlet 525-75, 11.

68. Hunter, 38.

69. Donald McLachlan, "Intelligence: The Common Denominator/ I&II," The Fourth Dimension of Warfare, Volume I, ed. Michael Elliott-Bateman, (New York: Praeger Publishers, 1970), 30.

70. Department of the Army, Operations, FM 100-5 (Washington, DC: US Government Printing Office, 14 June 1993), 1-4.

71. Carl von Clausewtz, On War, ed. Michael Howard and Peter Paret , (Princeton: Princeton University Press, 1976) 109.

72. FM 34-130, 1-1.
defining the battlefield environment, describing the battlefield effects, evaluating the threat, determining threat courses of action.

73. Ibid., 1-13.

74. FM 34-1, 1-1; and
Russell H. Thaden, "Intelligence Preparation of the Battlefield and Predictive Intelligence." (MMAS monograph, School of Advanced Military Studies, Fort Leavenworth, 1986.), 1.

75. FM 34-130, 4-30.

76. Department of the Army, Operational Terms and Graphics, FM 101-5-1 (Washington, DC: US Government Printing Office, 30 September 1997), 1-34.
Commander's Critical Information Requirements (CCIR): Information required by the commander that directly affects his decisions and dictates the successful execution of operational or tactical operations.

77. FM 101-5-1, 1-124.
Priority Intelligence Requirements (PIR): Those intelligence requirements for which a commander has an anticipated and stated priority in his task of planning and decisionmaking.

78. Franz, 17 & 18.

79. John F. Lady, "Directing Intelligence Operations I: 'To Link or Not Link' PIR." Military Intelligence 21, no. 2, (Fort Huachuca: U.S. Army Intelligence Center and School, July-September 1995.) 6-8.

80. FM 34-1, D-1 & D-2.

81. Franz, 17-18.

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84. Grimsley, 3.

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87. TRADOC Pamphlet 525-5, 3-3 & 3-4.

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89. Cesar, cover.

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97. Ibid., 3-3 & 3-4.

98. TRADOC Pamphlet 525-75, 14.

99. Clausewitz, 102.

100. FM 34-1, 1-13 & TRADOC Pamphlet 525-75, 2-5.

101. David, 5-8, 44.

102. Bondanella, xxi.

103. TRADOC Pamphlet 525-75, 2-16.

104. Ibid., 2-2.

105. "White Paper, Army CI/HUMINT", 7.

106. TRADOC Pamphlet 525-75, 2-15.

107. "White Paper, Army CI/HUMINT", 25.

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110. Ibid., 20-21.

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112. Manki, 23.

113. Lloyd J. Bell, Jr., et al, "The New DS MI Company: Applying Technology to Defeat the Enemy." Military Intelligence, (October-December 1997): 46.

114. Manki, 23.

115. FM 25-101, 1-2.

116. "White Paper, Army CI/HUMINT XXI", 9.

117. Ibid., 23-25.

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121. Mahoney, Glossary - provides an in-depth Glossary of simulation programs and equipment currently available within the US Army and Marine Corps.

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