UNDERSTANDING FIRST IN THE CONTEMPORARY OPERATIONAL ENVIRONMENT

A Monograph

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The United States Army has predicated its ability to dominate the full spectrum of military operations on the ability to "See First, Understand First, Act First and Finish Decisively." During recent operations, including Operation DESERT STORM and the major combat operations phase of Operation IRAQI FREEDOM, the U.S. Army has demonstrated an unmatched capability to combine advanced technology with superior training, leadership, organization and planning. The U.S. military's preeminence in conventional warfare has forced potential adversaries to adapt their approach to warfare if they are to succeed against U.S. forces. The result is the contemporary operational environment (COE), such as the U.S. Army and its joint and coalition partners face in Operation IRAQI FREEDOM today. This environment is characterized by complexity, ambiguity, dynamism and uncertainty. The enemy takes full advantage of such an environment in order to exploit the asymmetric opportunities inherent in the COE and to obviate the conventional strengths of the U.S. military. In such an environment, success for the U.S. Army hinges on its ability to *understand first*. At issue is whether the U.S. Army's current approach to *understanding first*, developed to support situational understanding during conventional warfare, is effective in the COE.

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ABSTRACT

UNDERSTANDING FIRST IN THE CONTEMPORARY OPERATIONAL ENVIRONMENT by MAJ William D. Conner, US Army, 68 pages.

The United States Army has predicated its ability to dominate the full spectrum of military operations on the ability to "See First, Understand First, Act First and Finish Decisively." During recent conventional operations, including Operation DESERT STORM and the major combat operations phase of Operation IRAQI FREEDOM, the U.S. Army has demonstrated an unmatched capability to combine advanced technology with superior training, leadership, organization and planning. The result is that the U.S. Army currently and for the foreseeable future enjoys an unassailable tactical overmatch against any conventional threat. The U.S. military's preeminence has, in effect, forced potential adversaries to adapt their approach to warfare if they are to succeed against U.S. forces. The result is the contemporary operational environment, such as the U.S. Army and its joint and coalition partners face in Operation IRAQI FREEDOM today. This environment is characterized by complexity, ambiguity, dynamism and uncertainty. The enemy takes full advantage of such an environment in order to exploit the asymmetric opportunities inherent in the COE and to obviate the conventional strengths of the U.S. military. It can be reasonably argued that in such an environment, success for the U.S. Army hinges on its ability to *understand first*. At issue is whether the U.S. Army's current approach to *understanding first*, developed to support situational understanding during conventional warfare, is effective in the COE. This study examines the concept of *understand first* and how this approach was applied to the major combat phase of Operation IRAQI FREEDOM. This study then examines whether this approach is proving effective in the COE as reflected in Iraq today and the implications for how the future force will *understand first* as recent combat experiences influence the U.S. Army's efforts at transformation. From this analysis, the study identifies areas in which the U.S. Army must change its approach to *understanding first* if it is to be effective in the COE.

TABLE OF CONTENTS

Page

ACRONYMS

AKM	Army Knowledge Management
AI	Actionable Intelligence
BFT	Blue Force Tracker
BLUEFOR	Blue Force
BOS	Battlefield Operating System
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CENTCOM	United States Central Command
CFLCC	Coalition Forces Land Component Command
CMTC	Combined Maneuver Training Center
COE	Contemporary Operational Environment
COG	Center of Gravity
COP	Common Operational Picture
CTC	Combined Training Center
DCGS-A	Distributed Common Ground System-Army
DIME	Diplomatic, Information, Military, and Economic
DOD	Department of Defense
EBO	Effects Based Operations
ELINT	Electronics Intelligence
ES2	Every Soldier a Sensor
FAO	Foreign Area Officer
FBCB2	Field Battle Command Brigade and Below
FM	Field Manual

GIG	Global Information Grid
GPS	Global Positioning System
GSR	Ground Surveillance Radar
GWOT	Global War on Terror
HUMINT	Human Intelligence
IBOS	Intelligence Battlefield Operating System
IC	Intelligence Community
IMINT	Imagery Intelligence
INSCOM	Intelligence and Security Command
ISR	Intelligence, Surveillance and Reconnaissance
IPB	Intelligence Preparation of the Battlefield
JFCOM	Joint Forces Command
JOE	Joint Operational Environment
JRTC	Joint Readiness Training Center
JSTARS	Joint Surveillance and Target Attack Radar System
MCO	Major Combat Operations
MDMP	Military Decision Making Process
MOE	Measure of Effectiveness
MSE	Mobile Subscriber Equipment
NATO	North Atlantic Treaty Organization
NCW	Network Centric Warfare
NGA	National Geospatial Intelligence Agency
NGO	Nongovernmental Organization
NTC	National Training Center
OEF	Operation Enduring Freedom

OIF	Operation Iraqi Freedom
ONA	Operational Net Assessment
ORHA	Office of Reconstruction and Humanitarian Assistance
OOTW	Operations Other than War
OPFOR	Opposing Force
PMESII	Politics, Military, Economics, Society, Information, Infrastructure
RPD	Recognition-Primed Decision
RPM	Recognition Planning Model
RTU	Red Team University
S2	Unit Intelligence Officer or section
SIGINT	Signals Intelligence
SOSO	Stability Operation and Support Operation
TRADOC	Training and Doctrine Command
TST	Time Sensitive Targeting
UAV	Unmanned Aerial Vehicle

CHAPTER 1

INTRODUCTION

The Future Force will "see first, *understand first*, act first and finish decisively at the strategic, operational and tactical levels of operation."[1] Given the overwhelming tactical and operational advantage the U.S. Army currently has over any likely foe, this seems not just reasonable, but almost a given in future operations. Indeed, this capability, captured in terms such as *situational dominance* must certainly fall within the current or anticipated capabilities the future force will employ to dominate the full spectrum of operations[2]. Yet, recent experiences in Operations IRAQI FREEDOM, ENDURING FREEDOM and the Global War on Terrorism have demonstrated that making this assumed advantage a reality is more difficult and elusive than had been believed.[3]

The challenge, these experiences seem to indicate, lies in the second stage of this process, *understand first.* In conventional warfare, the challenge has been in *seeing first*, detecting, identifying and tracking enemy units on the battlefield. Given an enemy that could be templated, *seeing* intuitively led to *understanding*. Today, however, the Army faces an operational environment whose complexity, dynamism and intransparency have severed the causal link between seeing and understanding. The Army developed its current approach to *understand first* under this belief that understanding is a natural and inerrant extension of the information gained

[1] United States Army White Paper "Concepts for the Objective Force" (Washington DC: Headquarters, Department of the Army), 4.

[2] Ibid.

[3] OPERATION IRAQI FREEDOM is the United States led coalition military operation to change the Iraqi regime of Saddam Hussein. It began on 19 March, 2003 and is ongoing as of the publication of this monograph. OPERATION ENDURING FREEDOM is the United States military operation to destroy terrorist training camps and infrastructure within Afghanistan, capture al Qaeda leaders, and force the cessation of terrorist activities in Afghanistan. It began on 07 October 2001 and is ongoing as of the publication of this monograph. The Global War on Terror is the ongoing United States led international response to the attacks of September 11, 2001 on the World Trade Center in New York, New York.

from *seeing first.* During operations in Iraq and Afghanistan, the situational understanding needed by commanders to make effective decisions has come only after considerable time and experience on the ground. This monograph will attempt to discover how the Army *understands first* in the Contemporary Operational Environment (COE) so commanders can make effective decisions.[4]

Before delving into how the Army approaches *understanding first*, it is necessary to examine the concept of *understand first*. How does *understanding first* contribute to the success of military operations, how does it support decision-making, and what its relevance will be for the future force as the Army transforms to meet the challenges of full spectrum operations in the contemporary operational environment?[5]

To determine what the concept *understand first* means to the Army, it is important to define the individual terms involved, *understand* and *first*. Interestingly, there is no Department of Defense (DOD) definition for the concept of *understand first* itself.[6] U.S. Army Field Manual (FM) 6-0 defines understanding, as part of the cognitive hierarchy, as "knowledge that has been synthesized and had judgment applied to it in a specific situation to comprehend the situation's inner relationships."[7] The cognitive hierarchy and its associated definitions are derived from the study of learning and education, which defines understanding as:

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[4] The term Contemporary Operational Environment is being replaced by the term Joint Operational Environment (JOE). However, the JOE doctrine is still in draft form and as such the term COE will be used throughout this monograph to reflect the current, effective doctrine.

[5] U.S. Army Field Manual (FM) 3-0 *Operations* (Washington DC: Headquarters, Department of the Army, 14 June 2001), 1-48. Full spectrum operations include offensive, defensive, stability, and support operations.

[6] "Concepts for the Objective Force," 7. Understand First is explained as: "The common operational picture (COP) produced by Seeing First provides an unprecedented opportunity to understand what the enemy is doing and better anticipate its intentions. As leaders at all levels observe this common picture, they simultaneously analyze and share assessments through a collaborative planning process enabled by information technologies. Objective Force commanders are able to leverage the intellect, experience, and tactical intuition of leaders at multiple levels in order to identify enemy centers of gravity (COGs) and conceptualize solutions, thus creating a collective genius through accelerated collaborative planning."

[7] U.S. Army Field Manual (FM) 6-0 *Mission Command: Command and Control of Army Forces*

> "Understanding is to have internalized and have control of what facts, details, and terms mean in the bigger picture; to be able to apply, integrate, manipulate, and adapt knowledge to new situations."[8]

Simply possessing information is thus not sufficient. Understanding signifies both the ability to accurately translate information into knowledge, as well as the ability to use this knowledge to inform reason and intellect to make effective decisions. The term f*irst* implies gaining understanding in a timely manner such that the knowledge provides an advantage or opportunity to its holder.

Given a definition of each of these two terms, what then, within the model of *See First, Understand First, Act First and Finish Decisively*, does *understand first* mean and what is its role in determining the success of military operations? *Understand first* is described as the opportunity provided by the Common Operating Picture (COP) produced by *seeing first* to understand what the enemy is doing and better anticipate its intentions.[9] While the term *understand first* has not been codified in doctrine, the ideas encompassed in this concept pervade both current and emerging operational thinking. The basic tenets of understanding first are encapsulated in such doctrinal concepts as *situational understanding*, *information superiority*, *knowledge dominance*, and *persistent knowledge*[10]. Regardless of moniker, the central idea is that for the Army to be successful across the full spectrum of operations, it must understand itself,

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(Washington DC: Headquarters, Department of the Army, 11 August 2003), B-1. The cognitive hierarchy defines four different levels of meaning: data, information, knowledge, and understanding.

[8] This definition is derived from the field of learning theory and is based in part on *Bloom's Taxonomy*, which identifies three learning domains: cognitive, affective and psychomotor. The cognitive domain comprises mental skills. In Bloom's Taxonomy, understanding would represent the highest level of the cognitive domain, termed Evaluation, in which a person is able to make judgments about the value of ideas or materials. Benjamin S. Bloom, Bertram B. Mesia, and David R. Krathwohl (1964). *Taxonomy of Educational Objectives* (two vols: The Affective Domain & The Cognitive Domain). New York. David McKay. http://www.tensigma.org/ and http://www.nwlink.com/~donclark/hrd/bloom.html Last accessed on November 22, 2004.

[9] FM 3-0 defines the Common Operational Picture (COP) as "an operational picture tailored to the user's requirements, based on common data and information shared by more than one command."

[10] Information superiority is defined as "That degree of dominance in the information domain which permits the conduct of operations without effective opposition." (DOD). Available online at http://www.dtic.mil/doctrine/jel/doddict Last accessed on 05 January 2005. The other terms, while appearing in existing doctrine and in concept papers, are not explicitly defined.

the enemy and the environment, in a manner that is timely and of sufficient fidelity to enable soldiers, staffs and commanders to make effective decisions.

While the need to *understand first* has always been the case to some extent, the lessons inculcated from years of training against a conventional, templated enemy at the Combat Training Centers (CTCs) have led the Army to believe it can adapt and overcome any deficiency in its knowledge about and understanding of its adversary. For the Army, engaged against an adaptive, resourceful and determined enemy in Iraq, Afghanistan and around the world, and for the future force, this perceived adroitness may not prove sufficient to the realities of the Joint Operational Environment. At a minimum, this approach would entail considerable risk, both to the force and to the mission.

Ultimately, what is at stake is initiative. It is a fundamental principle in current doctrine that the Army must dictate the terms of an operation.[11] Conducting rapid and decisive operations designed to dominate the battlespace across all dimensions to impose its will on the enemy and deny the enemy any opportunity to impose its own will upon the Army or the environment is the very heart and soul of how the Army organizes, trains, leads and fights. Gaining and maintaining the initiative will be of paramount importance for a future force that is expeditionary in nature and whose lethality and survivability will depend in large part on setting conditions amenable to its operations. Given the challenges inherent in today's operational environment and that of the future, the Army must *understand first* to ensure it holds the initiative early and throughout an operation.

Understanding first is certainly not a new idea. Military leaders throughout history have attempted to understand as much about a situation as possible before making a decision. The issue, then, is not whether the concept of *understanding first* is valid, but how the Army can effectively approach gaining a timely and sufficient understanding of the situation in the complex,

[11] FM 3-0, 7-2.

dynamic, asymmetric environment in which the Army is operating today and likely will in the future.[12]

The true challenge to understanding, in any situation, but especially in the COE, is that it be *timely* and *sufficient*. Ultimately, they provide the measures of effectiveness (MOE) for whatever approach the Army takes to *understanding first*. What the lessons of today's Army operations seem to indicate is that each of these measures presents a much greater challenge for the Army than our existing doctrinal approach was designed to meet. In terms of timeliness, the paradigm of alert, train, deploy allowed the force time to build an exhaustive knowledge base on the area of operations, the enemy, the environment, and the nature of the operations to be conducted.

OPERATION IRAQI FREEDOM (OIF) in particular offers a stark example. The United States (U.S.) fought Iraq twelve years earlier, and conducted military operations, such as PROVIDE COMFORT I and II, OPERATION SOUTHERN WATCH and OPERATION NORTHERN WATCH in and over Iraqi territory continually since the end of the war in 1991.[13] As a result, the Intelligence Community (IC) of the U.S. focused considerable energy and resources in maintaining situational understanding of Iraq. For its part, the Army had a running intelligence preparation of the battlefield (IPB) of Iraq for more than a decade.[14] Despite that

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[12] Steven Metz and Douglas V. Johnson II. *Asymmetry and U.S. Military Strategy: Definition, Background, and Strategic Concepts,"* (Carlisle, PA: U.S. Army War College, Strategic Studies Institute, January 2001), 36-37. Asymmetry is not defined in Army or Joint doctrine. For this monograph, the following definition provided by Metz and Johnson will be used: "Acting, organizing, and thinking differently than opponents in order to maximize one's own advantages, exploit an opponent's weaknesses, attain the initiative, or gain greater freedom of action. It can be political-strategic, military-strategic, operational, or a combination of these. It can entail different methods, technologies, values, organizations, time perspectives, or some combination of these. It can be short-term or long-term. It can be deliberate or by default. It can be discrete or pursued in conjunction with symmetric approaches. It can have both psychological and physical dimensions."

[13] For more information on these operations, see the United States Air Force Air University online at http://www.au.af.mil Last accessed on November 22, 2004.

[14] U.S. Army Field Manual 34-130 *Intelligence Preparation of the Battlefield* (Washington DC: Headquarters, Department of the Army, 08 July 1994), 1-1, Intelligence Preparation of the Battlefield (IPB) is a systematic, continuous process of analyzing the threat and environment in a specific geographic area. It

concerted effort, preparations for OIF it took an additional investment of seven months and nearly fifty million dollars for the Coalition Forces Land Component Command C-2 (Intelligence) to establish its structure and supporting architecture for the upcoming campaign in Iraq.[15] A modular Army, expected to execute expeditionary operations across the full spectrum of operations with little or no advance notice will simply not have this luxury of time and effort to develop an effective intelligence system to support the commander on the ground.

The operational environment an expeditionary force will deploy into also presents a tremendous challenge for the Army in achieving a *sufficient* level of understanding for the decision-maker, whether it be a commander, subordinate leader, or a "strategic corporal," to make the right decision at the right time.[16] Even in the case of OIF, with the tremendous time and energy dedicated to developing an accurate assessment of the fight in Iraq, there were serious shortcomings, if not outright failures, in the pre-war IPB.[17] The most notable of these mistakes were the lack of weapons of mass destruction, the tactics and ferocity of the Saddam Fedayeen, the rapid collapse of organized resistance in Baghdad, the total collapse of internal order and stability, and the emergence of an intransigent, sophisticated insurgency.[18] Many of the failures result from an insufficient understanding of the enemy, the population and the environment. Yet, despite these failures, the tactical and operational success of the perceived decisive operation was never at risk. This is not true, however, for the ensuing Stability Operation and Support

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is designed to support staff estimates and military decision-making.

[15] United States Army Intelligence Center and Fort Huachuca, *Intelligence Officer's Handbook,* (Washington DC: Headquarters, Department of the Army, 2004), 2-1.

[16] GEN Charles C. Krulak, "The Strategic Corporal: Leadership in the Three Block War," Marines Magazine (January 1999): 33-34. The term strategic corporal refers to the idea that the actions and decisions of soldiers at the lowest tactical level can cause strategic effects or repercussions, especially given the interconnectedness provide by modern media and technology.

[17] John Yaukey "Iraq Changes War-Making and Intelligence Gathering" USA Today March 10, 2004

[18] U.S. Army, Office of the Chief of Staff *On Point: US Army in Operation Iraqi Freedom* (Fort Leavenworth: Combat Studies Institute Press, 2003), 99. The Saddam Fedayeen was a paramilitary organization consisting of 20,000 – 30,000 irregular soldiers zealously committed to fighting and dying for Saddam Hussein.

Operation (SOSO) in Iraq.[19] Here, the failure to effectively *understand first* have brought the overall strategic success into question as leaders at every level have struggled to regain the initiative that can only result from effective decisions based on timely, sufficient and shared situational understanding.

If then, the purpose of *understanding first* is to inform the ability of a decision-maker to make the right decision at the right time, it is necessary to provide some insight into how decisions are actually made. For military decision-making, there are two primary decision-making models, analytic and intuitive.[20] In the analytic model, problems are broken down into subordinate elements where individuals apply their specialized expertise and experience to solving one aspect of the larger problem. The Army formalizes this in what it terms the Military Decision Making Process (MDMP). As the staff receives a mission or recognizes a problem, each Battlefield Operating System (BOS) representative acts as a subject matter expert to plan and synchronize the application of their functional area toward solving the problem. They also inform the commander of the concerns, opportunities, and vulnerabilities the problems presents to the unit from their BOS perspective. The goal of the analytic approach is to provide the decision-maker with an array of available courses of action, with a detailed examination indicating the optimal solution from among the provided options.

In contrast, the intuitive approach seeks to find an adequate solution, rather than the optimal one. Field Manual (FM) 6-0 defines intuitive decision-making as *"the act of reaching a conclusion which emphasizes pattern recognition based on knowledge, judgment, experience, education, intelligence, boldness, perception, and character."* [21] This approach is most often used in time-constrained environments. The decision-maker must form his own mental model of

[19] U.S. Army Field Manual 3-07 *Stability Operations and Support Operations* (Washington DC: Headquarters, Department of the Army, February 2003)

[20] FM 6-0, 2-4.

[21] Ibid.

the situation from whatever information is available, regardless of how incomplete, to develop a solution that seems feasible, acceptable and suitable. It is then up to the staff, in the time available, to assess the course of action to verify its viability and offer modifications as necessary to maximize its potential effectiveness to solve the problem at hand.

Intuitive decision-making is formalized in the Recognition-Primed Decision (RPD) Model, in which a decision-maker uses intuition, informed by experience, training, and knowledge to develop a plausible course of action as the first one to consider.[22] John F. Schmitt and Gary Klein have taken the RPD and developed the Recognition Planning Model (RPM), which both the Army and the U.S. Marine Corps have experimented with and found useful.[23] The RPM differs from the MDMP in that the commander identifies a preferred course of action at the beginning of the process. The staff is then responsible for developing the course of action through a process very similar to that of the MDMP.

While the Army has not formally adopted the RPM, it does provide a formalized framework for the directed course of action approach that many tactical units use in a time constrained environment. It could, in fact, be argued that whether part of a formalized process or not, staff officers, leaders and commanders all use the Recognition-Primed Decision Model when making decisions. When a commander provides a directed course of action, or influences the staff's development of particular courses of action, through guidance and intent statements, he has utilized his understanding of his unit, the enemy and the environment to visualize the battlespace and how the operation is likely to unfold. The same is true of staff officers as they narrow the multitude of options available down to two or three possible courses of action for further development and presentation to the commander. In each case, intuition, informed by

[22] Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge: The MIT Press, 1998), 24-25.

[23] Karol G. Ross, Ph.D., Gary A. Klein, Ph.D., Peter Thunholm, Ph.D., John F. Schmitt, And Holly C. Baxter, Ph.D., "The Recognition-Primed Decision Model", Military Review. July-August 2004.

knowledge, experience, training and expertise, leads to an understanding of the situation which allows them to develop and decide upon courses of action that are suitable, acceptable and feasible.

Having defined what the Army means by its concept of *understand first* and how it supports the decision making process, the final issue to be addressed is what role this concept is likely to have in future Army operations. Taking emerging doctrine and concepts as an indication of how the Army intends to approach understanding in the future, one central idea is leveraging technology to achieve near-perfect situational awareness.[24] From a tactical sense, what this promises is a return to the pre-Napoleonic era of warfare when a commander could see the entire battlefield spread before him, his forces, the enemy and the terrain. In this case, technology provides a digital high ground comparable to the advantage physical high ground would offer a commander when battles were contained within a single field of battle. The idea is that a vast network of sensors, data management tools and digital displays will provide the modern commander the ability to see the breadth and depth of the modern battlefield in real time with the fidelity and clarity akin to that of Julius Caesar, Hannibal, Scipio, Frederick the Great and countless other leaders throughout the history of warfare before the dimensions of the battlespace exceeded the ability of a single commander to see and understand.

The pursuit of greater and more precise knowledge and understanding of a situation is essential. Yet, at issue is what role should the efforts at attaining near-perfect situational awareness play in how the Army prepares for and conducts future operations. Put another way, what expectations should the Army have for its ability to gain and maintain situational understanding in its future operations?

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[24] Douglas Redman, Lieutenant Colonel (Retired) and Lieutenant Colonel Jack Taylor, "Intelligence and Electronic Warfare System Modernization" (Army Magazine April 2002) available online at http://www.ausa.org Last accessed on 22 November 2004.

Carl von Clausewitz posited that friction and fog are inherent in war.[25] In essence, Clausewitz was saying that war is a complex interaction of violence, emotion, and will carried out not just in the physical realm, but in the moral realm as well. As such, war consists not just of unknowns, but also of things that are simply unknowable. Many today have taken exception to this view and firmly believe that, whilst that may have been true for warfare in the past, the advent of modern technologies associated with the Information Age promise an ability to, in effect, lift the fog of war. Setting aside for a moment that the true challenge may be not in lifting the fog, but understanding what you see once it is gone, there are significant risks associated with this belief in what is being hailed as assured situational understanding.

The first risk is that the Army transforms its future force based on the expectation of such a capability in any future operation, across the full spectrum of its roles and missions. The Army's most recently published doctrine, emerging concepts and transformation guidance are effused with the basic assumption that its forces will understand the full breadth and depth of the battlespace.[26] Terms such as *anticipatory understanding*, *knowledge dominance*, *knowledge superiority*, and others are all varieties on the same theme, *understanding first*. From these concepts and our doctrine will emerge changes in how the Army is organized, led, and trained for the future.

This leads directly to the second significant risk, which is that near-perfect situational understanding is no longer simply desired, but will be absolutely necessary for the Army to accomplish its mission. One of the basic tenets of Army Transformation is that the future force

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[25] Carl von Clausewitz, *On War*, trans. by Michael Howard and Peter Paret, (Princeton, NJ: Princeton University Press, 1984), Book 1, Chapter 6. *"War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty.…the commander must work in a medium which his eyes cannot see; which his best deductive powers cannot always fathom; and with which, because of constant changes, he can rarely become familiar."*

[26] Examples of recently published doctrine that reflect an a priori battlefield understanding are FM 3-0 *Operations*, and FM 2-0 *Intelligence*

will be modular, more agile, more lethal and rapidly responsive.[27] To gain these advantages of the current forces' structure and capability, a conscious decision was made to trade physical survivability, in terms of armored protection, for the protection offered by enhanced situational awareness and understanding. As an example, the Stryker Brigade, despite its limited armor protection, is expected to provide an extremely lethal and survivable combat capability to the battlefield through its robust intelligence, surveillance and reconnaissance capability when integrated with its enhanced mobility, long-range fires and targeting precision.[28] The doctrine, thus, calls for the Stryker unit, through its assured situational understanding, to determine where and when it will seek decisive engagement with the enemy on the battlefield, and, conversely, to avoid the enemy's efforts to seek battle on conditions not favorable to the Stryker force. What this means for the Stryker Brigades, and perhaps much of the future force, is that assured situational understanding will be essential to their ability to fight and survive on the battlefield. This could prove especially true for an expeditionary force deploying rapidly into an undeveloped theatre of operations.

This lure, or promise, of a technological solution to the challenge of seeing the battlefield is certainly not a new idea. Revolutionary technologies, such as the hot air balloon, the airplane, radar and sonar have each promised to alter the nature of warfare as it was known at the time. Each offered the commander the ability to see the battlespace in a level of detail and certainty as never before and offered, at least temporarily, a marked advantage over the enemy. Yet the lesson of history is that each advance in technology is met by either a counter technology or by an enemy who adapts his tactics and existing technologies to mitigate or obviate the advantages gained by the revolutionary technology. This is as true for technologies that enhanced a

[27] United States Army, *The Way Ahead: Our Army at War*, 2004, available online at http://www.army.mil/thewayahead/focus.html Last accessed on December 5, 2004.

[28] Douglas McGregor, Colonel (Retired), PhD, testimony before the United States Congress House Armed Services Committee on 15 July 2004. For more information on the Stryker vehicle characteristics, see http://www.army-technology.com/projects/stryker Last accessed on January 20, 2005.

commander's ability to see and understand the battlespace as it is for the advances in weaponry that allow him to dominate it. Sonar, which when first developed and employed, was thought to portend the end of submarine warfare. Yet the cycle of counter technology, the quieter submarine and counter-counter technology, better acoustic sensors, continues unabated today.

The United States possesses the greatest demonstrated ISR capability in history, with an ever-increasing ability to leverage these robust capabilities to support the full spectrum of operations. The individual soldier on the ground is equipped with an dizzying array of digital technologies wirelessly networked into both the operations and intelligence systems. The Commander-in-Chief is now capable of seeing exactly what that soldier sees through a real-time video feed. Technology has networked military operations all across the globe, from mud to space. The reality, however, is that despite the dramatic advances in technology and the unprecedented capabilities they offer to leaders at all levels, the Army and the United States intelligence community is still far from realizing a capability to provide perfect situational understanding.[29]

There are several reasons why this is so. Proponents of being able to lift the fog would argue that the technology necessary to do so effectively is still in its infancy or has yet to be developed. Given the advances in science and technology in the past century, that may well be true. There may come a time when science and technology can fully understand and predict the human dimension of warfare, where misunderstanding and faulty analysis are eradicated. It may even be able to overcome the ability of an adaptive and creative enemy to mitigate or obviate the very technology that provides that advantage. The lure of finding the solution by skipping a generation of technology is appealing. Yet it seems practical to expect that today's operations

[29] The United States Intelligence Community is a federation of executive branch agencies and organizations that work separately and together to conduct intelligence activities necessary for the conduct of foreign relations and the protection of the national security of the United States dissemination of intelligence information for the United States government. United States Intelligence Community homepage found at http://www.intelligence.gov/1-definition.shtml, Last accessed on October 25, 2004.

and those the future force is transforming to prepare for will not be conducted in an environment where commanders and leaders operate with perfect, or even assured situational understanding.[30]

To this point, the monograph has examined what the concept of *understand first* means to the Army, its role in supporting the decision making process and how it is postured to shape how the future force organizes, trains, and fights. In turning to the focus of the monograph, how does the Army gain and maintain timely and sufficient understanding of itself, the enemy and the environment to conduct effective operations?

In attempting to determine this, the monograph will first examine the Army's current doctrinal approach, as exemplified in the preparation for and execution of major combat operations in Operation Iraqi Freedom. The monograph will then examine how this doctrinal approach is being applied to challenges of the Contemporary Operational Environment as experienced today in Operations IRAQI FREEDOM and ENDURING FREEDOM. Finally, the monograph will look at emerging concepts, such as Network Centric Warfare, Operational Net Assessment, and Actionable Intelligence, which promise the way ahead for the Army's approach to *understanding first*.

[30] Mackubin T. Owens, "Transforming Transformation: Defense-Planning Lessons from Iraq" (National Review Online, April 2003), available online at: http://www.ashbrook.org/publicat/oped/owens/03/transform.html Last accessed on December 5, 2004.

CHAPTER 2

UNDERSTANDING FIRST IN OPERATION IRAQI FREEDOM

On 19 March 2003, U.S. and coalition forces crossed the berm separating Kuwait and Iraq, beginning the decisive phase of the campaign to topple the regime of Saddam Hussein and rid Iraq of weapons of mass destruction.[31] As they had in 1991, the United States and its coalition of allies would once more face off against the Iraq army, but this time the two sides would meet not just in the barren Arabian Desert, but also in towns, villages and cities throughout Iraq. The armies themselves would be vastly different as well. The Iraqi Army had withered under the weight of its resounding defeat in 1991 and the privation imposed by an ensuing decade of severe economic sanctions. The U.S. Army, in stark contrast, having announced its ascendancy to preeminence among the militaries of the world, had continued to improve its warfighting capability, especially in the facets that had proved so devastating in Operation Desert Storm, speed, precision and lethality.[32]

For the U.S. Army, a second war in Iraq was both an anachronism and an opportunity. Caught in the throes of transformation, OIF represented simultaneously a throwback to the conventional, massed firepower warfare of the industrial age and the emergence of warfare in the information age. Fundamental to the purported revolution in military affairs taking place is the belief that information itself is a key enabler in military operations. Gaining and maintaining information dominance would provide a considerable, if not decisive, advantage to the U.S. military. To that end, the U.S. Army, along with the intelligence community as a whole, had

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[31] Baker Spring "Operation Iraqi Freedom: Military Objectives Met" (The Heritage Foundation, April 18, 2003) available online at http://www.heritage.org/Research/MiddleEast/wm261.cfm Last accessed on December 5, 2004.

[32] George W. Smith, Jr. "Avoiding a Napoleonic Ulcer: Bridging the Gap of Cultural Intelligence (Or, Have We Focused on the Wrong Transformation?) (Washington D.C.: National Defense University Press, 2004), 32.

pursued with considerable vigor and enthusiasm an intelligence system dedicated to managing ever-increasing amounts of information. Thus the U.S. Army, supported by an array of operational and strategic systems designed to collect, transfer, store, analyze and disseminate information, crossed the berm into Iraq with an ability to see across the depth and breadth of the battlespace unparalleled in the history of warfare.

On April 5, 2003, the lead elements of the Army's attack toward Baghdad, 2nd Brigade, 3d Infantry Division, launched its now-famous Thunder Run from the southern outskirts of Baghdad, through the city and then west to the Baghdad International Airport.[33] Two days later, 2nd Brigade again attacked through Baghdad, this time to the heart of the capital, capturing Saddam Hussein's presidential palace, marking the end of the Iraqi regime and placing U.S. and coalition forces in command, but not control, of Iraq.

In only three weeks of fighting the American military and its coalition partners had defeated the Iraqi Army and toppled the regime of Saddam Hussein. In the process, the U.S. Army and U.S. Marine Corps had conducted a sustained attack across more than 500 kilometers of barren desert and through often heavily contested towns and villages. On May 1, 2003, U.S. President George W. Bush declared an end to major combat operations (MCO).[34]

Those who envisioned a revolutionary change in warfare, in which information exponentially magnifies the speed, precision and lethality of a modern, technologically advanced military, felt vindicated by the overwhelming success accomplished by a lean, agile and yet still decidedly lethal force.[35] Behind the banners of Mission Accomplished and images of

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[33] David Zucchino and Mark Bowden, *Thunder Run* (New York: Atlantic Monthly Press, 2004)

[34] George W. Bush, President of the United States of America, remarks given aboard the USS Abraham Lincoln on May 01, 2003. Available online at http://www.state.gov/p/nea/rls/rm/20203.htm Last accessed on January 5, 2005.

[35] Michael R. Gordon "The Strategy to Secure Iraq Did Not Foresee a 2nd War", The New York Times, October 19, 2004. In the preparations for OIF, an ongoing debate developed between Secretary of Defense Donald Rumsfeld, who was pushing an invasion force in keeping with his vision of a transformed military, less reliant on large numbers of ground troops and more on technology, intelligence and special

commanders smoking victory cigars from the newly liberated presidential palaces in Baghdad were the questions of just how significant information superiority had been in assuring tactical and operational success, and, of more fundamental concern, just how decisive had the victory actually been.

Technology unquestionably provided an invaluable contribution to the success of major combat operations in OIF. This is especially true for command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) operations. As alluded to earlier, the intelligence system supporting the forces in OIF provided the capability to see across the full depth and breadth of the battlespace, day and night, under the most arduous of weather conditions, such as the blinding spring sandstorm that struck on 25 March. Unmanned aerial vehicles (UAV) were very effective at providing accurate, timely target identification and tracking for both Army and Air Force targeting. Overhead imaging provided unprecedented terrain and situational awareness for both planning and execution. National Geospatial Intelligence Agency (NGA) products populated map and imagery databases from the Combatant Commander level down to the individual fighting vehicle through Field Battle Command Brigade and Below (FBCB2).[36]

One of the most significant capabilities in *understanding first* that technology provided in OIF was through the Blue Force Tracker (BFT).[37] This system consists of sensors mounted on vehicles and with dismounted troops that updates their position via Global Positioning System. This information populates a common database, which is displayed on digital monitors across the

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operations forces and some military officers who were concerned over the Secretary's perceived meddling in details best left to the military professionals.

[36] FBCB2 is part of the Army's Automated Battle Command System (ABCS) which provides a networked suite of emitters, sensors, communications means, processors, servers and displays to present a seamless common operating picture of the situation in real time across the force.

[37] F.J. Bing West, "Maneuver Warfare: It Worked in Iraq" Proceedings, February 2004. Available online at http://www.military.com/NewContent/0,13190,NI_WAR_0104,00.html Last accessed on January 20, 2005.

force, down to individual vehicles and dismounted squads. This enables leaders at all levels to know with precision, in real time, where each squad, vehicle and unit is in relation to the other members of their unit and other friendly units on the battlefield. This image was scalable such that leaders and commanders could monitor the activity of any unit from anywhere, whether with the units in contact or half a world away in the Pentagon. BFT had another capability that would unexpectedly become vitally important as units raced across the vast expanse of desert toward Baghdad; BFT included the ability to send and receive text messages.

At the operational level in OIF, the Coalition Forces Land Component Command (CFLCC) exhibited the robust communications architecture necessary to realize the enormous capabilities of the strategic and operational intelligence systems. The intelligence system was thus able to assure three vital functions for the Intelligence Battlefield Operating System (IBOS). First, the CFLCC C2 was able to effectively manage assigned collection assets and leverage national and joint capabilities.[38] The intelligence system, more importantly, had greatly enhanced the ability to manage information. In practical terms, information collected by national and operational systems could be moved from the point of collection to a commander within minutes, and in some cases, such as live UAV feeds, in real time. As another example, time sensitive targeting (TST) in which collection assets were focused on particular high value targets, such as SCUD missile launchers, achieved unprecedented "sensor to shooter" times.[39] Lastly, the robust intelligence architecture enabled analysts, intelligence officers and commanders to collaborate in real time and share a common operational picture of the enemy, friendly units and the battlespace.

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[38] *Intelligence Officer's Handbook*, Chapter 2, 40.

[39] John Ferris "A New American Way of War? C4ISR in Operation Iraqi Freedom, A Provisional Assessment" (Calgary: Centre for Military and Strategic Studies, 2003). Available online at http://www.jmss.org/2003/spring-summer/documents/ferris-infops.pdf Last accessed on January 5, 2005. John Ferris argues that the increase in speed, flexibility and range of air power to engage targets of opportunity resulted more from the presence of significant numbers of aircraft in the air at any given time than from an enhance C4ISR capability. In drawing an analogy to the "cab rank" system for air support in 1944, Ferris fails to convey the important distinction that in OIF, the C4ISR system could identify, track and destroy targets of opportunity across a dramatically increased area of operations.

While each of these capabilities individually represents a tremendous advantage, their synergistic application created an intelligence capability unparalleled in modern warfare. CFLCC was, in effect, able to position the right system at the right time and place to collect against the enemy, to pass that information quickly to the point of analysis, and then present intelligence, in near real time, to the commander for a decision. This intelligence, along with the commander's decision, could then be shared across the force to provide a common operating picture of the battlespace. However, while this was true at the operational and strategic levels, the ability to carry this robust intelligence capability forward to the tactical level would prove almost completely lacking.

Along with these unquestioned successes, the intelligence system supporting the Army's ability to *understand first* also suffered some significant shortcomings. The most profound of these, harkening back to the experience of Desert Storm, was a digital divide between operational and tactical commands. The lessons of 1991 had seemed to indicate that the "spies in the skies" approach, wherein strategic and operational level systems could effectively direct, collect, process and disseminate intelligence for tactical commanders, was the solution to the challenges imposed by the increase in the dimensions of the battlespace and the speed of modern combat operations.[40] In OIF, this would prove a fatally flawed assessment.

On 02 April, 3rd Battalion, 69th Armor, 3rd Infantry Division attacked north to seize Objective Peach, a key bridge across the Euphrates River along the division's approach to Baghdad. According to the battalion commander, Lieutenant Colonel Ernest Marcone, "next to the fall of Baghdad, that bridge was the most important piece of terrain in theatre…" "Yet," LTC Marcone continues:

[40] John F. Stuart, Jr. Brigadier General (Promotable), "Operation Desert Storm, The Military Intelligence Story: A View From the G2, 3D U.S. Army" (April 1991), 5. Available online at http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB39/document5.pdf Accessed on January 5, 2005.

> "no one can tell me what's defending it. Not how many troops, what units, what tanks, anything. There is zero information getting to me. Someone may have known above me, but the information didn't get to me on the ground."[41]

3-69 Armor would fight its way through repeated ambushes along its way to the bridge. Once the bridge was secured, LTC Marcone did receive one communications intercept indicating an Iraqi brigade was approaching from the north. As the Iraqi forces arrived, 3-69 with its thirty tanks, fourteen Bradley Fighting Vehicles and roughly one thousand soldiers would actually find themselves faced off against three Iraqi Brigades of twenty to thirty tanks, seventy to eighty armored personnel carriers, artillery and between one and five thousand Iraqi soldiers. Whether, as LTC Marcone suggested, someone above him was aware of the movement of this Iraqi force was true or not, the reality was that the robust intelligence system, designed specifically to identify and track this type of conventional force across an open battlefield, had failed the commander who needed it most, the tactical commander charged with closing with the enemy. [42]

So pronounced was the breakdown in the intelligence connectivity between the operational and tactical levels in OIF, the digital divide, that while the CFLCC in Kuwait and Central Command (CENTCOM) forward command element presented a comprehensive picture of the enemy and the battlespace, the combat units, both Army and Marine Corps, found themselves conducting reconnaissance by fire to develop their intelligence picture. Thus, as exemplified in the case of 3-69 Armor, the units on the ground "found the enemy by running into them, much as forces have done since the beginning of warfare."[43]

Fortunately, both the Army and the Marine Corps possessed a decisive overmatch against the Iraqi forces, in both technical and tactical capabilities. Furthering the overwhelming

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[41] David Talbot "How Technology Failed in Iraq" Technology Review, November 2004.
[42] Ibid.
[43] United States Marine Corp, 1st Marine Division After Action Review of Operation Iraqi Freedom. Available online at http://globalsecurity.org/military/library/report/2003/1mardiv_oif_lessons_learned.doc Last accessed on January 5, 2005.

advantage enjoyed by American forces was Iraqi ineptitude.[44] On 04 April, A Troop, 3-7 Cavalry Squadron advanced directly into the engagement area of a deliberate defense that was occupied by a reinforced Republican Guard tank battalion. The Iraqi forces opened fire against the exposed flanks of A Troop at ranges of eight hundred to one thousand meters. Despite a decided tactical advantage, the Iraqis were unable to capitalize on what in effect was a near ambush, failing to hit a single American vehicle. A Troop returned fire and annihilated the battalion.[45] The U.S. Army War College, in its review of the Iraqi War, drew an important conclusion from their study of this event along with the war itself. The study concludes, "2003 technology punishes ineptitude very severely, but cannot guarantee similar results against adept enemies."[46]

Each of these incidents reflects the extent to which the promise of technology providing near perfect situational awareness had failed the tactical commander. Lieutenant General William Wallace, commander of U.S. Army V Corps during the coalition attack toward Baghdad, would summarize the impression of the failure of intelligence in OIF to support the tactical commander in his statement after the war that "every operation was a movement to contact."[47] The Marine Corps would echo this conclusion in their review of major combat operations.[48]

The reason for this digital divide was twofold. First, the communications architecture to support the intelligence system at the tactical level was not capable of operating across the vast distances covered by the attack from Kuwait to Baghdad. These systems, most notably the Army's tactical digital network, Mobile Subscriber Equipment (MSE), could not operate on the

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[44] Strategic Studies Institute "Iraq and the Future of Warfare: Implications for Army and Defense Policy" U.S. Army War College 18 August 2003.

[45] Ibid., "Luck"

[46] Ibid., "Conclusions"

[47] U.S. Army "V Corps Operation Iraqi Freedom Lessons Learned" (Fort Leavenworth: Center for Army Lessons Learned, 2003). While unclassified, access to this document is controlled by the US Army Center for Lessons Learned, online at http://call.army.mil . Accessed on 05 January 2005.

[48] United States Marine Corps "1st Marine Expeditionary Force Operation Iraqi Freedom After Action Review" (Quantico: Headquarters, U.S. Marine Corps, October 2003). While unclassified, access to this document is controlled by the U.S. Marine Corp Center for Lessons Learned, online at http://www.mccll.usmc.mil Accessed on 05 January 2005.

move. The speed of the operation, when combined with the vast distances covered, simply did not allow time for either the Army or the Marine Corps to establish the requisite communications architecture necessary to support the essential flow of intelligence.

The second reason for the breakdown of the tactical intelligence system was the vast amount of data that needed to be moved. At the CFLCC, the amount of information available taxed even the robust communications architecture and analytic capability available. At the tactical level, the lack of sufficient bandwidth to move data rapidly, when connectivity could even be established, would overwhelm the limited communications systems available. The intent had been to tailor information provided from strategic and operational levels to the tactical units, a process known as smart push.[49] Tactical units, and indeed units at all levels, were also intended to draw the common operating picture of both the enemy and friendly situation from web-based servers, decreasing the strain on limited communications architectures by allowing the unit to self tailor the information it downloaded, known as smart pull.[50] The reality was that the massive amounts of information collected, analyzed and processed was effectively disseminated throughout the intelligence system, completely overwhelming both the technical and analytical capabilities of tactical and even operational units to manage.[51]

The failure of connectivity resulting in a digital divide presents a technical challenge to be overcome. As such, the solution lies largely within the technical realm. The Army may elect to rely predominantly on space based communications systems to overcome the challenges of speed, distance and remoteness presented in both OIF and OEF, as the emerging concepts seem to indicate. The Army, along with the Joint community may also invest in a redundant terrestrial based communications network to provide redundancy to the space-based system, thus reducing

[49] US Army ST 2-91.1 *Intelligence and Electronic Warfare for Stability Operations and Support Operations* (Washington DC: Headquarters, Department of the Army, Draft) 2-5.
[50] Ibid.
[51] Ferris, 6.

the potentially crippling effect of the loss of space supremacy. Whatever recourse the Army takes, emerging technology is determined to overcome this considerable weakness in future operations.

The second, and perhaps more serious challenge that led to the failure in the tactical intelligence system was the failure to accurately, or adequately, predict the enemy's response to coalition operations. As has been mentioned, Iraq, having been thoroughly trounced by the U.S.-led coalition in 1991 and the subject of a continuous intelligence gathering effort throughout the ensuing twelve years, represented an enemy against which the U.S. military felt supremely confident, both in its knowledge of the enemy and the ability to defeat any defense Iraqi forces may render.

In addition to the wealth of knowledge about Iraq developed from the experience of Operation Desert Storm and ongoing operations in its aftermath, such as Operation Provide Comfort and Operations Northern and Southern Watch, the U.S. sought to enhance its ability to see and understand Iraq in greater detail in the months leading up to OIF.[52] In addition to the robust operational and strategic intelligence systems created during the build-up of U.S. and coalition forces in the ramp-up to combat operations, the intelligence community invested considerable effort at gaining a more detailed understanding of the situation on the ground in Iraq.

Much of this effort resulted from HUMINT, which focused on locating key figures within Saddam Hussein's regime and identifying facilities associated with the production, storage, transit or weaponization of weapons of mass destruction.[53] In support of the military campaign plan, HUMINT operations attempted to identify, contact and influence key Iraq military leaders. This effort, combined with a concerted psychological operations campaign urging Iraqi armed

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[52] *Intelligence Officer's Handbook*, Chapter 2, 1-4.

[53] Rowan Scarborough, "Diligent Hunters Track Down Their Prey" The Washington Times, December 15, 2003. HUMINT would play a vital role in preparations for the war. On a tip from a HUMINT source, the U.S. launced TLAM's at Dora Farms on 18 March 03 aimed at killing Saddam Hussein.

forces not to fight in support of Saddam Hussein's regime would indeed prove effective, but this success would result in unexpected consequences that the intelligence community failed to anticipate.[54]

The Army's intelligence doctrine and training have instilled within its ranks the fundamental belief that intelligence must be predictive to be relative. OIF would be no different. The extensive knowledge and concerted effort of the Army's intelligence community, aided by joint and national intelligence agencies, would reduce the range of options available to Iraqi forces to a most likely and a most dangerous course of action.[55] From these probable courses of action, the combatant commander developed a robust, networked, overlapping intelligence architecture of sensors, from space to mud, and the communications systems to manage the vast amounts of information that would be collected. The fact that the enemy would react in a manner markedly different from what was expected, coupled with the Iraqis' concerted efforts to mitigate coalition ISR capabilities, resulted in significant gaps in intelligence coverage of the battlespace. Unfortunately, these gaps appeared not in the deep fight, where their impacts on the force would be minimal, but in the close fight, as combat and combat support units found themselves literally fighting for the intelligence picture all around them.[56]

On 21 April, General Wallace stated that "this is not the enemy we wargamed against."[57] He was responding to an increasing concern over the attacks of the Saddam Fedayeen, which

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[54] The psychological operations campaign urged Iraqi's not to fight for the Iraqi regime. Many army units, along with Rep Guards simply faded away, returning to the hometowns and villages, presumably to await the call to return to serve Iraq following the collapse of Saddam Hussein's regime.

[55] *Intelligence Officer's Handbook*, Appendix B. While the particulars are still classified, the CFLCC C2 did present a most likely enemy course of action and a most dangerous course of action. The CFLCC priority intelligence requirement (PIR) for 21 March 03 reflect the intelligence necessary to confirm or deny the enemy course of action. As shown, the emphasis was almost exclusive on conventional Iraqi forces in the preparation for and into the early stages of the operation.

[56] This comment is voiced in most official After Action Reviews of major combat operations in OIF. Perhaps the most famous incident occurred on March 2003, when the 507th Maintenance Company was attacked by unconventional Iraqi forces in Al Najaf, resulting in 14 Americans killed in action. This incident marked publicly the first indications that the enemy was not fighting as had been widely expected.

[57] William S. Wallace, Lieutenant General, V Corps Commander, Live Briefing from Baghdad, 7

were providing the first indication that the military campaign to oust Saddam Hussein may prove more challenging than many, including a number of military planners, had presumed.[58] Having failed to anticipate this type of threat, the intelligence community found itself poorly prepared, both in terms of type and location of collection systems, to confront this new battlefield reality.

The reason that the intelligence community failed to anticipate this enemy reaction and failed in both type and positioning of collections systems to address such a challenge resulted from the Army's continuing focus on the decisive, conventional battle. In the case of OIF, the vast array of collection systems, from the tactical to the strategic, were designed and positioned to identify and track Iraqi conventional forces, particularly the Iraqi Republican Guard and Special Republican Guard forces located in the main defensive area in and around Baghdad, to facilitate targeting.[59]

As such, the collection plan did not address the unexpected challenge presented by the Saddam Fedayeen. Dynamic re-tasking of collection assets to focus on this emerging threat proved only marginally effective, as the enemy proved largely indistinguishable from the Iraqi population until they engaged coalition forces. The digital divide mentioned earlier also made it difficult to provide timely intelligence, especially imagery, to tactical units.

Psychological operations prior to combat operations had encouraged Iraqi Army units not to fight in support of Saddam Hussein's regime. Iraqi units were expected to capitulate rather than face destruction from coalition air and ground forces. Rather than surrendering en masse as had been the case in Desert Storm, many Iraqi units simply ceased to exist as their soldiers and leaders deserted their positions, shed their uniforms and returned to their homes.

May 2003 available online at www.urbanoperations.com/ifaar4.htm Last access on November 22, 2004.

[58] Michael R. Gordon "Poor Intelligence Misled Troops About Risk of Drawn-Out War" New York Times, October 20, 2004.

[59] *Intelligence Officer's Handbook*, Enclosure B.

This would prove a significant challenge for the coalition intelligence system, as Iraqi forces that opted to fight the coalition were largely a hodgepodge of the remaining units that had not melted back into the population. This, combined with the inexact nature of battle damage assessment (BDA), a recurring challenge from Desert Storm, and the concerted Iraqi efforts to avoid coalition intelligence, surveillance and reconnaissance (ISR) capabilities made increasing demands on the intelligence community to identify, track and predict the reaction of Iraqi conventional forces.

While the combat operation to topple the regime of Saddam Hussein proved to be rapid and decisive, the credit for its success cannot be attributed to support from the IBOS. Army and Marine ground forces had largely conducted a continuous movement to contact, forced by a failure of the communications architecture the intelligence system is dependent upon and a failure to accurately anticipate how the enemy would respond. When the situation did allow tactical units to halt long enough to establish long-haul communications to receive intelligence updates, they would receive literally thousands of messages, taking hours to download, often with no indication of the relevance or importance of any of the vast amounts of data inundating and overwhelming their capacity to effectively manage.[60] The systems designed to automate much of the intelligence burden on tactical units, namely the All Source Intelligence System, proved so ineffective that nearly every tactical unit would eventually turn it off during the operation.[61]

General Wallace later stated that one of the primary reasons for the Thunder Run into Baghdad was to find out what kind of resistance the enemy would put forth.[62] This recon by fire was necessary, as had been the case through much of the attack from Kuwait to Baghdad, because

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[60] Talbot, 4

[61] Ibid.

[62] William S. Wallace, Lieutenant General, remarks in an interview for Frontline in February 2004. Available online at http://www.pbs.org/wgbh/pages/frontline/shows/invasion/interviews/wallace.html Last accessed on January 5, 2005.

the intelligence system, undeniably the most capable in the world today and, from a technical perspective, in the history of warfare, simply could not penetrate complex terrain or function effectively against an enemy fighting an adaptive, asymmetric and unconventional campaign. While this inadequacy had not affected the result of the decisive operation or the cost of that success, it would portend significant challenges as the coalition attempted to transition tactical victory into strategic success.

CHAPTER 3

UNDERSTANDING FIRST IN THE CONTEMPORARY OPERATING ENVIRONMENT

The collapse of the Soviet Union in 1989 brought about an end to the Cold War and with it a loss for the Army of its singular focus on a specific enemy and the concomitant emphasis on conventional warfare. The United States was left as the world's lone superpower. Desert Storm, for its part, heralded in unquestionable terms that U.S. preeminence included, and was backed by, the world's most dominant military. The question was, without the threat of Soviet forces rushing into the Fulda Gap, who would the U.S. use its military forces against and what would that fight look like.

The Army set about trying to answer just these questions. By the mid 1990's, there was a general consensus that the U.S. would not face a peer competitor to challenge it military's preeminence in warfare until at least the year 2020.[63] The speed, precision and lethality, and perhaps more importantly, the ability to project American combat power anywhere in the world, demonstrated in Desert Storm presented an unassailable advantage in conventional warfare to any considering taking up arms against the U.S.. American economic power would ensure that its

[63] George C. Wilson, "Sheehan, The Military As He Sees It" The Army Times, April 7, 1997. This idea that the U.S. will not face a peer military competitor until 2020 would become an underlying assumption in the development of the Army's latest threat doctrine, the Contemporary Operating Environment.

forces would continue to command a decisive edge in the development and incorporation of advanced technologies into its warfighting arsenal.

Recognizing the unassailable dominance that the U.S. military had achieved, potential adversaries were left with four responses. First, a potential adversary could acquiesce to U.S. hegemony in any situation that would require conventional forces to oppose the U.S.. The second option would be to attempt to match U.S. strengths in a resource intensive conventional arms race. The third choice would be to build a conventional force capable of effectively opposing the U.S. military when combined with an ability to mitigate a portion of the U.S. strength, for example by denying access to space based C4ISR capabilities or disrupting U.S. strategic movement capabilities. The final choice would be to avoid U.S. strengths altogether by forcing the U.S. into a fight for which its vaunted, indomitable conventional capabilities do not offer an unassailable advantage.

The Army, while recognizing the potential of the last option, fighting the U.S. asymmetrically, had focused largely on the third choice, in which a nation state or paramilitary would continue to build conventional combat forces with the intent to employ them in a manner that obviated U.S. tactical and operational advantages.[64] To describe how an enemy might attempt to avoid U.S. strengths and pit his own strengths against U.S. vulnerabilities, the Army, in 1997, developed the concept it termed the "contemporary operational environment."

The Army's COE doctrine, however, would suffer from two significant shortfalls. First, in its emphasis on the idea of a conventional military force, whether under the direction of a nation state or independent as in the case of a failed state's military or paramilitary force, the doctrine was subject to the perception that it simply represented an attempt to provide a

[64] U.S. Army ST 7-100 (Fort Leavenworth: U.S. Army Command and General Staff College, June 2003), 1-4. While this does not appear as a conscious decision, a review of St 7-100 OPFOR Battle Book For The Contemporary Operating Environment clearly emphasizes nation states, failing states and paramilitary organizations using conventional forces in non-conventional (as opposed to unconventional) techniques, tactics and procedures to avoid U.S. conventional advantages.

templatable enemy to replace the loss of the Soviet threat model.[65] This was an understandable perception, given that more than half of the Opposing Force (OPFOR) Battle Book consists of opposing force doctrinal framework, organizational charts, tier models, equipment listings and weapons capabilities tables. For many within the Army, to include both intelligence professionals and the commanders they supported, the COE doctrine would be received, and therefore trained, as a new naming convention for an enemy fighting not much different than the flexible, adaptive OPFOR at the CTC's had for years.[66] COE doctrine thus initially failed to ingrain a sense of the dynamism, complexity and ambiguity that epitomize the true nature of the contemporary operating environment.

The second shortcoming was timing. While the Army had looked out across the horizon after Desert Storm and recognized a fundamental change had taken place in how it would likely wage war in the future, it would take more than a decade to develop a coherent approach to the new threat. There were attempts to incorporate the lessons of U.S. military operations in Somalia, Bosnia, Kosovo and Haiti into how the Army's viewed the enemy and trained for the realities of such environments. Yet in the Army, like most large institutions, change comes slowly and incrementally in the absence of an urgent necessity. Thus, the Army, armed with a new terminology and a faint sense that the enemy and the nature of the fight had fundamentally changed, nevertheless began its invasion of Iraq with a decidedly conventional vision of the fight that lay ahead.

The shortcoming of the intelligence system during major combat operations had not proven insurmountable. The lack of timely and accurate intelligence, especially at the tactical level, had unquestionably made the operation more challenging than it need have been. Yet, the

[65] COE doctrine was produced by the Threats Directorate within the U.S. Army Training and Doctrine Command as a replacement for the FM 100-7 series of manuals that was, for all practical purposes, Soviet doctrine.

[66] Daniel H. French, Colonel (Retired). Interviewed by author. Digital recording. Fort Leavenworth, KS October 27, 2004.

overwhelming tactical advantage of U.S. ground forces and air support that was timely, accurate and decidedly lethal, when matched against Iraqi ineptitude, meant that even without the benefit of technical intelligence support, the success of the operation was never at risk. The reaction of the enemy during major combat operations, especially the tactics of the Saddam Fedayeen, would begin to illuminate the realities of the contemporary operating environment. The transition from major combat operations to stability operations and support operations and the ensuing challenges of nation building and an entrenched insurgency would bring the U.S. military into the complex, dynamic and ambiguous reality of the COE. The urgency necessary to compel the Army to prepare to meet these challenges, lacking in the intervening years after Desert Storm, was undeniably now present.

The failure of the intelligence community, including the Army IBOS, to recognize and understand the complexities of this operating environment had not proved disastrous during major combat operations. In the ensuing campaign to secure and rebuild Iraq, however, this shortcoming and the concomitant lack of preparation for what the Army would face after the fall of Saddam's regime would severely impede U.S. efforts and endanger the strategic success of the mission.[67]

Two intelligence failures would profoundly challenge the Army in the months following the end of major combat operations in May 2003. The first is the failure of the U.S. intelligence community at large to accurately assess the extent of damage and disrepair to Iraqi national infrastructure. The second, and more costly for the Army, is the failure to predict the emergence of an intransigent, adaptive and effective insurgency.[68]

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[67] George W. Smith "Avoiding a Napoleonic Ulcer: Bridging the Gap of Cultural Intelligence (Or, Have We Focused on the Wrong Transformation)" from Chairman of the Joint Chiefs of Staff Strategy Essay Competition 2004 (Washington DC: National Defense University Press, 2004), 27.

[68] John Yaukey "Iraq Changes war-making and intelligence gathering" USA Today, 25 October 2004. The failure to find weapons of mass destruction (WMD) undoubtedly has had resounding implications for the U.S., both within Iraq, the Middle East and beyond. This failure, however, is largely

Carl von Clausewitz had posited that the key to decisive victory in warfare was to focus all the energies of one's forces against the source from which an enemy derives his strength, what Clausewitz called the "center of gravity." The U.S. Army, in its renaissance following Vietnam, had heartily embraced this idea, along with much of the Clausewitzian theory of war.[69]

For the U.S. military in OIF, the regime of Saddam Hussein was the center of gravity.[70] Defeating the Iraqi military was secondary, and indeed not necessary if it did not fight to support the regime or hinder U.S. military freedom of movement. Success, or victory, was thus defined within the confines of the military campaign as the removal of Saddam's regime from power and the defeat of any Iraqi military forces that opposed coalition efforts. In this light, it is understandable that the Commander for U.S. Central Command, General Tommy Franks, the combatant commander responsible for OIF, could sit in the liberated Baghdad palace of Saddam Hussein on 23 April and discuss plans for the eminent withdrawal of the majority of U.S. forces from Iraq. [71]

General Franks' plans for a rapid withdrawal of U.S. and coalition forces from Iraq would, however, not occur as the magnitude of the challenge inherent in ensuring a secure and stable Iraq became manifest. The campaign plan called for a "rapid transition to follow-on forces and redeployment" following the defeat of Iraqi armed forces and the fall of Saddam Hussein's regime.[72] The combined effects of the inability of the U.S.-led civilian authority to quickly

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beyond the scope of the U.S. Army and as such will not be addressed in detail in this monograph.

[69] Williamson Murray "Clausewitz Out, Computers In: Military Culture and Technological Hubris" The National Interest, June 01 1997.

[70] Department of the Army, "V Corps Operation Iraqi Freedom Lessons Learned" Fort Leavenworth: Center for Army Lessons Learned, 2003. While unclassified, access to this document is controlled by the US Army Center for Lessons Learned, online at http://call.army.mil Accessed on 05 January 2005.

[71] Michael R. Gordon "The Strategy to Secure Iraq Did Not Foresee a 2nd War" New York Times, October 19, 2004.

[72] Combined Forces Land Component Command. "History of the Ground War: VIP Update Brief "Quick Look" dated 26 April 2003." Presented to the School of Advanced Military Studies at Fort Leavenworth, KS on 07 December 2004. Unclassified. Used with permission of the School of Advanced Military Studies.

establish legitimate, effective governance and the emergence of an effective, adaptive insurgency forced the U.S. military and its coalition partners into a protracted operation in Iraq for which it had neither planned nor prepared.

There is debate as to whether the ongoing insurgency and instability in Iraq eighteen months after the fall of Saddam Hussein's regime and the defeat of its military forces resulted from a failure to effectively transition from major combat operations to stability operations and support operations or as a result of a deliberate, planned Iraqi contingency and thus to an extent unavoidable. In either case, the reality is that the coalition, especially the military, was ill prepared to address the challenges it found itself facing in the wake of decisive combat operations. This was a result, at least in part, to the fact that the intelligence community, to include the Army IBOS, failed to accurately predict the operational environment that would exist following the successful conclusion of major combat operations.

The reasons the intelligence community failed to prepare the force for the realities of the operational environment that would arise following combat operations are twofold. First, the intelligence community lacked the capability to adequately assess the environment in Iraq. There was a concerted effort, beginning before Desert Storm and continuing unabated, although to varying degrees of effort, in the intervening years to develop and maintain situational awareness of Iraq. The shortcoming, however, would result not from the amount of effort dedicated to the task at hand, but in the resources available to gain insight into such a closed, inaccessible state.

Much of the intelligence gathered about Iraq was limited to that available from technical means. The nature of the closed society and the Iraqi government's dedicated efforts at internal security made it extremely difficult to extract reliable information from human sources within Iraq. As such, the U.S. was largely reliant upon foreign intelligence services, Iraqi exiles and Iraqi ex-patriots for information on the internal workings of the Iraqi government, military,

economy and society.[73] In most countries, the U.S. has a presence, either formally, through an embassy or consulate, or informally as in the case of the American Institute in Taiwan. This American government presence in country allows not only first hand experience and reporting on the target nation, but also provides a means of developing local expertise and experience that can be used to evaluate and analyze information gathered from other sources.

For the Army, this expertise and experience resides in large part within the Foreign Area Officer (FAO) program. Officers in this program receive education and training on the language, history, politics, governance, militaries, society and culture of a particular region. These officers then serve in the region for several years, often with tours in multiple countries within a region. The fact that Iraq was effectively closed to official American presence following Desert Storm and the difficulty in conducting clandestine operations in Iraq meant that the Army and the intelligence community at large had no effective means of evaluating the credibility and veracity of the information provided by the limited sources available.

The second reason the intelligence community failed to prepare the force for the nature of the operational environment following major combat operations was that it failed to focus its effort on the intelligence necessary for success in such an environment. Intelligence efforts after Desert Storm and in the run up to OIF focused on key figures within the Iraqi regime, weapons of mass destruction, Iraqi armed forces and the critical infrastructure essential to the success of the tactical campaign. There was a decided lack of fidelity and granularity in the information that would become vital in the ensuing stability operation and support operation (SOSO), such as family, clan and tribal structures and relationships, social and cultural influences, local and regional infrastructure, governance and economics along with a host of other factors. This

[73] George J. Tenet, Director of Central Intelligence, Remarks as prepared for delivery at Georgetown University on February 5, 2004. Available on line at http://www.cia.gov/cia/public_affairs/speeches/2004/tenet_georgetownspeech_02052004.html Last accessed on January 5, 2005.

resulted in part because of the aforementioned lack of capability, but more so as a result of two assumptions made during the planning for OIF that proved fatally flawed.

The first assumption was that coalition forces would be perceived by Iraqis as liberators, which would create a sufficiently secure and stable environment to allow the transition from coalition military authority to civilian control soon after the end of major combat operations. The notion was expressed by the senior level leadership within the Department of Defense (DOD), which was largely responsible for the planning and execution of OIF, to include the transition to stability operations and support operations.[74] Senior leaders, especially within the military, thus envisioned a rapid hand-over of responsibility for the rebuilding of Iraq to civilian control, initially under the auspices of the Office of Reconstruction and Humanitarian Assistance (ORHA), with the intent to transfer authority and responsibility to Iraqi civilian leadership as quickly as feasible.[75]

This idea led directly to the second assumption that the responsibility for nation building did not reside in the Army or the military. Based on this assumption, the Army had set about breaking Humpty Dumpty with no intention, and as a result no plan, for putting it back together again.[76] Once it became apparent that the situation in Iraq was significantly different from what had been predicted and that the Army would indeed face the daunting challenge of rebuilding Iraq while simultaneously fighting a dedicated, adaptive insurgency, the Army found itself with databases of information that were either irrelevant or insufficient to the task at hand.

In turning its efforts to gaining situational understanding in the complex operational environment that had developed in Iraq following the end of major combat operations, the Army discovered that the intelligence system it had developed for OIF was largely ineffective to meet the new challenges. The technical, spies in the skies, sensor-driven system was simply not

[74] James Fallows "Blind into Baghdad" The Atlantic Monthly, January/February 2004.
[75] Ibid.
[76] Smith, 28.

capable of providing the kind of information and the level of fidelity necessary for such an environment.[77]

The physical nature of the environment, predominantly complex, urban terrain was practically impenetrable to the technical capabilities available.[78] The nature of stability operations, support operations and counterinsurgency all place preeminence on the human terrain, dealing with human interactions with each other and their environment. As such, intelligence in such an environment is necessarily derived predominantly from human sources, the result of HUMINT.

The Army, and indeed the U.S. intelligence community as a whole, had significantly reduced its HUMINT capabilities in the 1990's.[79] The lack of trained and experienced HUMINT specialists, organized in OIF into tactical HUMINT teams (THT), would severely hinder the ability for commanders to gain the requisite understanding of their battlespace during the transition to stability operations and support operations.[80] The HUMINT effort was also hampered by the lack of organizational experience and expertise at managing HUMINT operations.[81]The shortage of THT's would become acute as units realized that operations, particularly counterinsurgency operations, were dependent upon, and indeed driven by, accurate, timely intelligence.

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[77] Interview with Colonel French.

[78] Department of the Army, *Iraq and the Future of Warfare: Implications for Army and Defense Policy*. (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College) 18 August 2003.

[79] The U.S. Army had begun reducing its HUMINT capabilities as early as the late 1960's in Vietnam. The Church Committee Hearings, headed by Senator Frank Church and Representative Otis Pike investigated intelligence abuses in the Cold War. As a result of the hearings, and in large part due to the Army's reemphasis on the conventional battle, HUMINT was deemphasized in Army doctrine, training and organization. This trend would continue into the 1990's, when the majority of the Army's HUMINT capability would be removed from the operational force and assigned to the Defense Humint Service, created in 1995.

[80] U.S. Army, Combined Arms Assessment Team 01: Operation Iraqi Freedom, Center for Army Lessons Learned, Chapter 2 (Intelligence), 31.

[81] Ibid., 33.

The problem lie not simply in the inability of the intelligence system as initially developed for OIF to collect the right kind of information to the appropriate level of detail and timeliness. The Army would find effective solutions to this problem as will be discussed in detail later. The larger problem evident from the Army's experience in OIF is the lack of experience and expertise necessary to first determine what information is necessary to provide the commander with a sufficient understanding of the environment, to include the threat, and secondly to accurately analyze the information collected to develop intelligence that truly informs the commander's understanding.

Years of education and training against a largely conventional, symmetrical enemy model created an intelligence community, along with the commanders it supports, largely unprepared for the complexity, dynamism and ambiguity inherent in the contemporary operational environment evidenced in OIF. Intelligence doctrine that drove both the development of intelligence professionals and the intelligence systems to support the warfighter engendered and propagated the belief that technology would provide situational understanding. Training scenarios emphasized the tactical fight, disconnected from the political, social, economic and cultural complexities of real-world operations. The most demanding training faced by most Army units, the combined training centers, while involving an adaptive and highly trained opposing force, pitted one U.S. Army commander against another, fostering throughout the Army, but especially within the IBOS, a tendency to mirror image the enemy.[82] As in the chess analogy, the enemy the Army trained to fight was not much different than it, differing only in appearance.

Overcoming the inherent weakness in the Army's approach to *understanding first* as it faced the realities of the operational environment in Iraq would prove both costly and time-consuming. It would, for example, take the 101st Airborne Division, lacking any prior experience or expertise is such an approach, six months to recognize the need to incorporate the information

[82] Interview with Colonel French.

gathered from disparate sources into a single database to facilitate analysis.[83] This experience is indicative of the efforts units made, often at the brigade and battalion level, to adapt both processes, such as IPB, and capabilities to develop an effective means of understanding the environment and the threat.

What developed was an "Intelligence Movement to Contact" approach.[84] The ability to see and understand the battlespace from a distance proved both insufficient and infeasible in the contemporary operational environment of Iraq. Intelligence, rather, is gained only through the up close and personal experience of soldiers on the ground, interacting daily with the population and the environment. This idea would develop into the concept of "Every Soldier is a Sensor."[85] Understanding in the contemporary operating environment results from the ability to know what the daily norm looks like and recognize indications of something outside the norm. This ability, to know what "right looks like" provides insight into attitudes and intent of the local populace, political and economic realities and indications of changes in attitudes or behaviors that could effect Army operations or indicate a potential threat.

Intelligence no longer simply supports operations. In this environment, intelligence drives operations.[86] Gaining actionable intelligence becomes both the purpose and the result of operations.

The most fundamental change in how the Army approaches *understanding first* in the contemporary operational environment is time. Developing the level of situational understanding sufficient in current operations in Iraq took considerable time. Establishing personal

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[83] Brian Leib, Major, Interviewed by author. Digital recording. Fort Leavenworth, KS, September 10, 2004.

[84] The term "Intelligence Movement to Contact" is a creation of the author to signify the emergence of a deliberate technique where forces make contact with the population, and the enemy, not to achieve a tactical effect, but rather to gain information that will inform an understanding of the situation and provide intelligence that can be acted on in future operations.

[85] Association of the U.S. Army "ES2: Every Soldier is a Sensor" August 2004. Available online at http://www.ausa.org/pdfdocs/IP_Sensor08_04.pdf Last accessed on December 7, 2004.

[86] FM 2-0, 1-3.

relationships, whether with tribal leaders, local officials, Iraqi security forces, and the local population is a lengthy process, especially in Iraqi culture.[87] Gaining the situational understanding necessary for a soldier to recognize what "right" looks like takes time and experience. The ability for an analyst to cull the terabits of information collected from a myriad of sources to determine what is relevant and its significance to the mission and the force requires expertise, which can be trained, but more importantly it requires experience, which takes time. This represents a significant change for the IBOS, which had been moving along an azimuth that leads, it was presumed, to sufficient situational understanding preceding military operations.

While much of the specifics of how the IBOS is adapting to meet the challenges of the operational environment in Iraq remains classified, the overall approach developed to facilitate understanding is evident. Actionable Intelligence drives operations. Intelligence is derived predominantly through human intelligence, both from trained, experienced tactical HUMINT teams, and from every soldier's inherent ability, through his own experience, to provide timely, accurate and relevant information that informs the commander's understanding of the situation.

The Army, having developed an approach to understanding that is effective in the contemporary operational environment evident in Iraq today, now faces two questions. First, does this approach support the needs of an Army with an expeditionary mindset to *understand first* when forces are deployed to new operational environment with little time to prepare? Second, is this approach consistent with the concepts being developed for the future force to ensure it can See First, *Understand First*, Act First and Finish Decisively?

[87] Interview with Major James Dickey, U.S. Army, conducted by author on 17 October 2004 at Fort Leavenworth, KS. Major Dickey, a U.S. Army Foreign Area Officer specializing in the Middle East points out that the key to an effective relationship build on trust and understanding takes considerable time in Arab culture before one is "brought into the circle." Major Leib also pointed out the challenges that new units face when replacing a unit that has invested the time and effort to establish effective relationships and an understanding of the environment. In effect, each unit must spend weeks if not months to do the same.

CHAPTER 4

UNDERSTANDING FIRST: THE WAY AHEAD

One of the most fundamental changes that would result from the effort to define and describe the nature of future conflict and the capabilities necessary for the U.S. military to not just meet, but dominate, warfare across the full spectrum of operations in the future was the value of Jointness. The Goldwater Nichols Act of 1986 had formalized and regulated the drive toward a more effective joint warfighting capability among the armed services.[88] The experience of Desert Storm, touted as a success of jointness, had marked an improvement from deconfliction of mult-service operations to coordinated operations. Joint Vision 2010, published in 1994, would make jointness a cornerstone of future U.S. military operations.[89] Army and DOD transformation efforts would expand this vision from coordinated operations to operations where joint capabilities were integrated and inter-dependent to achieve maximum synergy, effectiveness and efficiency of U.S. military capabilities. The Army was no longer free to build and train a force in isolation based on its assessment of the capabilities necessary for future operations. Joint vision and doctrine would now drive how the Army, as point of the joint team, would fight and win the nation's wars.

The joint vision and doctrine that would come to dominate how the U.S. military viewed future conflict and how the U.S. would maintain its decisive advantage across the full spectrum of operations would be guided by two related theories. The first and overarching theory, which in effect seeks to define the nature of future warfare, is the concept of Network Centric Warfare (NCW). The DOD's Office of Force Transformation (OFT) defines NCW as follows:

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[88] United States Congress, *U.S. Code, Title 10, Subtitle A, Part 1, Chapter 5*, 1986, available online at http://www.dtic.mil/jcs/core/title_10.html Last accessed on December 7, 2004.

[89] U.S. Department of Defense "Joint Vision 2010" (Washington DC: Chairman, Joint Chiefs of Staff, 1997)

> "The term "network-centric warfare" broadly describes the combination of emerging tactics, techniques, and procedures that a fully or even partially networked force can employ to create a decisive warfighting advantage."[90]

At its heart, NCW is an attempt to leverage the capabilities provided by ever-improving information technologies to enhance the combat efficiency of U.S. forces. NCW is based in part on Metcalf's Law of network computing, which asserts, "the "power" of a network is proportional to the square of the number of nodes in the network."[91]

While relying on technology to link sensors, decision-makers and shooters, NCW is more than simply maximizing technology to enhance communications between critical elements on the battlefield. NCW is an attempt to fundamentally change how the U.S. approaches warfare, with the concomitant transformation of organizational structures, doctrine, training, and culture. NCW contends that the relative information advantage that results from information sharing, shared situational awareness and knowledge of the commander's intent imbues a decisive warfighting advantage through self-synchronization, speed of command and increased combat power.[92]

The second theory driving the DOD's current transformation efforts is the concept of Effects-based operations (EBO). EBO is defined as "coordinated sets of actions directed at shaping the behavior of friends, neutral, and foes in peace, crisis, and war."[93] EBO attempts to shift from a focus on attrition as the primary means to achieve the desired effect on the enemy to an effort directed at influencing the target's decision-making. In other words, EBO seeks to

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[90] U.S. Department of Defense "Network Centric Warfare: Creating a Decisive Warfighting Advantage" (Washington DC: Winter, 2003), 3. Available online at: www.oft.osd.mil Last accessed on 30 November 2004.

[91] George Gilder, "Metcalfe's Law and Legacy," (Forbes Magazine, 13 September 1993),

[92] U.S. Department of Defense, "Network Centric Warfare: Creating a Decisive Warfighting Advantage" (Washington DC: Office of the Secretary of Defense). Available online at: www.oft.osd.mil Last accessed on 30 November 2004.

[93] Edward A. Smith *Effects Based Operations* (Washington DC: DoD Command and Control Research Program, November 2002), 108.

influence the will of the enemy rather than simply destroying his capability to oppose U.S. interests. As such, EBO is a natural and necessary part of NCW.

Both NCW and EBO require an information advantage to be effective. There are three key elements to providing U.S. forces with the information necessary to gain and maintain this advantage. The first is the technical architecture necessary to gather, analyze, disseminate and present the information necessary for the decision-maker to gain a sufficient and timely understanding of the situation. The term decision-maker is used here deliberately, as opposed to commander, to emphasize one of the central tenets of NCW, which is that enhanced situational awareness and understanding of the commander's intent provided throughout the networked force will allow soldiers and leaders at all levels to rapidly make effective decisions and seize opportunities without the need for time-consuming hierarchical decision-making processes.

The technical architecture is, to an extent, already in place. Coalition forces demonstrated an unheralded ability to collect, process, store, disseminate and present information, in near real time, to commanders and staffs across the battlespace and around the world. What is left, as evidenced by OIF, is the need to close the digital divide that exists between the operational and tactical forces. This includes not just the ability to share and move information between headquarters elements, but the ability to include each individual soldier and vehicle within the networked force, what Vice Admiral (Retired) Arthur K. Cebrowski, Director of the Office of Force Transformation for the DOD, refers to as crossing the "last tactical mile" in networking the force.[94]

The architecture is constantly improving, led by a revolution in three critical technologies. The first is the sensor revolution, in which sensors are growing smaller, less

[94] Arthur Cebrowski "Network Centric Warfare and Transformation." Speech to Network Centric Warfare 2003 Conference. 22 January 2003. Available at http://www.oft.osd.mil/library/library.cfm?libcol=7 Last Accessed January 5, 2005.

expensive and more capable.[95] In OIF, coalition forces were able to sense the physical aspects of the battlespace in real time, 24 hours a day, 7 days a week, in all weather conditions. Further developments in sensor technology will allow the force to pervade the battlespace, literally from mud to space, with an all-sensing capability tailored to meet the information requirements at each level of warfighting. From insect-like mobile sensors, to squad deployed unmanned aerial vehicles, to nanotechnology, to space based radar, emerging sensor technology promises to provide the networked force with near-complete access to the battlespace.

The proliferation of sensors necessitates the second technological revolution, the exponential increase in information technology. Without a corresponding increase in the ability to transmit, process, analyze and disseminate the vast quantities of data collected by the increasing array of sensors permeating the battlespace, it would be impossible to derive relevant, timely intelligence for the decision maker.[96]

The improvement in weapons technology represents the third technological revolution.[97] The accuracy and precision provided from guidance systems has dramatically increased the effectiveness of modern weaponry. This allows for greater efficiency, as evidenced by the fundamental shift in Air Force targeting methodology. What once took a thousand bombs to destroy now takes one. Air planners, rather than planning number of sorties per target now plan number of targets per sortie, with each aircraft capable of effectively engaging multiple targets during a single sortie.[98] The convergence of these three technological revolutions is evidenced in OIF as aircraft could be dynamically retasked during a sortie to engage a target identified and tracked by a remote sensor. The pilot could see the information from the sensor in his aircraft,

[95] Smith, 66.
[96] Ibid., 67.
[97] Ibid., 68.
[98] Cebrowski.

allowing him to quickly analyze the target and decide how best to engage without the need for further analysis from another element.

NCW attempts to replicate the flattened out decision-making process at work in the pilot scenario above throughout the force and across the full spectrum of military operations. To do so, NCW asserts that information can be substituted for mass.[99] Yet, until the architecture is in place to assure such an information advantage, soldiers and the mission are placed at risk. In OIF, the digital divide, while not jeopardizing the success of the mission during major combat operations, certainly increased the risk soldiers faced during the fight to Baghdad and proved a significant risk for the force in the counterinsurgency fight that followed.

The second key element to assuring the U.S. the information advantage necessary for NCW and EBO is an effective organizational structure. Organization structures more attuned to meet the information requirements of the contemporary operating environment are being developed, both as ad hoc organizations in Iraq to meet immediate warfighting needs, and as emerging concepts to support the requirements of the future force. In Iraq, the IBOS structure that was designed for the information needs of the conventional fight proved ineffective to the information requirements in the complex operational environment following the end of major combat operations. Units at all levels, from company through Corps, were simply not resourced to provide expertise and in-depth analysis necessary to provide decision-makers with a sufficient understanding of the environment, the enemy and the situation.[100]

One solution is the creation of intelligence fusion centers, formed from Corps and Division Analysis and Control Elements. These centers are designed to incorporate, analyze and synthesize the capabilities of the many disparate organizations and collection means available.

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[99] Congressional Research Service, Report to Congress "Network Centric Warfare: Background and Oversight Issues for Congress" June 2, 2004.

[100] Anthony H. Cordesman "The Lessons of the Iraq War"(Washington DC: Center for Strategic and International Studies, July 3 2003), 20-22.

This includes coalition forces, U.S. government agencies, non-governmental organizations (NGO), media and open source information, and the Iraqi government. The second solution being effected in Iraq today and incorporated into future force designs for Army units as part of the ongoing transformation efforts is a dramatic increase in the size and skills capability resident in the intelligence sections at every level battalion and above. For example, the Army is adding nine thousand intelligence officers and soldiers to the force, including a significant number of HUMINT specialists.[101] This increase in HUMINT capability will also provide staff sections at Brigade and above with an organic HUMINT management and control element to coordinate and direct all human intelligence operations within the units area of responsibility, a capability which was recognized as a significant shortfall during OIF.[102] The units deploying to Iraq will also have a dramatically increased intelligence capability as battalion and brigade staff will include additional intelligence analysts, up to an additional sixty at the brigade level.[103]

At the macro level, the technical architecture and organizational structures are an integral part of the DOD's transformation effort. The DOD's vision involves a seamless network known as the Global Information Grid (GIG). The GIG is defined as:

> "a net-centric system operating in a global context to provide processing, storage, management, and transport of information to support all Department of Defense (DoD), national security, and related Intelligence Community missions and functions-strategic, operational, tactical, and business-in war, in crisis, and in peace."[104]

The GIG is intended to "provide the National Command Authority (NCA), warfighters, DoD personnel, Intelligence Community, business, policy-makers, and non-DoD users with

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[101] Gary Sheftick "Actionable Intelligence: UA's to Beef Up MI Assets" (Washington DC: Army News Service, November 18, 2004), available online at http://www4.army.mil/ocpa/read.php?story_id_key=6580 Last accessed on December 1, 2004.

[102] U.S. Army Center for Army Lessons Learned "Operation Outreach" CALL Newsletter 03-27, October 2003.

[103] Sheftik.

[104] National Security Agency online. Available at http://www.nsa.gov/ia/industry/gigscope.cfm Last accessed on 01 December 2004.

information superiority, decision superiority, and full-spectrum dominance."[105] The GIG thus is far more than a network that connects sensors to decision-makers to shooters. It encompasses the entire national security community to leverage the revolutions in technology discussed above to develop a timely and accurate understanding of the situation and to share both that understanding and the intent-based decisions it affords throughout the community and the joint operational force in a real-time, collaborative environment. The Army's link into the GIG is through the Army Knowledge Management (AKM) strategy. The goal of AKM is " a transformed Army, with agile capabilities and adaptive processes powered by world class network-centric access to knowledge, systems, and services, interoperable with the joint environment."[106]

The network provides two key capabilities to help enable a decision maker to *understand first*. First, the network provides the ability to collaborate in real time. The decision-maker, the supporting staff, adjacent units, indeed the entire joint force and national security community has the capability to collaborate with each other and with analysts and subject matter experts. This provides the decision-maker with a powerful resource to draw a more in depth understanding of the situation and the potential effects of courses of action under consideration. Collaboration was highlighted as a success story during OIF.[107]

The second key capability the network provides is the ability for the deployed force to reach-back into various DOD and inter-agency databases. This allows the force to leverage the information gained and data-based throughout the national security community.[108] Reach-back is also a means of accessing the various military analysis centers, intelligence centers and a unit's organic analysis sections not deployed forward into theatre.

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[105] Ibid.

[106] U.S. Army, Office of the Army Chief Information Officer/G-6 "AKM Strategic Plan; version 2.9.8" Available online at http://www.army.mil/ciog6/akm.html Last accessed on January 5, 2005.

[107] *Intelligence Officer's Handbook*, 3.

[108] There are challenges to military forces accessing other inter-agency databases that have yet to be resolved. The goal is to develop a single intelligence database to which the entire intelligence community would contribute and have access.

The final key element to ensuring that U.S. commanders gain and maintain an information advantage is persistent knowledge. Persistent knowledge here is defined as a baseline of knowledge about a potential environment into which the U.S. may conduct military operations. This knowledge includes a system of systems analysis to understand the political, military, economic, social, informational and infrastructure (PMESII) situations within the potential area of operations.[109] More importantly, this knowledge includes an understanding of the interrelations between these elements, how they influence one another and how they would likely respond to U.S. efforts at exerting its national power, diplomatic, economic, social, and military, to influence a given situation.

Joint Forces Command (JFCOM) has developed a concept, known as Operational Net Assessment (ONA), which provides a methodology for developing such a persistent knowledge for areas in which the U.S. may employ military force. ONA "provides a methodology and framework used to develop a coherent, relevant, and common understanding of the operating environment, of the adversary as an adaptive entity within that environment, and of ourselves."[110] ONA, in effect, provides decision makers with a baseline understanding of the adversary and the environment in which he is operating. This is vitally important as the Army transforms into a force with an "expeditionary mindset," expected and capable of deploying to conduct operations anywhere in the world in as little as seventy two hours.[111]

Following the end of major combat operations, U.S. and coalition forces found themselves responsible for rebuilding Iraq while attempting to provide order, stability and

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[109] U.S. Joint Forces Command "Concept Primer: Operational Net Assessment" (Norfolk, VA: November 2003), 2. Systems of systems analysis is based on understanding the adversary as a complex, adaptive system of political, cultural, technological, military and economic components and then on identifying the key nodes and links that would most likely result in achieving the desired effects.

[110] Ibid., 1.

[111] Kevin P. Byrnes, Commanding General, U.S. Army Training and Doctrine Command, available online at http://www.tradoc.army.mil/pao/Web_specials/FocusAreas/JEM.htm Last accessed on 01 December 1, 2004.

security in the face of continuing armed opposition and a growing insurgency. Because the military had not intended to take on such a mission, it had little knowledge about the information it would need to accomplish such a task. The intelligence community had invested considerable effort in attempting to understand the inner working of Saddam Hussein's regime, the economics involved in supporting and financing his regime and the dynamics of social, largely religious, influences in Iraq. This information, however, would prove of little value for company, battalion and brigade commanders charged with quelling continuing violence and rebuilding a country in shambles after two wars and more than a decade of neglect and disrepair as a result of United Nations sanctions and the regime's antipathy toward the suffering of the Iraqi people.

The Army, in effect, lacked the detailed information and expert analysis essential for *understanding first* in the COE. ONA seeks to provide "knowledge superiority" which creates an information advantage sufficient to enable precise and bold action through *battlespace understanding* and *situational awareness*.[112] Battlespace understanding provides the base level of knowledge necessary for decision makers to understand the environment, the dynamics and interrelation among the various elements that comprise the enemy's system, how the enemy operates, and what the leverage points are to influence the system to achieve U.S. objectives. The commander on the ground is then able to develop a more in depth understanding of the environment, the adversary and the people involved to make the right decision at the right time to achieve the desired effect.

However, the situational awareness that the commander gains from his unit's experience operating in the environment is also essential, because an ONA will never be able to assess to the level of fidelity and accuracy necessary to assure mission success given the full range of variables at work in a complex, adaptive human environment. There will be, in any situation, but especially so in the contemporary operating environment, a certain amount of intelligence

[112] "Concept Primer: Operational Net Assessment", 3.

movement to contact, whereby the information necessary to ensure the success of the mission is only gained through the interaction of military forces with the people and the environment. Situational awareness developed through experience is then shared throughout the networked force to provide a common, relevant operating picture (CROP) to enable all elements of the joint force to see the battlespace in the same way.[113]

As part of the larger DOD transformation effort and in response to the challenges facing the Army today in Iraq and Afghanistan, Army's intelligence is undergoing its own transformation. The Army invested billions of dollars in a system designed to collect, process and disseminate technical data via an array of sensors and collectors located throughout all echelons, tactical to national.[114] Army intelligence professionals were educated and trained to depend on technical data to provide the intelligence necessary to inform the commander's decision. Training scenarios emphasized military operations absent a larger political, economic, social and information environment, developing and reinforcing an intelligence corps that viewed information requirements almost exclusive in terms of the impact of the physical nature of the environment and the threat's capabilities to effect U.S. interests and military operations.

This system proved reasonably effective during major combat operations, both in Desert Storm and OIF. Continuing operations in Iraq against an asymmetric, adaptive and determined enemy operating in complex terrain revealed the significant limitations of the Army's intelligence system to meet the challenges of the contemporary operational environment. As such, the Army has developed a transformation concept known as Actionable Intelligence (AI). AI's intent is to "provide Commanders and Soldiers a high level of shared situational understanding, delivered

[113] Ibid., 4.

[114] U.S. Army "Actionable Intelligence: Defeating the Asymmetric Threat" (Washington DC: July 30 2004), 12.

with the speed, accuracy, and timeliness necessary to operate at their highest potential and conduct successful operations."[115]

An important point in the purpose of AI is the emphasis on the support to the Soldier. The IBOS had previously focused its efforts on informing the commander's awareness and understanding of the situation. Today's operations are increasingly decentralized. There also exists a convergence of the tactical, operational and strategic effects that an individual soldier's actions can produce given the transparency of modern combat due in large part to the presence and availability of modern media throughout the battlespace. Army intelligence has recognized the need to provide a relevant, timely and accurate understanding of the battlespace to the entire force, from the combatant commander to the individual soldier on the ground.

The intent is not simply to provide the Soldier with a reach-back ability to provide him with a picture of the battlespace. The intent is for each soldier to assist in the fight for knowledge.[116] As discussed in Chapter 4, the idea that every Soldier is a sensor, seeks to leverage the experience, perceptions and judgments of soldiers operating and interacting with the local environment, populace and the threat on a daily basis.[117] The key is connecting the Soldier to the network.

Systems such as a handheld FBCB2 and Distributed Common Ground System-Army (DCGS-A) will enable the Soldier and the tactical unit to input information into the network at the point of origin, ensuring the most relevant and timely information on the local situation is available across the force.[118] These systems also provide the tactical user with the most up to date information gathered from the entire intelligence system that is relevant to their situation.

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[115] Ibid., 2.
[116] "ES2: Every Soldier is a Sensor."
[117] U.S. Army "Actionable Intelligence: Defeating the Asymmetric Threat," 12.
[118] Ibid., 10.

This creates a system not simply capable of reach-back, but of intelligence reach, where information is shared between all levels throughout the force.[119]

In OIF today, there is still a considerable disconnect between the tactical and the operational/strategic levels in their understanding of the situation. Tactical units had an in depth, accurate understanding of local knowledge, but little situational knowledge outside their immediate area of operations. The opposite was true at the joint, theatre and national levels.[120] AI seeks to overcome this deficiency by providing a common, relevant, accurate and timely operating picture across the entire force.

Actionable Intelligence includes other initiatives that are critical to the way ahead for how Army intelligence will transform to ensure that Soldiers and Commanders *understand first* in the contemporary operating environment. The first of these is the concept of Red Teaming. Red Teaming is an attempt to overcome the inherent deficiency in the Army's IPB process to address asymmetric threats. A red team will consist of personnel trained at the TRADOC established "Red Team University (RTU) in an advanced curriculum on asymmetric warfare. This group will consist of full-time threat and functional experts, along with a network of regional, cultural and subject matter experts. The red team will serve as part of a unit staff to participate in planning and to assess operational plans for vulnerability. [121]

Red Teaming provides two distinct advantages over the Army's current methodology in which the unit's S2 performs this function. First, the red team will provide a greater depth and breadth of knowledge of asymmetric warfare that can be used to identify potential risks to the force and the mission. Second, red teaming offers a fundamentally different approach. S2's have been trained to first define the enemy's capabilities and then determine how the enemy can

[119] FM 2-0 defines Intelligence Reach as "a process by which military forces rapidly access information, receive support and conduct collaboration and information sharing with other units and organizations unconstrained by geographic proximity, echelon, or command."

[120] U.S. Army "Actionable Intelligence: Defeating the Asymmetric Threat," 12.

[121] Ibid., 16.

impact the mission and the force. Red teams, in contrast, will objectively examine the unit's vulnerabilities first to identify where potential risks exist without limiting the creativity and adaptability of the threat.

Another critical initiative is Tactical Overwatch, which provides dedicated support from theatre intelligence centers to tactical units operating in situations of low situational awareness and high vulnerability, such as when on the move. Supported by Intelligence and Security Command's (INSCOM) Information Dominance Center, the theatre intelligence centers will assure the overwatched unit with continuous access to current, relevant information for their situation available from forward area and national collection, analysis and synthesis of information from shared databases, and advanced processing and distributed visualization.[122],[123]

Actionable Intelligence and ONA seek to overcome the challenges of providing Soldiers and commanders with a decided information advantage, in effect the ability to *understand first*, in the complex, dynamic and ambiguous environment the Army operates in today and is expected to in the future. While these concepts have shown tremendous value in addressing the immediate challenges the Army is facing in Iraq and Afghanistan and hold great promise for the Army operating as an expeditionary force in the future, there are several significant challenges that must be overcome to realize their full potential.

The first challenge is the availability of the information necessary to develop an accurate and sufficient understanding of an operational environment and the threat, the baseline understanding promised by ONA, prior to the employment of U.S. forces. Iraq offers a case in point. Despite the experience of Desert Storm, continuing military operations throughout the

[122] Ibid., 19. The Information Dominance Center is itself a critical Actionable Intelligence initiative. "INSCOM's IDC is a state of the art operational intelligence organization" which performs "fusion analysis to leverage national, theatre, and tactical reporting to rapidly establish threat association and likages, recognize threshold events, activity patterns and anomalies, and understand the significance of information "buried" within an ever increasing volume of collected material."

[123] Ibid., 17.

interwar period and a directed, twelve year intelligence effort, the intelligence community made egregious mistakes in its assessment of the situation. In Iraq, two of the most notable being the lack of weapons of mass destruction and the state of disrepair of much of the Iraqi infrastructure.[124] The general lack of information and the insufficient fidelity on what information was available on the political, social, and economic realities at the local level throughout Iraq would prove a more immediate concern for tactical units tasked with rebuilding a nation from the village up while fighting an increasingly tenacious and sophisticated insurgency, which itself had not been predicted.

What these failings reveal is not simply a reflection of insufficient intelligence capabilities, but of access and experience. Iraq, like other closed, authoritarian regimes was extremely difficult to penetrate either through technical or direct human intelligence efforts. In the case of Iraq, the U.S. intelligence community was largely dependent upon Iraqi exiles, defectors and other nations for its information. The reliability of such sources and the veracity of the information they provide is at best questionable, and proved outright false in the case of WMD in Iraq. The lack of an official U.S. presence, either through a consulate or embassy, meant that few if any government officials had any direct experience in Iraq.

What is required, both within the Army and throughout the intelligence community as a whole is a cadre of intelligence professionals and other officers educated and experienced in the language, culture, political, economic and social realities of the countries and regions in which the U.S. anticipates future military operations. Developing such a cadre takes considerable time and investment. The Army has the FAO program which attempts to produce just such a corps of officers. The challenge for the Army is ensuring it has the appropriate number of trained and experience officers in the right places to meet its future operational requirements. Even still, countries such as North Korea, which are extremely isolated, not just from the United States, but

[124] Cordesman.

to most of the outside world, to include international business and nongovernmental organizations, other potential sources of information, make it extremely difficult to expect an understanding of the environment and the threat prior to the commitment of U.S. forces.

The second challenge, inextricably linked to the challenge of the availability of accurate and sufficient information, is the difficulty in defining linkages and determining causality.[125] ONA and AI, as integral functions of an effects based approach to military operations, attempt to make transparent the interworkings of a complex, adaptive system. The underlying assumption is that within the DOD and interagency organizations resides the expertise and experience in the intricacies of politics, economics, cultural anthropology, sociology, and psychology, along with a myriad of other factors that influence organizational and individual behavior.

The expectation is that, given a reasonable amount of information about the enemy's system, these subject matter experts culled from across the DOD, interagency, academia and business communities could define how each of the variables comprising the system interact with one another. This would allow planners to ascertain how to influence the system by identifying critical nodes and linkages and by determining how actions against one part of the system would effect, or ripple, across the other parts of the system. The analogy drawn is again of a chess match, wherein one side attempts to anticipate how one move would influence the opponent's next move, as well as the resultant second and third order effects for each side.

The challenge is that, using the chess analogy, the pieces move not only in response to the opponent's actions, but independently as well. In fact, in the contemporary operating environment, it is often impossible to determine if the behavior witnessed resulted from one's actions or as a result of some unseen influence. It simply cannot be assumed that the enemy will act according to reason or logic, or even in his own best interest, inasmuch as it is possible to determine how he applies reason to the situation and what he perceives as his best interests.

[125] Wesley C. Salmon *Causality and Explaination* (New York: Oxford University Press, 1998)

Effects based operations in this environment are also extremely difficult to measure. As an example, a measure of effectiveness (MOE) might attempt to determine the attitude of the population toward coalition forces. The measure chosen could include whether attacks against coalition forces increases or decreases over a certain amount of time. While this might actually represent a shift in the population's support away from insurgent forces to the coalition, it could also represent a deliberate pause in insurgency activity for any of a number of reasons.

To further illustrate the challenges of predicting causality, take the 2004 U.S. presidential elections. There was considerable debate as to what effect a terrorist attack on the eve of the election would have on the outcome. It was generally accepted that the terrorist attack in Spain on 11 March 2004 had led to the opposition party's victory.[126] Yet all the experts in the U.S. political system, a completely open and transparent system of which many of these experts were or had been a part, could not reach consensus on how a terrorist attack would influence American voters. This would seem to indicate the difficulty in accurately assessing the effects of U.S. military actions in an environment largely foreign and understood from an outsider's perspective.[127]

The final challenge to be addressed here is the fact that the transformation initiatives mentioned, network centric warfare, operational net assessment and actionable intelligence are all DOD initiatives, yet they are dependent on interagency cooperation and expertise to achieve their full effectiveness. Operations in Iraq and Afghanistan have made it abundantly clear that the full spectrum of national power, diplomatic, information, military and economic must work in concert to achieve U.S. strategic objectives. The same is true of the intelligence community if it is to

[126] "Spanish Government Admits Defeat" BBC News, 15 March 2004, available online at http://news.bbc.co.uk/1/hi/world/europe/3511280.stm Last accessed on December 7, 2004.

[127] James L. Boling "Rapid Decisive Operations: The Emperor's new Clothes of Modern Warfare" National Defense University Essays, 2002, 9.

achieve the decisive information advantage to assure the effective application of national power. Interagency coordination has improved greatly in recent operations in OEF and OIF.[128]

There are, however, still significant strides to be made to overcome parochial interests and competing interests and objectives. Each of the agencies involved in producing the intelligence picture offer their own unique perspectives and analysis. It is important that commanders at all levels have access to opposing ideas as it creates a cognitive tension from which great ideas can develop. The challenge is to ensure that these agencies and others providing insight, expertise and information to support the decision-maker understand his situation and what he needs to know to make the right decision at the right time to achieve the right effect in support of tactical, operational and strategic goals.

[128] Conrad C. Crane, PhD., "The U.S. Army's Initial Impressions of Operations Enduring Freedom and Noble Eagle" (Carlisle Barracks: Center for Strategic Leadership, U.S. Army War College, September 2002), 2.

CHAPTER 5

RECOMMENDATIONS

The Army is currently attempting one of the most daunting tasks any military can undertake, completely transforming to meet its future challenges while fully engaged in an ongoing war. The experiences of Iraq and Afghanistan are providing valuable insight and experience into the dangers, challenges, and opportunities the Army will face in future operations. The knowledge gained from OIF and OEF are helping to both validate, and in some cases, reshape the Army's transformation vision for how it will understand the nature of future warfare, the environments it will operate in and the adversaries it can expect to face.

The way ahead for how the Army approaches *understanding first* is not a perfect solution to the challenges inherent in understanding the complex, dynamic and ambiguous nature of warfare. The Army's approach to *understanding first*, both as it is developing in operations in Iraq and Afghanistan today and in its transformation efforts for the future force do, however, offers a reasoned, comprehensive methodology. There are, as with any methodology, improvements that the Army should make to enhance and ensure the effectiveness of its approach to *understanding first*.

The Army must invest in the expertise necessary to gain and maintain a timely and sufficient understanding of the environments it will likely operate in and the adversaries it may face. While experience and expertise on any given country, region, or adversary may reside within the interagency structure, academia, business or nongovernmental organizations, the accuracy, fidelity and focus of the information available in from such sources are likely, as in the case of Iraq, to be insufficient to the needs of military decision makers and especially the commander charged with conducting operations on the ground.

Some of the information necessary to inform decision makers about not just capabilities, but enemy intent, may only be garnered through clandestine means, and as such are beyond the scope of this monograph. There is, however, a wealth of knowledge, experience and expertise derived from more overt, open means that should be incorporated in developing an in depth understanding of a given environment. The Army's FAO program is one such source.

The Army must, however, change its FAO program to reflect the realities and requirements of current and most likely future military operations. The Army must reassess the distribution of its FAO corps. To do this, it must realign its focus from a European, Cold War construct to one that meets the challenges of the new and emerging world security situation. The Army will need to significantly increase the number of FAO's educated, trained and experienced in the Middle East, Africa and Central Asia.

The Army must also recall many of the officers that have already been trained, in terms of language, education and regional experience back into the FAO program. These officers are currently serving in other branches and functional areas within the Army. The Army should conduct an assessment to determine where these officers best support the immediate and long-term needs of the Army.

The emphasis of the FAO program must change to reflect the needs of an expeditionary Army. FAO's should be operationalized to ensure they are trained, equipped and available to the joint task force or expeditionary force commander as soon as the potential for military operations arises. The FAO, thus, can provide valuable insight and expertise into the planning process and act as a special advisor to the commander, helping him develop a more in depth understanding of the environment, the people, cultures, religions, politics, economics and other influences at both the macro/national level and at the local level. The advantages of having an Army officer who speaks the language, knows the culture, understands the internal dynamics of a village, region or country and is likely to have personal and professional contacts either within that specific

operational area or with neighboring, coalition forces and government officials would offer an invaluable advantage to a commander and his staff.

The Army must invest in expertise not only forward in the area of operations, but also in the analysts that support the networked intelligence system. This capability must be inherent within theatre analysis centers, interagency organizations, and the tactical and operational forces. The Army does not have an approach that develops analysts who are regional experts. Analysts currently rotate assignments between regionally focused analysis centers, tactical and operational units, and national level intelligence organizations. Their assignments are based not on their expertise, but on available billets and personal preferences. The Army's efforts at incorporating analysts into interagency organizations to better leverage the full capability of the intelligence community's capabilities overly emphasize a parochial tie to a specific tactical unit rather than developing analysts with in depth regional and technical expertise necessary for the mission.

The Army needs a robust analytical capability resident within each tactical formation. What the Army must do is develop a corps of analysts who have the regional expertise and experience necessary to effectively support the needs of decision makers at all operational levels in the planning and conduct of military operations. A recommendation specific to the expeditionary force would be a warrant officer with regional expertise, along the lines of an Order of Battle Technician, to advise the commander, the S2 and manage the unit's organic intelligence analysis assets.

In addition to investing in expertise, the Army must invest in experience. While the training conducted over the past decade ensured the overwhelming success of major combat operations, it utterly failed to prepare the force for the challenges it faced in the ensuing efforts to rebuild Iraq while countering a resilient, complex and adaptive insurgency. The Army must develop and implement training that replicates the complexity, ambiguity, and intransparency of the contemporary operating environment.

Training scenarios must reflect the interrelation and interaction of the multitude of factors that influence the outcome of military operations, to include politics, economics, society, language, culture, religion, and the environment, among others. Scenarios must reflect both transparent and intranparent relationships and causality between these and other factors. The threat should consist of not a single, identifiable enemy but a number of threats, potential threats and unknowns that are motivated by both competing and complementary interests and objectives.

Training exercises must be more independent and free flowing to replicate the realities of operating in the contemporary operating environment. Actions taken by the BLUEFOR should influence future behaviors of the populace and the threat. At the same time, the threat, within the bounds not of a given or perceived intent, but limited only by capability, should be free to act independently to take advantage of opportunities or to attack perceived BLUEFOR vulnerabilities.

Training scenarios at the CTC's must adapt with each rotational unit to ensure that each must fight for the intelligence it needs to understand the nature of the environment and the threat. In the past, units arrived at the CTC's with an in depth understanding of the situation and threat developed over years of experience fighting the same enemy on the same terrain. In addition to developing new scenarios for each rotation, the Army should consider including foreign officers in the development and execution of enemy operations to provide an enemy that thinks and reacts very different from an American commander portraying an enemy.

The other advantage of creating new training scenarios is that it allows the unit to incorporate and train the expeditionary concept. Unit historical files on the enemy and the terrain at the CTC's traditionally form the basis of the IPB process for rotational units. A fundamentally new scenario would force units to leverage an ONA, along with the regional expertise and experience resident at the theatre intelligence analysis centers and national level intelligence organizations both within the DOD and interagency organizations. This would require, however,

that scenarios reflect real world conditions as much as possible to ensure the relevance, accuracy and effectiveness of such a process. Creating such a training environment provides the added benefit of familiarizing the forces with potential situations they may operate in as well as establishing relationships between the forces and the experts that would also support them in an actual military operation.

Training must also ensure that the Army can operate effectively across the full spectrum of operations even when it does not enjoy a decided knowledge advantage. There is an underlying assumption in both Army doctrine and emerging operational concepts that the Army will win the fight for intelligence and thus be able to gain and maintain an information advantage over its adversary. While this may prove true, developing a force that, rather than maximizing the value of an information advantage to be more effective, is instead wholly dependent on such an advantage to succeed would invite considerable risk. The Army is certainly adapting and overcoming the information disadvantage it suffered after the end of major combat operations in Iraq, but at a substantial price. A more robust and capable enemy would undoubtedly use such an opportunity, possibly that it was able to create through its own technical or tactical means, to invoke an even greater cost, risking both the force and the mission.

Lastly, the Army must develop a system to effectively identify and leverage the experience and expertise resident in the force. In addition to the soldiers and officers formally trained, educated and experienced to develop regional expertise, there are many within the Army who possess specialized skills, experience and expertise gained outside formal military training. The Army must develop a database to capture those soldiers who have language skills, have lived in or traveled to foreign countries or have a specialized knowledge of a particular culture, religion, people, or country based on their own heritage, education or experience. The Army as an expeditionary force must have a system in place that allows it to rapidly identify these

individuals and leverage their unique abilities to support the commander's understanding of the situation.

Although the Army is on the right track in its approach to enabling an expeditionary force to *understand first* in the contemporary operating environment, the recommendations of this monograph will help ensure success on the future battlefield.

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