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John H. Admire

Evidence Based Research, Inc
1500 Breezeport Way, Suite 400
Suffolk, Virginia 23435

Telephone: 757-836-8054
Fax: 757-484-5509
Email: john.admire@je.jfcom.mil

MAKING SENSE OF SENSEMAKING

INTRODUCTION

In today's international security environment the historical and traditional challenges of yesterday are becoming ever more complex. New thoughts and new terms and new technologies are rapidly emerging as nations and coalitions transform today to confront and resolve the timeless challenges associated with changing to meet the demands of tomorrow. One new term is "Sensemaking." What does it mean and how do we make sense of it? How do we make sense of sensemaking? This paper describes sensemaking activities and explains how sensemaking contributes to current transformation and information based decision making initiatives.

As nations and peoples transition from the Industrial Age to the Information Age, one focus has become Information Based and Decision Making activities. We're developing concepts related to Information Warfare, Information Operations, Knowledge Management, and Knowledge Advantage. We're promoting Network Centric Warfare and Force Transformation. We're exploring concepts related to Decision Making and Decision Superiority as well as Operational Net Assessment and Effects Based Planning and Operations and a host of similar concepts.

We're assessing the balance between the relative simplicity of a leader's intuition and experience as well as how to incorporate both into sophisticated concepts and tools. We're pursuing technological tools while promoting theoretical thought. We're seeking to emphasize the integration of interagency coordinated actions to employ all the instruments of national power as opposed to focusing too exclusively on military solutions to most every crisis. We're concurrently attempting to define the nature of the

crisis to appropriately frame potential options with both kinetic and non-kinetic actions. We're evaluating advancing technologies to enhance the emerging concepts. We're creating new terms, thoughts, and technologies to confront multiple diverse challenges and opportunities. Making sense of these concepts is one challenge.

We're discovering that another challenge is neither the lack nor paucity of information, but that we're often overwhelmed with information. We're discovering that decisions are becoming ever more critical and the need for speed in the decision making process is accelerating exponentially. One challenge is how to make sense of the vast volumes of information that we collect or pursue as well as how to make better decisions with both the information we have and the information we may never have. Furthermore, how do we collaborate to ensure that we make sense of the incredible amounts of data that we have available to us and then use that data to make sensible decisions.

Our dilemma is a rather historical or traditional one. How do we develop rather precise strategies and systems, rather precise tactics and technologies, for relatively imprecise future conditions? The future changes will be evolutionary at times and revolutionary at other times. Throughout will be the inevitable sense of either fast and furious or slow and steady change. We must be adept in experimenting and exploring how we will confront an imprecise future with currently imprecise concepts and tools. We will, however, become more familiar with the concepts and tools in time as we experiment with them and as we sense their relative value and make sense of them. The basic theme of this paper is that sensemaking is knowing how to make sense of the information we have, how to make sensible decisions based upon that information, and how to initiate sensible actions based upon those decisions.

This paper discusses three topics related to sensemaking. The first relates to information based, sensemaking, decision making. The second relates to the interagency and asymmetric warfare information needs. The third is a series of summarized insights from recent Joint Forces Command warfare experiments. The paper focuses on operational perspectives as opposed to technical ones. The observations are based primarily on field experiences as well as two years of Joint Forces Command experimentation experience.

INFORMATION BASED, SENSEMAKING, DECISION MAKING

As we develop and experiment with new concepts and technologies it's apparent that while today's technology is revolutionizing tomorrow's information based decision making and sensemaking concepts, the basic need for information sharing procedures remains based upon yesterday's needs. In a recent JFCOM Collaborative Information Environment experiment I was reminded of the sage counsel of a Marine Master Sergeant Operations Chief from many years ago. As a young infantry Platoon Leader I was temporarily assigned as a watch officer in the Battalion Combat Operations Center. The veteran Master Sergeant recognized that it was a new experience for me and that I was virtually clueless. Thankfully, he called me aside and gave me advice that helped me in this new environment as well as guided me throughout the next 30 plus years. His words are as relevant today as they were then.

The Master Sergeant was brief and to the point. He told me that to succeed as a watch officer I basically needed to continually ask myself and act upon four questions. First, what do I know? Second, what do I need to know? Third, who else needs to know? Fourth, have I told them? With that he turned around and went back to his coffee. I went back to those questions time and time again during my watch and the following years.

They remain true and abiding to this day in a world that is much more sophisticated and technology oriented today than the Master Sergeants world of yesterday. But maybe he was ahead of his time because his questions are as true now as they were then. Simply knowing who knows what and what they need to know sometimes helps activate and energize information based and decision making activities.

In their way the questions demonstrate the essence of the information based concepts of today. They help us make sense of the information we have as well as identify the information we need to have to make good decisions. Today decision makers have to constantly ask themselves what they know and need to know. We initially do well with these two questions because they require more of a pull of information than a push of data to others. In time, however, we learn that the push or sharing of information is equally critical. Shared information becomes more powerful information.

These initial four questions and the data sharing process expanded with time. We develop, for example, an appreciation for additional questions. We learn, sometimes the hard way, that to simply identify and tell others who need to know is rarely the end of the process. Therefore, experience teaches us more questions to ask. Did they hear me or, more important, did they understand me? What did they do with or about the information? What actions were eventually taken and what were the results or consequences? Other questions emerge in time to help define and refine the information needs and information sharing process that facilitates making sense of the information and then making sensible decisions from that information.

As technology has increased the speed with which information can be acquired, it has also seemingly increased the need for more questions and more answers. Today, we're

asking such questions as: how do we prioritize our information needs; where can we find it; how do we get it; how do we evaluate it; how do we reduce it to actionable knowledge; how do we integrate it; how do we share it; how do we preserve it; how do we protect it; how do we organize it; how do we present it? The questions become indefinite.

It's interesting to note that when we first began to develop new concepts on information based warfare the stated goal was to develop a system to make the "fastest and best" decisions. We learned that this was inadvisable. The goal became to make "better and timelier" decisions. The difference in "best and better" or "fastest and timelier" may seem somewhat one of semantics, but the difference is one of astounding substance, too. It's the proverbial 60, 70, or 80% solution. A 70% solution acted upon in a timely manner is better than a 100% solution, if that's ever possible, acted upon too late. It's about decision making boldness and the ability to act based upon what we know as well as what we may never know. We rarely, if ever, have either all the time or all the information we'd like to have, but we often have to act and act sooner rather than later. Better and timelier releases us to act with flexible boldness instead of confining us to rigid conformity.

Another information based, sensemaking, and decision making challenge is that unless we're careful we may focus too much on science and technology and too little on human factors such as intuition and experience. Technology by itself rarely, if ever, makes decisions. It's a decision making tool. Decision making is a human enterprise. We must be cautious to avoid a tendency to rely too much on machines and too little on mankind. People are paramount. Recent studies at the Army War College, for example, confirm that the intuition and experience of the leader are far more critical in the decision making

process than the process itself or the supporting concepts and tools. It's people who make sense of data.

The human mind may be more capable of dealing with the subjective factors of risks and uncertainties, while technology may be more proficient with the objective ones of quantifiable facts and qualitative certainty. Therefore, technology is an invaluable asset, but tools will never replace considerate and critical thought. Tools, however, have the capability to reinforce such thought. Therefore, reinforce rather than replace should be the objective in technical support systems. We need tools that support versus supplant intuition.

One final thought on information based, sensemaking, decision making. We've talked about the need for speed. It's the speed of thought, of tools, and of technologies. The leader who decides and acts with speed, as well as better than and timelier than the opponent, normally sets the pace and controls the course of action. Therefore, Speed of Decision is crucial, but possibly more crucial is Speed of Action. We must be bold at Speed of Action if Speed of Decision is to be meaningful. Decisions are important, but to be important they must be acted upon. Actions are ultimately the most crucial.

You may recall, for example, that during Operation Iraqi Freedom a target of opportunity emerged and within minutes a suspected meeting site of Saddam Hussein was attacked. The Speed of Decision was incredible in this situation, but this decision would have been meaningless unless the force was prepared to act. The preparedness and readiness to execute the decision was truly incredible. Speed of Action is possibly the greater challenge—to have planned, to be in position, and to be prepared to act in crisis and time sensitive situations. This takes training, trust, technology, and thought.

Making sense of the information we have, and accepting the fact that we will rarely, if ever, know all that we want to know, is fundamental to good decision making.

INTERAGENCY CONTRIBUTIONS IN ASYMMETRIC WARFARE

The United States is relatively successful in Major Combat Operations. Our concepts and technologies are often assets. But as proficient as we are at winning the war we are less so in winning the peace in Reconstruction and Stability Operations. Our concepts and technologies are often liabilities. We have a tendency to relegate to a secondary priority an early focus on end state and conflict termination. We acknowledge the need for end state planning, but inevitably delay basic decisions as well as appropriate actions. Our focus is the war instead of the peace.

Today unique security challenges confront nations and peoples. Unlike past threats and historical analogies, however, the formal declarations of war and the killing fields upon which battles were normally waged are vastly different in the present war on terrorism or what is becoming known as Fourth Generation Warfare.

The massing of armies and the violation of territorial sovereignty by states against states are undeniable acts of aggression. Terrorism and Fourth Generation warfare are more subtle, more perverse, and potentially more catastrophic. Terrorists disperse and cloak themselves in secrecy and the battlefield is nowhere in particular but potentially anywhere and everywhere. Terrorism is steadily changing and shaping our lives. It's becoming more formidable than the infamous Cold War communist threat "We will bury you." Furthermore, the religious fervor that underlies the Islamic jihad may require more years to defeat than it did to expose the corruptness of communism.

It's becoming increasingly apparent that our national interests and capabilities must be more effectively integrated and coordinated to confront today's and tomorrow's threats. We must apply all the instruments of national power in as comprehensive, coordinated, and complete a manner as possible. A current initiative the past two years in JFCOM experiments is to create and imbed an interagency team within the planning of military focused events. It's probably one of the more universally accepted concepts in our experiments, but much remains to be accomplished to enhance the concept and function of an Interagency Coordination Group. But we're are making positive progress by acknowledging that our major threat is now an unconventional and asymmetrical one characterized by terrorism, insurgency, and Fourth Generation Warfare.

Years ago in lessons learned from Somalia, the Marine Corps talked about the "Three Block War". It illustrated time and distance as well as cultural and information challenges in unconventional war. A Marine or Soldier on patrol, for example, may engage in many types of war in a few blocks and a few hours.

An hour after reveille, for example, the infantryman on patrol may be participating in Humanitarian Assistance operations in one city block. An hour later and a block away, he may be involved in Peacekeeping activities. Then one block and another hour later, he may be engaged in hostile combat actions. The sequence may also be reversed or occur in numerous patterns.

Today, a Fourth Block may be the civil-military initiatives associated with what we refer to as Reconstruction and Stability operations as well as other types and levels of war. The challenges are multiple and diverse. They often require resources and skills beyond only the military. We're becoming increasingly more effective and efficient in incorporating

the interagency into the planning and executing of such activities. The interagency represents an invaluable reservoir of thoughts and talents in a broad array of functional areas. We must ensure the active involvement of interagency participants if we are to achieve success beyond simply winning the temporary war, but in securing a more permanent peace.

One emerging concept is DIME, which includes and represents the Diplomatic, Information, Military, and Economic aspects of national power. Correspondingly, a similar concept, PMESII, includes and represents the Political, Military, Economic, Social, Infrastructure, and Information, perspectives of the adversary. These concepts illustrate a more comprehensive and complete view of the instruments of national power that may be available to shape, influence, or resolve situations, crises, or conflicts. The objective is for nations to influence adversary behaviors by non-kinetic actions and, hopefully, resolve the crisis prior to resorting to kinetic ones. If war is the recourse, however, interagency contributions may be invaluable in securing the peace.

In concept and practice we understand our national security can be enhanced by considering and applying all elements of national power. Yet, to date we lack definitive rules and procedures to effectively institute interagency capabilities beyond the strategic level. The interagency is a significant resource that must be more fully integrated into our political-military process. As a positive initiative, the Department of State has recently created the Office for the Coordination of Reconstruction and Stabilization. Ambassador Pascaul is leading this initiative and it will undoubtedly increase the visibility and contributions of the interagency in the development of strategic and operational themes related to national security. It makes sense that we become more interagency centric and

oriented to exploit the full spectrum of our national powers. It makes sense that we pursue peaceful resolutions, yet be resolute in our preparedness and purpose to wage war should war be the recourse.

WARFARE EXPERIMENTATION INSIGHTS

The initial focus of the paper has been more on concepts than technologies. It may be appropriate and beneficial to now consider the technologies and tools needed to help advance the concepts and enhance sensemaking as it applies to information based initiatives. Recent JFCOM experiments have identified various technology needs. ~We need tools that will interface with and support Effects Based Planning and Operations (EBP & EBO) concepts directed at influencing and shaping behaviors as opposed to attrition war tactics. Quite simply, we need tools that will provide the linkages between the multiple phases of the EBP and EBO process. We develop, for example, literally hundreds and thousands of effects with similar numbers of nodes and actions, and a lesser number of resources. In developing the matrices or connecting effects with nodes or connecting nodes with actions, however, we often resort to a manual linkage system because we have no tools to sort or filter or prioritize the connections or relationships. This becomes a labor intensive and time consuming effort. We have a New Age planning concept in EBO, but we have Old Age tools or technology to support it. We'll never realize the potential of EBO until we have the appropriate tools to support it. We need tools that are oriented toward helping us facilitate and function within the EBO concept and process.

~We need tools that help us better understand and measure the effectiveness of our planning initiatives. We need better metrics and measurements to make sense of the

results of our plans. We need tools that help us predict and measure performance or effectiveness as we plan and before we execute. We need tools that help us understand the potential success of our plan before it's executed and before success or failure is then determined by actual results. We need tools that help us predict or react to unintended consequences, too.

~We need tools that facilitate the incorporation of and coordination between multiple diverse interagency institutions and individuals. Tool interoperability and compatibility among diverse national and international interagency institutions are obvious needs, but tools that reach beyond the obvious are possibly more important. The planning process, for example, within the U. S. State Department and the Department of Defense is dramatically different as is the difference among our many allies and within their respective interagency rules, regulations, and procedures. We need tools that help us standardize or understand the differences and help us establish a common frame of reference. We need a host of interagency tools to help us better integrate our plans with the invaluable resources available in the interagency.

~We need to consistently remind ourselves of human engineering factors when we consider tools. The tools need appropriate business rules, team formation and functional responsibilities, Tactics/Techniques & Procedures for their use, and probably most important is the need for tool training and familiarity. This is nothing new, but we continually minimize this and experiment with minimal or no regard for these important considerations. We need tools with all the associated rules and training for their best use.

~We need to have confidence and comfort with the tools. We need tools that respect simplicity and reject complexity. Yes, the sensitive and complex nature of much of what

they will ultimately do is acknowledged. But we need simplicity. For example, we need tools that with one or two clicks of the keyboard will focus us where we need to be and provide us with what we need to have to make better and timelier decisions. The greater the number of clicks the greater the likelihood that tool confidence and comfort will become suspect by the user. We need simple tools for complex activities.

~We need tools that are focused. Too often we seem to attempt to design tools to do everything, for everyone, for every reason. It may be that, instead of equipping a single tool with multiple bells and whistles or gold plating every tool, we need multiple simple tools to do singular actions. Admittedly, this is a dilemma and a fine distinction. We need tools with multiple integrated and interrelated functions, but if that capability sacrifices a basic function it negates that function. It may be that some tools may need to be task or function specific. In other words, break down a complex task into more manageable actions. A segregated approach may be appropriate with some tools. We need to divide and conquer certain complex tasks. We need focused tools.

~We need tools that provide quantitative as well as qualitative information and results. We need tools that help us capture information quickly, organize if efficiently, display it usefully, and analyze it effectively to enhance understanding and help make sense of our information based sensemaking. We need tools that help us confront the overwhelming volume of information we receive or to which we have access and then help us make sense of it. Information overload is a greater concern than information omission. How we take tons of information and translate it into an ounce of timely and accurate and relevant and analyzed information is the major challenge. We need tools that help us obtain quality information and make good sense of it.

SUMMARY

In summary, making sense of sensemaking as we develop emerging concepts and advancing technologies to confront future challenges and opportunities is sometimes frustrating and sometimes painful. That's because the concepts and technologies are new and we're initially unfamiliar with them. But the more we explore them and the more familiar we become with them the more comfortable and confident we become in them. It's a journey we must pursue for many reasons.

One reason is that in this Information Age world in which we now live, and with the multiple and diverse asymmetric threats of terrorism and Fourth Generation Warfare, we must be innovative and creative in developing new concepts and technologies for confronting present and future threats. The one common theme in our emerging concepts and advancing technologies is their orientation toward achieving Decision Superiority. As we transform into the Information Age our plans and actions are becoming more and more information based. A basic goal is to transform data into information, then knowledge, then understanding. It's about making sense in a sensemaking process and world. The ultimate goal is to help leaders make better and timelier decisions. Information is one of the most powerful weapons in the leader's arsenal. Information is power. Powerful information is lethal. We must be the most powerfully and lethally informed combatant in the battlespace.

The first and foremost reason that we must make sense of our new challenges and opportunities, however, is that young Soldier, Marine, Sailor, Airman, and those who serve our nation and preserve our safety and security. On average they're 18-20 years old.

They're volunteers who've willingly accepted the routine rigors and unique dangers of service and war.

We recruit them from the hinterland and heartland, from farms and factories, from main streets and rural routes. We train them hard. We pay them little. We equip them well. We do this, according to the classic warfare theorist Clausewitz, for two reasons: to fight at the right time and to fight at the right place. The right place is often some distant, dangerous, and faraway land. The right time is rarely, if ever, a good time. But failing to fight may be worse. We must be prepared to fight anytime and anywhere.

We must remember, too, that when that young Soldier, Marine, Sailor, or Airman most needs the tools and technologies of war we're developing and exploring that the conditions will probably be less than optimal. It'll be in no conceptual conference or workshop; no clinically clean or environmentally sanitized experimental laboratory. Instead, it'll be some chaotic, ugly, loud, and dirty battlefield or urban environment. When they most need our tools and technologies it'll probably be raining or snowing. It'll be at night or in reduced visibility. It'll be in an extremely time sensitive situation. It'll either be freezing cold or unbearably hot. Plus, some stranger will probably be shooting at them or they'll be in grave danger from an array of violent threats. They'll wish they had more time and better conditions. They'll wish they had more training and more support. They'll wish they could make better sense of the situation, the information, and the decisions that confront them. But they'll do what needs to be done—and then some. It's our responsibility to ensure that they have the training and tools to do what they have to do. That's the critical value of this symposium and this discussion of one of its topics-sensemaking.

In the final analysis, sensemaking is about information and decisions. It's about knowing how we make sense of the information we have and how we make sensible decisions based upon that information. It's about knowing when, why, and how to make decisions. It's about knowing how to prioritize information needs to avoid information overload. It's about knowing what we know is correct. It's about knowing how to translate tons of information into an ounce of timely, accurate, and relevant as well as analyzed and actionable information.

Sensemaking is about concepts and actions that bring together ideas, information, and technology into a comprehensive and synergistic whole. Sensemaking helps make us content with what we know and comfortable with what we may never know or have no need to know. Sensemaking is about a process, a product, and people: a process of collecting and considering good information; a product characterized by good decisions based upon good information; and people who make sense of the process and who produce the product. Ultimately, sensemaking is about how good information contributes to good decisions and how good decisions contribute to good actions.