12TH ICCRTS

"Adapting C2 to the 21st Century"

Title of Paper: **The Web of Inclusion in Command and Control: The Standing Joint Force Headquarters and Military Transformation**

Topics:
Information Age, Web of Inclusion, Standing Joint Force Headquarters, Military Transformation

Authors:
Sally Helgesen, Member, Air War College Board of Visitors, writer, speaker and leadership and organizational development consultant.
Daniel Strasser, Political Analyst, Standing Joint Force Headquarters, U.S. Joint Forces Command (Contractor, General Dynamics – Information Technology);
U.S. Foreign Service Officer (ret.); former Executive Director, Eleanor Roosevelt Center at Val-Kill (ERVK), Hyde Park, NY.

Point of Contact:
Daniel Strasser
Name of Organization: Standing Joint Force Headquarters, USJFCOM

Complete Address:
Daniel A. Strasser
Contractor – General Dynamics – Information Technology
System of Systems Analysis Group
Standing Joint Force Headquarters, Standards and Readiness Division - SJFHQ S&R
9712 Virginia Ave., Bldg. X-132
Norfolk Naval Station, Virginia 23551-2488
Telephone: 757-826-9761
E-mail Address: daniel.strasser@jfcom.mil

Sally Helgesen
Telephone: 518-392-1998.
E-mail Address: sally@sallyhelgesen.com

The Web of Inclusion in Command and Control:
The Standing Joint Force Headquarters and Military Transformation
Sally Helgesen and Daniel A. Strasser
Draft Two

Abstract

Toffler, Bell and Drucker argued that society was being redefined by a major new shift in technology, "The Information Age," which required organizational and social changes. Sally Helgesen developed "the web of inclusion" as a new Information Age organizational model. Webs of inclusion are not hierarchical; they use open communication across levels, redistribute power in the organization to the edge, embrace the outside world, blur conception and execution, adapt and evolve the organization and empower and motivate average members. Helgesen suggested that the web of inclusion could also apply to traditionally hierarchical military organizations.

The Standing Joint Force Headquarters (SJFHQ) was specifically developed by the Department of Defense (DoD) to meet the needs of military transformation and is examined in this paper as a case study of a web of inclusion. The idea that military transformation is the application of high-tech solutions to warfare is challenged by examining the actual path of SJFHQ's development and particularly the transformational enabling concepts embedded in the SJFHQ. That path focused on command and control (C2) and organizational innovation needed to meet the demands of the Information Age, "Fourth Generation Warfare" and the challenges of the Global War on Terrorism. This transformation is nothing short of the emerging military doctrine of the United States and future U.S.-led coalitions.

Introduction

The "web of inclusion" concept was developed over a decade ago to describe profound changes taking place in organizations in the private sector that correspond to changes in the technological, economic and social realms of the Information Age. Here we seek to revisit the web of inclusion and examine whether the concept can be adequately applied to military organizations, looking at the Standing Joint Force Headquarters (SJFHQ) as a case study.

The idea of applying the web of inclusion to the SJFHQ came from Dan Strasser while working last year on one of three teams, each headed by a retired admiral, during a United States Joint Forces Command (USJFCOM) joint experiment. The retired admiral who headed Strasser's team, decided to organize it in what he termed a "distributive" manner (influenced by the way that General James E. Cartwright has organized the new Strategic Command (STRATCOM)[1]). All members of the team, including the admiral, were given a task to accomplish and reported back periodically in huddles to compare

results. This allowed the team to divide tasks instead of having to go over all elements together. It relied heavily on delegating and empowering team members to take major responsibility for their own work. In the end, the team produced a superior product in the form of a back brief of its findings to a review panel.

Strasser decided the above experience felt much like what Helgesen wrote about in her book, *The Web of Inclusion, and a lecture on it he had attended where they met*. Further, he believed it was very close to what the SJFHQ was created to achieve: an organization that distributes tasks broadly among a team of trusted professionals, in which there is a free flow of information internally and externally with an expanding circle of partners and in which leadership is collegial and sets clear goals with the purpose of being agile and competitive in an era of new security threats and an adaptive, determined enemy.

The Web of Inclusion

The technologies that enable people to do their work and manage their lives continue to grow more weblike and inclusive with each passing year. As a result, organizations of every kind have been forced to become more weblike in their structure and more inclusive in their operations. This ongoing transformation—not a matter of choice but rather a necessary condition of adaptation—is both shaped and given impetus by the increasing range, depth, portability and ubiquity of the capacity to access and leverage robust information that emerging technologies support, as well as exponentially decreasing costs. Business, education, government, medicine, the law, religious institutions and non-profit organizations are all finding traditional models upended by the interplay of these ever-evolving forces. However, the impact of these forces, and the pressure for continual and often radical change that they exert, are perhaps most extreme in their impact upon advanced military systems.

Consider that the communications and processing capability available to a turnkey user at a Strategic Air Command workstation twenty years ago is now available to a ninth grader roaming around the local mall while wielding a handheld device. Also consider that this same ninth grader, whose expectations are being shaped and extended by the power and reach of his/her daily experience, is about three years away from being able to join a military unit. The buzzword "empowerment" doesn't begin to describe the scope or implications of this situation.

We are indeed undergoing what futurist Alvin Toffler described as a "powershift,"[2] an ongoing process whereby power is inexorably migrating from those at the top to those at the bottom and from those at the center to those at the periphery. The redefinition of where power lies and the means by which it may be exercised is occurring because information formerly available only to elites (members of what Toffler called "the data priesthood") is now available to virtually anyone anywhere in the world.

In such an environment, information constitutes the primary basis for power, an eventuality foreseen by such chroniclers of post-industrial society as Daniel Bell and

Peter Drucker, with Drucker's early and all-encompassing description of the emergence of a "knowledge society" proving especially prescient. Drucker[3] recognized that the industrial economy that shaped organizations over the course of the last two centuries would, with the advent of more powerful and highly networked technologies, begin to evolve into an economy in which knowledge would serve as the dominant value. In the society shaped by such an economy, human intelligence constitutes the "value added" that distinguishes superior products and services. Thus knowledge—not land, access to capital, ownership of advanced tools or hierarchical status—determines the viability of organizations in the post-industrial environment. Such organizations can survive only if they develop innovative ideas and practices and disseminate them in innovative ways. Large scale investment aimed at centralizing or rationalizing production and distribution or squeezing out costs provides only a limited and short-term marketplace advantage.

Drucker's most profound insight came in his formulation of the two primary characteristics that define a knowledge economy[4] (3). First, the ownership of the primary means of production in a knowledge-based organization is by necessity vested in the intellectual, creative and analytical capacities of the individuals who comprise it, rather than in the more easily quantifiable range of its physical and financial holdings. In an extraordinary reversal of Marxist expectations, workers in such an economy do indeed own the means of production, which they take with them each time they leave their place of work. Secondly, Drucker recognized the inherent instability of such an economy. Because of the primacy of knowledge, one hundred years of careful investment in equipment, proprietary processes and distribution channels can be wiped out overnight because someone else—even someone with little capital at their disposal— comes along and proposes a better idea.

In addition to the economic and technological evolution foreseen by thinkers such as Bell, Drucker and Toffler, the advent of a knowledge economy based on cheap, powerful, portable and networked technologies has triggered and supported an ongoing demographic and social transformation. On one hand, this transformation is occurring because the barriers that defined the industrial world are dissolving; barriers between work and home, public and private, men and women, boss and employee, student and teacher, product and service and service provider and advocate. This erosion in turn undermines the silos that formerly determined and defined the structure of large-scale organizations. Silos that formerly created order and coherence and maintained the integrity of distinct functions have increasingly come to hinder the rapid and highly integrated execution of tasks that the post-industrial environment requires.

The spread of information and communications capacity from specified and restrictive elites into the mainstream also creates a desire for acknowledgement among formerly disadvantaged demographic groups. As the author Stanley Crouch has noted, the most important social trend in the United States in the last half century has been the expanding definition of who matters as an American—whose voice, experience and views get to count in our democracy[5] . The result has been a growing awareness of the need to foster, promote and acknowledge the advantages inherent in our highly diverse society and culture. This trend is supported by both changes in patterns of immigration

and evolving attitudes about the advantages of assimilation and by the need for organizations in a knowledge environment to develop, nurture and draw from the broadest possible base of talent.

The impact of the "powershift" Toffler described is now making itself felt well beyond the borders of the most technologically advanced societies on earth. As the cost of networked technologies drop, they become more widely dispersed, distributing information and thus power to those whose societies did not have the resources to compete in the industrial economy. This has been the impetus for the recognition, popularized by Thomas Friedman, that the world is becoming increasingly flat. This flatness results from two characteristics inherent in networked technologies: their ability to instantly spread word of innovations that take place at the center to those on the furthest periphery, and their capacity to distribute fluid pools of global capital to those on the periphery who offer compelling innovations.

As previously noted, advanced military systems, especially those in the U.S., have been at the forefront of this ongoing transformation. The development and deployment of networked technologies of communication and information have challenged every branch of our military services to adapt their structure and workings to support the dispersed and inherently non-hierarchical nature of these technologies. In addition, the ability of such technologies to transmit real-time information directly to those on the front lines is rendering strict adherence to traditional command and control models less adaptive than in the past. At the same time, the silos that formerly kept military functions highly distinct are being eroded by the networked nature of the technologies that support them.

Thus, in addition to the barriers between public and private, men and women and product and service that are being dissolved in civilian organizations, traditional barriers in the military between strategy and tactics, planning and execution, intelligence gathering and mission, occupation and peacekeeping, are constantly being eroded—along with the overriding dissolution of boundaries between state and non-state forces and enlisted personnel and contractors. Front line units with instant and real-time access to sophisticated intelligence feel increasingly compelled to act on the knowledge they have at their command. The expectations of junior officers who grew up using weblike technologies and have powerful reconnaissance tools at their disposal form the leading edge of weblike practice that acts as a counterweight to hierarchies of control. At the same time, networked technologies are rapidly transfiguring the very structure and nature of warfare. Insurgency and counterinsurgency models both leverage and disseminate weblike and inclusive structures that undermine traditional channels of command and control.

Because technological, economic and demographic factors are all pushing military organizations to become more weblike and inclusive, we would like to propose a more purposeful adaptation of the notion of the web of inclusion as a template to support efforts at military transformation already underway. Such a template would be based upon an understanding that the principles, operation, structure and leadership practices

that define the workings of an organizational web. This template is an appropriate vehicle for thinking about the range of tasks that will confront and challenge advanced military systems in the decades ahead and articulating new ways in which they might be met.

Any such template must derive its power from a thorough understanding of the processes and the workings of such webs. The notion of webs of inclusion was first formulated by Sally Helgesen, one of this paper's authors, in her 1995 book, "The Web of Inclusion.[6]" A brief articulation of the principles set forth in that book, as well as the development of her ideas, can thus serve as essential background for our examination of how webs of inclusion can further the development of military organizations accustomed to structures and modes of operation that maximize principles of command and control.

The phrase "the web of inclusion," was first used by Helgesen in her book "The Female Advantage: Women's Ways of Leadership," originally published in 1990.[7] In the case studies that comprised that book, Helgesen observed that the women leaders she studied created organizations—or units within organizations—that functioned differently from traditional hierarchies. The women sought to lead their organizations from the center rather than the top and created structures that reflected this bias. They allocated titles based on an individual's function rather than where they stood in the chain of command; they apportioned office space to accommodate the tasks an individual was expected to perform rather than reflect his or her status; they sought constantly to vest decision-making in those on the front lines or at the periphery and to draw all constituents into an ever more closely aligned unit.

The structure of these women-led organizations was based upon a coordinated unit of concentric circles rather than a hierarchy of precisely articulated levels. These circles were connected by a multiplicity of links and points of connection that those in the center worked constantly to reinforce. The periphery in these organizations was perceived as permeable, enabling those outside many points of entry. Thus the webs of inclusion blurred the distinction between those who were part of the organization and those who were not, which had the effect of giving a variety of stakeholders a sense of ownership. In addition, the webs of inclusion that Helgesen studied fostered and facilitated direct communication among constituents, rather than communication up and down a chain of command.

Helgesen next sought to understand how webs of inclusion might function in organizations that were not necessarily led by women and to examine the utility of such webs in helping organizations adapt to a technological environment in which webs were emerging as the dominant metaphor. The result of this research was her 1995 book "The Web of Inclusion: A New Architecture for Building Great Organizations." In that book, Helgesen defined webs of inclusion as being both a structure and a means of operation. She showed that web-like organizations or units were particularly adept at drawing strategic-level ideas and innovations from people at every level, integrating training into the work of every day, pushing decision making-down to those on the front lines, creating strong partnerships with those outside the organization and dissolving barriers

between conception and execution.

Helgesen also found that weblike and inclusive organizations were far more prone than hierarchies to understand, acknowledge, honor, and draw strategic advantage from those informal power structures that exist in every organization that are often ignored or suppressed by hierarchical leaders. She postulated that within every organization individuals may exercise one, or a combination, of four kinds of power: the power of expertise, the power of connections, the power of personal authority, or the power of position. Traditional hierarchies emphasize, value and support positional power at the expense of other varieties, which has the effect of limiting the base from which ideas can be drawn and demoting the impact of expertise and the innovations that are often enabled by diverse connections. Often, leaders holding purely positional power do not take it upon themselves to get buy-in for specific missions or tasks and often overlook opportunities to refine their own understanding of how best to motivate and support those in their ranks, which would pave the way for innovations that draw on rank, file and make the most of expertise, connections and authority.

Leadership in webs of inclusion has a distinctive profile. Web-style leaders are adept at leading people with different values, balancing the need for consensus with a strong mission focus, communicating directly about issues of vital importance, creating an inclusive environment, drawing ideas from those on the front lines and focusing on sustainable, long term development. Such leaders use webs both to solve specific problems and to create a model for continuing evolution that reflects the evolving nature of our technological environment. Because of their flexibility, web-style leaders are particularly adept at functioning in the "VUCA" (volatility, uncertainty, complexity, and ambiguity) environment that the military has so aptly identified as its key challenge in moving forward.

The milieu that will define military practice and engagement in the decades ahead is one that honors the principles of the web. These principles reflect the environment in which decentralized, empowering technologies were first developed and codified in the early years of Silicon Valley and have guided development in technology ever since[8]:

- Information should flow to whomever can use it[9]
- The ability to use tools to get things done should not be restricted by status and level
- No system or program is ever completed– it can always be improved
- Individuals should work incrementally and continually on improvements
- What matters is improving programs, not who owns them
- Question hierarchical authority, promote decentralization
- Mistakes are a tool for learning, not evidence of failure
- Above all, honor the hands-on imperative

While the execution of these principles within military structures will always be tempered by hierarchical considerations that reflect security concerns, leaders who

understand the nature of the web will pursue integration rather than compartmentalization, decentralization rather than centralization, access rather than protective firewalls, listening rather than giving orders and continuous learning rather than codified procedure. If the web principles are applied, military units will be in the forefront of the technological revolution that is transforming the global environment and leading to the challenging but opportunity-rich milieu characterized by what Microsoft™ calls "ubiquitous connected transparency."

The Standing Joint Force Headquarters: A Web of Inclusion for Information Age Command and Control?

If the web of inclusion is a valid paradigm of organizations in the Information Age and if it has been shown to be applicable to military organizations, despite their inherently hierarchical nature, then we should begin to see web of inclusion-like military organizations taking shape by now, seven years into the 21st Century. The United States military has long been preoccupied with adapting to the Information age and has always been at the forefront of information technology. The Department of Defense drives a good deal of information technology development through projects contracted to the major defense industry leaders and is an enormous consumer of information technology developed by the leading software companies.

The Defense Advanced Research Projects Agency (DARPA), credited with inventing the internet, drives this activity at the high end, but it takes place at almost all levels and organizations within DoD.

Information technology today is the backbone of every military organization. These organizations could function today only with great difficulty outside an organizational environment that is web-based. Like most organizations of today, a military organization, especially a headquarters component, consists of many people sitting in front of computers all day doing their jobs using multiple information systems and applications, complicated by the demands of high security. Although they often have to attend meetings, the majority of face-to-face physical meetings are being replaced by on line collaborative tools. The U.S. military maintains its internal and external communications primarily through versions of the internet that are separated by the need to protect classified information. Military organizations typically develop websites, web pages and portals to present information and provide services to internal and external customers. These online sources also serve as major management tools and demonstrate progress.

More importantly, the military feels the need to respond to the quickly changing national security environment in which events move at an accelerated pace due to the velocity of the movement of information, people and things, which together make up Globalization. In the transition from the Cold War to the War on Terrorism, the kinds of global threats that have emerged have markedly shifted the capabilities needed to deal with non-state actors and rogue states, as opposed to containing a single large conventional adversary. An enemy that hides in the shadows with the capabilities to attack almost anywhere, has

shifted the focus of U.S. security to both homeland security and to a shadow war in distant failed or failing states, with weak governments, poor basic services, lack of rule and law and populations that generate recruits for Jihaad.

The rise of radical Islamic ideology, which promotes enmity for alleged Western political, military and cultural dominance in the world, emerged from humiliated, neglected, unemployed and politically repressed peoples in the regions of the Middle East, North Africa, Horn of Africa and impoverished backwaters of Asia and has become the key problem set for international security specialists. Senior military leaders began to tell Americans in 2006 to be prepared, not just for a War on Terror, but for a Long War[10]. Suddenly, the current world threats looked similar to the 1950s' and 1960s' communist insurgencies around the globe. Counter-insurgency manuals were being re-written and a concern with Fourth Generation Warfare[e] was being discussed. The War on Terrorism was increasingly relying on special operations forces to win the actual battle and on civil-military Provincial Reconstruction Teams (PRTs) to win hearts and minds in of the battlefront countries of Afghanistan and Iraq. This was reminiscent of America's noble but failed efforts in Vietnam[11]. In addition, looking at the big picture, democratization and nation-building are being heralded as the ultimate solutions to these problems with an enormous effort to promote free elections and secularly legitimate governments in the front line states of the Global War on Terrorism.

The link between the advent of the Information Age and the military was highlighted in the 1970s when Russian military writers referred to the military-technical revolution, known today as the Revolution in Military Affairs (RMA).[12] The RMA was considered to have come of age during the first Gulf war in 1990 .[13] According to Andrew Marshall, director of the Office of Net Assessments in the Office of the Secretary of Defense, "A Revolution in Military Affairs (RMA) is a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations."[14] Marshall, long an advocate of new, provocative thinking and an institution unto himself in DoD, reportedly had a profound effect on the thinking of Secretary Donald Rumsfeld as he assumed office in 2001.

The RMA was quickly translated into the term transformation[15], and, especially following the attacks of 9/11, the scene was set for a major emphasis on how the U.S. Armed Forces would have to transform themselves to meet the new challenges. At a speech given at the National Defense University in January 2002[16], Rumsfeld, reflecting on the enormous effectiveness in Afghanistan of combining Special Forces on horseback with precision bombing noted, "It showed that a revolution in military affairs is about more than building new high tech weapons, though that is certainly part of it. It's also about new ways of thinking and new ways of fighting. Preparing for the future will require us to think differently and develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected circumstances. An ability to adapt will be critical in a world where surprise and uncertainty are the defining characteristics of our new security environment." He added, "to do this, we need rapidly deployable, fully integrated joint

forces capable of reaching distant theaters quickly and working with our air and sea forces to strike adversaries swiftly, successfully and with devastating effect. Our goal is not simply to fight and win wars; it is to try to prevent wars. To do so, we need to find ways to influence the decision-makers of potential adversaries."

Although transformation is often associated with Secretary Rumsfeld and his own focus on confronting uncertainties, the original impetus for transformation in the Bush Administration clearly comes from the President himself. In a speech Bush gave as a candidate at the Citadel in September 1999 entitled "A Period of Consequences,"[17] he called for a comprehensive review of the U.S. military. First, he said he would direct his defense Secretary to, "envision a new architecture of American defense for decades to come." Second, he said he would, "skip a generation of technology to assure America's military lead in confronting new threats." After being appointed Secretary of Defense in 2001, Rumsfeld established a series of panels to study security issues. A panel on transformation led by retired Air Force General James McCarthy recommended "Global Joint Response Forces," combining units from different services that would combine as force modules which would train and exercise together and constitute common building blocks, including command and control.[18]

It is difficult to precisely tag the moment that the Department of Defense first realized the need to develop highly adaptive organizations to meet the needs of the Information Age, but the idea was certainly inherent in "Joint Vision 2010[19]," issued by the Joint Chiefs of Staff (JCS) in July 1996. It declared itself the conceptual template for how American Armed Forces will channel the vitality and innovation of its people and leverage technological opportunities to achieve new levels of effectiveness in joint warfighting. It also was focused on achieving dominance across the range of military operations (Full Spectrum Dominance) through the application of *new operational concepts w ithin a joint framework of doctrine and programs.*. One of its critical considerations was the need for agile organizations. In order to make optimum use of the technologies and operational concepts discussed earlier, we must carefully examine the traditional criteria governing span of control and organizational layers of the Services, commands and Defense agencies. We will need organizations and processes that are agile enough to exploit emerging technologies and respond to diverse threats and enemy capabilities. As we move forward, we may require further reductions in supervision and centralized direction. All organizations must become responsive to contingencies with less startup time between deployment and employment. Joint *Vision 2010* was followed by the "Concept for Future Joint Operations"[20], in May 1997, which laid out a detailed implementation strategy for this vision. Finally, the *Quadrennial Defense Review* (QDR) of 2001[21], set the stage for transformation by refocusing the military on capabilities at the lower end of the spectrum of military missions and away from major theater wars (MTWs), with an emphasis on readiness and flexibility.

The stage was set for development of an "edge organization" to meet these needs. A close analog in military thinking to the web of inclusion, is the work of Alberts and Hayes, *Power to the Edge: Command and Control in the Information Age*[22]. This path breaking 2003 Command and Control Research Program (CCRP) study advocated that, "'Power to

the Edge' is about changing the way individuals, organizations and systems relate to one another and work. 'Power to the Edge' involves the empowerment of individuals at the edge of organizations, where the organization interacts with its operating environment to have an impact or effect on that environment." The "edge organization" would; greatly enhance peer-to-peer interactions, move senior personnel into roles that place them on the edge and reduce the need for middle managers. Instead, commanders would manage by creating congruent command intent across the enterprise; allocating resources dynamically and establishing rules of engagement and other control mechanisms that fighting forces would implement themselves. Furthermore, "Power to the Edge" is the correct response to the increased uncertainty, volatility and complexity associated with military operations. Finally, the adoption of "Power to the Edge" as a major organizing and operating principal for DoD is absolutely necessary if we are to maintain military superiority in the 21st Century."

The Standing Joint Force Headquarters (SJFHQ)[23] was specifically developed by DoD as an organization designed to meet the needs of command and control in the Information Age and of agility in warfare. SJFHQ is the result of the joint experimentation process established by the JCS at its Norfolk-based U.S. Joint Forces Command (USJFCOM) Joint Innovation and Experimentation Directorate (J-9) in nearby Suffolk, Virginia. J-9 is collocated with other USJFCOM elements which are at the cutting edge of USJFCOM's prime mission of defense transformation, including the Joint Warfighting Center, which contains doctrine, training, lessons learned, modeling and simulation and other elements oriented towards transformation. In an important reorganization of DoD combatant command structure, USJFCOM was created in 1999, from the original Atlantic Command in which the presence of the Atlantic Fleet in Norfolk was paramount, to lead transformation.

It is important to note, that for the U.S. military, transformation can only be achieved within the framework of "jointness" an idea that may not be obvious to the lay observer.. The importance of achieving a unity of effort among the military services is a natural outgrowth of the existence of a Joint Chiefs of Staff. It also has been driven by the experiences of war (the Iranian hostage rescue debacle of 1980 and the hapless Grenada experience of 1983), by Congressional oversight and was codified in the Goldwater-Nichols Act of 1986[24], which increased the powers of the JCS, increased the authority of the Combatant Commanders (called CINCs at the time) and removed the individual military Services from the chain of command. Collaboration of the military services has expanded greatly in military thinking to include the rest of the U.S. Government, or what is commonly called the interagency (short for interagency community), and to multinational coalition partners, allies and organizations especially the North American Treaty Organization (NATO).

It is just as important to note the priority in transformational thinking of working at the operational-- as opposed to the strategic or tactical-- level. In effect, this means focusing on the needs of the geographic combatant commander (GCC). Transformation is not a strategic doctrine. It cannot be compared to containment as a doctrine of the Cold War. It is a process and not a goal. The kinds of concepts being generated at USJFCOM are very hands-on and operational. Clearly, operational plans must draw on national strategic documents about the kinds of wars the military is being asked to fight. However, the focus is on how to fight the wars in the most effective manner. Tactical planning and decisions then are left to the components to work out in accordance with operational plans developed at the GCC level.

In November 2001, the Chairman of the Joint Chiefs of Staff issued a guidance to the Commander of USJFCOM[25] instructing that the intent is for joint experimentation to keep the Armed Forces superior to any other nation today or tomorrow. "We must maintain our quality force and transform it to meet the challenge of the 21st century in building an agile, knowledge and decision-superiority force." USJFCOM was instructed "to develop a Joint Experimentation Campaign Plan and during FY 2002 to carry out a major experiment called Millennium Challenge 02 (MC02), specifically to develop a Standing Joint Force Headquarters, including its organization, command and control systems, operating procedures and tactics, techniques and procedures (TTPs) to support it." The SJFHQ model was to be developed by 2004, capable of implementation by geographic commanders by 2005. MCO2 was Congressionally mandated and was said to have cost $250 million.

Experimentation at J-9 follows a rigorous process based on scientific principles and method and includes joint concept development and prototyping processes.[26] The concept of the SJFHQ for development in MC02 in JulyAugust 2002 evolved out of two previous experiments: The Rapid Decisive Operations (RDO) Analytical Wargame of 2000 and Unified Vision 2001 (UV01)[27]. RDO was a concept focusing on agility at the operational level and seeking to speed up response to possible threats. It became the centerpiece of the USJFCOM experimentation effort in its early days. Before SJFHQ and RDO, was the Adaptive Command and Control Concept (AJC2) White Paper, emphasizing the importance of establishing a standing, trained and ready C2 element prior to the establishment of a Joint Task Force (JTF) in order to telescope the time it normally takes to establish a JTF during a crisis. It built upon U.S. Pacific Command Deployable Joint Task Force Augmentation Cell (DJTFAC), made up of people who could fill headquarters positions during peacetime and augment a JTFHQ during a contingency. It must be remembered that for the U.S. military, the sharp end of the sword in any crisis situation is the JTF. UV01 included several so called transformational enablers of the SJFHQ, including the interagency element (now developed into the Joint Interagency Coordination Group or JIACG), the Collaborative

Information Environment (CIE), Operational Net Assessment (ONA) and the Effects-based Operations (EBO), now called the Effects Based Approach to Joint Operations. Grouping these enablers into the SJFHQ satisfied the military Services; RDO was considered pretty much an Army concept, EBO an Air Force concept and CIE and ONA in many ways reflected the Navy interest in Network-Centric Warfare (NCW).

It was just prior to MC02 however, that a prototype SJFHQ was formed at about the same time that Version 2.0 of the RDO concept was published by J-9. According to participants in UV01 and MC02, the SJFHQ came to supplant RDO as USJFCOM's lead concept because RDO failed to address the need for other than military and actions to pre-empt a conflict in which RDO would be the only option. There is also a version[28] of events between UV01 and MC02 in which a report issued by a working group headed by David Gompers of the RAND Corporation strongly recommended the need for an SJFHQ-like organization. The so-called Gompers Report, although Gompers himself does not recall this report, dealt with broad recommendations to the Secretary of Defense about conventional forces having anything to do with the decision. However, Gompers did discuss the idea in his Pentagon press briefings of his report and in a 2002 Rand report[29], he laid out in some detail the importance of an organization exactly like the USJFCOM-developed SJFHQ. He also followed up recently by co-writing a National Defense University study about the importance of information superiority for the warfighter, an echo of the role of ONA in the SJFHQ.

The SJFHQ offered two things that contributed to RDO. First, was its very existence as a standing organization that was properly manned, trained and ready to engage. Metaphorically, the SJFHQ is the place you make a 911 call and someone will respond. It is your local volunteer fire department for command and control. Second, the standing nature of the SJFHQ was enhanced by the transformational enablers that made it highly adaptable to Information Age challenges and opportunities.

First and foremost, the SJFHQ relies on its enhanced ability to communicate with a community of interested collaborators in the Collaborative Information Environment (CIE)[30]. The CIE allows the SJFHQ to carry out its essential functions as a planning organization. It is the essence of an Information Age enabler, that permits the SJFHQ to reach out and include within its planning any and all elements in the military, the interagency community, the non-governmental sector and allied or partner nations. CIE includes the people, technology and procedures needed to encourage such collaboration, particularly using synchronous and asynchronous virtual tools. SJFHQ's tool of choice to date has been Info Work Space (IWS), which allows easy online communication and participation for large numbers of participants. The CIE allows the SJFHQ to create a web of inclusion. The biggest challenge is getting the other players into your web of inclusion or CIE. While

bringing in other military elements has been relatively easy, especially given the SJFHQ robust engagement with other commands, getting other than a symbolic interagency engagement has been difficult. An exception has been SJFHQ involvement with the State Department Office of the Coordinator for Stabilization and Reconstruction (S/CRS), although most of this effort has been helping state become linked to the CIE through IWS with only limited real engagement. Furthermore, SJFHQ has played only an observer role in the succession of Multinational Experiments (MNEs) at J-9, limiting its involvement with both interagency and multinational partners.

MC02 emphasized two key enablers: Operational Net Assessment (ONA) and Effects-Based approach to Operations (EBO). ONA[31] is a prime method of achieving situational awareness and understanding of any focus area of interest to a geographic commander. It focuses on information superiority by providing the knowledge base for collaborative contingency and crisis planning. ONA is infused by a system of systems analysis (SoSA) of the Joint Operational Environment. U.S. Joint Forces Comamnd, Joint Innovation and Experiementation directorate (J-9) developed an ONA tool that is a relational database that allows analysts to identify and create records of nodes according to their place in Political, Military, Economic, Social, Infrastructure and Information (PMSII) systems of a focus area. These may then be linked to effects, actions and resources that can be used to develop Courses of Action within a Plan. An evaluation tool may be included. This tool has been enhanced and is now being used to help synchronize the Global War on Terror.

Also key to MC02 and the SJFHQ is the employment of an effects-based approach to joint operations[32]. An effects-based approach is essential to transformation in that it closely links ends (expressed as objectives and effects) and means (expressed as actions and resources) and insists on a holistic understanding of the operational environment as well as the employment of all the elements of national power, including Diplomacy, Information, Military and Economic (DIME) means in meeting objectives. This is only possible if all of the government is engaged in the process. J-9 has developed the concept of the Joint Interagency Coordination Group (JIACG) to help meet this need. However, after 9/11, special JIACGs were created at the GCCs to assist them to work on counter-terrorism, so J-9 focused on what it called the full-spectrum JIACG[33], that could apply itself to any problem set. JIACG development, like EBO, often was more an effort at collecting best practices from the commands than reinventing the wheel. It also made transformation more palatable to to change-resistant audiences within the commands to be able to point out that J-9 recommendations were not that new. Recognizing that the rest of the U.S. Government is not necessarily organized to participate in a coordinated planning process developed by the military, the JIACG helps the commands, with an effective CIE, to create a government-wide web of inclusion. Under Secretary of State, Colin Powell developed a new office at the State Department designed to place State in its proper leadership role in coordinating with the

interagency community. The new office particularly focused on State's relationship with the U.S. military, to meet the challenges of the 21st Century. The Coordinator for Reconstruction and Stabilization (S/CRS) was the outgrowth of meetings and studies on defense reform conducted by the Center for Strategic and International Studies (CSIS), called "Beyond Goldwater-Nichols." S/CRS has had considerable links to USJFCOM's Joint Training Directorate and Joint Warfighting Center (J-7) in setting up its planning framework. Although linkages between the JIACGs, S/CRS and the SJFHQ are essential for the proper functioning of the SJFHQ and its CIE, much needs to be done to bring these organizations into greater synchronization and into a common planning context.

The SJFHQ prototype at USJFCOM spent 2002-2005 assisting the geographic combatant commands with the establishment of their own SJFHQs in accordance with the CJCS instruction that this be accomplished by FY05 through training and orientation efforts. Until 2005, USJFCOM SJFHQ was led by a rear admiral and managed by uniformed officers and DOD civilians, but was largely an organization manned by experienced contractors (many of whom were retired military officers). However, in 2004, the SJFHQ ceased being a prototype, and two operational SJFHQs later designated Core Elements (to a JTF), made up mostly of uniformed military officers. An SJFHQ is organized into a Command Group, with Information Superiority, Planning, Operations and Knowledge Management Groups reporting to its Director through a Chief of Staff. USJFCOM's SJFHQ director is a rear admiral, with the former prototype SJFHQ, now designated as the Standards and Readiness Division (S & R) and two SJFHQ's designated as Core Elements (CE) reporting to him. The two CEs have been deployed nine times to various JTFs since their initial establishment. The S & R Division continues to promote standardization of SJFHQ standard operation procedures (SOPs) and tactics, techniques and procedures (TTPs), to develop the ONA knowledge base, provide SoSA support+ and to work with USJFCOM J-7 Training Directorate to assist GCCs and Service Components in their readiness needs and to assist NATO's adaptation to an effects-based approach to operations[34]. SJFHQ S & R efforts in 2006 went into assisting U.S. units rotating into Iraq to prepare to utilize an effects-based approach to joint operations and to help regional service commands designated to become JTFs achieve JTF certification, with a focus on using an effects-based approach to joint operations. A hallmark and high point of this effort was the publishing in 2006 of the "Commander's Handbook for an Effect-based Approach to Joint Operations" issued jointly by USJFCOM SJFHQ, J-9 and the Joint Warfighting Center[35].

In its concept, an SJFHQ may be employed in three different ways: it may become the core of a joint task force headquarters through augmentation, it may augment a service component JTF, or it can remain at the GCC level assisting the GCC as a warfighting command[36]. What may get lost in all the discussions about the SJFHQ and its various uses

and elements is that it is first and foremost serves as a planning organization. One of its unique attributes is its ability to carry out long-range, pre-crisis or contingency planning, drawing on its unique information superiority and knowledge management components, which can help achieve decision superiority in a crisis, and its capacity for outreach to communities of interest, centers of excellence (COE) and in a non-crisis mode the ability to offer a solid knowledge base to its planners and those in the larger GCC. Under ideal circumstances, the SJFHQ has months instead of days or weeks to gather information and conduct pre-crisis planning. This gives it the capacity to fulfill a true peacemaking, conflict resolution mission. The SJFHQ SoSAs are often asked to focus on failed or failing states where terrorist groups may find a safe-haven or potential allies in the GWOT under threat from terrorist movements or insurgencies linked to terrorists. SoSAs can also be asked to look at potential adversary or rogue states and develop a detailed inventory of the PMESII systems of this potential adversary of value to planners who are conducting mission analysis, developing objectives, effects, courses of action, measures of effectiveness, measures of performance and detailed plans. Once a crisis situation is defined, the SJFHQ, if it has done its work well, constitutes a kind of lug and play C2 element for the GCC to stand up a JTF quickly with a considerable amount of planning already accomplished in advance, thus meeting the needs of RDO.

It is fair to say that the SJFHQ was not an easily digestible concept for all the GCCs. The order that they be stood up at all the GCCs (with an exception of U.S. Central Command, which was given an exception considering it is busy fighting the Global War on Terrorism) took place at the same time the GCCs were told to make 15% reductions in their staffs. However, each GCC was given back the 57 positions required to form an SJFHQ (not including 6 SoSAs). Given the reductions, however, many GCCs struggled to make this personnel available and few managed to become fully staffed and in many cases officers were dual hatted to other elements in the command. In addition, many GCCs found the language and processes of such transformational enablers as ONA and EBO to be arcane, difficult or time-consuming for busy staffs. In short, transformation was affected by push-back. The fact that GCCs make their own decisions about how they are organized and cannot be instructed to maintain strict formats, means that whatever standards USJFCOM develops for SJFHQs can not be readily enforced. USJFCOM is a service provider and is known as a supporting command. GCCs are largely self-certifying when it comes to meeting requirements. USJFCOM trainers found it was easier to sell pieces of the transformation package to different customers as opposed to the whole package. In some places, it was easier to “sell” the CIE and its accompanying packages of software. In other cases, as the effects based approach began to catch on in the field, training components to conduct EBO became an important USJFCOM task. Most GCCs hired contractors to do ONA and SoSA. These services were not always employed in the manner originally intended. In some of the GCCs, they became attached to other planning

elements within the GCC and ceased supporting the SJFHQ. However, for every step backwards, there seemed to be two forward. When GCC components were tasked with becoming certified as JTF HQ, USJFCOM SJFHQ was called upon to help train and orient them alongside the USJFCOM Joint Training directorate (J-7) trainers. Thus, SJFHQ original mission of acting as a ready core element for a JTF became a more important focus in 2006. Accordingly, just at the time when the role of ONA seemed to be waning, USJFCOM was tasked with gearing up the ONA tool to become a Global Synchronization Tool (GST) for the Global War on Terrorism. This possibly meant a renaissance in SoSA activity. All of this merely demonstrates that change in the military, including under the high sounding name of transformation, can be as difficult as change anywhere. It also explains why corporations have spent a lot of time developing techniques of change management.

Is the SJFHQ a perfect web of inclusion? Probably not. It is difficult for the military to transform itself into the kind of loose "dissipative structure" envisioned in the web of inclusion concept. As noted, in the web of inclusion, there is a natural tension between "interactive charisma" and "command and control charisma" and the military definitely leans in the latter direction. However, "Power to the Edge" makes a heroic effort to redefine C2. With readiness, adequate information, motivation of subordinates and proper tools, C2 can be decentralized. Given the high risks of failure in military operations, it is unlikely commanders will give up as much authority as civilian organizational leaders do. Still, there are factors pushing military towards being more web-like and distributive without coaxing. The very insistence on looking at adversaries, friends and oneself as a system, drives SJFHQ to think in terms of networks. Also, the SJFHQ is organized into a series of boards, centers and cells with a cross hatching of functional subject matter experts (SMEs), instead of adopting a typical military J-code structure, promotes integration.

Another often overlooked factor promoting SJFHQ's web-like nature is the role played by contractors in USJFCOM's experimentation and transformation work out of which the SJFHQ was born. Contractors, working for major firms such as General Dynamics which leads a consortium of contractors at JFCOM's J9, are usually seasoned retirees of both the military and civilian agencies (or qualified young specialists), and provide experience, continuity broad perspectives and flexibility to the innovation effort and are actually the largest single component of JFCOM's staff at 37%.

There has been much criticism and misunderstanding of transformation as merely promoting high-tech military solutions, but clearly that has not been the thrust of the effort at the JCS or USJFCOM. For many, transformation's promise that fewer troops could do the job set the stage for shortcomings in Afghanistan and Iraq, thereby tainting transformation. However, it is safe to say that much of USJFCOM-led transformational efforts were mindful

of the shortcomings in Iraq and Afghanistan. The emphasis on a thorough systems understanding of the operational environment (PMESII) and a "whole of government" response (DIME) with SoSA at one end and JIACG at the other and an Effects Based Approach meant that military transformation had recognized that the wars of the 21st Century were not essentially military and they could not be won by military means alone. Military officers today dislike "stove-piping," a process in which interaction between different elements of the military or the government is lacking. This has typically resulted in blindsiding and possible fatal errors while carrying out essential missions. If it were ever thought that the military do not prefer civilian involvement in their work, many of today's military officers are urging the rest of the U.S. Government to join in, get up to speed and participate in interagency planning and operations. Interagency efforts continue to remain sorely behind. If the U.S. found itself bogged down in these wars, the first conceptual casualty clearly was unilateralism, which led to a thorough embrace of coalition operations wherever possible. Also evident, was the importance in transformation of the multinational experiments and relations with NATO/ACT. The U.S. went into Iraq with a "coalition of the willing," but in Afghanistan sought and achieved a full NATO response, the backing of an alliance based on treaty obligations. The U.S. has demonstrated that partnerships are the clear preference in any security operation.

Transformation, with all its difficulties, has shown itself to be nothing less than the emerging doctrine of the U.S., NATO and their partners in the 21st Century. It is a doctrine based on how to plan and execute operations at the level of the Geographic Combatant Commander, joint task force commander (or in the case of NATO, the Supreme Allied Commander). If proponents of the SJFHQ, and what it represents as a driver of transformation, were looking for reassurance, they found it in the February 2006 Quadrenniel Defense Review Report which stated,

"The joint force of the future will have more robust and coherent joint command and control capabilities. Rapidly deployable,standing joint task force headquarters will beavailable to the Combatant Commanders in greater numbers to meet the range of potential contingencies. These headquarters will enable the real-time synthesis of operations and intelligence functions and processes, increasing joint force adaptability and speed of action. The joint headquarters will have better information,processes and tools to design and conduct network-enabled operations with other agencies and with international partners. Implementation of Adaptive Planning in the Department will further enhance the lethality of both subordinate standing joint task force headquarters and their parent Combatant Commands by enabling them to produce high-quality, relevant plans in as little as six months. Adaptive Planning is the catalyst that will transform the Department's operational planning processes and systems"…With a "core element" – a standing command and control team with functional and geographic expertise– these headquarters

provide peacetime planning capabilities for contingencies, a departure from past practices of implementing ad hoc approaches after crises occur."

It doesn't get much better than that in terms of internal DoD support, but the real validation of the SJFHQ will only come from its future successes in meeting the challenges of 21st Century command and control.

Note: The views expressed in this paper are those exclusively of the authors and do not necessarily represent those of the Department of Defense, U.S. Joint Forces Command, the Air War College or General Dynamics – Information Techology.

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[1] Statement Of General James E. Cartwright, USMC Commander United States Strategic Command Before The Senate Armed Services Committee Strategic Forces Subcommittee On Strategic Forces And Nuclear Weapons Issues In Review Of The Defense Authorization Request For Fiscal Year 2006, April 4, 2005 www.senate.gov/~armed_services/statemnt/2005/April/Cartwright%2004-04-05.pdf -

"Full realization of the benefits inherent in the distributed, interdependent organizational structure described above requires an effective collaborative operation. A true collaborative environment provides us the asymmetric advantage necessary to deter and defeat the agile adversaries we face in the 21st Century environment. In the future, these skills will take on even greater importance as we broaden our partner base within the US government, with coalition partners, commercial partners, academia and others, including non-government organizations."

[2] Alvin Toffler: *Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century*. Bantam Books, 1990. See especially Part II, "Life in the Super Symbolic Economy.

[3] Peter F. Drucker, *Post Capitalist Society*. Harper Business, 1994. While Drucker developed his ideas throughout his books, this gives the most succinct and powerful formulation of what distinguishes a society and an economy based on knowledge. See particularly Chapters 1 &2.

[4] Drucker, Ibid.

[5] Stanley Crouch, *Notes of a Hanging Judge*. Pantheon, 1998. See the introduction.

[6] Sally Helgesen, *The Web of Inclusion: A New Architecture for Building Great Organizations*. Doubleday/Currency, 1995.

[7] Sally Helgesen, *The Female Advantage: Women's Ways of Leadership.* Doubleday/Currency, 1990.

[8] Steven Levy, Hackers: Heroes of the Computer Revolution. Bantam/2001. see Especially the formulation of "the hacker ethic".

[9] Packer ?

[10] Long War- Brief (One of several versions): http://www.msstate.edu/chair/radvanyi/2006/Sullivan_Long_War_Brief_v2.pdf

[11] William S. Lind, Colonel Keith Nightengale (USA),Captain John F. Schmitt (USMC), Colonel Joseph W. Sutton (USA),and Lieutenant Colonel Gary I. Wilson (USMCR)."The Changing Face of War: Into the Fourth Generation," *Marine Corps Gazette*) October 1989, pp. 22-26.

[12] Theodor W. Galdi, *Revolution in Military Affairs? Competing Concepts, Organizational Responses, Outstanding Issues* , Foreign Affairs and National Defense Division, December 11, 1995

[13] We have drawn for early history on William Murry, Ed. *Transformation Concepts for National Security in the 21st Century*, Stratgic Studies Institute, Army War College, Carlisle, PA, September 2002.

[14] The Battlefield of the Future_ - 21st Century Warfare Issues_, Air University, (http://www.totse.com/en/bad_ideas/guns_and_weapons/botf04.html) Chapter 3, p. 1, Jeffrey McKitrick, James Blackwell, Fred Littlepage, Georges Kraus, Richard Blanchfield and Dale Hill

[15] While a certain degree of fog surrounds the term "transformation," giving rise to rejection or even ridicule of the term, the concept was laid out most clearly in the *Transformation Planning Guidance* issued by DoD under Secretary Rumsfeld's signature

in April 2003, which defined it as "a process that shapes the changing nature of military competition and cooperation through new concepts, capabilities, people and organizations that exploit our nation's advantages and protect against our asymmetric vulnerabilities to sustain our strategic position, which helps underpin peace and security in the world." The Guidance was followed up by *Elements of Defense Transformation*, a kind of primer issued by the DoD's Office of Force Transformation, Washington, DC, October 2004. That office, itself came into existence only days after the 9/11 attacks as part of the response; A Transformation Czar, Vice Admiral (Ret.) Arthur K. Cebrowski, which continued to drive the Transformation agenda of the Secretary in Washington, while JFCOM did the actual transformation experimentation and prototype development, until Cebrowski's death in late 2006, when it was closed.

[16] Secretary Rumsfeld Speaks on _21st Century Transformation_ of U.S. Armed Forces (transcript of remarks and question and answer period) *Remarks as Delivered by Secretary of Defense Donald Rumsfeld, National Defense University, Fort McNair, Washington, D.C., Thursday, January 31, 2002* http://www.defenselink.mil/speeches/2002/s20020131-secdef.html

[17] http://pao.citadel.edu/pres_bush

[18] Douglas A. Macgregor, "Transforming Jointly," Chapter 8, in Hans Binnedijk ed., *Transforming America's Military*, Center for Technology and Security Policy, National Defense University, Washington, DC, 2002

[19] Joint Chiefs of Staff, Joint Vision 2010, Washington DC, 2001.

[20] Commander, Joint Warfighting Center for the Joint Chiefs of Staff, *Concept for Future Joint Operations: Expanding Joint Vision 2010*, Fort Monroe, VA, May 1997

[21] Secretary of Defense, Quadrennial Defense Reveiw 2001, Washington, DC, 2001

[22] David S. Alberts and Richard E. Hayes, *Power to the Edge: Command and Control in the Infromation Age*, CCRP Publication Series, Washington, DC, June 2003.

[23] Joint Warfighting Center, US Joint Forces Command; "Operational Implications of the Standing Joint Force Headquarters (SJFHQ)", Pamphlet 3, Suffolk, VA, June 16, 2003;

[24] The Goldwater-Nichols Department of Defense Reorganization Act of 1986 (PL 99-433)

[25] Memorandum from Gen. Richard B. Myers, Chairman of the Joint Chiefs of Staff to the Commander in Chief, US Joint Forces Command, "Guidance for USCINC-JFCOM Joint Experimentation, "Nov. 2, 2001.

[26] Richard A. Kass, "Understanding Joint Warfighting Experiments," U.S. Joint Forces Command, Norfolk, VA, October 2004

[27] Background for this section comes from discussions with and draft papers provided to author by a member of J-9 who participated in these exercises and information contaiined in Macgregor, op cit.

[28] See USJFOCOM Public Affairs announcement: http://www.jfcom.mil/newslink/storyarchive/2001/no05280201.htm also see references in Macgregor, op cit, p. 221.

[29] Gomperts press briefing on his findings can be found at http://www.defenselink.mil/transcripts/2001/t06232001_t622gomp.html See also, Gompert, David C; "Preparing Military Forces fo Integrated Operations in the Face of Uncertainty," Rand Issue Paper, Santa Monica, CA, 2001; and Gompert, David C. Irving Lachow and Justin Perkins, *Battlewise: Seeking Time-Information Superiority in Networked Warfare*, National Defense University Technology and National Security Policy Institue, Washington, DC, 2006.

[30] Joint Warfighting Center, US Joint Forces Command; "Operational Implications of the Collaborative Information Environment (CIE)", Pamphlet 5, Suffolk, VA, June 1, 2004; also, J-9 White Paper, "Collaborative Infromation Environment," Oct. 1, 1999.

[31] Joint Warfighting Center, US Joint Forces Command; "Operational Implications of Operational Net Assessment (ONA)", Pamphlet 4, Suffolk, VA, February 24, 2004.

[32] Much has been writtin about Effects Based Operations (EBO): See Murray, op cit.Chapters 3, 4 and 5 and CCRP publications by Smith, Edward A, *Effects Based Operations: Applying Network Centric Warfare in Peace, Crisis, and War*, CCRP, Washington, DC, 2003; and Smith, Edward A, *Complexity, Networking, and Effects-Based Approaches to Operations* CCRP, Washington, DC, 2006*;*

[33] Joint Warfighting Center, US Joint Forces Command; "Operational Implications of the

Joint Interagency Coordination Group (JIACG)", Pamphlet 6, Suffolk, VA, June 27, 2004.

[34] Col. Jody Prescot, USA, "Effects Based Approach to Operations and its Implications for ACT," *The Three Swords Magazine*, Issue No. 5, June 16, 2006, pp 11-14.

[35] USJFCOM "*Commander's Handbook for an Effects-based Approach to Joint Operations*, Suffolk, VA, February 24, 2006.
http://www.dtic.mil/doctrine/jel/other_pubs/eb_handbook.pdf

Although the *Handbook* is self-labelled "pre-doctrinal," much of what it says was included in the newly released Joint Publication 3.0, *Joint Operations*, issued by the Joint Chiefs of Staff on September 17. 2006, and is considered "the keystone document of the joint operations series" of Joint Pubs:. http://www.dtic.mil/doctrine/jel/new_pubs/jp3_0.pdf

[36] JWFC Pamphlet 3, p. 9