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         The implicit assumption NCW proponents make regarding self-synchronization is that it will always produce beneficial results. In order for this to happen, all the forces must have the same fundamental understanding of warfare and operate with a common rule set. Tactical units in the same service will not be the issue; they use the same doctrine, training, and equipment. At the joint level, because the services have different cultures, the ability to successfully self-synchronize is considerably hampered, and in some cases self-synchronized forces will do more harm than good.
An evaluation of two historical case studies show how service cultures would have resulted in positive and negative results had the forces self-synchronized.
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THE CULTURAL CHALLENGES OF JOINT SELF-SYNCHRONIZATION

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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3 February 2002

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Abstract of

THE CULTURAL CHALLENGES OF JOINT SELF-SYNCHRONIZATION

Network Centric Warfare (NCW) promises to bring tremendous new capabilities to the military and transform the way the U.S. fights. Core technical requirements for NCW include a Common Operating Picture (COP) and a Cooperative Engagement Capability (CEC). These technologies enable more potent actions including increased speed of command and the self-synchronization of forces.

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An evaluation of two historical case studies show how service cultures would have resulted in positive and negative results had the forces self-synchronized.

NCW concepts are in development and it is likely they will be implemented in the near term. Until improved joint training and common warfighting doctrine can be developed, the Joint Force Commander must rely on a blend of command styles to maximize the use of his forces.

THE PROBLEM WITH NETWORK CENTRIC WARFARE

Perhaps the latest and greatest concept being bandied about the military is "Network Centric Warfare (NCW)." Why is this? Perhaps it has to do with the claims NCW's proponents make about the capabilities NCW will bring to the future military. These include near instantaneous decision-making and independent target recognition and destruction. In fact, some propose that NCW is the most important Revolution in Military Affairs in the last 200 years. [1] Joint Vision 2020, the military's strategic vision for the future also states, "the continued development and proliferation of information technologies will substantially change the conduct of military operations."[2]

One of the most important claims about NCW is that it may allow future forces to self-synchronize from the bottom up. This is in sharp contrast to the current environment where a hierarchical top-down command structure exists. The claim is that a shared understanding of the Commander's Intent and a common picture of the battlespace, will create a situation where all the forces come together on their own, take the initiative, and accomplish the mission. But, NCW proponents have made a dangerous assumption; they assume self-synchronizing forces will conduct complementary actions to achieve the Joint Force Commander's (JFC) objective. However, because our armed services come to the joint fight with differing perspectives on how to achieve the JFC's objective, when they self-synchronize they may actually produce unforeseen and undesirable actions that hamper mission accomplishment. This is the crux of the problem because it is highly unlikely that two, let alone hundreds of individuals or units will come to the same conclusion on how the battle must proceed to accomplish the mission.

NCW advocates will argue this is the purpose of Commander's Intent, to provide that unifying idea so forces will have a focus for their energies and an objective around which to self-synchronize. This is true; units should view their commander's guidance as the unifying doctrine for how they will fight. In the single service environment where the fundamental approach to warfare is the same, Commander's Intent does guide the force. However, at the Joint Task Force (JTF) level, the situation becomes more complicated. Commander's Intent will still drive the service components toward the same objective, but the fundamental manner in which they will get there differs; their definitions of how to achieve victory are not

the same. Ask two Air Force pilots how to accomplish a mission and undoubtedly their first priority will be the suppression of the enemy's Integrated Air Defense System[3]. Talk to two Naval Surface Warfare Officers about how to conduct the same mission and most likely the first task will be to gain local sea control. The Army and Marine Corps will have still different answers. All of the services desire to accomplish the mission within the bounds of the Commander's Intent, but the fundamental manner in which they would go about it will prevent them from being able to self-synchronize effectively. If left to self-synchronize in a non-conducive environment, failures are bound to occur. Not until the very nature of the armed services is "Joint" will self-synchronization have a hope of being realized by the Joint Force Commander.

Does this mean NCW is doomed to fail? Absolutely not! There are several implications though. There will be a requirement for the lowest levels to have at least a basic understanding of operational art and functions. This common understanding is one of the requirements for successful self-synchronization. Additionally, the Joint Force Commander must understand the inherent differences in his forces and their limitations. Based on his understanding of his forces he must create a common rule set to guide his forces.

A WORKING DESCRIPTION OF NETWORK CENTRIC WARFARE

There is no commonly accepted definition of NCW. One reason for this is the emerging nature of the concept. A second reason is there are two basic "camps" of NCW that serve to lend further ambiguity to the situation. The first camp is that of Admiral William Owens who proposed a system of systems with a centralized command element. The second camp, that of Admiral Arthur Cebrowski, envisions a dispersed, netted group of forces who operate independently but self-synchronize to accomplish the mission.[4] This second camp is the current "en vogue" vision of NCW and is where this paper will focus.

Admiral Cebrowski's vision of NCW is basically a Common Operational Picture (COP) tied to a Cooperative Engagement Capability (CEC). These two work together to create information dominance allowing increased speed of command and self-synchronized forces. The COP is a computer-generated display of the battlefield depicting all of the friendly and known enemy elements. Each friendly unit passes all information it knows

about the battlespace to the network. This includes enemy location, direction of movement, altitude; whatever is pertinent to that particular unit. This information is then collated, analyzed, and disseminated back to the network. In this way, every unit can have the same level of knowledge as all other units, and ideally this knowledge will be of much better quality than what could be produced by a single unit alone.

The CEC concept allows all the components in a Joint Task Force (JTF) to act together as a single unit for targeting. Target data will be passed and fused between the units in real time, creating engagement quality data. The most capable weapon in the "network" will then engage the enemy whether the platform's organic sensors hold the target or not. In a sense, all the sensors of the network become "organic" for every unit.

Although powerful technologies in their own right, the COP and CEC are only the building blocks for the more powerful effects they enable; speed of command and self-synchronization. With the COP, all levels of command have the same information as all other levels, and this is the important part, at the same time. The delay associated with more traditional methods of passing information is gone. A situation where higher-level commanders can rapidly assimilate the entire battle picture with enough accuracy and confidence to take action is created. The orders are carried out and the commander can instantly see the consequences and reaction, allowing the next response to be initiated.

Speed of command is helped by the concept of self-synchronization. Rather than a traditional top-down command structure, where actions are directed by higher commanders and carried out by units, a self-synchronized force acts on it's own initiative based on loose guidelines set forth by the higher commander. The commander acts only to initiate the actions and provide minor adjustments as necessary. Ideally, self-synchronized forces are able to conduct combat operations along a high-speed continuum eliminating the "operational pause" that allows the enemy to gather information, regenerate combat power, and respond.

Speed of Command and Self-Synchronization work together to create a rapidly changing battlespace. As the pace of battle continues to increase and the operational pause is eliminated, the enemy's ability to mount an effective response diminishes. Eventually, the enemy will be losing forces so quickly and the operating environment will be so dynamic he

will be unable to conduct any action at all. His options are then "locked out" and success for the NCW forces is "locked in."

THE NATURE OF DIVERSE FORCES

As mentioned earlier, the notion of effective self-synchronization at the Joint Force Commander level is extremely difficult. Even though the services want to accomplish the mission, their basic approaches will differ, making self-synchronization difficult at best, and dangerous at the other end of the spectrum. At the tactical level, this is not a problem. Army units train together, using the same doctrine and the same equipment, to achieve the same goals. The same is true for other services as well. Because they operate in the same fundamental manner two U.S. submarines can work together, even without communicating, to locate and destroy the enemy[5]. Only when you look at the joint level do the fundamental differences rear their ugly head with the implication that self-synchronization may not be effective.

So, what are these differences? An examination of the various service doctrines will provide valuable insights into these differences and how they affect the ability of joint forces to synchronize.

Starting with the Air Force we find a disposition toward strategic attacks. There is a belief in the ability of strategic attack to be the key enabler to winning a battle. Air Force Basic Doctrine, Document 1 states,

> *The U.S. Air Force, in fielding advanced, highly effective and lethal systems and by concentrating on operations at the strategic and operational levels of war provides national leaders and joint force commanders a unique capability across the range of military operations*…Regardless of the opponent, it is the operation's direct impact on assigned strategic objectives that is important…*This function may be carried out in support of a theater CINC or as a standalone operation by direction of the NCA* [Emphasis in the original].[6]

What does this mean? When the Air Force is involved in a fight, there may be a bias in the operation towards conducting strategic attacks, sometimes to the detriment of other efforts. This is fundamental to the way the Air Force fights at all levels; tactical, operational, and strategic.

The Air Force does not have a monopoly on unique service doctrine. Examining Naval Doctrine we find similar ideas. The conclusion of Naval Doctrine Publication 1 sums up the Navy's warfighting beliefs:

> Our warfighting philosophy incorporates the principles of war while making the best use of the inherent characteristics and advantages of our naval forces. The enduring characteristics of readiness, flexibility, sustainability, and mobility make us uniquely suited to be our nation's first response to crises of all sizes at sea and along the world's littorals.[7]

Like the Air Force the Navy believes it can provide the appropriate and most effective response for military actions, whether it is an unexpected crisis or a well-planned military intervention.

The Marine Corps too has a war fighting philosophy. Whereas the Air Force tends toward formally directing specific actions and the Navy generalizes with their doctrines, the Marine Corps falls somewhere in the middle between the two extremes. In Warfighting, Marine Corps Doctrine Publication 1, marines are guided in the manner in which they will fight, but not directed to complete specific actions:

> *Maneuver warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a variety of rapid, focused, and unexpected actions which generate a turbulent and rapidly deteriorating situation with which the enemy cannot cope* [Emphasis in the original].[8]

If directed to accomplish the mission the Marine Corps will adopt the maneuver warfare approach. This can be contrasted against the Army's desire to employ overwhelming combat power. The Army's Field Manual 3-0 describes this:

> Offensive operations seek to seize, retain, and exploit the initiative to defeat the enemy *decisively*. Army forces attack simultaneously throughout the area of operations (AO) to throw enemies off balance, *overwhelm* their capabilities, disrupt their defenses, and *ensure their defeat or destruction* [Emphasis added].[9]

This is not to say the Army won't use maneuver warfare concepts in its operations, and in fact, the Army applies maneuver concepts more and more to its daily operations. However, overwhelming force is still a large part of Army doctrine.

While the doctrines are different, one does not necessarily exclude the others. In some cases they will even be complimentary, but the differences will still have an impact on the joint operations.

WHAT DOES IT ALL MEAN?

The point of demonstrating these differences is not to say one service is better than another, or we should fight in a particular manner. The importance is only to show that the forces are in fact different at a very fundamental level. When conducting a war the services will want to do different things and their vision about how to win will often times be vastly different. If the forces self-synchronize there is potential for unexpected and sometimes undesired results. On the other hand, they may self-synchronize and be successful. Effective self-synchronization requires a shared set of rules and a common goal for all of the units to work towards. A classic example of this is a flock of birds. For a flock in flight the common goal is the destination of the flight, be it only a short journey or one of thousands of miles. While in flight as a flock, each of the birds adheres to a simple rule set to maintain the flock. A few of these rules may be "Maintain a certain distance from those birds close to me," "match the speed and direction of nearby birds," and "head towards the perceived center of mass of the birds close to me."[10] Using these simple rules the flock gracefully flies towards their destination.

However, assume some of the birds are using a different set of rules; "While flying always inscribe an 'S' shape in the sky." This could produce disastrous results with collisions and the entire flock flying off course. If there are only a few birds using the altered rule set or there is a "master bird" acting as guide, then perhaps the flock will be able to maintain harmony and end up at the destination.

There is little doubt that similar dynamics will be needed to govern self-synchronization in a NCW environment. Whenever the rule set is the same, that is when only a single service is involved, successful self-synchronization will occur. However, at the joint level the possibility exists that the required rule set will not be present because of the fundamental service differences, and therefore effective self-synchronization may not occur.

A good example of this situation can be found by looking at the Army doctrine of Air-Land Battle (ALB). ALB was an effort to create a type of joint doctrine between the Air Force and the Army. Rather than help the situation, ALB actually made things worse. In effect, all ALB did was increase the area of responsibility of the ground commander and to shift a greater number of air assets away from the air commander. This allowed the ground

commander to interdict the targets he felt were important. However, by transferring those assets to the ground commander's control, the ability of the theater commander to interdict theater targets was reduced.[11] This could have a negative impact on the overall conduct of the campaign. If the ALB concept was used and forces were allowed to self-synchronize, the ground commander would have used air assets to the detriment of the entire campaign, thus potentially making the situation worse.

Granted, this scenario represents a hypothetical situation and is highly simplified. Regardless of this, the scenario does represent a potential problem with self-synchronization; it simply may not work correctly.

CAN THIS REALLY HAPPEN?

To gain an appreciation for how these differences might affect the future of NCW we can look at two historical examples. The first example, the Persian Gulf War, demonstrates how the inter-service differences would have resulted in undesired results if the forces had been allowed to self-synchronize at the joint level. The second example, the recent battles in Afghanistan, will show how given the proper circumstances, self-synchronization at the joint level can occur and be successful.

The primary behind the scenes conflict during the Gulf War was the opposing desires of the Army and the Air Force about how to conduct the conflict. The Air Force had a strong belief in the value of strategic air operations, attacking targets designed to weaken Saddam Hussein directly, while the army wanted to focus the attack on the Iraqi ground forces in the field.

The differences actually began to manifest themselves several months prior to the start of the U.S. offensive in January of 1991. On September 16, 1990 an interview with then Chief of Staff of the Air Force, General Michael J. Dugan, was published in the Washington Post. The headline, "U.S. to Rely on Air Strikes if War Erupts," asserted that the Joint Chiefs of Staff had concluded that the only way to effectively win the gulf war was with strategic bombing targeted specifically against the Iraqi Leadership. General Dugan was quoted as saying, "air power is the only answer that's available to our country…Marine and Army ground forces could be used for diversions." The General went on saying that

conventional ground forces might be used to reoccupy Kuwait, but only after air power so shattered enemy resistance that soldiers "can walk in and not have to fight."[12] The General's comments caught a lot of people by surprise. Up until the article had been published, there was a strong belief the Gulf War would be a balanced fight. Two key points demonstrate this. First, because of the comments made by General Dugan, he was relieved, partly because he revealed operational secrets in the article, but because he also marginalized the contributions of the other services. The second point indicating a "joint" approach to the battle was made when General Horner, the Joint Force Air Component Commander, rejected the initial Air Force air plan because it did not service Army targets. He insisted the plan be reworked to included attacks on the Iraqi army.

Despite General Horner's guidance, there were many in the Air Force who shared the same view as General Dugan. Brigadier General Glosson, who was the chief of targeting in the Persian Gulf, felt much the same way. The way to victory in the gulf war was to use strategic airpower to isolate the Iraqi army and, "Over a period of time they will shrivel like a grape when the vine's been cut."[13]

Both of these incidents, General Dugan's and General Glosson's comments, demonstrate the view of how many in the Air Force thought the war should be fought. The strategic airpower concept was the fundamental manner in which the Air Force wanted to conduct the war. This idea, when brought into the conflict, would actually work counter to the desires of the other services.

The Army had a different view of how the war should be fought. Rather than devoting assets to the strategic target set almost to the exclusion of all other target types, they wanted to take the opposite approach. The Army pushed for a greater emphasis on the Iraqi ground forces. In particular, the Army wanted the Iraqi Republican Guard to be hit with sortie after sortie from the outset of the air battle. The Army did have logical reasons for the attacks on the Republican Guard. They wanted as much of their opposition destroyed prior to the start of the ground offensive, so they would have the preponderance of forces and U.S. casualties could be minimized.

At this point the stage was set for the war. Neither the Army nor the Air Force was fundamentally prepared to conduct the battle the same way. Given this, it would prove difficult for the two sides to synchronize their battleplans.

As the war continued the senior commanders of the war effort began to argue. Many in the Air force still wanted to attack strategic targets, especially those in Baghdad, and the Army felt not enough effort was being applied to the targets they needed to have destroyed. Partly this was by design. General Schwarzkopf, Commander in Chief of the Persian Gulf Forces, wanted the Air Force attacking the strategic targets. However, Army commanders did not think this was correct and they constantly pushed for a change in targeting priorities. At one point, the commander of the Army's VII Corps, General Frederick Franks, appealed to Deputy Commander in Chief (DCINC), General Calvin Waller. When discussing the air support he had received from the Air Force, Franks complained, "I'm not getting my share. I need your help."[14] The problems for the Army continued to build, until the point where the Army, with General Waller's help, went to General Schwarzkopf and requested a meeting discussing the targeting priorities. After the Army had made their case, the DCINC told Schwarzkopf that the Air Force are, "just pounding the living daylights out of the strategic targets, but we ought to be devoting as much effort to targets in front of the corps."[15] The meeting resulted in firm guidance being given to the air planners; more effort must be placed on the targets for the Army.

The new directives were clear, but there were those in the Air Force who still felt the focus of the war should be on the strategic battles. General Glosson wrote in his diary, "This is a sad day…because we've shifted our focus prematurely from what we'd been asked to accomplish to the preparations for a land campaign."[16] The air planners felt they had to continue to wage the strategic bombing campaign, despite the instructions to shift focus to the Iraqi army arrayed before the U.S. ground forces. They would "interpret" the nightly targeting directives to the detriment of Army requested targets. Other times, they would claim last minute intelligence forced a change in targeting priorities, again retasking sorties originally planned to service Army requested targets. How much of this really went on is open to some speculation, but the Army commanders certainly felt it was happening. They renewed their complaints to the DCINC who finally confronted General Glosson and told him, "if you divert another flight of aircraft without my approval, I'm going to choke your tongue out."[17]

The Army was not without fault during the Gulf War. As stated earlier, the original air plan included no attacks on forces in the field. The plan was rejected and a new, more

balanced plan was put in place by Generals Horner and Schwarzkopf. Even though this did happen, the Army continually pressed for more and more emphasis on those targets they felt were most important. Even General Waller, who should have been carrying out the CINC's desires and operating at the joint theater level, flamed the fires by continually supporting the Army's objections.

When all was said and done, the U.S. and its coalition partners did win the Gulf War. However, it was a difficult struggle to get there. There was no self-synchronization of the forces, everything was directed by the CINC. This was because of the differences between the services. Had they been allowed to organize from the bottom up, it is clear the Air Force and the Army would have come to completely different conclusions about how to fight the war. The obvious result would have been the execution of a strategic air operation by the Air Force, almost to the exclusion of the ground forces. Conversely, had the Army been given their way, almost no strategic targets would have been attacked. In either case, the war would not have been waged as successfully as it was.

The war in Afghanistan stands in sharp contrast to the Gulf War. Rather than a striking example of how self-synchronized forces would have actually resulted in terrible consequences, Afghanistan demonstrates a situation where forces could synchronize and develop favorable results. This is because necessary preconditions existed in Afghanistan that did not exist in the Gulf War. These preconditions, a common goal and a common rule set, set the stage for successful self-synchronization.

Many will argue it is impossible to compare the Gulf War to Afghanistan. They may claim that compared to the Iraqi army the Taliban and Al Qaeda forces in Afghanistan presented a, "nonhostile or low-threat environment."[18] However, it is possible to compare them for two reasons. First, contrary to mainstream thinking, the battle in Afghanistan was really fought as a traditional air-ground engagement, so in one case it was similar to the Gulf War. Secondly, the purpose in comparing the two is not to show how they were the same, but to demonstrate how they represent two different opportunities to examine the possibility of self-synchronization among joint forces.

The battle in Afghanistan presented an opportunity for self-synchronization to occur with positive results. Unlike the Gulf War, there were no vociferous battles about the course of the war or who would get to choose what targets to attack. The reason for this was the

joint forces actually worked together with a common vision of how to win the war. The Operational Centers of Gravity (COG) were clear; first the Taliban air defenses and when those were destroyed, the COG shifted to the Taliban and al Qaeda ground forces.[19] There were very few fixed infrastructure strategic targets, the Air Force met its air superiority goals in a matter of days and the only thing left to do was work with the other services to achieve the objectives.

Prior to the air strikes beginning, there was a different appreciation for how the battle would go than in previous military actions. During the Gulf War, there were senior Air Force leaders who thought air power could win the war, or at least force the Iraqi military to the brink of capitulation. This was not the case in Afghanistan. The entire chain of leadership had the same understanding; air power alone would not win the war, all elements of the military would be required to work together. When discussing the Persian Gulf War, Chairman of the Joint Chiefs of Staff, Air Force General Richard Meyers indicated the air operations were essentially separate from the ground operations. Once the conditions had been set by the air operations, "Then, we had a ground component that went in and finished the job. You shouldn't think of this [the war against terrorists] in those terms."[20] On the second day of the offensive General Meyers and the Secretary of Defense, Donald Rumsfeld held a press conference where they discussed how they envisioned the war progressing. The Secretary stated, "The cruise missiles and bombers are not going to solve this problem. We know that. What they can do is to contribute by adding pressure."[21]

Just a day later at another press conference, the success of the U.S. attacks was becoming clear. The Taliban air defenses had been neutralized and U.S. air forces had freedom to act as desired. According to General Meyers, the U.S. had already achieved air supremacy. U.S. military operations could now operate, "around the clock, if we wish,"[22] stated Secretary Rumsfeld. Even the President got into the act saying, "The Skies are now free."[23]

At the same briefing Secretary Rumsfeld indicated how he envisioned the rest of the war would go. Understanding that a vast majority of fixed targets had already been destroyed he joked, "We're not running out of targets, Afghanistan is."[24] Instead of continuing with a strategic bombing campaign, the future air strikes would concentrate on emerging targets.

With the fixed strategic target portion of the battle completed, efforts did indeed focus on integrating the land and air forces. At this point, the battle was fought much like traditional battles where the ground forces put in a request for fires and those targets are serviced either by air or artillery. Unlike other conventional battles, where a multitude of missions exist, ground support was the only mission left in Afghanistan. The air forces could now focus on servicing the emergent targets threatening the land forces, instead of looking for fixed strategic targets. As time went on, the beginnings of self-synchronization began to take shape. "After the first week, the pilots didn't know what targets they'd be striking when they launched,"[25] stated Vice Admiral John Nathman, then commander of all Naval Air assets in the Pacific. Instead, the aircraft were assigned to ground controllers who were able to assign particular aircraft to emergent targets.[26]

As the battle in Afghanistan continued, the success of the U.S. led operations became clear. Northern Alliance forces were able to topple the Taliban, because the air and ground forces worked together. Their common understanding of how to achieve victory was the major contributor to the success. Additionally, the lack of fixed strategic targets did not stress the relationship between the air and ground forces. Had the forces been allowed to fully self-synchronize, a successful cooperative operation would have resulted.

RECOMMENDATIONS

Given the current state of affairs, with each service having their own goals and desires when entering a battle, what can be done to alleviate this problem? There are several possibilities that offer promise.

First and foremost, common doctrine must be developed and embraced by all the services. Although the U.S. military does currently have Joint Doctrine, it does not address the fundamental nature of how the forces desire to operate. The Air Force still believes in the value of strategic air attack and the Marine Corps embraces a maneuver doctrine. Until a common doctrine is accepted, self-synchronization at the operational level will continue to be an extremely difficult proposition.

Common doctrine is fast becoming a reality. The U.S. Joint Forces Command (USJFCOM) has been tasked with creating a "Joint National Training Capability." This

capability will work at "filling the gaps between service training processes."[27] This plan will help the forces develop the common doctrine needed to self-synchronize at the joint level.

It is impossible to expect USJFCOM to foster this common understanding in the near term. Fundamental societal changes take years and years to occur, and it will be no different in the military. One only need to look at the time needed by Japan to change from a war fighting nation to a peace seeking nation following World War II. This did not happen overnight; it took many years.

Fostering the common warfighting doctrine is the long-term solution, but the short term problem still exists. It could be argued that the necessary technological preconditions for NCW and self-synchronization do not currently exist and will take many years to develop. When they finally are developed, it is likely the U.S. military will essentially be in the "long term" and the common understanding will exist between the services. This is a specious argument. To ignore away the rapid advances in technology and the ongoing experiments in NCW theory and practice is to deny the very possibility of NCW. NCW is coming and it is likely to be here sooner rather than later.

Many of the enabling technologies already exist and the need for forces to successfully self-synchronize is clear. What can be done to solve the problem? For one, rather than maintain the current state of affairs where the U.S. creates an ad hoc JTF when required, a permanent system of joint task forces could be developed. This concept has already been proposed in the 2001 Quadrennial Defense Review. The review proposes a system of JTF headquarters and full JTFs. How will these standing headquarters alleviate the problem? They will allow the senior leadership who will shape the battle plans to begin to develop the common understanding required for successful self-synchronization, prior to the battle. Obviously when the staff first comes together, they will still bring their preconceived notions with them. This is not a problem, because each service has unique capabilities that must be exploited in order for the U.S. to be successful. The more time the staff spends together the more they will come to appreciate the differences and capabilities among the services. They can argue the merits of one style of warfare vs. another. Through time a common understanding of how the next battles will be fought will be fostered and the conditions for successful self-synchronization will emerge. When the time comes for action,

the senior leadership of the JTF will be ready to conduct the battle; all of them approaching the problem from the similar perspective developed over the periods of working together.

Another short-term solution is to increase the amount of joint training. Every opportunity forces have to interact, especially at the tactical and operational levels, the level of understanding between them increases. This was demonstrated in Afghanistan where new joint tactics and procedures were developed by the units in the field.[28] Key to this idea will be the Joint Training Directorate and Joint Warfighting Center, both located in USJFCOM. They have been tasked to improve the level of joint training to develop the necessary tactics, techniques, procedures, and doctrine required to make the training successful.

Both of the above suggestions, standing JTFs and increased joint training, require time to develop, although it is much shorter than inculcating a common doctrine in the services. The JTF Commander who suddenly finds himself in command of an ad hoc JTF, without the benefit of either of the short-term solutions, does have potential solutions as well. The commander always has the option to prevent the self-synchronization of forces. If he chooses to do so, he can create a more traditional top-down approach, where command is centralized. There are several reasons for doing this. The forces assigned to the JTF may not have had the opportunity to train together and allowing them to self-synchronize may actually cause undesirable results, like what could have happened in the Gulf War. Additionally, the nature of the conflict may actually call for slow and deliberate actions, allowing other sources of national power to work as well. Letting forces self-synchronize could potentially speed the military actions ahead of the other sources of power actually hampering their ability to work. In both cases, through time, the forces will gain a greater understanding of the commander's desires for how to conduct the battle. As the forces continue to learn and the commander gains confidence in the force's ability to meet his objectives, using common rules, the commander can decentralize his command and allow more self-synchronization to occur, ultimately resulting in more efficient actions on the part of the forces.

Lastly, given the situation, the commander may be forced to rely on self-synchronization to a greater degree than he is comfortable. This is where his Commander's Intent comes in. Typical Commander's Intent consists of a paragraph or two with an accompanying Operation Order that tends to be very large. In a NCW environment where

self-synchronization is supposed to occur, highly proscriptive operation orders actually work counter to the self-synchronization of forces. Rather than creating the detailed order, the commander can expand his intent, stressing those areas where he wants forces to synchronize, those areas he does not, and what he expects the results to be. This would allow the forces to determine the best way to conduct the mission, but would also strengthen the common rule set used, improving the chances of successful self-synchronization. Implicit in this, is the fact that the lower levels in the JTF have an appreciation for operational art and other concepts the JFC uses when conducting an operation. As JFCOM improves the joint training capability, some thought should be given to training the tactical units in the basic concepts of operational art.

CONCLUSIONS

Why did Afghanistan present a situation for successful self-synchronization and the Gulf War did not? There are two significant reasons for this. First, in Afghanistan the forces had a common understanding of how the battle would be fought and won. Secretary Rumsfeld and General Meyers were seen early on to have the same ideas about waging the war. Even if in private they had different views, they did not allow their private convictions to cloud their public actions as had happened in the Gulf War with some of the Air Force leadership.

The second reason Afghanistan presented an environment where self-synchronization could flourish was the lack of fixed strategic targets. Even after a 41-day strategic bombing campaign in the Gulf War many potential targets still existed. This provided the fuel to the fire for the senior Air Force leadership to continue the strategic air battle. Even years after the war, General Glosson still thought air power alone was the reason for victory in the war, "We believed, and I still do, that the_the[sic] attacking of targets in Baghdad had as much or more to do with success or failure of that field army than attacking it directly."[29] In Afghanistan after a few days there simply was nothing left that could be considered an infrastructure or fixed strategic target; the only target was the Taliban and al Qaeda ground forces. Rather than continue to bomb non-existing targets, the air forces had nothing left to do but support the ground offensive. The situation in Afghanistan did not stress the

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fundamental manner the way the different services envisioned the battle, and a *de facto* joint doctrine developed and the conditions were set for successful self-synchronization.

What does this prove? A common fundamental idea about how to conduct the operation is required to have forces self-synchronize and achieve the desired results. In a traditional top-down organization, the fundamental battle plan comes from the commander. In a NCW environment, it will have to come from doctrine, tactics, and techniques that are in place before the battle commences.

NCW is the concept of the future and it has tremendous potential to greatly alter warfare. Self-synchronization of forces has the ability to improve the efficiency of military operations, create situations that are untenable for the enemy, and do so in time frames previously thought impossible. However, the synchronization of forces at the operational level has the potential to actually work counter to the mission goals. A commander will need to evaluate the situation, his forces and their abilities, and make a decision to allow his forces to synchronize or not.

NOTES

[1] Arthur K. Cebrowski and John J. Garstka, "Network-Centric Warfare: It's origin and future," U.S. Naval Institute Proceedings, (January 1998): 29.

[2] Joint Chiefs of Staff, Joint Vision 2020, (Washington, DC: June 2000), 3.

[3] The mission "Suppression of Enemy Air Defenses" can be abbreviated SEAD. An Integrated Air Defense System is abbreviated as IADS. The SEAD mission is designed to interdict or destroy the enemy's IADS.

[4] Michael C. Geron, "Commander's Intent: The Critical Transformation Challenge for Networked Forces," (Unpublished Research Paper, U.S. Naval War College, Newport, RI: 2001), 2-3. and Cebrowski and Gartska, "Network-Centric Warfare," 32-33.

[5] The author noted this phenomenon several times during two tours aboard U.S. fast attack submarines.

[6] Department of the Air Force, Air Force Basic Doctrine, Air Force Doctrine Document 1 (Washington, DC: September 1997), 40,51.

[7] Department of the Navy, Naval Warfare, Naval Doctrine Publication 1 (Washington, DC: 28 March 1994), 71.

[8] Department of the Navy, Warfighting, Marine Corps Doctrine Publication 1 (Washington, DC: 20 June 1997), 73.

[9] Department of the Army, Operations, FM 3-0 (Washington, DC: June 2001), 7-2.

[10] Craig W. Reynolds, "Flocks, herds, and Schools: A distributed Behavioral Model," Computer Graphics, (No. 4, 1987) 25-34; quoted in Thomas K. Adams, "The Real Military Revolution," Parameters, Autumn 2000, <http://carlisle-www.army.mil/usawc/Parameters/00autumn/adams.htm> [21 January 2003].

[11] Benjamin S. Lambeth, The Transformation of American Airpower, (Ithaca: Cornell University Press 2000), 88-89.

[12] Bob Woodward, The Commanders, (New York: Simon and Schuster 1991), 290-291.

[13] Buster C. Glosson, quoted in Rick Atkinson, Crusade, (Boston: Houghton Mifflin, 1993), 217.

[14] Ibid., 219.

[15] Ibid., 221.

[16] Buster C. Glosson, quoted in "The Gulf War," <u>Frontline</u> (#1407T), full text from a film produced by Eamonn Mattews, (28 January 1997). Transcript available at <http://www.pbs.org/wgbh/pages/frontline/gulf/tapes.html> [25 January 2003].

[17] Calvin A. Waller, quoted in "The Gulf War," <u>Frontline</u> (#1407T), full text from a film produced by Eamonn Mattews, (28 January 1997). Transcript available at <http://www.pbs.org/wgbh/pages/frontline/gulf/tapes.html> [25 January 2003].

[18] Milan Vego, "Net-Centric is Not Decisive," <u>U.S. Naval Institute Proceedings</u>, January 2003, <http://www.usni.org/Proceedings/Articles03/PROvego01.htm> [10 January 2003].

[19] Milan Vego, "What Can We Learn from Enduring Freedom?" <u>U.S. Naval Institute Proceedings</u>, (July 2002): 29.

[20] Richard Meyers, quoted in Rebecca Grant, "An Air War Like No Other," <u>Air Force Magazine</u>, November 2002, <http://www.afa.org/magazine/Nov2002/1102airwar.asp> [30 January 2003].

[21] Donald Rumsfeld and Richard Meyers, "DoD News Briefing," 8 October 2001, <http://www.defenselink.mil/news/Oct2001/t10082001_t1008sdm.html> [25 January 2003].

[22] Donald Rumsfeld and Richard Meyers, quoted in Jim Garamone, "U.S. Crews Assault Al Qaeda, Taliban Support Structures," <u>American Forces Information Service</u>, 9 October 2001, <http://www.defenselink.mil/news/Oct2001/n10092001_200110096.html> [25 January 2003].

[23] Associated Press, "US Pilots Bomb Afghanistan Targets," <u>Milwauke Journal Sentinel</u>, 9 October 2001, <http://www.jsonline.com/news/attack/oct01/attack100901.asp> [25 January 2003].

[24] Donald Rumsfeld and Richard Meyers, quoted in Jim Garamone, "U.S. Crews Assault Al Qaeda, Taliban Support Structures," <u>American Forces Information Service</u>, 9 October 2001, <http://www.defenselink.mil/news/Oct2001/n10092001_200110096.html> [25 January 2003].
[25] John B. Nathman, quoted in Grant.

[26] Vernon Loeb, "An Unlikely Super-Warrior Emerges in Afghan War; U.S. Combat Controllers Guide Bombers to Precision Targets," <u>Washington Post</u>, 19 May 2002, A16.

[27] Michael Wimbish, "USJFCOM to ramp up Joint National Training Capability efforts in 2003," <u>USJFCOM Public Affairs</u>, 2 January 2003, <http://www.jfcom.mil/newslink/storyarchive/2003/pa010203.htm> [3 February 2003].
[28] For example see Loeb, "Unlikely Super-Warrior" and Grant, "An Air War".

[29] Buster C. Glosson, quoted in "The Gulf War," <u>Frontline</u> (#1407T), full text from a film produced by Eamonn Mattews, (28 January 1997). Transcript available at <<u>http://www.pbs.org/wgbh/pages/frontline/gulf/tapes.html</u>> [25 January 2003].

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