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   The solution that is recommended is a cultural change in keeping with sound operational art, where decentralization begins with the planning process and continues through execution. This cultural change not only ensures that commander's intent will become second nature for tactical operators, it also gives the operational commander the confidence in his subordinate's decision making necessary to minimize his personal involvement at the tactical level. This combination of effects supports the behavior necessary for self-synchronization and speed of command, the two primary warfighting benefits of NCW.

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The Issue of Decision Up-Creep in Network Centric Warfare

by

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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 personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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3 February 2003

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ABSTRACT

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BACKGROUND

In 1866, as the Prussian army was mobilizing against Austria in the first crucial step down the road to German reunification, an aide found Helmut von Moltke, the chief of the Prussian general staff, lying on a sofa reading a novel. In 1944, just hours before his troops would be landing in Normandy, General Dwight D. Eisenhower, supreme Allied commander for the invasion, was on his sofa doing precisely the same thing. Today, one would be more likely to find an operational commander pacing back and forth in an electronic Joint Operations Center, surrounded by multiple displays, talking directly to front-line pilots or ground commanders, and probably watching the battle unfold real-time through a UAV video feed.[1]

Moltke and Eisenhower are generally accepted as masters in exercising operational leadership. Facing the most important battles of their careers, they did all they could as operational commanders to prepare their troops for the upcoming operations. They conducted their estimates of the situation, assembled and trained their forces, and planned the detailed initial movements and objectives of those forces.[2] They were on their sofas as the battles started because they were waiting for their subordinate commanders to carry out the initial operations on "virtual autopilot."[3] Only as reports of the developing tactical situation came in, could these commanders' staffs put together an overall operational picture by which further decisions could be made. Although their wars were separated by 80 years, Moltke and Eisenhower were both fighting in the industrial age with technologies that limited their access to real-time tactical information. Therefore, they had very few opportunities to make real-time tactical decisions even if they had wanted to.

In fact, it may be argued that until recently, the exercise of operational leadership as a whole was shaped by the technology of industrial age warfare. Operational commanders have traditionally been most effective by using centralized control and decentralized execution. Large operations were simply too complex for a single decision maker to manage all aspects of execution, especially if the decision maker was far removed from the battlefield. The flow of information to and from the operational commander was just too slow for effective tactical decision-making. As a result, successful operational commanders of the past relied heavily on the "human element."[4] They had to trust subordinate commanders in the combat area to make and execute independent tactical decisions based on the operational commander's intent. The operational commander's role was to make sound decisions on the operational level based on the results of his subordinate's tactical actions.

INTRODUCTION

The technological limitations that mandated decentralized execution will soon be a thing of the past. Western civilization has moved fully into the information age. As seen by the earlier example of today's operational commander, information technology is an integral part of modern military operations and its role continues to grow. Further advances in information technology will allow the future operational commander to be even more directly involved in virtually every aspect of a conflict. If the proponents of Network Centric Warfare (NCW) are correct, future operational commanders will be provided with unprecedented situational awareness from a fully networked force that integrates sensors, decision makers and shooters.[5] Through this networked force, the commander will be able to translate information superiority into combat power by

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effectively linking knowledgeable entities.[6] Most importantly, what is not often pointed

out is that this networked force will provide the future commander with the command and

control "reach" to be able to centrally direct nearly every tactical action of their

subordinates should they choose to do so.

While at first glance the future of operational leadership may look very bright

indeed, there may also be a down side to leading a fully netted force. Network Centric

Warfare will provide operational commanders with unprecedented access to tactical level

information. Depending on any number of external factors from politics to personality,

access to this information may tempt operational commanders to micromanage the tactical

actions of their subordinates. While it is the commander's prerogative to make decisions

for any level of the force, the problem of "decision up-creep" could undermine

synchronization on the tactical level and undo many of the war fighting benefits derived

from a fully netted force. The full potential of network centric operations can only be

achieved if tactical leaders are allowed to make decisions on their level. The key to good

tactical decision-making in NCW is a clear commander's intent that is implicitly

understood by tactical operators and an operational commander who supports the behavior

that leads to self-synchronization.[7]

This paper will serve three purposes. First, it will show that the unprecedented

"reach" provided by NCW will provide the operational commander with a significant

temptation to micromanage tactical actions. Using examples of recent conflicts, it will be

shown that decision up-creep occurs with today's improving information technology and

will likely continue as systems become even more capable. Second, the paper will show

that decision up-creep would virtually negate all of the benefits of NCW. Finally, the paper

will present organizational, doctrinal, and cultural alternatives for mitigating decision up-creep, recommending a course of action that is in keeping with the practice of sound operational art.

Can Decision Up-Creep Occur?

Simply characterizing NCW as an improved form of communication between operational commanders and their lower echelons would be incorrect. NCW is about increasing the effectiveness of a military force through the networking of both systems and people. At the heart of NCW are three grids – the information grid, the sensor grid and the engagement grid. The information grid links all of the equipment required to "receive, process, transport, store, and protect information for Joint and Combined forces."[8] The sensor grid fuses the raw data from all of the sensors in the battlespace. This will provide every individual platform with the raw targeting-quality data from every other platform in the grid. The combination of the information and sensor grids will provide all of the participants with an improved overall battlespace picture. This picture can in turn be exploited by the engagement grid, which links all of the weapon systems via the network. The engagement grid will allow operators in the network to access any weapon system in the battlespace.

NCW is a tremendous concept that differs with traditional war not simply by its obvious reliance on information technology, but rather on the idea that by combining a network and modern weapons systems, factor time and space will be greatly affected.[9] Location of platforms is not as important in a network because they can be "reached" anywhere. Instead of being a physical measure of how much distance a force can cover over time, space will be measured in terms of situational awareness. The emphasis of

factor space will shift from physical speed and presence to "virtual" speed and presence. Factor force will no longer be dependent on massing platforms and people by getting to the right place at the right time. Through NCW, massed fires can be effectively and rapidly coordinated across a geographically dispersed but virtually networked force. [10] The information technology resident in NCW will give the operational commander the true ability to "reach" all components of the force in a way that Moltke and Eisenhower could never imagine. Given the capabilities foreseen in NCW, there are two reasons why any operational commander would be sorely tempted to control all of the tactical actions in a campaign.

The first reason is also the result of technological improvements. Modern, global communications afford everyone, not just the military, access to near real-time information. What is commonly described as the "CNN effect"[11] makes the global community instantly aware of virtually every military action. This has resulted in the phenomenon of the "strategic corporal," by which the actions of even individual soldiers could have huge political implications. The efforts to control these political implications have resulted in senior leaders on both the operational and strategic levels becoming increasingly involved in tactical level actions.[12]

The second and more compelling reason why leaders would be tempted to micromanage is the paradox that NCW creates for the operational commander. By eliminating the industrial age technological limitations that required decentralized execution, NCW makes the use of sound operational art a choice. An operational commander must decide whether to allow decentralized tactical execution in the face of political pressure from above, or he can choose to use the available technology to centrally

control tactical actions and their resulting political implications. The paradox comes from the fact that if the operational commander chooses not to allow decentralized tactical actions, NCW will not work as advertised.

The assertion that technological improvements can lead to decision up-creep can be substantiated by examples from three of the operations in which the U.S. military has participated during the past decade. Operation Allied Force, Operation Southern Watch, and Operation Enduring Freedom. All three operations show that with improved command and control capabilities, operational commanders have chosen to over-centralize the decision making process. These examples, along with a look at the some of the factors that influence a modern operational commanders decision-making, will provide an interesting framework to predict what a commander might do with a fully netted force.

During Operation Allied Force, General Clark, the Supreme Allied Commander, Europe, was under tremendous pressure from the competing demands of his "dual-hatted" position as a combined U.S. and NATO operational commander. In response to NATO's concern over casualties and public opinion, General Clark chose to make virtually all of the targeting decisions in the conflict himself. This is a clear example of an operational commander making tactical decisions. He personally reviewed all fixed targets to ensure he could minimize collateral damage. This was done in such detail that General Clark occasionally changed the designated mean point of impact (DMPI) decided upon by his subordinates. Mobile targets were delegated to the JFACC, but even these would get his close scrutiny. Targets were approved individually instead of effects-based sets, with the overall result of minimizing the impact of allied air strikes on the Serbians and prolonging the operation.[13] The tenants of operational art tell us that General Clark would have been

better served by leaving the detailed tactical employment of forces to his subordinate commanders and focusing on the next phases of the operation.[14] General Clark explains in his book that his involvement in tactical decisions was an effort to keep his superiors in Washington and Brussels satisfied and there is no reason to dispute him.[15] However, the point to be made is that given the political pressures that he faced, and the technological reach provided by modern information technology, General Clark chose to control the tactical actions in the operation instead of delegating them to his subordinates.

With over a decade of continuous operations, Operation Southern Watch (OSW) has become a "test bed" for the implementation of emerging technologies. The tremendous leaps in technology over the past decade have given the tactical commander in the JFACC and the operational commander at Central Command (CENTCOM) improved situational awareness and control of the operation. Unfortunately, the implications for operational leadership are somewhat grim. An interview with an E-2C Hawkeye mission commander brought out a story that exemplifies the mindset of the leadership. Recently, U.S. forces were attempting to set up a strike on an Iraqi target in response to an attack on coalition aircraft. The decision to strike was delayed for four hours while waiting for a UAV to over fly the target and provide the JFACC with a picture. Once the UAV was overhead, and the target was confirmed with CENTCOM, a Navy strike package was launched. A few minutes before the strike package reached the target, the UAV video malfunctioned and the JFACC refused to allow the strike to be carried out.[16] While this is an example of decisions made at the tactical level, one can only assume that the operational commander was at least informed and approved of the decision to scrub the strike. There are many valid reasons to explain this action, from fear of collateral damage to the inability to do an

accurate bomb damage assessment. However, the fundamental fact remains that without the ability to directly oversee tactical actions, the operational commander (or his representative) refused to allow those actions.

The most current example of this troubling trend was highlighted in a recent Operation Enduring Freedom (OEF) After Action Report. The report invokes memories of the Johnson administration during Vietnam with its discussions of operators in Afghanistan being forced to seek ROE guidance directly from CENTCOM in Tampa prior to engaging the enemy. [17] With the lengthy communications paths and the time difference between the battlefield and Tampa, such a requirement could result in missed opportunities with time sensitive targets. Another critique of OEF stated: "The netting of forces was used to further centralize decision making at all levels."[18] The critique goes on to say that CENTCOM "not only observed but actually interfered in purely tactical decisions and actions."[19] On the Strategic side, the necessity to keep the senior Washington leadership informed of every aspect of the operation resulted in additional stresses on staffs at all levels. One four-star general called the strategic leaderships' desire for information "insatiable" and "a downside of instant communication."[20] CENTCOM had to provide twice daily briefings to Washington, D.C. As a result the entire battle rhythm for the tactical commanders' briefings to CENTCOM was adjusted to meet this requirement, despite the time difference between Tampa and Afghanistan. [21] Interestingly, the CENTCOM response to this concern was that the relationship was "simply a fact of life" required to "…keep the Pentagon and White House informed…[and that]…every forward-deployed element…would need to adjust their daily battle rhythm to some extent to accommodate this reality."[22] Once again, it is not unreasonable for senior leadership to

require updates of actions on the battlefield; in fact, it is in keeping with sound operational art. The problems arise when the higher levels choose to use improved information technology to direct tactical actions.

Role of The Operational Commander

In order to perform his job effectively, the operational commander must know what actions his subordinate commanders have taken and the results of those actions. Since the plan of operation will probably require modification after every encounter with the enemy, the operational commander must stay informed. Continuous monitoring of the situation will allow the commander the flexibility to deal with the inevitable fog and friction of war. The information technology of NCW will allow the operational commander not only to monitor the changing situation, but also to take the necessary corrective actions himself.

The question then arises: If the operational commander is privy to such expanded capabilities, why shouldn't he control the battle? This is one of the fundamental questions regarding the command of network centric operations. There are several seemingly valid reasons why an operational commander should take advantage of the information technology inherent in NCW to direct all tactical actions.

The first is the very reason that he is in command. The operational commander has the most experience and is most intimately familiar with the plan. "The likelihood that greater experience and knowledge will reside at higher command echelons would seem to argue for centralizing decision making and control to the fullest extent allowed by communications capacity."[23] If he is directly in control, the operational commander will not have to be concerned with misinterpretations of his commander's intent.

Another reason stems from the concern that subordinate commanders tactical actions might escalate beyond control. There is an ever-present potential for regional conflict in the current areas of concern for the U.S. Who better than the operational or even strategic commander to determine tactical courses of action that would avoid escalation? Recent events like the accidental bombings of the Chinese embassy in Serbia and the wedding party in Afghanistan show that such a potential for escalation is not beyond the realm of possibility.[24]

Finally, one can make the argument that such interference is simply the practice of sound operational art. History is full of examples of operational leaders stepping in and preventing tactical miscues. Operational art tells us that the commander "should interfere with the decisions of their subordinate commanders only when those decisions are unsound and could jeopardize the outcome of the entire mission."[25] With the increased situational awareness provided by NCW, there is almost an ethical requirement for the operational commander to ensure that *no* unsound decisions are made.

These examples would seem to argue that Moltke and Eisenhower would probably have not been on their sofas if they had the information technology advantages of NCW. After all, both were under pressures comparable to anything an operational commander would face today. Both leaders had the future fates of their nations resting on their decisions. While they did not have anything resembling the reach provided by NCW, they certainly could have made efforts to be closer to the points of tactical decision-making. However, they chose to stay back and focus on their roles as operational commanders. They knew that too much involvement in the tactical details of the operation would impair their operational vision.[26]

The primary responsibilities of the operational commander in the course of a campaign are as follows: Conduct the running estimate of the situation; supervise and influence subordinate commanders' actions; change intermediate objectives; change command relationships and forces' subordination; consolidate operational or strategic success; and prepare for the next phase of the campaign.[27] NCW will provide the operational commander the best information possible with which to carry out these responsibilities, but it will not invalidate any of them. The problem with having such a robust information technology capability built into the system is that NCW could draw the operational commanders focus away from these primary responsibilities. The resulting loss of operational focus could lead to a lack of comprehension or misinterpretation of valid information. The problems caused by this loss of operational focus will be compounded if the commander chooses to centralize tactical decision-making because it will negate all of the benefits of having a fully netted force.

Impact On NCW

On an individual level, the idea of centralized decision making from above strikes foul with most tactical operators. Many of whom have seen the results when local commanders are overruled or hindered in accomplishing tactical objectives by seniors who are acting on incomplete or incorrect interpretations of information.[28] The roots of sound operational art lie in the fact that most tactical operators want to know what needs to be accomplished, and then want to be given the freedom to accomplish it. It is on this simple premise that the incredible potential of NCW rests. It is also the fundamental reason decision up-creep and NCW are incompatible.

In presenting the future potential of NCW, its advocates point out that the true combat power of a netted force does not come from its technology, but from the humans in the network. To be most effective, NCW requires greatly empowered individual war fighters. This empowerment is the result of a combination of access to the overall battlespace picture (situational awareness) and decentralized command and control. Overall combat power of NCW is maximized by the synergistic effect of many collective actions by informed war fighters. These collective actions result in the principles on which NCW turns, self-synchronization and speed of command. Both of which are compatible with sound operational art. Should the operational commander choose to centralize tactical execution, this synergistic effect will either be placed at risk, or not achieved at all.

NCW can only be effective if there is a shift from the traditional emphasis on unity of command to achieve unity of effort. The new mindset must be one of decentralized decision-making and action by highly informed tactical operators. Self-synchronization is the "ability of a well-informed force to organize and synchronize complex warfare activities from the bottom-up."[29] Organized by unity of effort, clearly articulated commander's intent, and carefully crafted rules of engagement, self-synchronization "overcomes the loss of combat power inherent in top-down command-directed synchronization characteristic of more conventional doctrine and converts combat from a step function to a high-speed continuum."[30] A shift away from unity of command represents a significant leap of faith for an operational commander, especially one who has the same (if not better) situational awareness as his subordinates. However, it is a leap a commander must take to achieve self-synchronization among his tactical forces. This self-synchronization is necessary if one is to achieve speed of command.

Speed of command is defined as "the process by which a superior information position is turned into a competitive advantage. It recognizes all elements of the operating situation as parts of a complex adaptive ecosystem and achieves profound effect through the impact of closely coupled events."[31] As a result of the "flattening" of the command organization through self-synchronization, parallel and mutually supporting operations can be conducted continuously. In this way, unrelenting pressure can be maintained on an enemy without pause.

As seen above, NCW must be deeply rooted in operational art to reach its full potential.[32] The war-fighting concept outlined above requires the operational commander to provide only broad direction to his subordinates and to decentralize tactical execution in order to achieve full effect. By eliminating the industrial age technological limitations that have previously made decentralized execution necessary, NCW leaves the operational commander with the choice between micromanagement and sound operational art. Recent history has shown that pressures of modern day command have often led operational commanders to choose micromanagement. This micromanagement will in turn completely negate the self-synchronization and speed of command that are the fundamental benefits of NCW.

SOLUTIONS

When seeking a solution to the problem of decision up-creep in NCW, one must focus on the fact that it is only a tactical concept.[33] With all the new capabilities and reach that it brings to war fighting, NCW could lead the operational commander to forget the fact that he must focus on a higher level. While NCW will undoubtedly provide the operational commander with an unprecedented picture of the battlefield, it will only show the tactical

picture. NCW will be of no benefit in providing the intangible elements such as enemy intentions, plans, reactions, soundness of doctrine and morale that are critical to operational success.[34] Keeping in mind that NCW is simply a tactical "tool", three potential solutions to the problem of decision up-creep are presented. These can be classified as organizational, doctrinal and cultural.

The organizational solution comes from the advocates of a "business" model of military transformation. They tell us "new weapons are only revolutionary if they are married to new organizations that capitalize on success."[35] With the technological advances envisioned for NCW, and the requirement for bottom up self-synchronization, perhaps a "component focused"[36] organization would be the best fit. Such groups have been referred to as "unitary military war-fighting organizations."[37] These organizations could be the basic building blocks for U.S. military force in the form of individual standing joint forces that would be located together, train together full time and deploy as single entities. They could either be general-purpose forces geared to a variety of missions, or specialists in C4ISR, littoral operations, or air/land assault.[38] The commander of such an organization would be able to accurately gauge the human element of his force through continuous training and would be confident that his commander's intent would be understood and carried out.

There are several fundamental problems with this type of organizational solution. The first is that by creating "functional" organizations, one is focused on the tactical level of war fighting. Reorganizing a tactical concept to make it function better does not necessarily make it apply to the operational level. Another problem is that the creating of unitary organizations could stifle successful integration within a larger military effort. The

well-defined patterns of communication and interaction that would be created in such an organization would become barriers to, rather than facilitators of interaction with other military forces.[39] The final problem is that the concept of individual organizations runs somewhat contrary to NCW. The success of NCW rests on the ability to bring the principles of war to bear on an enemy from different entities, regardless of whether it is a military or non-military source of power. The creation of specialized organizations may actually hinder this ability.

A doctrinal solution to decision up-creep would be relatively simple to implement. It could be as simple as not allowing an operational commander to simultaneously hold a tactical position. For example, a JTF commander could not also hold a component commander position such as JFLCC. Such a requirement is also in keeping with sound operational art. Additionally, doctrine could mandate the use of centralized decision-making only when and where it is needed. The final part of this solution is to revise procedures, so that there is a clear understanding of which levels of authority can decide each type of issue.[40] This is consistent with operational art and is directly addressed in many doctrinal publications. The problem with doctrine, as seen in the examples of recent operations, is that political and situational realities sometimes preclude its proper use.

The final and potentially most effective solution to decision up-creep is cultural. This solution is in no way new and is consistent with the principles that underscore NCW, operational leadership and operational art. It requires a mind-set shift away from unity of command and a renewed focus on unity of effort. Again, this is nothing new in the age of multi-national coalition operations and non-military sources of power. Both unity of command and unity of effort seek to accomplish the effective integration of battlefield

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activities, but one uses authority to do so, while the other uses consent.[41] The key to unity

of effort and the resulting good tactical decision-making is a clear commander's intent that

supports the behaviors required to achieve self-synchronization. Making this commander's

intent effective will require decentralization through all phases of the operation, from

planning to execution, which is somewhat of a departure from traditional centralized

planning/decentralized execution, but by no means a significant cultural change.

The process of making commander's intent begins with planning. The same force

that will be expected to execute the plan will be the decentralized planning force.[42] This is

in keeping with operational art and makes commander's intent almost second nature among

the future battlefield decision-makers. The planners not only learn the formal

commander's intent but also the "implicit spirit"[43] of the intent with the same thing

occurring with rules of engagement. This level of involvement will condition the decision

makers early to the point where self-synchronization on the scale envisioned by NCW will

occur rapidly during execution.[44] The overall benefit of decentralized planning is that the

operational commander will quickly gain confidence in his tactical operators. This

confidence in the lower echelons will allow the commander to minimize his personal

involvement in tactical decision-making during execution and to focus on his operational

responsibilities.

CONCLUSION

Were Moltke and Eisenhower on their sofas simply because they couldn't directly

control their campaigns? The answers is of course no, they were practicing sound

operational leadership. They were allowing their subordinate commanders to carry out

detailed tactical employment of forces and giving them the flexibility needed to achieve

their objectives. They were standing by to assume their roles as operational commanders by dealing with the inevitable operational challenges that occurred upon initial contact with the enemy.

The same operational leadership that made Moltke and Eisenhower so successful in the industrial age still has applicability for the information age commander. NCW advocates have provided a vision of a new tactical tool. This tool provides the operational commander with unprecedented tactical "reach" through its imbedded information technology. This technology will change some of the dynamics of war, by compressing the levels of war, and the factors of space and time.[45] It may also prove to be a very tempting way for an operational commander to control the tactical actions within the operation. However, this tactical involvement would undermine the tremendous potential that NCW promises. The time-tested theories of war will not change, only the commanders approach to dealing with them. To achieve success with NCW, an operational commander must focus on decentralization beginning at the planning level. This focus on what is "perhaps the single most important component of operational art,"[46] will allow him to achieve the level of confidence in his lower echelon commanders necessary to maximize the potential of NCW. From a planning and leadership perspective, commanding a networked force will require the use of sound operational art more that ever.

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[23] James R. FitzSimonds, "The Cultural Challenge of Information Technology." <u>Naval War College Review</u> 51, no. 3 (Summer 1998): 16.

[24] In May 1999, during Operation Allied Force, the Chinese Embassy in Belgrade was mistakenly hit in a NATO raid, injuring 26 people. In July 2002, during Operation Enduring Freedom, a wedding party in a southern Afghan village was bombed, killing 40, and injuring 100.

[25] Milan Vego, NWC 1004, 581.

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