

**12th International Command and Control Research and
Technology Symposium**

“C2 – Less is more”

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This paper expresses the opinion of the author alone and not the official view of either the UK Ministry of Defence or the US Defense department.

Biography

Lieutenant Commander Ryan Ramsey is a command qualified submarine warfare officer who has 18 years service in the Royal Navy of which 15 have been within submarines. He has served in 4 diesel submarines and 4 nuclear submarines and has conducted NATO and national operations at every level. He completed the submarine command course or “Perisher” as it is colloquially known in 2000. In addition to the standard submarine warfare career, he has served on exchange with the Royal Netherlands Navy at sea and been a Command rider for Flag Officer Sea Training. He has provided specialist operational training to nine different nations’ submarine forces. Currently on exchange with the United States Navy he works for Commander Submarine Development Squadron 12.

Abstract

In order to ensure the domination in any battlefield of the future, the new generation of war fighters needs to be empowered and educated to practice Mission Command. The net effect will be to allow Superior Commanders more time (a precious commodity) to deal with the delicate transition political requirements to strategy and provide relevant Command and Control. The direction and guidance provided to the unit commander will allow him to best employ his team, platform and tactics. The force who capitalizes on developing intuitive leadership and decision making at the unit level will have an advantage against any adversary and enhance the overall operational warfighting effort and strategic effect.

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C2 – LESS IS MORE

Introduction

“The war of today is being fought with new weapons, but so was the war of yesterday and the day before.”¹

1. We are in danger of not being able to keep up with the current pace of warfare. This is not because we do not have the correct technology, more that we are not focusing it correctly. Asymmetric opponents continue to exert significantly more effect on us than we do on them by not only conducting acts of attrition but by sensationalist reporting by the media. What the press reports, alters the morale of nations, shapes politics and therefore exerts effect on warfare ability. The recent transformation of current doctrine to deal with ad hoc warfare as well as standard maneuver warfare has been difficult, particularly with the unequal restrictions on us in comparison with our enemies. Complex strategies are likely to be unsuccessful and any process to achieve success in whatever theater must be simple and robust enough to adapt to any style of warfare we are forced to engage in. The environment, politics, strategy and technology may change; however there is one constant - the people and how they are maneuvered results in success or failure.

2. What has this to do with the Command and Control (C2) process? The increase in communications technology and bandwidth has enabled closer direction of those at the front line. This has had three effects on the methodology and nature of warfare today:

- Firstly there is increased interaction from the general public in the at scene battle. That is to say that first hand reports from reporters on the ground are reaching everyone at the same time, generals and the public and everyone is forming an opinion. The requirement from the military therefore is for answers, instantaneously or in short order.
- Secondly, politicians are able to exercise more direct effect on warfare, rather than letting the generals operate within the cohesion that most forces have already achieved. The boundaries of politics strategy and tactics have become blurred. For example Senator Kerry's quote of "the wrong war in the wrong place at the wrong time" can be and has been taken to mean no support. A senator comparing US interrogators to the Nazis and Communist torturers; the head of Amnesty International in America defends likening Guantanamo Bay to the Gulag cause effect. Even if not intended, politician's comments on military success or failure impact the tactical level of operations.
- Thirdly, the troops on the ground constantly have access to Media reports with the associated difficulty of determining political bias or actual intent. Reported

¹ The Layman's guide to Naval Strategy – Bernard Brodie 1942

observations and polls on political decisions, policy and military strategy have an effect on the command structure in the field, particularly now that most warriors are educated. Selective reporting does not echo where units have achieved success because it is not sensational it is day to day business. Despite attempts to separate the political decisions from military actions, this reporting has the possibility to erode military spirit, a vital component to success in warfare.

3. C2, the procedures used in effectively organizing and directing armed forces to accomplish a mission, must be tailored to meet not only the needs of those exercising control, but those receiving it. The increase in interaction between the tactical level and the strategic level of operations is beginning to erode decision-making ability of those intended to succeed this generation of warfighters. C2 has evolved from its origins of providing direction and guidance and support to those intellectuals leading at the front line to a self-consuming process continually requiring the decision-making process to move up the chain of command.

Aim

4. This paper seeks to support to the process by offering Mission Command as a potential course of action to allow C2 to regain equilibrium in such a manner that it provides the required room for tactical operations and yet supports strategic thought. In simple terms it is about how effective preparation and training at the unit level will ensure a decisive contribution to warfare at the front line thus increasing trust both ways in the chain of command. In turn this will allow technology to concentrate on providing tactical command decision making assistance and weapon requirements to allow battlespace dominance.

Discussion

5. Technology is often viewed as a force multiplier. While we look for methods to employ future technology, we must ensure that we can fight effectively with what is already available. Defense budgets at best will remain stable and at worst will reduce despite the significant increase in requirements from forces. It is therefore logical that the more money that is spent on increasing C2 cannot be spent on weaponry, munitions and logistics, which are vital to success. Our procurement process while improving has long way to go before it can keep up with the continual pace of technological change. An example of this is submarine warfare; we continue to adapt from the current "Cold War" legacy of deep water ASW to littoral operations. With this submarines have reverted from Mission Command to being the dictate of C2. By the time the process has been honed to an art form there is the chance that warfare will take another direction.

6. The real change that can be achieved in spite of technology is changing the warfare process. I am an advocate of Colonel John Boyd's OODA (Observe

Orientate Decide Act) loop. I suspect that many of this audience will be familiar with his work and appreciate its applicability today in warfare. It is relevant at every level. If you are able to interact inside the enemy's OODA loop, you are able to gain the advantage. In order to do this the workload needs to reduce to allow time to think, decide and maneuver. It can only be used effectively if you understand the process and invest in ensuring that all leaders at every level understand the process.

The catastrophic nature of war

7. With the political focus and interaction with military as it is, the belief that every tactical decision always has strategic effect is well founded. Those exercising C2 are often displaced significantly from the front line. As the political questions require immediate answers, those higher in the command chain feel that they need to delve into the tactical level. They are required to provide answers to the projected success of their strategy and the increase in bandwidth allows them to ask and receive on the spot information. This generation continues to search for a solution involving computer power to deal with warfare. The battles staffs and war games produce an infinite series of potential solutions using generic friendly and enemy forces. The requirement for statistical proof from the onset of battle planning begins to shroud the reality of front line warfare, as staffs compare actual results to those that are predicted. Structured reports, interpreted by staff officers with accompanying views, provide the information from which the Commander makes his decision to alter strategy or stay the course. The requirement to pass information up the chain to assess results reduces the operational tempo of the front line unit; it becomes inefficient as it attempts to execute the plan, while reporting back to satisfy routine requirements and daily churn. Unless there is mutual understanding between the Commander and his COs, the information provided from front line COs, under pressure, might err on the side of positivism or negativism depending on how the front line officer interprets the situation or his Commander's perception of him. If a unit is failing, there is the chance that the unit commander may paint the situation in bleaker form than it actually is or attempt to turn into a successful situation even though it is not with disastrous effect. Warfare is catastrophic in nature; that is to say, despite planning, one single event can change an outcome considerably and in many cases it has not been planned for. Yamamoto while preparing for his engagement of the US carrier fleet in Midway was assured by his advisors after completing analysis and war gaming that he could complete the destruction of the US fleet with only the loss of less than one of his own carriers and yet the decisive human interaction of US soldiers, particularly in the delayed recovery of Yorktown, the chance detection by some of the US aviators and their continual drive to press home attacks despite significant losses, showed that dogged tactical fighting had influence on the strategic outcome despite cohesive Japanese Command and Control.

8. Wars are won by rapid on the scene decision making, ensuring that our forces and commanders out think his, and aiming to ensure that our OODA loop is

inside his. There is considerable risk to achieving and maintaining that advantage if the C2 process becomes too complex and demanding. As Clausewitz, in "On War" noted "The man who wishes to control them (military activity, expertise and skills) must familiarize himself only with those activities that empty themselves into the great oceans of war..." If this is the case, which I believe it is, there needs to be a process to ensure those contributing to "them" are able to execute it alone, using theirs and their teams personal traits and capability to be effective. We need an organization that cannot be disabled by cutting off its root. Effective training, supporting CO decision making, robust certification processes are the enablers for Mission Command, the key to success.

Mission Command

"Those who command can be divided into two those who control and those who delegate; the minorities who trust their subordinates reap the rewards."²

9. The submarine was almost the last bastion of junior leaders being allowed to conduct warfare with autonomy. Other disciplines had already been provided with constant reach-back and reciprocating continual supervision. Submarine commanders were charged with making decisions capitalizing on extensive training and warfare knowledge. They operated within the realm of "negative information" to maintain their covert nature. No news is good news and as long as the senior command maintains the discipline not to ask for reports, they were able to operate within decent constraints. In this era, autonomy is less relevant. There are many reasons to report back, particularly in while monitoring warfare, however I maintain that by ensuring that teams are trained correctly that you can reduce the amount of reporting and the method to do this is to adopt Mission Command in what ever form. Mission Command is defined as:

"A sound philosophy of command has three enduring tenets; timely decision making; understanding a superior commander's intention; and a clear responsibility on the part of subordinates to fulfill the superior's intention. This requires a style of command that promotes decentralized concept of mission Command."³

10. Many organizations will state that they already practice this, but it is certain that if a critical analysis was conducted, they would discover this was not the case. This decentralized concept is vital to dealing with many issues, particularly in this era of asymmetric and insurgent warfare. In the maritime, technology will not always be the winning factor; mission command will. Those that are used to operating with autonomy require direction alone, however, they are becoming few and unless this process is elevated they will become the exception as to the norm. If you are able to achieve this you will operate inside any conventional fighting force OODA loop and at least match that of an asymmetric enemy. All you have to do is look at a most effective decentralized organization such as Al Qaeda who has proven that this style of organization in combination with not playing by the

² "The pursuit of victory" – The life and achievements of Horatio Nelson by Roger Knight

³ BR1806 British Maritime Doctrine

rules, results in success against a considerably larger force. This is not because their “military” strategy is better than ours; they have worked out how to gain the press attention. Decentralization makes it really difficult to predict what they are going to do and despite removal of key strategic thinkers, they are still able to execute their policy.

Concise doctrine.

11. C2 is the method of transitioning force strategy to the tactical level. If you understand what effect you are supposed to achieve and where it contributes to the strategic aim, you can tailor the unit effort accordingly, ensuring that you focus correctly. Tactical doctrine is a most difficult area; you must attempt to convey your vision and yet tailor it to the recipient. The process could be made significantly easier if the recipients were provided with the correct tailored principles from the prolific war theorists. Military theory and principles that can be adapted to this current generation of warfare, must be advertised, reflected in doctrine and then practiced. Doctrine is about understanding why a military force effects operations and the “style” of these operations; it should be constantly evolving to take into account future warfare and learns from past encounters. This becomes the basis for enabling component for unit operational planning. In addition if links become severed and the C2 structure breaks down, those exercising mission command, armed with a thorough understanding of the philosophy, behind their tactics conduct warfare accordingly. Broadly, this generation of warfighters at every level has yet to have the relevance of doctrine both explained and demonstrated; instead it is intimated that it is not necessary until an officer has reached a certain rank; when actually it is almost too late. The trade off is of course do you want junior strategists or do you want an effective fighting unit level leader. I suspect that the concentration should be on the war-fighting portion of the doctrine.

Tailored Operational Planning

12. There are a variety of methods of operational planning available for every level of command and operation that suit different organizations, units, team and **personality**. There are two decision inhibitors that the operational planner must overcome. The first is the amount of information provided is significantly more and therefore the unit level commander has to determine what is relevant and what is not. The second is whether the unit level commander worries about how their actions and plan will be perceived at the higher level. When you are able to deal with these two the planning and execution process becomes significantly simpler.

13. If Mission Command is practiced, the unit is encouraged to demonstrate initiative and to participate early in the decision making process. This, in turn provides the one factor vital to success in warfare, time to decide. Having provided training to many command teams, it became evident that advocating only one style of planning was unsuccessful and that what worked for one team would

not work for another. Adaptation became the key to success. However each planning process asked the same questions:

- What are the enemy doing and why?
- What have I been told to do and why?
- What effect do I want to have on the enemy?
- Where can I best accomplish each action?
- What resource do I need to accomplish each action?
- When and where do these actions take place in relation to each other
- What control measures do I need to impose?⁴

14. Situational awareness is the accurate perception of the operational and environmental factors, which affect a unit during a specific period of time. Maintaining this requires the understanding of the relative significance of these factors and their future impact on the situation. Technology's contribution within this realm is vital and can be achieved at a variety of junctures, not just while the Command team is at sea. One of the major factors that C2 could attempt to address is how to understand your enemy. Many unit commanders forget about the personality in warfare and concentrate on comparison of technological ability, however as Sun Tzu stated in the Art of War:

*"If you know the enemy and know yourself you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle"*⁵

15. The effect of understanding your enemy and your Commander's objectives is imperative to contributing effectively and achieving mission success. We are not effective at knowing our enemy. Not knowing our enemy at an early enough stage in the engagement increases the burden on both sides of the C2 structure as they come to understand them. This was a common theme in the early part of this century and remains so today, particularly as the potential threat database is huge; therefore few of us invested effort in understanding our enemy. This is probably the most important process within operational planning and can ensure that at the unit level it is understood how effect can be achieved on the enemy vice the strategic impact.

16. A NATO SSN is enroute to a potentially hostile area. C2 has provided the mission aim, objectives and some of the constraints within which it must operate. The only threat to their platform is from air-launched weapons, mines and also the enemy SSK on patrol. The missing factor, unless the CO and his team's planning process identify it is about the enemy himself. Information about the man is discovered, including enemy operating patterns, team dynamics, experience and resolve. His weaknesses discovered and our vulnerability determined. The fact that he has no knowledge of the mission and has probably never detected a NATO

⁴ British Army 7 Questions

⁵ Sun Tzu "The Art of War"

submarine can be used as an advantage. This must be tailored however to the context of the enemy's operations; he is about ship sinking and it is certain that when he receives his direct tasking he will engage the first ship he detects. The psychological pressure of knowing that there is a NATO submarine operating in the area will put the enemy CO under enormous pressure. The NATO CO understands how his Commander works, his vision, his confidence in him as well as the impact that he can have in the Operational plan. He knows the bounds within which the Commander allows him to operate. The preparation phase is vital and now Mission Command will allow the CO to execute his operations in his own way, taking into account the limitations of his team in comparison with the enemy. He can have confidence that he will be supported when taking decisions as long as they fall within the strategy.

Empowering subordinates

17. Continuous superior interference in subordinate level decision-making will also have the effect of rendering subordinate commanders inexperienced in dealing with the challenges that arise. Those regarded as the best and effective CO's are those that have provided opportunities for their Junior Officers to exercise their warfare knowledge and develop experience. We become less capable of decision making as we are forced to pass the decisions up the chain of command because the capability exists. Senior Officers have to learn at some point during their career before they become senior officers, and yet the vehicles to achieve this are not yet in place. Many junior officers are not aware of current doctrine, how national security decisions are made and how they are executed; rather they expect to receive orders and act on them. This level of knowledge is rarely sought until much later in an officers career structure, and then it is slightly too late. If the junior leadership of today is not provided with the opportunity to understand the strategy, relying on C2 to do that for them, they will not be able to exercise command in the next generation of warfare. In fact as it is proving more difficult to preempt the next generation of warfare, by the provision of Mission Command as well as the supporting structure to enable officers to exercise it at the required time, you produce a robust C2 process. This should also engender a culture of risk awareness versus risk aversion. We need to enable subordinates to understand the limits of their operational persona by encouraging risk where it makes sense to do so, i.e. you can coach a junior submarine officer to deal with an incoming warship during an exercise, to build his confidence in close contact control, however, you would set limits on him that would allow you to recover the situation should he begin to lose control. Enabling a more philosophical approach to warfare theory, focusing on those facets that influence the tactical arena, you allow the new generation to transition rapidly from the tactical to the strategic later on in their career. This in turn makes the C2 structure more robust, because while personality will determine how they operate, they will have a real understanding of ensuring that they are prepared to deal with all of the participants in their warfighting team.

18. Certification process. Mission Command relies on the Commander knowing that his combatant commanders capabilities, their strengths, their weaknesses and how effective their teams are. They should be able to know by name how a unit is handled and so should their staffs. At present the certification process in a variety of nations relies on either an outside organization (e.g. Flag Officer Sea Training) or a parent squadron certifying a unit and then handing it over to the deployed Commander. The deployed Commander may well recognize that he has a unit that has achieved a set of metrics, but metrics are not the key to unit effectiveness within his organization, in the real time maritime battlefield. If the Commander does not know the Commanding Officer (CO) or how the team will respond under his leadership it adds a necessity for more direct C2 until proven otherwise. This personality component is vital to how the Commander employs the unit and hence the level of Control that is required. One frigate is handled differently to another; one may be an effective air defense ship but less effective as at maritime interdiction. He may want this unit close to him with the CO in charge of the air defense effort because he can be trusted to execute his vision. In order to allow the Commander and his staff to gauge the capability of platforms and gain a feel for the team, it would appear vital that they engage during the pre deployment stage and certification process at a personal level. This could reduce the necessity for excessive C2; the Commander will be able to understand the individual unit dynamics and can employ them accordingly – the ones he trusts implicitly can be allowed to conduct high-risk evolutions knowing that they will operate within their limits and not outside his.

19. This certification process is the final block involved in reducing the C2 process. However in order to allow this to happen, a series of foundation blocks need to be cemented together to provide a cohesive and trainable unit. This process is about determining what is essential and then not neglecting it, something we are guilty of at present. By the provision of concise doctrine, tailored unit operational planning and empowering subordinates, mission command can be revived and a new generation of unit teams be produced to deal with the current and projected threat. This decentralization of C2 allows our tactical commanders to execute without having to “call home” thus not allowing the enemy to get inside our decision loop.

Technology's contribution

20. There is a drive to find a technical solution to aid decision-making based on the premise that warfare is now more complicated. Tools to aid situational awareness are almost at an optimum now and despite this we continue to seek new ways of collating huge amounts of “necessary” information. The amount of information being provided is having the exact opposite effect it was intended to; it is overloading the decision maker because technology and those that provide it decide what is necessary. Apart from increasing situational awareness for the war fighter at the tactical level and presenting the strategic picture, technology should search for a “structured” method of dealing with personality in war. One soldier

equipped with an AK47 does not operate exactly the same as another. One navy's ship captain does not operate the same as another. They deal differently with stress; they manage their teams differently. Dependent on their personality type and character they may respond differently to challenges and situations. Some will take risks and some will not; some will respond to stimulus differently. There are many variables in this field, but it is certain that if technology places the significant part of its effort towards understanding potential enemies and the best method to communicate what needs to be done between different generations of warfighters, significantly better and more comprehensive warfighting ability could be achieved.

Conclusion

21. Enhancing and increasing C2 is not the answer to ensuring success in the next generation of warfare. C2 should be responsible for observing and detecting emergent patterns and maneuvering forces accordingly rather than controlling minutia. Provision of coherent doctrine, decision-making skills and effective leadership is the key to success, particularly to those leaders operating within the "fog of war". Nelson's ability to be successful in battle was based on the ability to understand the information provided to him, provide succinct guidance delegation and trusting his captains. Decision-making involves **judgment** and no machine has yet to achieve this core skill to the level required to engage in the art of warfighting. No matter how many options for solution a computer can achieve, it is unlikely that it will be able to deal with every single potential enemy's personality, preferences and variation in training, experience, emotional value, personal value and potential response. In fact, the enemy may be in a better position because of automation; they may be able to work out the computer's response. The more communications required, the more vulnerable any C2 system is, therefore if you can adjust a Commander's staff requirements and ensure that the conduit to the decision maker is effective, you reduce communications requirements and in turn reduce vulnerability. When two similar forces engage against each other, the one with superior firepower and better equipment should win. However, if personality and intuitive leadership are added into the equation the result can be quite different.



C2 Less is more

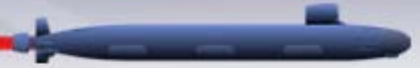
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Situational Awareness

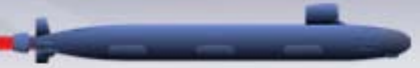




- Technology and C2 – present course
- The catastrophic nature of war
- Mission Command
- Concise doctrine
- Empower subordinates
- Certification process
- Technology and C2 – preferred course



Conclusion



*“Nothing is more difficult, and therefore more precious
than being able to decide”*