

Agile Command and Control Exploration Using Historic Case Study Methodology

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Introduction

The ability of a force to be agile has a profound effect on planning and execution. Agility allows for greater Command and Control (C2) capability in an often uncertain and changing battlespace. Forces are more dependent on C2 in a complex environment. This dependence puts more pressure on the C2 system in its ability to succeed. Exploration of the facets of Agility is a relatively unexplored concept and its importance is becoming increasingly recognized throughout the US Department of Defense, our allies, and coalition partners.

The Office of Force Transformation (OFT) and the Command and Control Research Program (CCRP) of the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD/C3I) have been collaborating to create a conceptual framework that facilitates the testing of Network Centric Warfare (NCW) tenets and hypothesis. Application of the NCW framework to case studies and existing evidence is a crucial step in this process. To date the effort has been led by RAND, with support from Evidence Based Research, Inc. (EBR), with participation of the government sponsors. The framework establishes a baseline for developing NCW concepts and metrics.¹ Agility has become a continuously growing portion of this effort, and it is recognized that more study is needed to understand the concepts of agility.

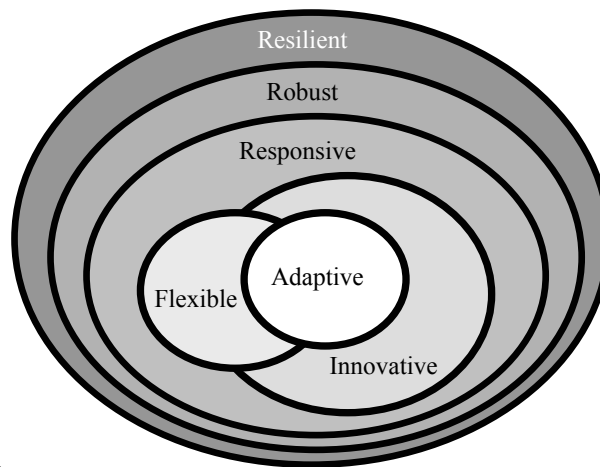
Within the framework, the subject of Agility and how it should be measured has been a topic of debate. Part of the research program for developing metrics for NCW involves case studies as a method for assessing, improving, and understanding Agility. In order to further explore this concept and begin to identify baseline characteristics when discussing agile C2, we have decided to use a historic case study.

¹ *Network Centric Warfare Conceptual Framework*. Network Centric Warfare and Network Enabled Capabilities Workshop: Overview of Major Findings. Dec 17-19, 2002. OSD(C3I) in conjunction with RAND and EBR, Inc.

Attributes of Agility

In the Command and Control Program (CCRP) publication *Power to the Edge: Command...Control...in the Information Age*, Drs. Richard Hayes and Dr. David Alberts describe Agility as having six attributes:²

1. Robustness: the ability to maintain effectiveness across a range of tasks, situations, and conditions;
2. Resilience: the ability to recover from or adjust to misfortune or damage;
3. Responsiveness: the ability to react to a change in the environment in a timely manner;
4. Flexibility: the ability to employ multiple ways to succeed and the capacity to move seamlessly between them;
5. Innovation: the ability to do new things and the ability to do old things in new ways; and
6. Adaptation: the ability to change work processes and the ability to change the organization



If a portion of each attribute of Agility is present the success rate of a force will increase dramatically. As the overall degree of Agility increases, the level of force effectiveness also increases.

² Alberts, David S. and Richard E. Hayes. *Power to the Edge: Command..Control...in the Information Age*. Washington, DC: CCRP Publications Series, 2003.

Guderian and the Battle of France 1940

In evaluating various historical military campaigns for a unit of analysis we decided to concentrate on General Heinz Guderian's spearhead advance of XIX Corps through France in May of 1940, based on a variety of factors. The time frame was chosen due to the age and effect of the "new" style of warfare known as the Blitzkrieg. The armored formations, and the mobility of the motorized divisions were relatively new in the field of battle, most of the tactics were only practiced in war games yet never applied in their full operational magnitude. This new style of warfare had never been applied against a formidable foe, such as the French and British, and this, in our minds highlighted a wonderful opportunity to look at an 'experimental' operation in which the command would almost certainly have to be agile in order to operate at a high rate of success. It is also important to note that General Heinz Guderian was incredibly influential in the theory, practice, and implementation of tank warfare.

Between the World War I and World War II, many developments occurred in the conceptual development and application of warfare. The restrictions brought upon Germany due to the treaty of Versailles hindered some development of large formations and build up of large formation warfare.

Mechanized warfare began in World War I, yet exploitation of this new form of warfare was not witnessed until the outbreak of World War II. Between the French and German commands, two very different force structures were seen. By the middle of the 1930's, both France and Germany were investing in their military, with two different applications and styles in mind. France concentrated most of its investment on its pride defensive construct, the Maginot line. This way of thinking was one of standing defenses; a belief that relied on extreme confidence in the structure considering in the event of a break through, there would be very little support to contain the advancing forces. In looking at this, the concepts and ideas were reminiscent of the World War I. Germany also had a large line of defense, the Siegfried line, but more importantly since the early 1920's, they were running exercises with small formations of mechanized vehicles.³ The contrast between the free movement of the panzer divisions created in the 1930's, and the strong armament of the Maginot line illustrates the differences in thought concerning post WWI warfare.⁴

In 1939, Germany advanced in to Austria and Poland. In the earlier months of 1940 Germany took Denmark and Norway. It is astounding to think that for almost a year war had been declared, yet little action took place.⁵ The fact is that the 1940 westward push war was not a surprise, the Germans did not catch the French, British, and Dutch forces off guard; the Allied command ideals were rigid and stagnant. The outcome of the westward advance illustrated the command abilities of the Germans and the weaknesses of the Allies.

³ Macksey, Kenneth. *Guderian: Creator of the Blitzkrieg* Stein and Day, New York. 31-79

⁴ Guderian, Heinz. Constantine Fitzgibbon (trans.) *Panzer Leader* Da Capo Press: New York. 94-98

⁵ *Ibid.* 65-94

After looking at the way the defenses were aligned and the views of command, it is now necessary to examine the force size comparison. At the beginning of the operation, the German and the French forces were very similar in man power and technical strength. The French and British tanks were superior to the Germans though the application of these machines was very different.⁶ The French and the British used the armor as a supporting element to the infantry divisions, in tightly controlled battalions. The tanks were dispersed throughout the battalions and therefore were unable to contend with the German tactic of massing armor, and using the infantry as a supporting element.⁷ The method the Allies used “tied them to the 3mph speed that the infantry has been fighting at since the time of Alexander.”⁸ The method in which the Allies used their tanks highlights the fact they were stuck in the ideas of the stagnant warfare of WWI. The Allied forces were not caught off guard, and they were not numerically or technically at a disadvantage. The German divisions were now tightly controlled and this allowed them to utilize the thought and creativity of the commanders.

In selecting a specific event that highlights the abilities of the German command, the events of XIX panzer corp. on the 13- 15 of May 1940, encapsulated all the components of Agility. These events were crucial to the success of the westward advance, so as to not create the stagnant warfare conditions that characterized the World War I. According to the operational orders of the FALL GLEB (code yellow) plan, the westward advance was divided into two main thrusts. The plan was essentially a modified version of the Schlieffen plan, the same plan carried out on the onset of World War I that left the warring nations of Europe caught in some of the worst stagnant warfare seen in the twentieth century. This plan was modified so not only was there the “turning of the wheel” by Army group B, which was advance through the northern portion of Belgium and sweep southward toward France, but also “Operation Sickle Stroke”⁹ from Army group A that was designed to cut across Luxembourg through France and Belgium to the Channel coast. Army group A was commanded by Colonel-General von Rundstedt and Army group B was commanded by Field Marshal Fedor von Bock.¹⁰ The Germans correctly expected the French and British forces to advance northward knowing they had extreme faith in the Maginot line and the dense Ardennes forest to prevent a German advance from the East.¹¹

The German operations were designed to take advantage of the vacuum caused by the French and British forces moving northward to confront Army group B, thus Army group A would encircle the enemy. The motorized division of Army group A was placed under the command of General Ewald von Kleist, and was subsequently named *Panzergruppe*

⁶ *Ibid.* 94

⁷ Shimp, Chris. *France 1940* (http://www.sandiego.edu/~cshimp/france_1940.htm)

⁸ *Ibid*

⁹ Margolis, Eric *How to Fight and Win a War*” (<http://www.foreigncorrespondent.com/archive/sedan.html>)

¹⁰ Builder, Carol H., Steven C. Bankes, and Richard Nordin. *Command Concepts: A Theory Derived from the Practice of Command and Control* RAND. 43-44

¹¹ Guderian, Heinz. Constantine Fitzgibbon (trans.) *Panzer Leader* Da Capo Press: New York. 96

von Kleist.¹² The main push of the *Panzergruppe* was led by the XIX panzer corps commanded by General Heinz Guderian. This corps consisted of five panzer divisions, a flack corps, and four motorized infantry divisions.¹³

Many of the German commanders thought the plans were doomed to fail. The southern advance was designed to start through the unfavorable terrain of the Ardennes. The Ardennes was thought to be a difficult obstacle for the German army to overcome, and still be effective in the maneuver warfare known as the blitzkrieg.¹⁴ But this plan was designed to take advantage of the weakness in the French lines and take advantage of the forecasted Allied push northward. The Germans planned on advancing just east of the Maginot line, a portion the German Generals referred to as “the prolonged Maginot line”¹⁵. This section was considerable weaker than the western portions of the defensive structure, though the long-range weapons would be able to strike if they were repositioned.

The main spearhead of the advance was predominantly led by the 2nd, the 1st, and the 10th Panzer divisions. The 2nd was on the right flank, the 1st in the center, and the 10th on the left southern most flanks. General Guderian was usually centered immediately behind the 1st Pz.d., who encountered a majority of the fighting.¹⁶ The divisions were led by three generals whom Guderian felt very in tune with.

“The 1st Panzer division was commanded by General Kirchner, the 2nd by General Veiel, and the 10th by General Schaal. I knew all three of them well. I had complete trust in their competence and reliability. They knew my views and shared my belief that once armored formations are out on the loose they must be given the green light to the very end of the road. In our case this was- the Channel! That was a clear inspiration to every one of our soldiers, and he could follow it even though he might receive no orders for long periods of time once the attack was launched.”¹⁷

This confidence in his subordinate commanders allowed Guderian to trust they were clear and capable of achieving the command intent, and shared the mutual understandings of the applications of tank warfare.

A pivotal event in the operation fell on the 13th and 14th of May. On the third day of the operation, the Germans had advanced 120 kilometers in which the XIX panzer corps had advanced through Luxembourg and reached the river Meuse.¹⁸ It was crucial that the

¹² Builder, Carol H., Steven C. Bankes, and Richard Nordin. *Command Concepts: A Theory Derived from the Practice of Command and Control* RAND. 44

¹³ Builder, Carol H., Steven C. Bankes, and Richard Nordin. *Command Concepts: A Theory Derived from the Practice of Command and Control* RAND. 44

¹⁴ Guderian, Heinz. Constantine Fitzgibbon (trans.) *Panzer Leader* Da Capo Press: New York. 90-92

¹⁵ *Ibid.* 96

¹⁶ *Ibid.* 90

¹⁷ *Ibid.* 98

¹⁸ *Ibid.* 97

Germans cross the river and take Sedan quickly so the French could not take the necessary measures once they realized the Germans were advancing from the east.¹⁹

By the evening of the 13th, the German forces began to prepare for the river crossing and the subsequent capture of Sedan. On the evening of the 12th, Guderian received orders from Kleist saying that the river crossing was to commence at 1600 hours on the 13th.²⁰ There was not enough time to fully prepare for the crossing. The second Panzer was delayed and would not be able to be in position until the following day. So the crossing would have to be carried out by the 1st and the 10th panzer divisions. The orders also stated that they would not receive air support from the Luftwaffe. The orders were received at a late hour so there was no time to create orders that reflected the situation at hand, so all Guderian did was reuse the operational plans they had practiced in wargames at Koblenz. All he did was change the time to 1600 hours. But the exercises were practiced with all the divisions in place, coupled with close air support. The artillery was divided among the divisions, yet at this time the artillery support was behind the 1st panzer thus leaving the 10th with minimized support in the river crossing. To make matters grimmer, the 2nd Panzer was delayed and would not be in position at 1600 hours, in fact they arrived the following day.²¹

Before the attack started, the Luftwaffe appeared and started their dive bombing to the surprise of the commanders. It turns out that the Luftwaffe command received the change in the plans after they have departed. Even though the Luftwaffe arrived, and contributed greatly to the battle, the 2nd Panzer was still missing.²²

On the 13th the 1st Panzer was able to establish a toe hold across the Meuse. The boats for the river crossing arrived with out he operators, so it was decided to send the troops across with out the engineers because they were all trained in the tasks though it was not their primary role. During the night they were able to erect a bridge and Guderian was able to send over 150 vehicles over during the night. Until then the Panzers were in a supporting role as the rifle regiments made the advance. By this time General Maurice – Gustave Gamelin, the commander of the French forces, ordered 11 divisions to Sedan, though due to their slowness, they were not able to start arriving in the Sedan sector until the 14th. This river crossing and the subsequent actions show the agile capabilities of the German command. In the morning of the 14th, Guderian was able to continue the push foreword on the western side of the river, gaining momentum that was held up at Sedan.²³

On the 14th, Guderian went to the command of the 1st panzer in order to see how the operations were proceeding. As he was there he heard the 1st panzer commander send the 1st armored to the southern flank in order to fend off advancing French forces that were

¹⁹ Builder, Carol H., Steven C. Bankes, and Richard Nordin. *Command Concepts: A Theory Derived from the Practice of Command and Control* RAND. 46

²⁰ Guderian, Heinz. Constantine Fitzgibbon (trans.) *Panzer Leader* Da Capo Press: New York. 101

²¹ *Ibid.* 100-102

²² *Ibid.* 102

²³ Builder, Carol H., Steven C. Bankes, and Richard Nordin. *Command Concepts: A Theory Derived from the Practice of Command and Control* RAND. 46-48

finally arriving to prevent the river crossing. The French were on their heels and were not expecting the Germans to have advanced as far as they had. After Guderian heard the commander issue the orders to the 1st armored, he immediately ordered the 2nd Panzer, which were now catching up after their delay, to move south to support the 1st armored. The 1st with the support of the 2nd Panzer divisions were able to successfully fend off the French forces.²⁴

In just over a week, the German Army group A crossed over the sacred battle grounds of Sedan, the Somme, etc. Through the outstanding success of the German commanders, Germany was able to gain more ground in a week, than they were able to obtain in four years of fighting in World War I.²⁵

Agile Points in the campaign

In looking at these two days, it is shown that the German command able to achieve their goals by being agile. The XIX corps was **robust** in the fact they were able to achieve their goals in a degraded state by lacking the 2nd Panzer division and their engineers during the actual crossing. During the crossing, they were proven **flexible** by moving the Panzers to a supporting role, and then as they crossed, immediately back to the primary role the German doctrine supported. The mere fact that the armor was used at the forefront supported by infantry was **innovative**, which is a contributing reason why the Allies were not as successful as the Germans. The XIX corps was **resilient** by being able to bounce back after the 2nd panzer was delayed then moved to a supporting role of the 1st armored. They were **adaptive** and **responsive** by reacting to the situation and moving the second Panzer away from their planned positions in order to assist in containing a very threatening situation that developed on the southern flank.

Conclusion

Use as a baseline

It is important to view this case study in the context of the time period it took place. Even as we continue transforming in the information age and leave behind the industrial age, it is still relevant and valuable to use case studies like this as a baseline for further exploration of C2 operational concepts. Using this case study to assess the ways in which a C2 system can be agile is extremely valuable, not only to enable greater understanding of the concept, but to illustrate how effective the systems are. Case studies such as this are necessary in order to create a baseline for study as these concepts are pursued by the US DoD, our allies, and our coalition partners.

New types of warfare

This era in which this case study took place was a turning point in the tactics and techniques in warfare. The development and application of the blitzkrieg were new ways of applying weapons in a manner that proved extremely effective. This turning point is

²⁴ Guderian, Heinz. Constantine Fitzgibbon (trans.) *Panzer Leader* Da Capo Press: New York. 104-105

²⁵ Macksey, Kenneth. *Guderian: Creator of the Blitzkrieg* Stein and Day, New York. 97- 118

not unlike the development in the late twentieth century and the present. The transformation of modern militaries to adhere to the concepts of Network Centric Warfare is capable of creating the conditions in which forces can dominate their enemies. These turning points need to be evaluated and studied in order to learn lessons about multiplying the degrees of effectiveness in military operations.

Transformation into the Information Age

With an ever changing security environment and new threats against the US and our foreign allies and partners becoming more uncertain each day, the need for a truly agile force can not be overly stated.

The US is making strides to adopt Agility as an increasingly important factor for the US military. Secretary of Defense Donald Rumsfeld, while outlining his future defense goals, discussed the need for the US military to become more agile. He states

“A revolution in military affairs is about more than building new high-tech weapons, though that is certainly a part of it. It’s also about new ways of thinking, and new ways of fighting.” Preparing for the future will require us to think differently and develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected circumstances.”²⁶

The often changing and uncertain operating environment places greater stress on command and control systems. In order for the command and control system to maintain effectiveness it must be agile. Agility is not new, but the concepts and the application of those concepts are still being developed. Historical case studies are one way to explore the concepts, and aid in this development.

²⁶ Cable News Network. “Rumsfeld Presses for More Agile Military”. January 31 2002. (Accessed 4 April 2003).

<http://www.cnn.com/2002/US/01/31/rumsfeld.speech/?related>