

NAVAL WAR COLLEGE  
Newport, R. I.

Dominating Time in the Operational Decision Making Process

by

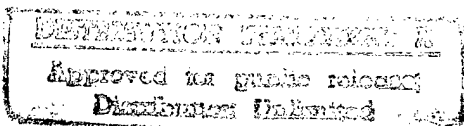
David M. Rodriguez

LTC, US Army

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.

Signature: David M. Rodriguez



13 June 1997

Paper Directed by

Captain G. W. Jackson  
Chairman, Department of Joint  
Military Operations

19970815 062

DTIC QUALITY INSPECTED 1

## REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: NWC Code 1C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title (Include Security Classification): Dominating Time in the Operational Decision Making Process (U)			
9. Personal Authors: David M. Rodriguez, LTC, USA			
10. Type of Report: FINAL		11. Date of Report: 13 June 1997	
12. Page Count: 18			
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: Time, Intuition, Decision Making, Assumptions, Uncertainty, Decision Cycle			
15. Abstract: Time is one of the critical factors operational commanders must control in relation to the enemy to gain and maintain the initiative. The ability to make timely decisions and execute operations faster than the enemy enables the operational commander to dictate the tempo of the campaign. Controlling the tempo forces the opposing commander to react to the force with the initiative. To successfully stay ahead of the opposing commander, one must operate inside his decision cycle. This requires operational commanders to make decisions based on future conditions. These future conditions are filled with uncertainty. To make decisions about an uncertain future, the commander must make many assumptions. At the operational level, the quality of these assumptions have a large influence on the quality of the decisions one makes. Intuitive thinking is an important skill in the ability to make a sound assumption. Developing intuitive skills to improve assumptions, and increasing the speed and effectiveness of the operational decision making process will improve the operational commanders ability to dominate time.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19. Telephone: 841-6461		20. Office Symbol: NWC Code 1C	

Abstract of

DOMINATING TIME IN THE OPERATIONAL DECISION MAKING PROCESS

Time is one of the critical factors operational commanders must control in relation to the enemy to gain and maintain the initiative. The ability to make timely decisions and execute operations faster than the enemy enables the operational commander to dictate the tempo of the campaign. Controlling the tempo forces the opposing commander to react to the force with the initiative.

To successfully stay ahead of the opposing commander, one must operate inside his decision cycle. This requires operational commanders to make decisions based on future conditions. These future conditions are filled with uncertainty. To make decisions about an uncertain future, the commander must make many assumptions. At the operational level, the quality of these assumptions have a large influence on the quality of the decisions one makes. Intuitive thinking is an important skill in the ability to make a sound assumption.

Developing intuitive skills to improve assumptions, and increasing the speed and effectiveness of the operational decision making process will improve the operational commanders ability to dominate time.

## INTRODUCTION

The realm of the operational decision maker is one of vast importance in attaining U.S. objectives in any conflict. The judgment of the operational commander has a great impact on the outcome of a conflict. The ability of the operational decision maker to master the interactions of space, forces, and time are at the heart of his ability to make sound decisions.

While the commander gains experience throughout his career in understanding these factors, some are easier to adapt into the larger realm of operational art than the others. The factors of space and forces are more fixed in their characteristics than time. The forces assigned to an operational commander are assigned by higher headquarters so he has limited levels to work with. The space is also concrete and has limited boundaries. Thus the operational commander normally fights in larger spaces with more forces than the tactical commander. The interaction over time of the opposing forces in the space where the conflict is occurring is the most dynamic and unpredictable of the three factors. Thus an understanding of time on operational decision makers leans heavily on the art rather than the science side of the coin.

The requirement for the operational commander to master time, requires skills not fully developed in their previous experience. While the current doctrine tries to make the time factor as scientific as is possible, the time interaction between opposing forces is not clearly understood. This situation makes it tougher for the operational commander to learn to master the time dimension. Despite the difficulty, the operational commander must dominate time in relation to the enemy by managing uncertainty about the future.

The analysis of the time factor for the purpose of this paper focuses on the decision cycle of the operational commander. Examination of the interaction between the friendly decision cycle and the opposing forces decision cycle shows the importance of time in gaining initiative and freedom of action. An analysis of the uncertain environment of operational decision making follows. Next, looking at the influence of assumptions on decisions displays the role of assumptions in the operational commander's decision making process. In conclusion, commanders must employ intuitive skills and make accurate assumptions relative to the enemy to dominate the time factor in operational decision making. Finally, techniques to improve our ability to master the time factor are provided as thought provoking.

#### IMPORTANCE OF TIME

"Time lost is always a disadvantage that is bound in some way to weaken he who loses it."<sup>1</sup>

The conflict between opposing forces is a series of engagements in time and space. The battle for time domination is a critical fight that involves establishing the tempo of the conflict so that the opposing force is overwhelmed by the rapidity of friendly operations. "Examples abound, and there are a number of very successful generals in modern history who instinctively understood the value of time, i.e. when your antagonist is reacting to your moves rather than his, when you dictate maneuvers in time and tempo and he attempts to counter them too late and to no avail, when you get this advantage then you have him by the throat...your tempo and not his—dominate and dictate."<sup>2</sup>

---

<sup>1</sup> Carl von Clausewitz, On War (Princeton, New Jersey: Princeton University Press, 1976), 383.

<sup>2</sup> James H. Polk, "The Criticality of Time in Combat," Armor Magazine, 10.

This ability to dominate and dictate the terms of the conflict in terms of time is a major focus of the operational commanders planning efforts. "With proper timing, JFCs can dominate the action, remain unpredictable, and operate beyond the enemy's ability to react."<sup>3</sup> The dominating effect is highly dependent on the operational commander's ability to keep time on his side in the interaction between two opponents. For purposes of simplicity we will follow a simple model to illustrate why the battle for time is so important to the operational commander.

The decision cycle is a description of the of input, decision, output process. The process is described several ways in the context of conflicts between opposing forces. One of the most succinct is Colonel Boyd's "patterns of conflict" briefing.<sup>4</sup> Colonel Boyd postulates that conflict can be seen as time-competitive observation-orientation-decision-action cycles.<sup>5</sup> Though his observations were made based on fighter pilots in an aerial dogfight, it can be applied to any conflict in which opposing forces interact over time.

The first step is observation. In this step the commander observes the situation in which he finds himself. The next step in Boyd's process is the orientation step. In this step the pilot makes a mental image or snapshot of the situation. The third step is the decision itself. On the basis of this orientation (above), he makes a decision. The final step is the act phase. In this phase, the pilot puts the decision into effect, i.e. he acts.<sup>6</sup>

---

<sup>3</sup> CJCS, Joint Pub 3-0, (Washington, D. C., 1995), III-15.

<sup>4</sup> William Lind, Maneuver Warfare Handbook (Boulder: Westview Press, 1985), 5.

<sup>5</sup> Ibid.,5.

<sup>6</sup> Ibid.,5.

The cycle continues over and over again until the conflict is resolved. Thus Boyd illustrates the time-competitive nature of conflict. While Boyd saw this as a series of cycles going on continuously, in reality the process at the operational level the cycles are going on in both parallel and series with the decision portion of the cycle happening any time the operational commander makes a decision.

Boyd's time-competitive cycles theory states that the side which consistently goes through the Boyd cycle faster than the other, gains a tremendous advantage.<sup>7</sup> This tremendous advantage is initiative and freedom of action. On one side the forces are able to act because they are moving through the Boyd cycle faster. On the other side the forces are forced to react to the faster forces thus losing the initiative.

The importance of initiative is paramount to the operational commander. "The operational commander should take the initiative to force the opponent to conform to his operational purpose and tempo while retaining his freedom of action."<sup>8</sup> As stated above, Boyd's theory focuses on the speed of deciding and acting faster than the enemy as the primary means of forcing the opponent to conform to ones operational purpose and tempo. "All battlefields require commanders to make and execute decisions faster than the enemy."<sup>9</sup>

As shown above the time-competitive conflict model describes how controlling time relative to ones opponent gives you the initiative you desire as an operational commander. At the center of this time-competitive cycle is the operational decision.

---

<sup>7</sup> Ibid.,5.

<sup>8</sup> Naval War College, Joint Military Operations Department, Operational Decision Making (Newport: 1996),5.

<sup>9</sup> US Army Command and General Staff College, Student Text 101-5, Command and Staff Decision Processes, (Fort Leavenworth, Kansas, 1995) 1-3.

While much of the competitive cycle nature of conflict is understood by tactical commanders, the conditions that exist in which an operational commander makes decisions differs tremendously. An examination of the environment an operational commander faces follows.

### UNCERTAIN ENVIRONMENT

The operational commander continually faces an uncertain environment. This uncertainty of the situation must be balanced against the requirement to act rapidly to gain or maintain the initiative. The quest for perfect information is never attained or takes too long so the operational commander must rely on assumptions and intuition to make decisions. "A commander must continually face situations involving uncertainties, questionable or incomplete data or several possible alternatives. As the primary decision maker, he, with the assistance of his staff, must not only decide what to do and how to do it, but he must also recognize if and when he must make a decision."<sup>10</sup>

The planning horizon for operational commanders ranges from 72-96 hours in the future all the way out to several months into the future. Looking at these planning parameters one can easily see why operational commanders must be able to plan for uncertainty. "His expectations of what actions to take and the probable outcomes of those actions depend on too many factors to be projected into the future with any degree of certainty. Not only the capabilities of enemy forces cannot be estimated with any degree of confidence, but there are difficulties in estimating the capabilities of his own and friendly forces. His operational picture is bound to be largely uncertain and probably

---

<sup>10</sup> Ibid., 1-2.

unreliable.”<sup>11</sup> The requirement to make decisions about future uncertainty is a challenging one for the operational decision maker.

The current information warfare proponents believe we possess the capabilities to eliminate uncertainty with our technology. There are many arguments against technology being the solution to reducing uncertainty “Despite the claims of proponents of the ‘revolution in military affairs’ (RMA), the new systems would hardly be able to completely eliminate uncertainties in regard to location, composition, movements, and actions of the enemy forces in a given theater. The operational commander has to make his decisions without the benefit of full knowledge of the key elements of an operational situation. Moreover, the technological advances are unlikely to be more successful in penetrating the mind of the operational commander which is perhaps the single most important element for success at the operational level.”<sup>12</sup> While information technology will speed the transfer of information, it will still fall far short of reading the opposing commander’s mind and actual intentions.

### ASSUMPTIONS

Because we cannot predict the future, the operational commander always makes his decisions using assumptions. The timing of his decisions are critical as the commander tries to refine or confirm his assumptions. The longer the commander waits the more chance he has to reduce uncertainty. On the other side of the equation, if the commander waits too long, he risks losing the battle for control of time and the resulting

---

<sup>11</sup> Operational Decision Making, 2.

<sup>12</sup> Ibid.,1.

possible loss of initiative. In either option it is not possible to reduce uncertainty to a negligible level because of our inability to perfectly predict the future.

The assumptions that guide the operational decision maker during the decision making process are based on the best information available at the time he makes the decision. Nevertheless, these assumptions can be inaccurate with sometimes catastrophic consequences for the force. "Hence operational decision making in a war is based on a larger number and more diverse types of assumptions than those at the tactical level. The operational commander should take into account the changes in the military and political situation over several weeks or even months. Therefore planning assumptions at the operational level are far more likely to be partially or completely wrong than those made at the tactical level."<sup>13</sup> Thus the planning assumptions made by the operational decision maker have a large impact on the quality of his decisions.

The assumptions the operational commander works with range from the higher commander's assumptions, major planning assumptions, and numerous minor assumptions. These assumptions strongly influence his judgment. The higher commander makes assumptions prior to giving directions to the operational commander. "Overall the higher the command echelon, the more assumptions that will be made."<sup>14</sup> The higher the commander, the further in the future his analysis carries him. This is one reason why the higher the commander, the more assumptions one uses. The other dynamic is the time constraints that force a decision to be made. The faster a decision has

---

<sup>13</sup> Ibid.,1.

<sup>14</sup> Naval War College, Joint Military Operations Department, Commander's Estimate of the Situation (Newport, 1997)13.

to be made the less time the information processing system has to convert or gather enough accurate information to convert assumptions to facts. The operational commander faces this situation squarely as he goes through his decision making process.

The higher commander's assumptions directly impact the operational commander's decision making process. "Assumptions given by the superior must be treated as facts by the subordinate commander."<sup>15</sup> If the higher commander's assumption impacts on the operational decision maker's battlespace, then he should coordinate the information gathering sources to confirm the assumption with his higher headquarters.

The next level of assumptions the operational commander must deal with are his own planning assumptions. At the operational level those assumptions enable the commander, during planning to complete an estimate of the situation and decide the course of action. They are also used to enable the commander to make any decision when there is uncertainty or a lack of information. Since the major planning factors have the most bearing on the operational commander's planning they are critical to the effectiveness of operational decisions. "A wrong assumption may partially or completely invalidate the entire plan...to account for a possible wrong assumption planners should consider developing branches to the basic plan."<sup>16</sup>

As the commander prepares to make a decision, these assumptions are monitored closely to ensure they continue to be valid based on the latest information available. "The IPB (Intelligence Preparation of the Battlefield) which supports the decision making

---

<sup>15</sup> Ibid.,14.

<sup>16</sup> Ibid.,14.

process must also remain dynamic, constantly integrating new information into the initial set of facts and assumptions.”<sup>17</sup> As the process progresses, the assumptions that the plan rests on cannot be a static process or the operational commander will deny himself the most important influence on his plan-knowledge of the status of his assumptions.

Another category of assumptions the operational commander deals with is smaller assumptions about time, space, and forces. Just confining the analysis to time shows just how large and influential these may be on the operational commander’s decision making process. A few examples of these assumptions are the decision cycle, reaction time, and time to complete the maneuver. <sup>18</sup>

In estimating time factors, the operational planning staff or commander must estimate the time for both sides to execute particular actions. While the decision making process states these are estimates, they are basically assumptions of critical time factors about future events. While these smaller assumptions are not as critical to the operational decision maker as the previously discussed assumptions, the chance for error is still great.

If the operational commander and staff estimate poorly about such key time factors such as the decision cycle or reaction time, they run the risk of losing the battle for deciding and acting quicker than their enemy in the OODA loop cycles. As shown by the operational commander’s focus on the future and need to control the tempo of operations, assumptions play a large role in how he deals with future uncertainty. It logically follows that the better the assumptions, the better quality the decisions. The quality of

---

<sup>17</sup> US Army, Field Manual 34-130, (Washington, D.C., 1994), 1-6.

<sup>18</sup> Ibid.,27.

assumptions is dependent upon many factors to include information available, knowledge and intellect of the commander, and the commander's intuition.

### INTUITION

The information available to the commander and the intellect of the commander strongly influence his ability to make good decisions and are fairly well understood in military doctrine. The intuitive sense on the other hand is just beginning to emerge as a skill required of an operational leader. Nowhere is intuition required more than in making assumptions about the future.

The act of making assumptions and intuitive thinking are similar skills from top to bottom. Assumptions are artificial devices to fill in gaps in actual knowledge, but play a crucial role in planning and decision making.<sup>19</sup> Now look at how intuition applies. "For experienced commanders, intuition fills in the decision making process where imperfect information leaves off."<sup>20</sup> The abilities to make good assumptions or to think intuitively contribute to deciding quicker and gaining or maintaining the initiative relative to the enemy. "Intuition allows the commander to read the battlefield and do the right thing—faster, more accurately and more decisively to the enemy. Intuition contributes to initiative and agility."<sup>21</sup>

Intuitive thinking is also receiving more attention in large corporations because of its positive effect on strategic or long range decision making. "Not only do the vast majority of these top executives admit that they use intuition to help guide their most

---

<sup>19</sup> Ibid.,13.

<sup>20</sup> Battle Command, 25.

<sup>21</sup> Ibid.,10.

important decisions, but they go on to specify the situations and settings in which they find their intuition is most helpful in making key management decisions:

--there is a high level of uncertainty

--there is little previous precedent

--variables are often not scientifically predictable

--“facts are limited”

--facts do not clearly point the way to go

--time is limited and there is pressure to be right

--there are several plausible alternative solutions to choose from, with good arguments for each. ”<sup>22</sup>

Reviewing those situations, one can see the almost exact conditions in which an operational decision maker operates. Since our doctrine emphasizes the ability to make sound assumptions about the future and unknown information, it follows that intuitive ability of the commander is one of the most important attributes in dominating the time dimension of operational decision making.

### CONCLUSIONS

In the context of operational decision making, time plays an extraordinary role. The operational decision maker deals with the dual pressures of time constraints and future uncertainty in every decision he makes. Examination of the current process for analyzing time shows that the faster operational decision makers make right decisions in relation to the enemy the better. The quality of decisions are in a large part dependent on

---

<sup>22</sup> Weston H. Agor, The Logic of Intuitive Decision Making (New York: Quorum, 1986), 18.

the accuracy of the assumptions made by the operational decision maker and/or his staff. Operational commanders should capitalize on their intuitive skills to improve their operational decision making ability. The environment of the operational decision maker is one of future uncertainty. In this environment, intuitive skills are much more important to the operational commanders than they were in the lower level commands. There is a tremendous interest in this in the senior level leadership of large corporations because of the tremendous success of corporations led by intuitive leaders. Initial research indicates that intuition can be developed and improved through education, training and experience. Operational commanders who have the same type of requirements for highly intuitive skills should employ these skills on a regular basis and attempt to develop them further.

There are several ideas forwarded in the following paragraphs for methods to improve the operational commander's ability to handle the time factor so important in operational decision making. These suggestions point at ways to improve the speed and accuracy of the operational commander's decision cycle.

### RECOMMENDATIONS

The first recommendation is to improve the effectiveness of the OODA loop process. Several techniques include the parallel planning process to improve the ability to make sound assumptions and adding a variation of the decide, detect, deliver, assess (DDDA) targeting methodology to the operational commander's decision making tools.

The parallel planning process is a useful technique that saves time in the planning process. While the US military is maximizing the use of information transfer technologies to the intelligence collecting side of the equation, the planning side can also

be a source of time savings. An example of parallel planning to improve assumptions follows.

The higher the level of headquarters the more assumptions are made. It follows that much of the information systems available to the commander must focus on confirming or denying the validity of the assumptions made. When all the headquarters up and down the chain of command understand the assumptions being made by each respective level of command, the improvement in ability to make accurate decisions is significant. An example is estimating the time to accomplish the mission. The subordinate commanders can and should help make this type of estimate better. With subordinate level input, tuned to local reality and our ability to transfer information rapidly, we should be able to get a more accurate estimate for the operational commander from the subordinate commanders. This example is just one where parallel planning up and down the chain of command would have a positive impact.

Another interesting methodology to reduce time in the process is the decide, detect, deliver, assess methodology that joint targeting doctrine describes. Originally developed to speed indirect fire response times during military operations, the applicability to the operational decision makers environment is very inviting. To relate the DDDA methodology to the OODA loop, think of the order of the actions being changed to orient, decide, observe and act. By switching the order of the observe to after the decision, the time to act in the process is drastically reduced. In the DDDA loop the commander decides how to react if a future envisioned state occurs. Then when the conditions occur as envisioned, the forces act immediately because the decision is

already pre-made. This deliver or act step has a shorter response time than waiting to observe certain conditions and then deciding what the response should be as described in Boyd's OODA loop theory. The assess phase of the DDDA methodology then measures the effectiveness of the action for impact in future operations. This is a powerful tool for joint targeting efforts to improve their response times and can afford the same advantages to the operational level commander.

## BIBLIOGRAPHY

- Agor, Weston H. The Logic of Intuitive Decision Making. New York: Quorum Books. 1986.
- Alexander, Michael W. "Operational Battle Command: The Doorway to Versatility," Monograph, School of Advanced Military Studies, United States Army Command and General Staff College, Fort Leavenworth, Kansas, 1995.
- Barret, Linda, E. "Decision Making Teams: Their Study in the U. S. Military," Research Paper, Office of Naval Research, Michigan State University, East Lansing Michigan: 1993
- Battle Command (Draft 2.1) Leadership and Decision Making for War and Operations Other than War. Fort Leavenworth, Kansas: Battle Command Battle Laboratory. 22 April 1994.
- Battle Command Concept. Fort Leavenworth, Kansas: Battle Command Battle Laboratory. 10 August 1994.
- Clausewitz, Carl Von, On War. Princeton, New Jersey: Princeton University Press 1984.
- Command and Staff Decision Processes: U. S. Army Command and General Staff College, Fort Leavenworth, Kansas: 20 February 1995
- Joint Pub 3-0, Doctrine for Joint Operations: Chairmen of the Joint Chiefs of Staff, Washington DC: 1 February 1995.
- Field Manual 34-130 Intelligence Preparation of the Battlefield. Headquarters, Department of the Army. Washington, DC: 8 July 1994.
- Field Manual 100-5 Operations. Headquarters, Department of the Army. Washington, DC: 14 June 1993.
- March, James G. A Primer on Decision Making. New York: The Free Press, 1994.
- Naval War College, Joint Military Operations Department, Battlespace Information, Command and Control (C2), Operational Intelligence, and Systems Integration. United States Naval War College Instructional Paper NWC 2127, Joint Military Operations Department, 1996.
- Naval War College, Joint Military Operations Department, Commander's Estimate of the Situation. United States Naval War College Instructional Paper NWC 4111A, Joint Military Operations Department, 1997.
- Naval War College, Joint Military Operations Department, Operational Decision Making. United States Naval War College Instructional Paper NWC 4108, Joint Military Operations Department, 1996.
- Nutt, Paul C. Making Tough Decisions. San Francisco: Jossey-Bass Limited, 1989.

- Polk, General James H. , Ret., "The Criticality of Time in Combat"," Armor, May-June 1988.
- Rubel, Barney. "Operational Level Leadership," Instructional Paper NWC 1032, Joint Military Operations Department, United States Naval War College, 1996.
- Scott, Harry D. "Time Management and the Military Decision Making Process," Monograph, School of Advanced Military Studies, United States Army Command and General Staff College, Fort Leavenworth, Kansas, 1992.
- Student Text 101-5, Command and Staff Decision Processes. United States Command and General Staff College. Fort Leavenworth, Kansas: 1995.
- Sun Tzu, The Art of War. Oxford: Oxford University Press, 1963.
- Slim, Sir William, Speech entitled "Higher Command in War," Kermit Roosevelt Lecture Series, Fort Leavenworth, Kansas, undated. Reprinted as PMI 18-2, National Security Decision Making Department, United States Naval War College.
- Vego, Milan, "Operational Leadership," Instructional Paper NWC 4107, Joint Military Operations Department, United States Naval War College, 1996.
- Vego, Milan, "Operational Factors," Instructional Paper NWC 4092, Joint Military Operations Department, United States Naval War College, September 1996.