Planning for Action:
Campaign Concepts and Tools

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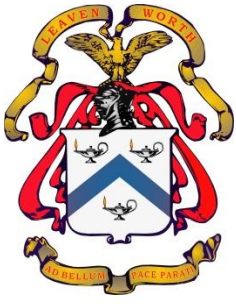

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Cover Photo: General Sir Bernard Law Montgomery, British Army (left) and General Dwight D. Eisenhower, U.S. Army (left center) use field glasses to inspect installations around Messina, Sicily, 30 August 1943. They appear to be looking at enemy-held territory on the Italian mainland, across the Strait of Messina.

Photographed by Longini.

Photograph from the Army Signal Corps Collection in the U.S. National Archives.

Foreword

Planning for Action: Campaign Concepts and Tools is designed to be used as a handbook for developing campaign plans at the US Army Command and General Staff College. This book provides working definitions of campaign concepts and tactics, techniques, and procedures (TTPs) for campaign planners. In order to support the concepts, there are a number of "thinking tools" that complement and reinforce our operations process with a rational, logical approach to an increasingly complex and dynamic operational environment. Linking the campaign planning concepts to the thinking tools enables commanders to implement the mission command imperatives of **understand**, **visualize**, and **describe** to create a shared understanding of the problem and the operational approach to transform conditions to meet national objectives.

Although all of the concepts and TTPs in this handbook are based on joint and US Army doctrine, they represent a way to approach campaign planning rather than the way that must be followed. Doctrine provides a "starting point" with common definitions and a common frame of reference – but doctrine requires original applications that adapt it to circumstances. As with doctrine, the concepts and tools described in this book also require judgment in application. The intent is to provide a starting point for developing campaigns with particular emphasis on ensuring unity of purpose in planning and executing campaigns.

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Introduction

The purpose for this book is straightforward: to provide an overview of planning principles and the tools used by planners to design campaign plans. Since 9/11, the US military has been involved in numerous actions, most notably in Iraq and Afghanistan. The approach to campaign planning has changed and evolved over this time, spawning a number of new concepts and approaches to planning; this book is intended to provide some assistance in understanding and applying those concepts and approaches.

A ***campaign*** is defined as "a series of related major operations aimed at achieving strategic and operational objectives within a given time and space."[1] That's a fairly broad definition for a campaign – but campaigns are normally joint operations (which means it is conducted by more than one service of the US military) and relates directly to strategic level or national objectives. Put another way, campaigns are fought because the US President has decided that our national level objectives necessitate the commitment of US military forces.

Today, campaigns also require the integration of both military and non-military national level instruments of power to achieve "unity of action." Our campaigns today require both civilian and military resources to fully accomplish national level objectives. Those objectives are aimed towards changing the conditions "at a given time and space" to conditions that are desirable for the United States.

We conducted (and are still conducting) campaigns in Iraq and Afghanistan (and elsewhere) because the US President decided that the conditions in those areas required the commitment of US forces to change those conditions. This required the commitment of not only US forces, but also the commitment of civilian resources and lots of money. Tying this all together in a coherent

fashion in order to ultimately meet US national objectives requires detailed campaign planning.

At the campaign level, there is a need to integrate all of these different resources (means) into a coherent plan (ways) in order to meet our national objectives (ends). This requires a ***comprehensive approach*** for ***unified action*** to planning; no longer can the US military just plan for offensive or defensive operations, but must also integrate civil support and stability operations – frequently taking place simultaneously. The ***comprehensive approach*** expands the "whole of government approach" to address how the military must also cooperate and collaborate with a diverse array of actors (including departments and agencies of the United States Government, intergovernmental and nongovernmental organizations, multinational partners, and private sector entities).

The focus for the US military operations in Iraq and Afghanistan has been characterized as fighting "comprehensive civil-military counterinsurgency (COIN) campaigns." These campaigns had components of counter-terrorism, developing governance, developing host nation security forces, establishing essential services, and supporting economic development. All of these actions are important – and none is sufficient within itself to meet national security objectives. Even though the enthusiasm for COIN has waned, the concepts behind the comprehensive approach are here to stay. No longer will the US military be able to focus solely on pure warfighting (if that ever was true).

Conceptually, planning in the military has also made a major adjustment to acknowledge the ***design*** methodology. Planning consists of two separate but closely related components: a conceptual component, represented by the cognitive application of design, and a detailed component, which introduces specificity through a formal planning process, such as the military decision making process (MDMP) or the joint operation planning process

(JOPP). ***Design***, the conceptual component, is a methodology to help commanders think through handling problems – and to engage the staff, subordinates, and higher level commanders using dialogue and collaboration to achieve a commander's visualization of a situation. Design is a methodology for applying critical and creative thinking to understand, visualize, and describe complex problems and develop approaches to solve them.

In a collaborative environment, it is important that all – commanders as well as staff officers – contribute what they know and how they see things without being afraid to speak up. After all, even a commander doesn't know everything, and relying solely on intuition and experience can hinder effective decision making. A learning organization comprising people with different skills and backgrounds can assist commanders to look at complex problems from different perspectives – thereby assisting the commander in his mission of leading that organization.

Design conceptually follows the Army's ***Mission Command*** concepts of ***understanding***, ***visualizing***, and ***describing***. If you understand those concepts from mission command, design will make a lot more sense to you. If you do understand those concepts, design will help you take a complex problem and let you see it for what it is so you can adjust to make things better.

Department of Defense joint doctrine (as well as Army doctrine) includes the concept of ***Operational Design*** – "the conception and construction of the intellectual framework that underpins joint operation plans and their subsequent execution.[2]" ***Design***, as described in this book, is a similar conceptual methodology – although not limited solely to the operational level of war. Joint doctrine states, "Operational design extends operational art's vision with a creative process that helps commanders and planners answer the ends–ways–means–risk questions."[3] Together they synthesize the intuition and creativity

of the commander with the analytical and logical process of design."

Today, complex problems exist at all levels of war – and commanders at all levels have to synthesize intuition and "informed vision and creativity" with cognitive analytical approaches. ***Design*** provides the very tools needed to develop conceptual approaches to these complex problems; formal planning systems such as MDMP and JOPP provide a complementary and iterative methodology to provide specificity to planning.

This book also contains a number of different tools and processes that are used to develop campaign plans. These include discussions on center of gravity, lines of effort, course of action development, targeting processes, wargaming, and assessment. These tools are designed to be used as "starting points" for planners. To relate these tools to an analogy, an artist with a brush full of paint needs certain techniques to start to communicate his vision on the canvas; there has to be some method to start the painting that gets the creative juices flowing. Campaign planning is an art, but some of the science of tactics, techniques, and practices (TTP) can help the process get started and provide coherence throughout the planning process. It is my hope that the tools described throughout this monograph provide this starting point and are of use for campaign planners.

Finally, the concepts and tools have a broader usage than campaign planning. Those conducting deliberate planning for a variety of environments may find the concepts and tools useful for adding coherence to addressing complex problems.

Notes

1. JP 5-0, page II-21.

2. JP 3-0, page xiii.

3. JP 3-0, page II-4.

Part I:
Planning for Action Concepts

The first eight chapters of this book are designed to provide the foundational concepts for planning – getting a firm grasp on some of the underlying principles that apply for campaign planning. Chapter one starts with the basics – looking at "how to think" in terms of **problem solving** – the process of identifying a problem, developing a solution to the problem, and then testing to see if the solution actually answers the problem at hand. From that foundation, in chapter two we move to the concept of **ends, ways, and means** as a framework for linking purpose, methods, and resources for the solution or approach to the problem. Having a firm grip on the end state – what the conditions are expected to be as a result of an operation or campaign – is an essential step in planning… and one that frequently gets little attention.

The next three chapters draw heavily on two concepts from Army and joint doctrine – **mission command** and **design**. Chapters three, four, and five are based on the commander's tasks in mission command to **understand**, **visualize**, and **describe.** These three chapters will focus on these tasks during planning. The design methodology is tightly linked to these tasks; design is defined as "a methodology for applying critical and creative thinking to **understand**, **visualize**, and **describe** complex, ill-structured problems and develop approaches to solve them." Chapters three, four, and five will discuss this linkage and provide insight into how commanders (and staffs) understand the environment and problem, visualize the end state and solution, and then describe their visualization for common understanding and unity of effort during planning and execution.

Chapter six discusses a key component of mission command and design – **exercising collaborative leadership**. Constant

Interaction with all stakeholders – using collaboration and dialogue – is a critical component of mission command and design. Commanders are central to planning and execution, but it is imperative that commanders and staff engage and interact with subordinates, peers, higher headquarters, and all affected stakeholders.

Chapter seven discusses the concept of **framing** - selecting, organizing, interpreting, and making sense of a complex reality to provide guideposts for analyzing, understanding, and acting. Deciding where to focus efforts, and when to shift that focus (**reframing**), is a critical task inherent in framing. Framing includes framing the environment, the end state, the problem, and the operational approach.

Chapter eight discusses **narrative construction**, focusing on a specific product from the design methodology – the **mission narrative**. Developing a narrative – providing a conscious bounding of events in time and space – is central to framing. The mission narrative helps to focus on the potential payoffs of action for all stakeholders

These first eight chapters will provide the foundation for the last eight chapters, which will focus on specific processes and tools that commanders and staffs use in campaign planning.

Chapter One:
Problem Solving

Let's start at the basics – the essence of planning is to solve a problem. The first step in Army Problem Solving is to "identify the problem" by "recognizing and defining the problem."[1] Similarly, the first step in the Army's Military Decision-Making Process (MDMP) after receiving a mission is called ''mission analysis" — which is aimed at defining and coming to a common understanding of the problem. Mission Analysis is conducted to better understand the situation and the problem, to identify ***what*** must be accomplished, ***when*** and ***where*** it must be done, and most importantly **why**, or the purpose of the operation. Defining the problem – identifying the ***what***, ***when***, ***where***, and ***why*** before you get to the ***how*** to solve the problem, is the first step in the scientific method, in developing a thesis, and in any problem-solving model.[2] Identifying clearly *what the problem is* provides a critical stepping stone to solving that problem, but frequently we stop when we define components – pieces and parts – of problems before we get to the underlying problem itself. This process is similar to a doctor's only defining a patient's symptoms without making a complete diagnosis of the disease.

This is so basic – yet, we have difficulties in even defining the word ***problem***. The Army has a definition for a "problem" that isn't a lot of help – "A ***problem*** is an issue or obstacle that makes it difficult to achieve a desired goal or objective."[3] That definition could cover a lot of ground and doesn't really provide much fidelity for me… It could also lead to identifying symptoms (issues and obstacles) rather than underlying issues.

The Department of Defense (the joint community of all of the services) has a little better explanation of the word ***problem***. The joint community states the obvious by saying that "defining the problem is essential to solving the problem." The definition then focuses on understanding and isolating the root causes of an

issue, beginning with reviewing the ***tendencies*** (how the situation is developing) and ***potentials*** (possible alternative developments) for all concerned actors. Defining a problem also identifies the tension between existing conditions and the desired end state (how we want things to turn out).[4] This focus on root causes, tendencies and potentials, and the interaction with other concerned actors (who likely have their own opinion about how things should turn out) is the essence of identifying a problem.

It is important to note that there are different kinds of problems, and at least three different "problem sets" relate to planning. There is the issue of ***contextual problems*** – difficult situations that are problematic to discern; there are ***organizational structure problems*** to address planning and identifying problems; and there are ***competitive problems*** that relate to competing end states between concerned actors or stakeholders. They key problem set that is addressed in this book is the issue of ***competitive problems***. This requires understanding the context and having the appropriate organizational structure to identify and provide solutions for competitive problems.

Difficult, ill-structured, and complex problems require detailed planning – to both understand and address those problems for a favorable outcome. Competitive problems are characterized by competition between different actors; a desire for the different actors to change the situation to favorable terms for their interests; and tension between how things are going (tendencies) and how things can turn out (potentials).

From a macro-standpoint, problem solving, in its simplistic state, consists of three separate activities that are identified by the three questions on the left side of Figure 1-1. Before you can jump to the solution of a problem, you must clearly identify and understand the problem. Once you have identified and understand the problem, you can then identify a solution to that problem and then test that solution to see if it really solves the

real problem at hand, rather than merely addressing the underlying symptoms.

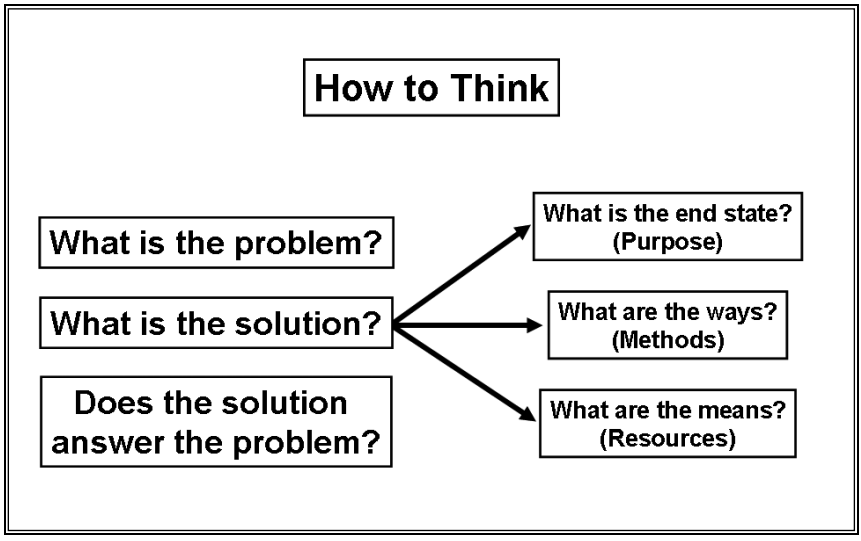


Figure 1-1

Sounds easy, doesn't it? But frequently we find that many military commanders (and scientists, physicians, and other professionals) are so sure of themselves that they skip this step and go directly to developing the solution.

Several years ago I had a detailed discussion with one of the research psychologists at the Army Research Institute (ARI). ARI initiated a study at the National Training Center (NTC) to see how battalion and brigade commanders responded to various scenario changes at NTC. A detailed and complex scenario would be described to commanders, followed by a simple question of "what do you do now?" In the vast majority of the situations commanders would immediately develop a course of action (COA) and describe how they would act in great detail. The ARI researchers were testing to see how much time was actually

devoted to analyzing the situation (again, the first step in Army Problem Solving) to determine the real problem, and the answer was "not much." Because the scenario was intentionally complex, the COAs the commanders developed addressed the immediate problem at hand but not the critical problem.[5]

Soldiers are, by their very nature (or as the product of training and cultural development), rapid decision makers and people of action. Not wanting to seem indecisive and constrained by military culture, decisions are made quickly and with resolve. This is not a bad thing; there are times when time is limited and decisions need to be made quickly… but this is not true of all situations. Of course, sometimes the problem is easy to identify, but time spent in analyzing a problem is time well spent. This does not mean that you should waste time just "admiring a problem," but instead ensuring you clearly understand the problem to the best of your ability and available time. Therefore, the first step of identifying the problem, or mission analysis, is absolutely essential and needs to be a deliberate activity. The Army's current leadership manual identifies this process as **critical thinking**—"examining a problem in depth, from multiple points of view, and not settling for the first answer that comes to mind."[6]

Although there are different uses for the terms ***critical reasoning***, ***critical thinking***, and ***creative thinking*** that have been used by the Army (and academia) in the past, there are now two related and important concepts that are defined as ***critical and creative thinking***. Critical thinking relates to the issue of identifying a problem – really examining a problem in detail, whereas creative thinking relates to identifying the solution and coming up with fresh approaches to addressing the problem at hand. Both concepts are used throughout planning and execution of Army operations. The Department of Defense joint community refers to critical and creative thinking, but does not provide a detailed definition in the joint planning manual.[7] The Army currently defines critical thinking as "purposeful and reflective

judgment about what to believe or what to do in response to observations, experience, verbal or written expressions, or arguments."[8] Figure 1-2 provides a detailed description for critical thinking:

Critical Thinking Description

Critical thinking is a deliberate process of thought whose purpose is to discern truth in situations where direct observation is insufficient, impossible, or impractical. Critical thinkers are purposeful and reflective thinkers that apply self-regulating judgment about what to believe or what to do in response to observations, experience, verbal or written expressions, or arguments. Critical thinking involves determining the meaning and significance of what is observed or expressed. It also involves determining whether adequate justification exists to accept conclusions as true based on a given inference or argument. Critical thinking is key to understanding situations, identifying problems, finding causes, arriving at justifiable conclusions, making quality plans, and assessing the progress of operations.[9]

Figure 1-2

A key question to ask when doing mission analysis and critical thinking is "am I working on the right problem?" Do not become so wedded to your analysis that you are afraid to address this key question, even if it changes your whole plan. If you are working on the wrong problem, you will either have to change your plan, be really lucky, or you will fail. It is better to make sure you are constantly assessing the real problem at hand rather than addressing the symptoms or constantly working on the "25-meter targets."

The key point for critical thinking is to make identifying the problem a distinct and deliberate activity. Don't just jump ahead, make quick assumptions, and decide how to fix the problem before you have clearly identified what the problem is. Don't just focus on the "symptoms" of the problem; instead look at the underlying reasons for the problem at hand. Use multiple perspectives and understand the competitive nature of problems, as well as the tendencies and potentials of the situation.

Once you have identified the problem, it is time to identify potential solutions or courses of action for the problem. Note that the description of critical thinking includes "arriving at justifiable conclusions and making quality plans." There are times, however, when the solution is not obvious. These situations require creative thinking, which involves "creating something new or original" which "leads to new insights, novel approaches, fresh perspectives, and new ways of understanding and conceiving things."[10] Figure 1-3 provides a detailed description for creative thinking:

Creative Thinking

Sometimes a new problem presents itself or an old problem requires a new solution. Army leaders should seize such opportunities to think creatively and to innovate. The key concept for creative thinking is developing new ideas and ways to challenge subordinates with new approaches and ideas. It also involves devising new ways for their Soldiers and civilians to accomplish tasks and missions. Creative thinking includes using adaptive approaches (drawing from previous similar circumstances) or innovative approaches (coming up with a completely new idea).[11]

Figure 1-3

The key concept for planners is to understand the process of **creative thinking**. Creative thinking requires you to look at different options to the problem. Again, this can be done by two general ways. The first way is true creative thinking, or being innovative and determining a solution that has never been done before (or if it has been done before, you are unaware of the concept). The second way to develop solutions is to be adaptive; learn from similar situations that have happened in the past and apply those lessons to the current problem. This contrast between being "innovative" and "adaptive" is an interesting contrast. For most military training, the general approach is to present those being trained with a variety of situations and solutions to those situations. The thought is that when similar situations are again confronted, there will be a start point, or standing operating procedure (SOP), for responding to those situations. The response becomes second nature, reducing time to think because known responses can be drawn upon. This works most of the time but not always. Sometimes the situation is completely different, requiring completely new, innovative responses. Of course, if you always respond to certain situations in the same way, you become predictable to an enemy, which necessitates using creativity and innovation in your approach.

The hardest skill is to be creative while still coming up with solutions that are feasible. This takes practice and an environment where unique and innovative responses are encouraged. Everyone on the staff can think creatively. In fact, creative thinking is more likely to be found in those staff officers and noncommissioned officers (NCOs) who are new and not hindered by "the way it has always been done." One approach to address this issue is to develop "red teams" to come up with "out of the box" solutions or to represent different perspectives during the planning process. Figure 1-4 provides a description of red teaming:

Red Teaming Description

Red teams assist commanders and staffs with critical and creative thinking and help them avoid groupthink, mirror imaging, cultural missteps, and tunnel vision throughout the conduct of operations. Red teaming enables commanders to explore alternative plans and operations in the context of their operational environment, and from the perspective of unified action partners, adversaries, and others. Throughout the operations process, red team members help identify relevant actors, clarify the problem, and explain how others (unified action partners, the population, and the enemy) may view the problem from their perspectives. They challenge assumptions and the analysis used to build the plan. In essence, red teams provide commanders and staffs with an independent capability to challenge the organization's thinking.[12]

Figure 1-4

When I was a planner on a division staff – many years ago – we always developed three different courses of actions (COAs) to present at the COA development briefings. The first COA that was presented always represented exactly what we thought the commanding general (CG) had in mind and was looking for as the solution. COA #1 was an attempt to provide a back-brief of exactly what the commander had envisioned during the mission analysis briefing. COA #2 was always what the staff thought was the way it should have been done; we would adjust the guidance to what we thought was the best approach or what we thought the CG's guidance "should have been." COA #3 was intended to be a creative solution or something "out of the box." Like the other two courses of action, COA #3 had to meet the screening criteria of being feasible, acceptable, suitable, distinguishable, and complete.[13] It could not be a "throwaway COA" but had to have

something outlandish and totally different. It also had to meet the objectives of the mission and be realistic – but a different way of looking at the problem and the solution.

Briefing the three different COAs was rather interesting. The CG always wanted to see the COAs in order. He would look at the first COA to see if we actually understood what he wanted and was thinking, and, as we briefed it, he would make minor corrections on what was "his" COA. He would then review our second one—the "iron major" COA—to see if we were solid in our understanding of tactics and the use of combat power. He would look at it and see a few things that were perhaps good thoughts; then it would be time for the mystery COA—COA #3. Nothing was out of bounds as long as it met the standards (the screening criteria) and was not a "throwaway." This was our chance to show how creative we could be.

Most of the time the COA the CG ultimately approved used components from all three COAs.[14] Our process for developing these courses of action included giving a back-brief, being adaptive, and being creative. The climate in the division encouraged all three actions.

Bottom line: Separate the issues of critical thinking (identifying the problem) and creative thinking (identifying the solution). Do not cheat on critical thinking. If you do you may well have the best solution—but for the wrong problem. When developing the solution, use a combination of innovative and adaptive approaches.

Notes

1. ATTP 5-0.1, paragraph 11-1 – 11.2.

2. FM 6-22, paragraph 6-6; ATTP 5-0.1, paragraph 4-25.

3. ADRP 5-0, paragraph 2-8.

4. JP 5-0, page III-11 – III-12

5. ADRP 5-0 includes intuitive decision making (the Rapid Decisionmaking and Synchronization Process, or RDSP) as a sometimes appropriate decision-making method based on the complexity of a problem, the experience of the leader, and amount of time available. In the ARI example, the problem was intentionally complex with no time constraint given. See ADRP 5-0, paragraphs 4-34 – 4-51.

6. FM 6-22, paragraph 6-6.

7. JP 5-0, page I-1.

8. ADP 5-0, paragraph 19.

9. This definition is taken from FM 5-0, paragraph 4-21. Although FM 5-0 has been superseded by ADP 5-0, the definition from FM 5-0 still has relevance to understanding the concept.

10. ADP 5-0, paragraph 19.

11. FM 6-22, paragraph 6-13

12. ADRP 5-0, paragraph 1-42.

13. ATTP 5-0.1, paragraph 4-81.

14. The COA development briefing presented the COAs before war gaming and COA selection. In a time-constrained environment, the CG could select portions of all three developed COAs to determine a single directed COA for war gaming. Another variant included a hasty war game of all three COAs, followed by a determination of a single directed COA for detailed war gaming.

Chapter Two:
Ends, Ways, and Means

In the previous chapter we looked at two of the questions in "how to think" in terms of critical thinking (what is the problem?) and creative thinking (what is the solution?). Naturally, there isn't an easy formula to first identify the problem and then come up with the solution – planning (and executing) is an iterative process that requires constant adjustment and evaluation. That being said, this chapter will address the components of how to approach the solution in terms of ends, ways, and means—or purpose, methods, and resources.

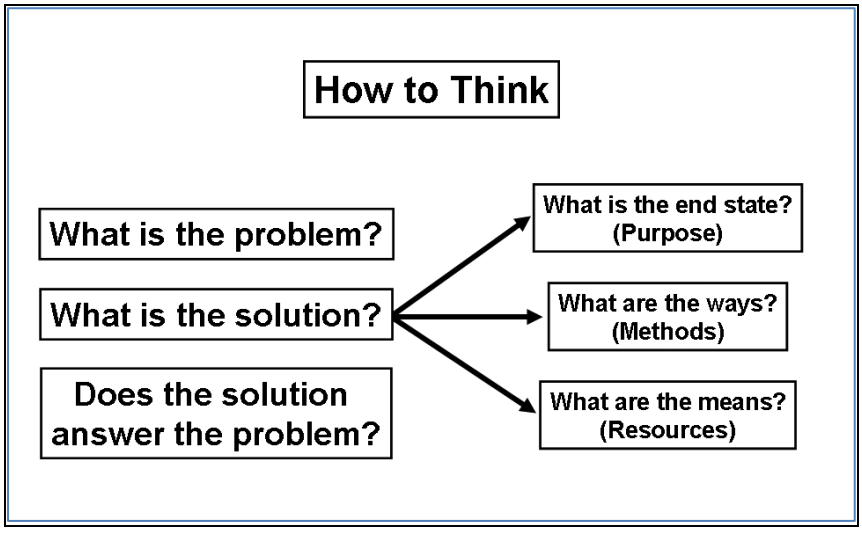


Figure 2-1

The ends-ways-means methodology is frequently used in defining strategy: the linkage of ends, ways, and means to meet national objectives. For planning at all levels (although this book is primarily focused at the campaign or operational level), the approach is also an appropriate way to develop a course of action.

As mentioned in the previous chapter, the Military Decisionmaking Process, or MDMP, is the Army's deliberate planning process.

Military Decisionmaking Process (MDMP)

The military decisionmaking process is an iterative planning methodology that integrates the activities of the commander, staff, subordinate headquarters, and other partners to understand the situation and mission; develop and compare courses of action; decide on a course of action that best accomplishes the mission; and produce an operation plan or order for execution. The MDMP helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to understand situations, develop options to solve problems, and reach decisions. It is a process that helps commanders, staffs, and others think critically and creatively while planning.[1]

Figure 2-2

Department of Defense joint headquarters use a similar methodology called the Joint Operation Planning Process, or JOPP. Both MDMP and JOPP are approaches to planning that key on three essential elements:

- Defining the problem (mission analysis).
- Creating a solution to the problem (COA development and selection).
- Testing the solution (wargaming).

This second step—creating a solution to the problem—is the key step for developing COAs. Developing a COA consists of three components:

- Determining the **ends** (the purpose for campaign).
- Determining the **ways** (the methods, or how you will achieve the ends).
- Determining the **means** (the resources available to achieve the ways).

End State Description

The desired end state consists of those desired conditions that, if achieved, meet the objectives of policy, orders, guidance, and directives issued to the commander. A condition is a reflection of the existing state of the operational environment. Thus, a desired condition is a sought-after future state of the operational environment. The characteristics and factors of conditions vary. Conditions may be tangible or intangible. They may be military or nonmilitary. They may focus on physical or psychological factors. They may describe or relate to perceptions, levels of comprehension, cohesion among groups, or relationships between organizations or individuals. When describing conditions that constitute a desired end state, the commander considers their relevance to higher policy, orders, guidance, or directives. Since every operation focuses on a clearly defined, decisive, and attainable end state, success hinges on accurately describing those conditions.[2]

Figure 2-3

This ends-ways-means methodology helps to provide a coherent Course of Action that links actions to the purpose – and enables the accomplishment of the mission. This process, of course, must be followed for not only determining friendly COAs but also for the COAs of other actors (enemy, friendly, and neutral parties). All actors have a vision of the conditions they want to create – which creates the tension that creates the problem. All sides have some purpose for their involvement and what conditions they want to bring the situation to a conclusion on their terms.

Once the end state for all sides in the conflict is stated in precise terms, it becomes easier to understand the purpose for all of the actions of each side. Each side's actions should, in some way, contribute toward achieving the desired end state. Because plans rarely go exactly as anticipated, it is likely that the end state will be adjusted based on success or failure. The end state should remain fairly consistent throughout a campaign, but it is not locked in concrete. It should be obvious that many factors can affect national strategic and higher level objectives, possibly causing the desired national strategic end state to change even as operations unfold. It should also be obvious that commanders may not always get a "clearly defined, decisive, and attainable end state" in all situations. Understanding the end state and the specific conditions that must be obtained – to the greatest extent possible – is also essential to determine the center of gravity, which I'll address in a later chapter.

A few words about the concept of the "end state." There are some (particularly in NATO) who don't care for the term because the term itself appears to indicate a static point in time and when all is over – the final outcome. Not true. When you hear the words "end state," think of ***conditions*** that must exist for completion or transition of the mission; but also understand that life will go on, and the situation will continue to evolve.

Department of Defense joint doctrine goes into great detail about two concepts for the ***end state***: the ***National Strategic End State*** and the ***Military End State***. The ***National Strategic End State*** is defined as:

> ***The National Strategic End State***. "The first and primary political task regarding termination is to determine an achievable national strategic end state based on clear national strategic objectives. For specific situations that require the employment of military capabilities (particularly for anticipated major operations), the President and SecDef typically will establish a set of national strategic objectives. **Achieving these objectives is necessary to attain the national strategic end state — the broadly expressed diplomatic, informational, military, and economic conditions that should exist after the conclusion of a campaign or operation.** The supported CCDR (*Combatant Commander*) must work closely with the civilian leadership to ensure a clearly defined national strategic end state is determined. Thinking of this "end state" as an integrated set of aims is useful because national strategic objectives usually are closely related rather than independent. The supported CCDR often will have a role in achieving more than one national strategic objective. Some national strategic objectives will be the primary responsibility of the supported CCDR, while others will require a more balanced use of all instruments of national power, with the CCDR in support of other agencies. Therefore, considering all of the objectives necessary to reach the national strategic end state will help the supported CCDR formulate proposed termination criteria — the specified standards approved by the President and/or the SecDef that must be met before a joint operation can be concluded. CDRs (*Commanders*) and their staffs must understand that many factors can affect

national strategic objectives, possibly causing the national strategic end state to change even as military operations unfold."[3]

The ***Military End State*** is defined as:

> ***The Military End State***. "Military end state is the set of required conditions that defines achievement of all military objectives. It normally represents a point in time and/or circumstances beyond which the President does not require the military instrument of national power as the primary means to achieve remaining national objectives. While it may mirror many of the conditions of the national strategic end state, the military end state typically will be more specific and contain other supporting conditions. These conditions contribute to developing termination criteria, the specified standards approved by the President and/or SecDef that must be met before a joint operation can be concluded. Aside from its obvious association with strategic or operational objectives, clearly defining the military end state promotes unity of effort, facilitates synchronization, and helps clarify (and may reduce) the risk associated with the campaign or operation. Commanders should include the military end state in their planning guidance and commander's intent statement."[3]

A couple of observations here . . . First of all, with the greater emphasis on stability operations and the "comprehensive approach," the distinction between the "National Strategic End State" and the "Military End State" may be losing clarity; the reality is that even though the military may not be needed to accomplish traditional offensive and defensive warfighting functions in a theater, the military may still be needed to meet other stability and support objectives. In addition, the definition for the "National Strategic End State" is still tied to military

operations, with the combatant commander "in support of other agencies" and the definition tied to the framework of a "campaign or operation." It doesn't make a lot of sense to have a defined "military end state" that just relates to objectives that "require the military instrument of national power as the primary means." In an integrated "comprehensive approach," it probably makes sense to have a single end state that encompasses the "National Strategic End State" and the "Military End State."

The Army has identified this issue of stability operations that often occur after major combat operations in their *Stability Operation* manual:

> "Military operations typically focus on attaining the military end state. However, the efforts of military forces also contribute to establishing nonmilitary conditions. Sometimes that is their focus. This is most apparent in stability operations, when integrating military and nonmilitary capabilities is essential to success. Achieving the desired end state in a stability operation requires deliberately coordinating and synchronizing military and civilian efforts. These efforts focus on a shared understanding of the conditions that support a stable, lasting peace. Due to the interrelated nature of the primary stability tasks, these efforts are fundamentally complementary and contribute toward shaping an enduring end state."[5]

Secondly, there is occasionally some imprecision in the way the terms are used. For the "National Strategic End State," achievement of objectives are considered necessary but the language changes tone to state the objectives "<u>should</u> exist at the end of a campaign or operation" and are referred to as an "integrated set of <u>aims</u>." For the "Military End State," the conditions are required. This is a big difference, and relates to the definition of the word "objective." Joint doctrine provides a

definition of the word “objective” but relates it only to military objectives:

> **Objectives.** “An objective is the clearly defined, decisive, and attainable goal toward which every military operation should be directed — the military objective. Objectives provide the focus for military action; they are essential for unity of effort. An objective may be a physical object of the action taken (e.g., a definite terrain feature, the seizure or holding of which is essential to the CDR’s plan, or the destruction of an adversarial force without regard to terrain features). This is more accurately termed the “physical objective.” Usually, physical objectives contribute to the attainment of military objectives. Military objectives must contribute to the achievement of national objectives (e.g., defend territorial integrity of an ally; ensure freedom of maritime commerce).”[6]

To me, an objective is something that must be met; you either achieve an objective or you fail. You reach for goals or aims; you must meet objectives. Using this definition, the end state should clearly state what objectives will be achieved to define the conditions for success. It’s not that these conditions “should exist” – they are required for mission accomplishment. If my objective is to get a 100 on an examination, and my final grade is 99, I haven’t met my objective. Close doesn’t count in this case, because the “condition” I established for success (getting a 100) doesn’t exist.

Because of this disconnect between end states that list objectives that “should exist” and those that are “required” to exist, there is a tendency to have “aspirational” end states rather than phrasing end states in terms of what are “sufficient” or “bottom-line” end states. A potential solution is to develop end states in terms of conditions in a “band of excellence” – listing the aspirational goals as the upper band and bottom-line “sufficient or good-enough” objectives as the lower band. The purpose for

operations could then be to bring conditions within the band – and develop transitions and follow-on phases of the campaign that are focused on maintenance of the conditions within the "band of excellence." In this way, the "end state" wouldn't be thought of as simply the criteria for termination, but a set of long term, stable conditions that are to be attained – with a plan for the long-term continuation of those conditions.

Even though we speak of **ends, ways, and means**, realistically we actually think of the process in terms of **ends, means, and ways**. The ***ends*** (or end state) drive the purpose of the campaign. The ***means*** determine how that can be accomplished and have to be considered before you can realistically determine the ***ways***. Put another way, to be able to accomplish certain ways of approaching the campaign requires you to have resources; the resources, or means, determine just how ambitious or constrained you will be in determining the ways to accomplish the mission. No commander will always get everything he wants in resources; he will be limited by time, numbers of troops, and equipment. You have to learn to "live within your means" to accomplish missions. . . which means you may also have to clearly communicate the level of risk involved with limited resources or means. Frequently there has to be some give and take within developing a plan: it will be rare that there will be a clearly attainable mission or end state, more than enough resources or means, and an obvious way to approach the problem.

At the same time you are conducting a friendly analysis of ends, ways, and means (as well as risk), other stakeholders (including the enemy or adversary) must be thoroughly examined in the same manner. For developing the means available to an enemy, the best place to look (if done well) is the intelligence estimate in a paragraph called the "enumeration of enemy capabilities." This list should be a comprehensive list of all of the resources and capabilities available to the enemy. Do not let your intelligence staff officers cheat on this step; it is critical that you

assess all the means that are available to the enemy.[8] In a stability operation or insurgency, this is even more important. Not only does the enemy have military forces, but he also will likely use paramilitary forces and insurgents, engage in information operations, and leverage the instability of refugee camps. Today no one wants to take on the United States in a conventional "fair fight" on the battlefield, so our enemies are looking for means to attack us and still get the ends they want. Their means are only limited by their imagination.[9] Many of our enemies will use means that we have not thought of before and would not use even if we had thought of them. Think of those means when considering the means available to the enemy because you may see them in the campaign. Use creative thinking to analyze what the enemy has available to him.

Don't forget that not all of the stated conditions in the different end states – those for friendly, adversary, and others – will be mutually exclusive. For example, in Afghanistan even the Taliban, as well as the international community, would like to have a vibrant economy. This condition is a shared condition; as a result, the achievement of this condition should also consider the means that are available to even the adversary.

For friendly means, one key document as a starting point is the task organization that indicates allocated and apportioned forces. It is important to have a good feel for all the assets that are available to the campaign planner and when they will be available (force flow). Other critical means that can be brought to bear in the campaign are assets that do not belong to the commander but are conducting activities in theater that help accomplish objectives. It is critical to be aware of all the nongovernmental organizations (NGOs), private voluntary organizations (PVOs), and other governmental agencies (OGAs) in theater—as well as the media and commercial contractors—and to understand what they can and cannot do. If there is a potential refugee problem in theater, you can be sure that you would

prefer to have the NGOs and others help you keep that under control, even if you have to lend a hand once in a while.

During the initial phases of OIF, a lot of non-infantry units found out that they could be used for patrols; a lot of non-MP units found out that they could be used to support law enforcement. Do not let "rice bowl" issues keep you from being creative in how to use the assets that are made available in theater. Units can be given nonstandard missions, and planners must be creative in how they apply assets to each problem.

Another important consideration when determining the means available is to think beyond the initial stages of the campaign. For example, engineer assets are critical in both offensive and defensive operations in support of maneuver units, but they may have a different focus and "customer" for stability operations. Rotary and fixed-wing lift will be important for offensive and defensive operations and perhaps even more important for stability operations. You cannot have enough MPs in a stability operation; be prepared to give that mission to other units when the time comes.

Once you have determined the end or end state and you have a comprehensive understanding of the resources and means that are available to you, you can determine the ways—the methods you will use to develop your COA. I will provide a methodology for determining a distinct COA in a following chapter.

Bottom line: Keep in mind the separate components of ends, ways, and means when approaching campaign planning. Determine the ends first, then analyze the means available, and finally determine the ways to accomplish the ends.

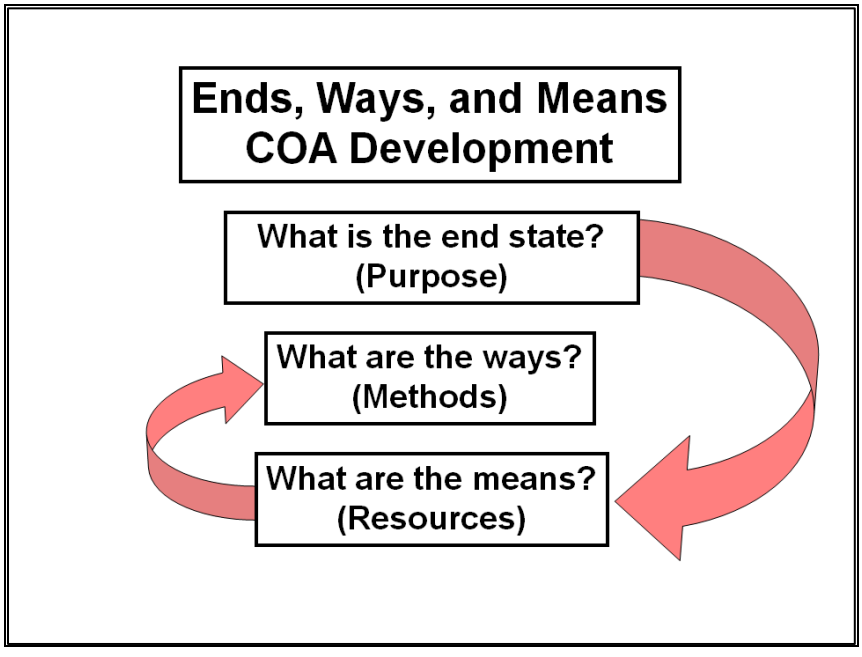

Ends, Ways, and Means
COA Development
What is the end state?
(Purpose)
What are the ways?
(Methods)
What are the means?
(Resources)

Figure 2-4

Notes

1. ATTP 5-0.1, paragraph 4-1.

2. This description is from FM 5-0, paragraphs 3-46 and 3-48. Although FM 5-0 has been superseded by ADP 5-0, the definition from FM 5-0 still has relevance to understanding the concept. ADRP 3-0, paragraph 4-11 simply states "The end state is a set of desired future conditions the commander wants to exist when an operation ends."

3. JP 1, page I-20.

4. JP 5-0, page III-19.

5. FM 3-07, paragraph 4-42.

6. JP 1, page I-20.

7. Even though the intelligence staff is responsible for developing the intelligence estimate and the enumeration of enemy capabilities paragraph in the estimate, the entire staff is responsible for considering all the enemy capabilities that are available for the enemy COA and providing input to the intelligence estimate; it is not solely an intelligence responsibility.

8. US forces, as well, are not interested in fighting a fair fight when it comes to warfighting. The United States wants to outclass all opponents and leverage all advantages, including using asymmetric means against enemies—ways the enemy also does not expect the United States to use.

Chapter Three:
"Understand"

In February 2008, the U.S. Army published a major update to the capstone *Operations* manual, Field Manual (FM) 3-0. This updated manual, with its revision (change 1) in February 2011, marked the first major change in Army capstone doctrine since 9/11. The manual and its revision reflected the lessons from wartime experience in Iraq and Afghanistan, written in response to the complex period of prolonged conflicts and opportunities.

The updated manual provided insight into how the Army has changed its approach to operating in today's environment, based on the realities of fighting the two wars. As the manual states:

> *FM 3-0 emphasizes people over technology, focusing on initiative and responsibility at lower levels of command. Understanding the operational environment, as well as the problem to be solved, requires a methodology that expands beyond the military decisionmaking process. The emergence of hybrid threats has added to the uncertainty of the operational environment. Additionally, creating teams among modular forces to work closely with joint, interagency, intergovernmental, and multinational assets is critical to mission success. When working with host-nation partners, teamwork requires more personal cooperation than military command. Finally, the ability to convey clear and succinct messages to target audiences is often as important as the ability to deliver lethal combat power.*[1]

The update to the manual challenged some of the assumptions from the past that characterized the Army's approach to operations. The "traditional framework" for how the Army operates in operations was deemed to be no longer adequate to ensure success in operations in the current

environment. These assumptions that were no longer considered valid included:

- Only higher echelons would work with joint, interagency, intergovernmental, and multinational agencies and assets.
- A high level of understanding of the operational environment and the problems to be solved.
- Relatively stable organizations with fixed structures that ensured teamwork and cohesion.
- Informing and influencing various audiences were primarily a government, not a military, function.
- Technological solutions were needed to solve complex problems.
- Smaller, more capable forces would know enough about the enemy to apply combat power precisely and effectively.
- The higher the echelon, the greater the understanding of the operational environment.[2]

A key element in the new doctrine was the strengthening of the central role of commanders; the Army emphasized ***mission command*** to describe the means (or the *activity*) commanders use to exercise this central role:

Mission Command

Mission command is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of full spectrum operations. It is commander-led and blends the art of command and the science of control to integrate the warfighting functions to accomplish the mission.[3]

Figure 3-1

The focus for ***mission command*** is on commanders and leaders in the Army; the Army previously used the term "battle command" but rescinded that term to emphasize the human dimension of commanders, rather than systems to be employed. As the preface to the updated FM 3-0 in 2011 stated:

> *The demands placed on leaders have expanded dramatically in an era of persistent conflict among populations. The need to empower them with skills, knowledge, resources, and freedom of action is critical to success. Mission command provides a means for both senior and junior leaders to create a more thorough understanding of the operational environment and of the problems to be addressed. It highlights the initiative necessary for success in today's operational environment. Mission command emphasizes the commander in operations. It encourages collaboration and dialog among commanders and leaders as a means of developing an environment of mutual trust and understanding that enables agile and adaptive organizations to succeed in full spectrum operations.*[4]

Mission command is not only an activity performed by commanders, but is also described as a "warfighting function" Mission command, therefore, is both a philosophy of command as well as a warfighting function. The commander has four different tasks in mission command. They are:

- Drive the operations process.
- Understand, visualize, describe, direct, lead, and assess.
- Develop teams among modular formations and joint, interagency, intergovernmental, and multinational partners.
- Lead, inform, and influence activities.[5]

In 2011 and 2012 the Army continued to document changes in doctrine with the development of the Army Doctrine Publications (ADP) and Army Doctrine Reference Publications (ADRP). The first in this series, ADP 3-0 (*Unified Land Operations*), superseded FM 3-0 in October 2011. In May 2012 the Army published ADRP 3-0 (*Unified Land Operations*), ADP 5-0 and ADRP 5-0 (*The Operations Process*) and ADP 6-0 and ADRP 6-0 (*Mission Command*). ADP 5-0 and ADP 6-0 superseded FM 5-0 and FM 6-0 respectively.

The updated manuals (ADPs and ADRPs) remain generally consistent with the previous Field Manuals; under the *Doctrine 2015* Initiative, Army Doctrine Publications (ADPs) present "overarching doctrinal guidance and direction." The Army Doctrine Reference Publications (ADRPs) augment the ADPs with expanded discussions of the concepts; the respective ADPs and ADRPs together establish a common frame of reference and language for commanders and staffs. To further augment the ADPs and ADRPs with a detailed explanation of the tactics, techniques, and procedures associated with the operations process, the Army published Army Tactics, Techniques, and Procedures (ATTP) 5-0.1, *Commander and Staff Officer Guide*.

The updated publications are generally consistent with key topics in the previous publications while adopting updated terminology and concepts as necessary. The philosophy of *mission command,* to include the central role of commanders (supported by their staffs) in driving the operations process continues to be emphasized in the new doctrinal publications.[6] Some of the previous terms, such as *full spectrum operations*, have been rescinded, while a number of terms have been modified (such as *indirect approach* and *persistent conflict*) have been modified by retaining the terms based on common English usage, but not formally defining as Army terms.[7]

In addition to these terminology changes, a number of terms have also been redefined, including the term *mission command*:

<u>Mission command</u> is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations (ADP 6-0). Mission command is one of the foundations of unified land operations. This philosophy of command helps commanders capitalize on the human ability to take action to develop the situation and integrate military operations to achieve the commander's intent and desired end state. Mission command emphasizes centralized intent and dispersed execution through disciplined initiative. This precept guides leaders toward mission accomplishment.[8]

The framework for exercising *mission command* is the *operations process*, which is driven by the commander, as shown in figure 3-2 below:[9]

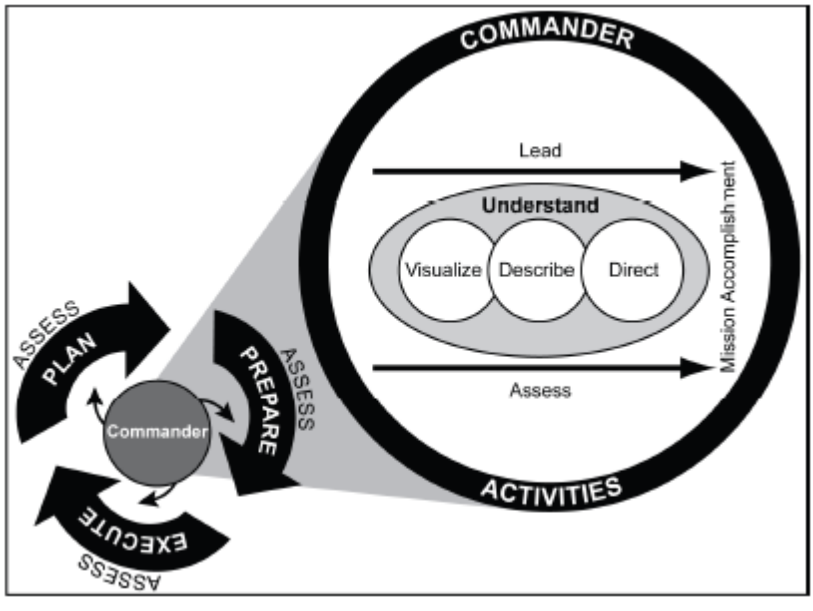


Figure 3-2

Commanders drive the operations process through understanding, visualizing, describing, leading, and assessing operations, as shown in figure 3-3 below:[10]

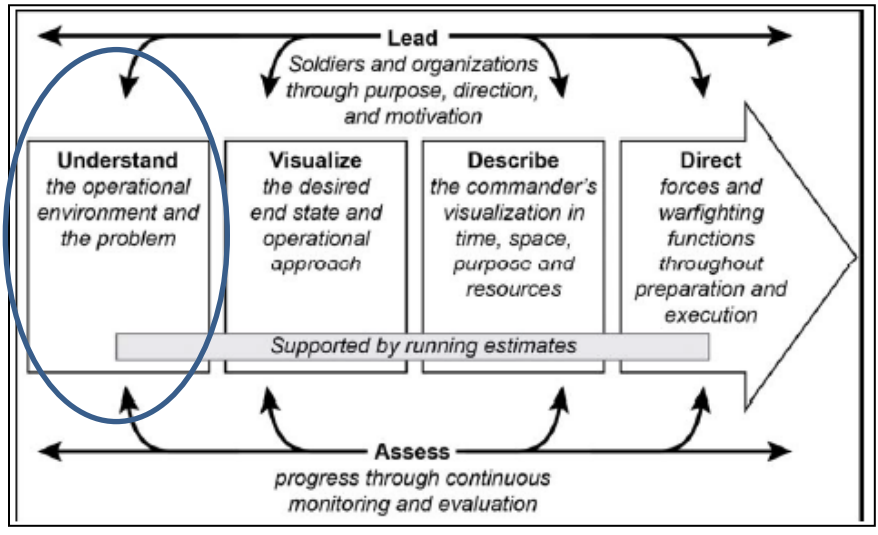


Figure 3-3

Chapter One described the identification of a problem; Chapter Two described the concept of **ends**, **ways**, and **means** (along with **risk**). **Understand** is the key component in identifying the problem and starting to link ends, ways and means, as well as to identify the level of risk involved. The process of understand is iterative; even though the descriptions and words are linear, the process never ends – you never completely get to a complete understanding.

There are two different acronyms that assist in the operations process that are important to understand: METT-TC and PMESII-PT. These are called the ***mission variables*** (METT-TC) and the **operational variables** (PMESII-PT). The ***mission variables*** (METT-TC, or mission, enemy, terrain and weather, troops and support

available, time available, and civil considerations) will be discussed in greater detail in the next chapter. The ***operational variables*** (PMESII-PT, or political, military, economic, social, information, infrastructure, physical environment, and time) are used as a method to describe the operational environment. The Department of Defense joint community just uses the first six variables; the Army added the last two. Nonetheless, considering all of these variables is just a way to further the understanding of the operational environment as a system of systems.

Commanders and staffs use the operational and mission variables to help build their situational understanding. They analyze and describe an operational environment in terms of eight interrelated operational variables: political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT). Upon receipt of a mission, commanders filter information categorized by the operational variables into relevant information with respect to the mission. They use the mission variables, in combination with the operational variables, to refine their understanding of the situation and to visualize, describe, and direct operations. The mission variables are mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC).[11]

Figure 3-4

Although the Department of Defense joint community doesn't use the mission command approach of "understand, visualize, describe, direct, lead, and assess," the approach is similar. The *Joint Operational Planning* manual (JP 5-0) states that in order to guide planning, you must (1) Understand the strategic direction; (2) understand the operational environment, and (3) define the problem before you can (4) develop the operational approach.

The questions associated with this methodology are very similar to the questions from the previous chapters:

Joint Planning Methodology - Understand

(1) What are the strategic goals to be achieved and the military objectives that support their attainment?)

(2) What is the larger context that will help me determine our problem?

(3) What problem is the design intended to solve?

(4) How will the problem be solved?[12]

Figure 3-5

Note that joint doctrine and Army doctrine emphasize **understanding** the environment (both strategic goals and objectives as well as the context). The terminology (which we'll discuss in later chapters) on **visualizing** and **describing** are also used similarly in joint doctrine. Joint doctrine emphasizes this interaction:

> *The commander must be able to describe both the current state of the operational environment and how the operational environment should look when operations conclude (desired end state) to visualize an approach to solving the problem. Planners can compare the current conditions of the operational environment with the desired end state conditions. Identifying necessary end state conditions and termination criteria early in planning will help the commander and staff devise an operational approach with lines of effort/operation that link each current condition to a desired end state condition*.[13]

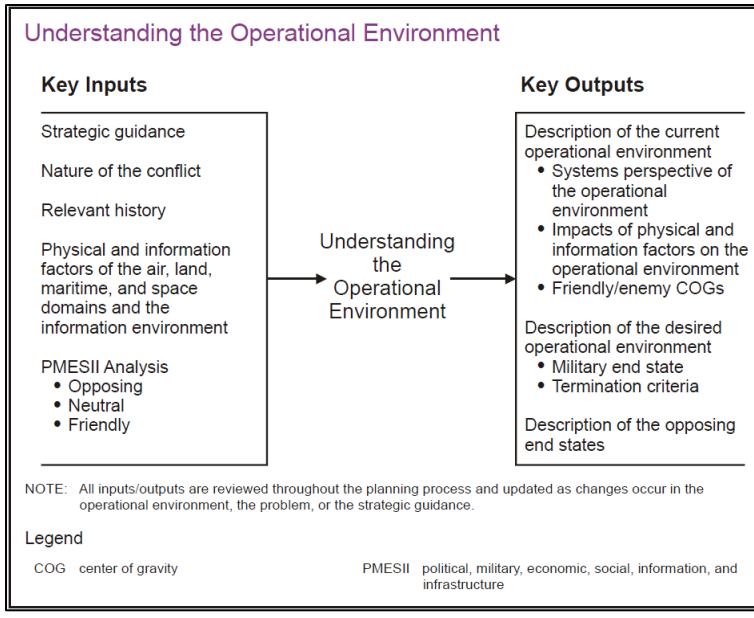


Figure 3-6

Both Army and Joint doctrine also emphasize the connection between ***understand*** and the concept of ***ends, ways, means, and risk*** in their doctrine. Figure 3-7 below depicts the connection of **ends, ways, means, and risk** to mission command.[14]

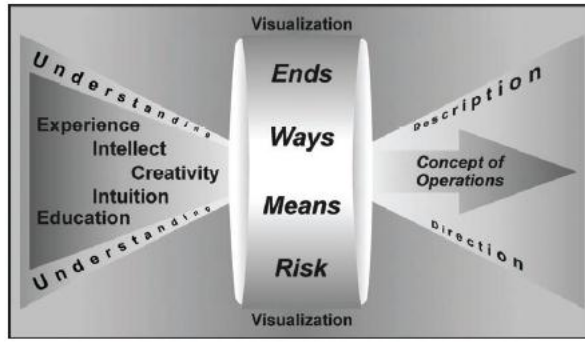


Figure 3-7

Note that ***understanding*** is gained through a combination of experience, intellect, creativity, intuition, and experience – drawing on both the expertise of the commander and leaders to understand the problem and the context of the environment, as well as the potential end state. Commanders then ***visualize*** their approach to the problem through linking ends, ways, means, and risk. Commanders ***describe*** the approach to addressing the problem through a concept of operations, followed by ***direction*** of the actions of subordinates The Army provides a short description of this methodology as applying operational art:

> *Operational art is the cognitive approach by commanders and staffs—supported by their skill, knowledge, experience, creativity, and judgment—to develop strategies, campaigns, and operations to organize and employ military forces by integrating ends, ways, and means. For Army forces, operational art is the pursuit of strategic objectives, in whole or in part, through the arrangement of tactical actions in time, space, and purpose. This approach enables commanders and staffs to use skill, knowledge, experience, and judgment to overcome the ambiguity and intricacies of a complex, ever changing, and uncertain operational environment to better understand the problem or problems at hand. Operational art applies to all aspects of operations and integrates ends, ways, and means, while accounting for risk. Operational art is applicable at all levels of war, not just to the operational level of war. Army commanders focus on planning and executing operations and activities to achieve military objectives in support of the joint force commander's campaign plan. They use operational art and the principles of joint operations to envision how to establish conditions that accomplish their missions and achieve assigned objectives.*[15]

Another Army Field Manual – *Stability Operations* – provides a succinct description of this approach:

Planning Fundamentals

For every operation, commanders develop personal, detailed understanding of the situation and operational environment. They then visualize a desired end state and craft a broad concept for shaping the current conditions toward that end state. Finally, they describe their visualization through the commander's intent, planning guidance, and concept of operations, setting formal planning processes in motion. Thus, planning is an adaptive process that ebbs and flows with the situation; as understanding of the situation evolves…[16]

Figure 3-8

Department of Defense joint doctrine shows a similar figure in their planning doctrine for operational art. The chart is slightly different, showing just understanding and visualization, but the concept is the same.[17]

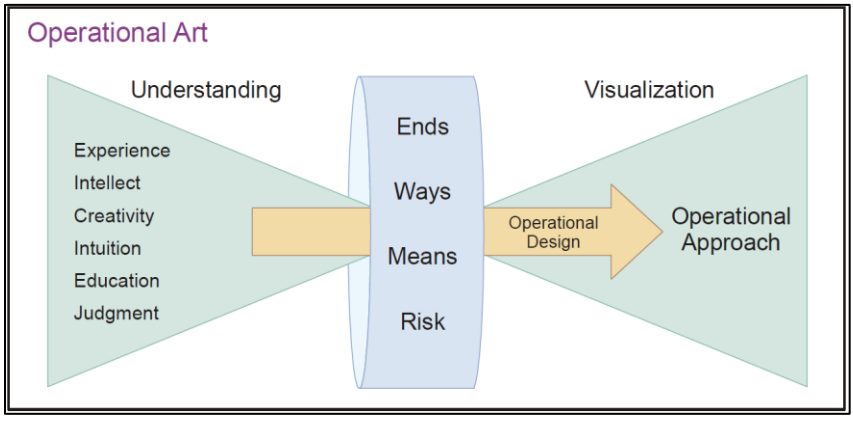


Figure 3-9

For understanding, joint doctrine also adds ***judgment*** as a component for gaining ***understanding***. The concept of ***describing*** is not listed on the figure, but is an obvious follow-on to the ***visualization*** process. Finally, joint doctrine uses the term ***operational approach*** rather than ***concept of operations*** as the output of operational art, which is reflection of the higher echelon that the joint community normally operates in. Joint doctrine also provides a description of the process:

> *The JFC (joint force commander) and staff develop plans and orders through the application of operational art and operational design and by using JOPP (Joint Operation Planning and Execution System). They combine art and science to develop products that describe how (ways) the joint force will employ its capabilities (means) to achieve the military end state (ends). Operational art is the application of creative imagination by commanders and staffs—supported by their skill, knowledge, and experience. Operational design is a process of iterative understanding and problem framing that supports commanders and staffs in their application of operational art with tools and a methodology to conceive of and construct viable approaches to operations and campaigns. Operational design results in the commander's operational approach, which broadly describes the actions the joint force needs to take to reach the end state*.[18]

There are two other critical concepts that are involved in understanding the environment; these are the concept of ***collaboration*** and the concept of ***framing***. Both of these concepts will be addressed in separate chapters later on, but they are important to introduce as part of the understanding process in mission command. First, let's address the concept of collaboration.

To develop a true understanding, commanders have a responsibility to collaborate and dialogue with as many stakeholders as possible. This includes subordinates, adjacent commanders, superiors, and others who can enable understanding. Wise commanders garner information from a wide array of sources. Department of Defense joint doctrine states:

> *Notwithstanding a commander's judgment, education, and experience, the operational environment often presents situations so complex that understanding them—let alone attempting to change them—exceeds individual capacity. Nor does such complexity lend itself to coherent planning. Bringing adequate order to complex problems to facilitate further detailed planning requires an iterative dialogue between commander and planning staff. Rarely will members of the staff recognize an implicit operational approach during their initial analysis and synthesis of the operational environment. Successful development of the approach requires continuous analysis, learning, dialogue, and collaboration between commander and staff, as well as other subject matter experts. The challenge is even greater when the joint operation involves other agencies and multinational partners (which is typically the case), whose unique considerations can complicate the problem. It is essential that commanders, through a dialogue with their staffs, planning teams, initiative groups, and any other relevant sources of information, first gain an understanding of the operational environment and define the problem facing the joint force prior to conducting detailed planning. From this understanding of the operational environment and definition of the problem, commanders develop their broad operational approach for transforming current conditions into desired conditions at end state…*[19]

The second concept is that of framing. Framing and reframing are discussed frequently, but the terms are normally not adequately defined. Army doctrine provides the following definition of framing:

> *Framing is the act of building mental models to help individuals understand situations and respond to events. Framing involves selecting, organizing, interpreting, and making sense of an operational environment and a problem by establishing context. How individuals or groups frame a problem will influence potential solutions.*[20]

What is not clear in the definition or in the discussion in both Army and joint doctrine is that framing, by necessity, limits your perspective. Just as a "timeframe" looks at just a certain span of time, framing is like a camera lens that only shows a certain view – there is more around the frame, but the focus is only within the frame. When you don't limit your planning frame, you have too much information to analyze; when you overly limit and focus the frame, there is the danger of missing important details. Too much information can result in "paralysis by analysis" whereas too little information can lead planners to solve the wrong problem because they can't see the real issue at hand. For this reason, it is essential to constantly review framing and to be willing to reframe as needed.

So, we've discussed the issue of understanding as the first priority in planning – which includes understanding the problem, the operational environment, initially defining the potential end state, addressing the impact of ends, ways, means, and risk, using collaboration, and problem framing. The question that comes to mind is "what does this look like when we've arrived?"

The answer is a combination of art and science. The "art" answer is a common understanding – an understanding that will continue to evolve as understanding deepens and as the situation changes. The commander's understanding is the most important –

as the central person in the planning process, the commander has to own the process. The commander must have an understanding that identifies the answer to a number of questions:

What's going on?
Why has this situation developed?
What does it mean?
What's the real story?

From a science standpoint, there will be a number of different products that can aid in this understanding; these may include a PMESII-PT analysis, written estimates, and a variety of other tools that are used in campaign planning. These tools are useful only when they aid in understanding; they are not ends themselves.

There are, however, a number of products that seem to be absolutely essential. Some of these products will be described in later chapters, but it is essential to have a clear problem statement that indicates the competitive nature of the problem. At a minimum you must have a clearly defined desired end state that provides the conditions that are to be achieved; without this, planning will be problematic at best.

Bottom line: Understanding is a deliberate activity that should continue throughout planning and execution and includes understanding the problem, the operational environment, initially defining the potential end state, addressing the impact of ends, ways, means, and risk, using collaboration, and problem framing. Even though the commander is the central figure in **understanding**, the objective is to enable a shared understanding that can answer the questions "What is the problem?" and "What are we trying to do?"

Notes

1. FM 3-0, page vii.
2. FM 3-0, page vii.
3. FM 3-0, paragraph 5-12.
4. FM 3-0, page viii.
5. FM 3-0, paragraph 4-19.
6. ADRP 3-0, page v.
7. ADRP, pages vi – vii.
8. ADRP 6-0, paragraph 1-5.
9. ADRP 5-0, figure 1-1.
10. ADRP 5-0, figure 1-2
11. ADRP 5-0, paragraph 1-32.
12. JP 5-0, page III-7.
13. JP 5-0, page III-8.
14. FM 3-0, Figure 7-2.
15. ADRP 3-0, paragraphs 4-1 – 4-2.
16. FM 3-07, paragraph 4-1.
17. JP 5-0, Figure III-1.
18. JP 5-0, page III-1.
19. JP 5-0, page III-6.
20. ADRP 5-0, paragraph 2-25.

Chapter Four:
"Visualize"

The previous chapter discussed the relationship between Design and the component of "Understand" in Mission Command. There is also an explicit link between Design and the component of "Visualize" in Mission Command.

Commander's Visualization

Commander's visualization **is the mental process of developing situational understanding, determining a desired end state, and envisioning an operational approach by which the force will achieve that end state.** Commander's visualization begins in planning and continues throughout the operations process until the force accomplishes the mission. During planning, commander's visualization provides the basis for developing plans and orders. During execution, it helps commanders determine if, when, and what to decide, as they adapt to changing conditions.[1]

Commanders apply the Army design methodology and use the elements of operational art when developing and describing their commander's visualization. They also actively collaborate with higher, subordinate and adjacent commanders, the staff, and unified action partners to assist them in building their visualization…. Because of the dynamic nature of military operations, commanders must continuously validate their visualization throughout the operations process.[2]

Figure 4-1

The component of "Understanding" – the commander's personal understanding of the environment and context of the situation – forms the basis for the "Commander's Visualization."

In other words, visualization builds upon understanding, as commanders continue to develop their own understanding of the situation as it develops. Commanders start to frame the problem – first, by continuing the development of a detailed understanding of the operational environment, answering these questions:

What's going on?
Why has this situation developed?
What does it mean?
What's the real story?

Commanders continue to frame the problem with visualization – which begins by determining the end state, or how the current conditions should be changed to the desired conditions. In understanding, commanders used the operational variables (PMESII-PT) to assist in framing the environment; in visualization, commanders start to use mission variables (METT-TC) to assist in framing the problem.

Note that the "Commander's Visualization" is a mental process – commanders are using their own personal knowledge and intuition, as well as collaboration with subordinates, staff, and other commanders (just as they did in the *understanding* component of Mission Command). Commanders, in their initial stages of the "Commander's Visualization" are attempting to answer these questions:

What needs to change?
What doesn't need to change?
What are the strengths and weaknesses of the actors?
What are the opportunities and threats?
What conditions need to exist for success?

At this point, commanders continue to frame the problem by identifying an end state – a broad statement of the desired conditions that describe success. Again, the end state is not set in concrete; at this stage commanders are identifying broad conditions that should exist in the future, informed by collaboration and dialogue to determine the range of possibilities for the future. As Army doctrine states:

> *The end state may evolve as an operation progresses. Commanders continuously monitor operations and evaluate their progress. Commanders use formal and informal assessment methods to assess their progress in achieving the end state and determine whether they need to reframe. The end state should anticipate future operations and set conditions for transitions. The end state should help commanders think through the conduct of operations to best facilitate transitions.*[3]

This important component of "visualize" in Mission Command – determining the desired end state – is a critical step in the Army design methodology:

> The **Army design methodology** is a methodology for applying critical and creative thinking to understand, visualize, and describe unfamiliar problems and approaches to solving them. Army design methodology is an iterative process of understanding and problem framing that uses elements of operational art to conceive and construct an operational approach to solve identified problems. Commanders and their staffs use Army design methodology to assist them with the conceptual aspects of planning. Army design methodology entails framing the operational environment, framing the problem, and developing an operational approach to solve the problem.[4]

Figure 4-2

The Army describes how the concept of the commander's ***visualization*** builds upon ***understanding***. The general approach in developing the commander's visualization is to first understand the conditions that make up the current situation; based on this understanding, commanders gain a greater understanding of the problem (the competitive nature) and visualize desired conditions that represent a desired end state. After envisioning a desired end state, commanders then develop an operational approach of how to change current conditions to the desired future conditions.[5]

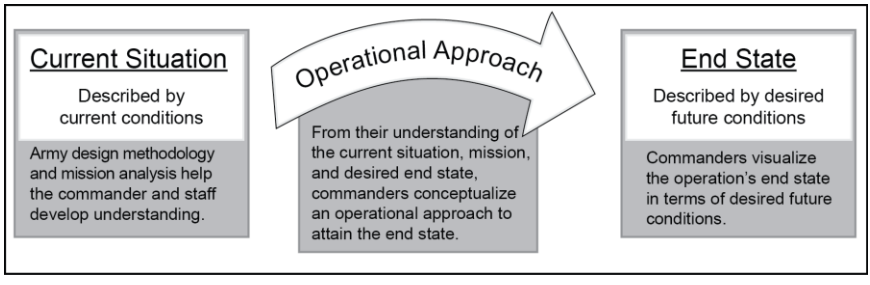


Figure 4-3

It is important to note that the operational approach is a broad concept – it is not a developed plan of action or course of action. The operational approach in visualization takes into account the factors of METT-TC; one of the keys here is the "M" in METT-TC, which is the mission. Commanders not only understand the current situation (using PMESII-PT as part of understanding), but during visualization they now incorporate the mission and other elements of the mission variables, or METT-TC. The operational approach is broad – and focuses on **what** needs to be done rather than **how** to accomplish the mission.

Department of Defense joint doctrine provides a different perspective for the elements of operational design as shown in the figure below:[6]

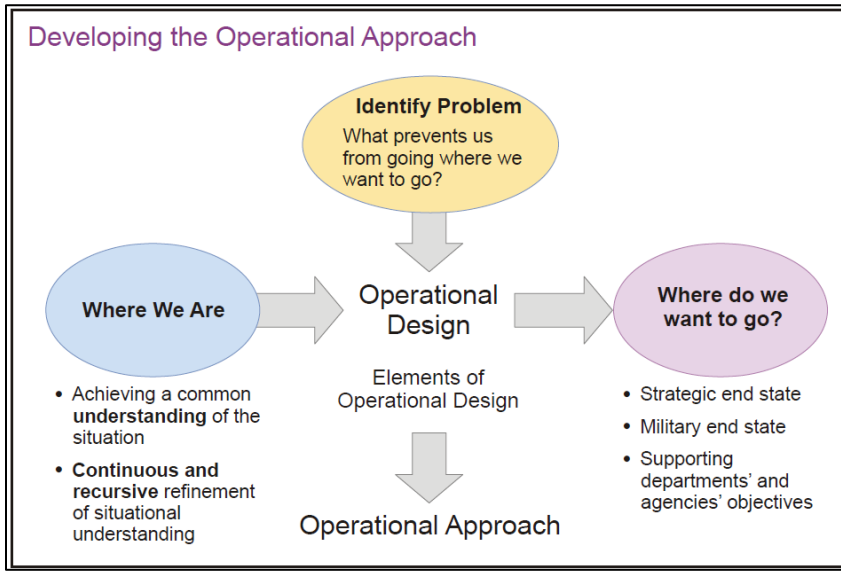


Figure 4-4

Joint doctrine provides the following description of the commander's visualization:

> *The operational approach is a commander's description of the broad actions the force must take to achieve the desired military end state. It is the commander's visualization of how the operation should transform current conditions into the desired conditions at end state—the way the commander wants the operational environment to look at the conclusion of operations. The operational approach is based largely on an understanding of the operational environment and the problem facing the JFC (joint force commander). Once the JFC approves the approach, it provides the basis for beginning, continuing,*

or completing detailed planning. The JFC and staff should continually review, update, and modify the approach as the operational environment, end states, or the problem change.[7]

It is important to emphasize that the desired end state, just like current conditions, will continue to evolve and change – for both "friendly forces" and competitive forces. Current conditions change as time moves on, and therefore future desired conditions should evolve accordingly as commanders reframe and refine the desired end state. The "frame" of the problem is a "moving frame," which allows the commander to focus on future conditions. Thus, the "desired end state" is not a fixed set of conditions that cannot change – in fact, it should change to enable commanders and their subordinates to constantly assess, reframe, and reorient operations to shape and transform the future. This conceptual framework of an end state – stated in broad terms – provides flexibility and enables initiative.

In order to understand the dynamics of the how conditions can change rapidly; understanding the concept of **tendencies and potentials** is necessary. Joint doctrine provides the following definition of **tendencies and potentials**:

In developing an understanding of the interactions and relationships of relevant actors in the operational environment, commanders and staffs consider natural tendencies and potentials in their analyses. Tendencies reflect the inclination to think or behave in a certain manner. Tendencies are not considered deterministic but as models describing the thoughts or behaviors of relevant actors. Tendencies help identify the range of possibilities that relevant actors may develop with or without external influence. Once identified, commanders and staffs evaluate the potential of these tendencies to manifest within the operational environment. Potential is the inherent ability

or capacity for the growth or development of a specific interaction or relationship. Not all interactions and relationships support achieving the desired end state. The desired end state accounts for tendencies and potentials that exist among the relevant actors or other aspects of the operational environment.[8]

I find this description a bit difficult to get my arms around; instead, **tendencies** are how the situation is trending in line with natural inclinations; **potentials** are how the situation could turn out based on interventions. This is all a matter of degree; there could be "black swan" events that could also occur that would change the condition dramatically.[9] Based on the time available, these "black swan" or improbable dramatic events would be important to consider, but generally **visualization** considers the most probable outcomes (tendencies) and possible outcomes (potentials).

Obviously, US forces are being committed because the tendencies and potentials are not going in the direction that meet US national security objectives; the operational approach, or the broad sequence of events and intervention by which the force will achieve the desired end state that meets US objectives is developed by the commander through visualization to "bridge the gap" or transform the situation between what exists and what we want to exist (our desired end state).

Commanders continue to frame the problem by answering the following questions:

How do we go from existing conditions to desired conditions?
What tensions exist between the two?
What else can happen?
What are the risks?

Commanders frame the problem based on their understanding and identification of the root causes of the tension

that exists between existing conditions and their visualization of the desired end state. Problem framing considers an evaluation of tendencies and potentials as well as the tension among between the operational variables (PMESII-PT) that can be expected to resist or facilitate transformation.

Problem framing includes the incorporation of the important step of "identifying the problem" with a concise **problem statement** that clearly defines the problem that needs solving. The problem statement considers how tension and competition affect the operational environment by identifying how to transform the current conditions to the desired end state – before adversaries begin to transform current conditions to their desired end state. The statement broadly describes the requirements for transformation, anticipating changes in the operational environment while identifying critical transitions. The problem statement accounts for the time and space relationships inherent in the problem frame. A good way to state the problem statement is to begin with the phrase "**how to**...," to keep the problem statement relatively brief, and to include time and space relationships. For example, "How to transform the current security situation in Southern Afghanistan to a stable environment before the Taliban consolidate their control – while setting the conditions for the transition for security to Afghan forces within two years."

Joint doctrine describes the process of developing a problem statement:

> *The problem statement identifies the areas for action that will transform existing conditions toward the desired end state. Defining the problem extends beyond analyzing interactions and relationships in the operational environment. It identifies areas of tension and competition—as well as opportunities and challenges—that commanders must address to transform current*

conditions to achieve the desired end state. Tension is the resistance or friction among and between actors. The commander and staff identify the tension by analyzing the context of the relevant actors' tendencies, potentials, and the operational environment.[10]

Having a clear problem statement is essential for developing a problem frame that enables commanders to "bridge the gap" between the current situation and the desired end state conditions. Commanders then take the problem statement and conceptually develop the operational approach. Having a problem statement in the "how to…" format provides focus and direction for the commander and the staff.

The commander's visualization of how to "bridge the gap" includes discussion and debate between commanders and staffs, continuing the "collaboration and dialogue" that characterizes planning. This process of visualization doesn't just take place during planning – it is an iterative process that also takes place during execution of the plan. Staffs provide "running estimates" to assist the commander in assessing the changes that are taking place in the environment – both the current conditions and the range of future conditions. In many ways, commander's visualization enables commanders to develop a "running commander's estimate" or what could be conceptualized as a "moving frame" which allows commanders to focus on future conditions.

As commanders visualize how to "bridge the gap" between current and desired conditions, they have a variety of tools available to enable their operational approach. These include developing key tasks or actions to be accomplished, the use of defeat or stability mechanisms, and potential lines of effort. All of these tools will be described in later chapters.

Bottom line: The objective in **visualization** is to refine the end state and to develop a broad approach to resolve a complex

problem. This process provides the tools to understand and frame the current context of the operational environment, to visualize the desired end state conditions, and then to develop a broad approach to bridge the gap. Once commanders have framed and visualized the problem, they are prepared to **describe** broadly and conceptually how to generate desirable change as part of the commander's visualization.

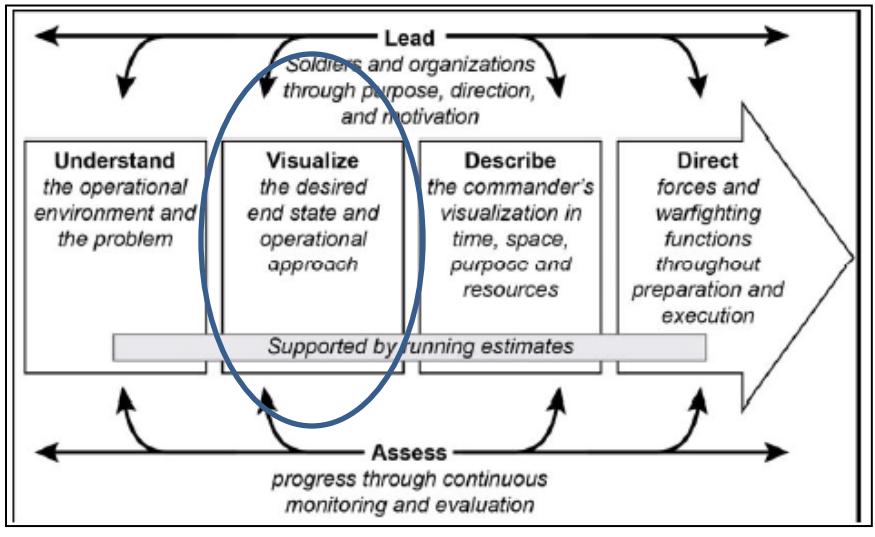


Figure 4-5

Notes

1. ADP 5-0, paragraph 8.
2. ADRP 5-0, paragraph 1-16.
3. ADRP 3-0, paragraph 4-13.
4. ADP 5-0, paragraphs 29 – 30.
5. ADRP 3-0, paragraph 4-7; figure 4-2.
6. JP 5-0, Figure III-2.
7. JP 5-0, page III-5 – III-6.
8. JP 5-0, page III-11; see also ADRP 5-0, paragraph 2-40.
9. Taleb.
10. JP 5-0, page 3-12.

Chapter Five:
"Describe"

The two previous chapters discussed the two mission command concepts of **understand** and **visualize** for planning; now it's time to turn to the **describe** component for planning.

During the **understand** component of planning and mission command, commanders and staff develop an understanding of the current context of the situation. The commander's understanding of the context of the situation is gained by a combination of art and science, using professional judgment gained from experience, knowledge, education, intelligence, and intuition, and is informed by collaboration with subordinates, staffs, and commanders. Commanders answer questions such as "What's going on?" and "What's the real story?" to gain **understanding** of the context of the situation.

During the **visualize** component of planning and mission command, commanders visualize the desired end state – the broad statement of the desired conditions that describe success and how commanders want to transform existing conditions. The desired end state is determined through the commander's mental evaluation of what should be transformed in the environment, bounded by the mission variables (METT-TC), and informed by collaboration and dialogue with other commanders, staff, and stakeholders. Commanders address questions such as "What needs to change and what doesn't need to change?" and "What are the conditions needed for success?" to develop the desired end state.

Also during the **visualize** component of planning and mission command, commanders refine the problem statement and visualize the broad sequence of events by which the force will achieve that end state, or how to "bridge the gap" between what exists and what should exist by determining the operational approach. The operational approach determined by the

commander may include using tools such as developing key tasks or actions to be accomplished, the use of defeat or stability mechanisms, and potential lines of effort (more on these in later chapters). Commanders continue to use collaboration and dialogue as they determine the operational approach – the way the force will transform existing conditions into desired conditions. Commanders answer questions such as "How do we go from existing conditions to desired conditions?" and "What are the risks" as they develop the operational approach in framing the problem.

After commanders have framed the problem during **understanding** and **visualization**, they then describe their commander's visualization. This is done in a variety of ways, as described in Army doctrine:

Describe

After commanders visualize an operation, they describe it to their staffs and subordinates to facilitate shared understanding and purpose. During planning, commanders ensure subordinates understand their visualization well enough to begin course of action development. During execution, commanders describe modifications to their visualization resulting in fragmentary orders that adjust the original order. Commanders describe their visualization in doctrinal terms, refining and clarifying it as circumstances require. Commanders express their visualization in terms of—

- Commander's intent.
- Planning guidance, including an operational approach.
- Commander's critical information requirements.
- Essential elements of friendly information.[1]

Figure 5-1

Note that the description in Figure 5-1 includes four different components to describe the commander's visualization: the **commander's intent; planning guidance** (including the operational approach); information required for further planning (Commander's critical information requirements); and essential elements of friendly information.

The **commander's intent** is intended to answer the question "what is the force trying to accomplish and why?" with a focus on the end state.[2] The commander's intent is described as follows:

Commander's Intent – Army

The commander's intent succinctly describes what constitutes success for the operation. It includes the operation's purpose, key tasks, and the conditions that define the end state. It links the mission, concept of operations, and tasks to subordinate units. A clear commander's intent facilitates a shared understanding and focuses on the overall conditions that represent mission accomplishment. During execution, the commander's intent spurs disciplined initiative. The commander's intent must be easy to remember and clearly understood by leaders and Soldiers two echelons lower in the chain of command. The shorter the commander's intent, the better it serves these purposes. Commanders develop their intent statement personally using the following components: Expanded purpose; Key tasks; and End state. When describing the expanded purpose of the operations, the commander's intent does not restate the "why" of the mission statement. Rather, it addresses the broader purpose of the operations and its relationship to the force as a whole.[3]

Figure 5-2

Joint doctrine provides the following definition for the commander's initial intent:

Commander's Intent – Joint

The commander's initial intent describes the purpose of the operations, desired strategic end state, military end state, and operational risks associated with the campaign or operation. It also includes where the commander will and will not accept risk during the operation. It organizes desired conditions and the combinations of potential actions in time, space, and purpose. The JFC (*joint force commander*) should envision and articulate how military power and joint operations, integrated with other applicable instruments of national power, will dominate the adversary in reaching strategic success. It should help staff and subordinate commanders understand the intent for unified action using interorganizational coordination among all partners and other participants. Through his intent, the commander identifies the major unifying efforts during the campaign, the points and events where operations must dominate the enemy and control conditions in the operational environment, and where other instruments of national power will play a central role. The intent must allow for decentralized execution. It provides focus to the staff and helps subordinate and supporting commanders take actions to achieve the military end state without further orders, even when operations do not unfold as planned… Generally, the commander will write his own intent statement… While there is no specified joint format for the commander's intent, a generally accepted construct includes the purpose, end state, and operational risk.[4]

Figure 5-3

Planning guidance, along with the initial concept of operations, is the second component of how commanders describe their visualization. The planning guidance is designed to provide a broad and general outline of the commander's visualization to provide the basis for a detailed concept of operations to be developed by the staff – without dictating the specifics of the final plan.

Planning Guidance – Army

Commanders provide planning guidance to the staff based upon their visualization. Planning guidance must convey the essence of the commander's visualization, including a description of the operational approach. Effective planning guidance reflects how the commander sees the operation unfolding. It broadly describes when, where, and how the commander intends to employ combat power to accomplish the mission, within the higher commander's intent. Broad and general guidance gives the staff and subordinate leaders' maximum latitude; it lets proficient staffs develop flexible and effective options. Commanders use their experience and judgment to add depth and clarity to their planning guidance. They ensure staffs understand the broad outline of their visualization while allowing them the latitude necessary to explore different options. This guidance provides the basis for the concept of operations without dictating the specifics of the final plan. As with their intent, commanders may modify planning guidance based on staff and subordinate input and changing conditions.[5]

Figure 5-4

Joint doctrine has the following description of planning guidance:

Planning Guidance – Joint

Commanders describe their visualization of the forthcoming campaign or operations to help build a shared understanding among the staff. Enough guidance (preliminary decisions) must be provided to allow the subordinates to plan the action necessary to accomplish the mission consistent with commander's intent. The commander's guidance must focus on the essential tasks and associated objectives that support the accomplishment of the assigned national objectives. It emphasizes in broad terms when, where, and how the commander intends to employ military capabilities integrated with other instruments of national power to accomplish the mission within the higher JFC's (*joint force commander's*) intent…

Planning guidance can be very explicit and detailed, or it can be very broad, allowing the staff and/or subordinate commands wide latitude in developing subsequent COAs. However, no matter its scope, the content of planning guidance must be arranged in a logical sequence to reduce the chances of misunderstanding and to enhance clarity. Moreover, one must recognize that all the elements of planning guidance are *tentative* ***only***. The JFC may issue successive planning guidance during the decision-making process; yet the focus of the JFC's staff should remain upon the framework provided in the initial planning guidance. The JFC should continue to provide refined planning guidance during the rest of the plan development process as his understanding of the problem continues to develop.[6]

Figure 5-5

The third component of the commander's visualization is the identification of information required for further planning, or the **CCIR** (*Commander's Critical Information Requirements*). Obviously the commander will have information gaps in his knowledge – both from his own friendly side and from the enemy or adversary side. They key word is **critical** – this must be information that is necessary to make decisions focus collection efforts. Normally, commanders should identify no more than ten CCIRs.

CCIR – Army

A commander's critical information requirement is an information requirement identified by the commander as being critical to facilitating timely decisionmaking. The two key elements are friendly force information requirements and priority intelligence requirements (JP 3-0). A commander's critical information requirement (CCIR) directly influences decisionmaking and facilitates the successful execution of military operations. Commanders decide to designate an information requirement as a CCIR based on likely decisions and their visualization of the course of the operation. A CCIR may support one or more decisions. During planning, staffs recommend information requirements for commanders to designate as CCIRs. During preparation and execution, they recommend changes to CCIRs based on assessment. A CCIR is—

- Specified by a commander for a specific operation.
- Applicable only to the commander who specifies it.
- Situation dependent—directly linked to a current or future mission.
- Time-sensitive.[7]

Figure 5-6

The description of CCIR from joint doctrine is very similar to the Army description:

CCIR – Joint

CCIRs are elements of information that the commander identifies as being critical to timely decision making. CCIRs help focus information management and help the commander assess the operational environment and identify decision points during operations. CCIRs belong exclusively to the commander. They are situation-dependent, focused on predictable events or activities, time-sensitive, and always established by an order or plan. The CCIR list is normally short so that the staff can focus its efforts and allocate scarce resources. The CCIR list is not static; JFCs (*joint force commanders*) add, delete, adjust, and update CCIRs throughout an operation based on the information they need for decision making.[8]

Figure 5-7

There are two components of CCIR – **priority intelligence requirements (PIR)** and **friendly force intelligence requirements. (FFIR)**. A **priority intelligence requirement** is information that the commander and staff need to understand about the adversary or the operational environment, including information about the enemy, terrain and weather, and civil considerations that the commander considers critical.[9] A **friendly force intelligence requirement** is information that the commander and staff need to understand about friendly force and supporting capabilities, including information about the mission, troops and support available, and time available for friendly forces that the commander considers critical.[10] Together, these two components of CCIR consider all of the mission variables (METT-TC).

CCIR, however, doesn't just focus on the mission variables of METT-TC. As shown in figure 5-8, joint doctrine clearly indicates CCIR should also focus on the **operational variables** of PMESII.[11]

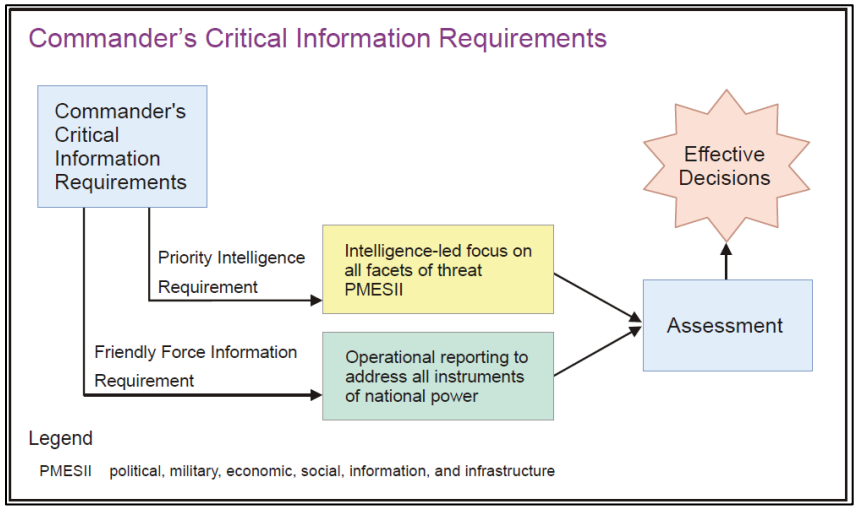


Figure 5-8

Joint doctrine also states that CCIRs support the commander's future decision requirements and are often related to assessment (measures of effectiveness and measures of performance – and that **PIRs** are often expressed in terms of the elements of **PMESII** while **FFIRs** are often expressed in terms of the **diplomatic, informational, military, and economic** (DIME) instruments of national power.[12] Taken together – both Army and Joint doctrine – CCIR should consider those questions the commander needs to support specific decisions… and those questions may be related to the mission variables (METT-TC), the operational variables (PMESII-PT), or to the instruments of national power (DIME).

Sometimes it is useful to think of CCIR in different terms; instead of thinking of **what must be collected** to support decisions, there should also be an acknowledgment of **what is not critical to collect on**. Time and resources are always limited; CCIR

not only tells you what must be collected to support decisions… it also tells you (by its omission) what is not critical or where there is risk in not knowing. In the perfect world, commanders and staff want to know everything, but there must be prioritization of effort based on what is truly **critical** for continued planning. Having ten or fewer CCIR takes discipline, but also allows collection efforts to be focused in their efforts to support critical decisions by the commander and staff. For this reason, CCIR should also be constantly reviewed and refined.

The fourth component of the commander's visualization is the identification of **essential elements of friendly information (EEFI)** that need to be protected:

EEFI – Army

An *essential element of friendly information* is a critical aspect of a friendly operation that, if known by the enemy, would subsequently compromise, lead to failure, or limit success of the operation and therefore should be protected from enemy detection. Although EEFIs are not CCIRs, they have the same priority. EEFIs establish elements of information to protect rather than ones to collect. Their identification is the first step in the operations security process and central to the protection of information.[13]

Figure 5-9

Joint doctrine does not identify the **essential elements of friendly information (EEFI)** as a critical component of the initial description of the commander's visualization, but does recognize the importance of identifying "capabilities of their own force and critical vulnerabilities that will require protection."[14]

There are situations, including time available and the complexity of the problem, when the **conceptual component** of

planning (design) and the **detailed component** (MDMP, the military decisionmaking process, and JOPP, the joint operations planning process) will take place as separate, but closely related planning efforts. Normally there is an "ebb and flow" between the conceptual and detailed component of planning – but this not always the case. Just as a commander may be able to use a "red team" to help with planning, there may also be a separate "design team" to develop the conceptual planning effort, led by the commander.

Design Interface with MDMP – Army

Depending on the situation—to include the familiarity of the problem—commanders conduct Army design methodology before, in parallel with, or after the MDMP. When faced with an unfamiliar problem or when developing initial plans for extended operations, commanders often initiate the Army design methodology before the MDMP. This sequence helps them better understand the operational environment, frame the problem, and develop an operational approach to guide more detailed planning. Commanders may also elect to conduct the Army design methodology in parallel with the MDMP. In this instance, members of the staff conduct mission analysis as the commander and other staff members engage in framing the operational environment and the problem. This focus helps commanders better understand aspects of the operational environment. The results of mission analysis (to include intelligence preparation of the battlefield and running estimates) inform commanders as they develop their operational approach that, in turn, facilitates course of action development during the MDMP.[15]

Figure 5-10

Joint doctrine describes such a situation where there was separate design planning prior to conducting the formal detailed planning:

Design Interface with JOPP – Joint

The commander provides a summary of his current understanding of the operational environment and the problem, along with his visualization of the operational approach, to the staff and to other partners through commander's planning guidance. **The commander may have been able to apply operational design to think through the campaign or operation before the staff begins JOPP**. In this case, the commander provides initial planning guidance to help focus the staff in mission analysis. If he has not had such an opportunity, he will be working his understanding and visualization as the staff conducts mission analysis. In this case, the commander will issue his planning guidance, as he sees appropriate, to help focus the staff efforts.[16]

Figure 5-11

In the situation described in the bolded part of figure 5-11, the commander may have had the opportunity to look at the "big picture" of the problem and the context of the problem – understanding the operational environment and developing the operational approach; the staff at the beginning of JOPP will conduct a mission analysis, framed by the commander's understanding, visualization, and initial description as provided through his planning guidance. This planning guidance provides a "bridge" between the conceptual component of planning and the detailed component.

There are times, however, when the formal Army design methodology is not conducted:

Time Constrained Environments - Design

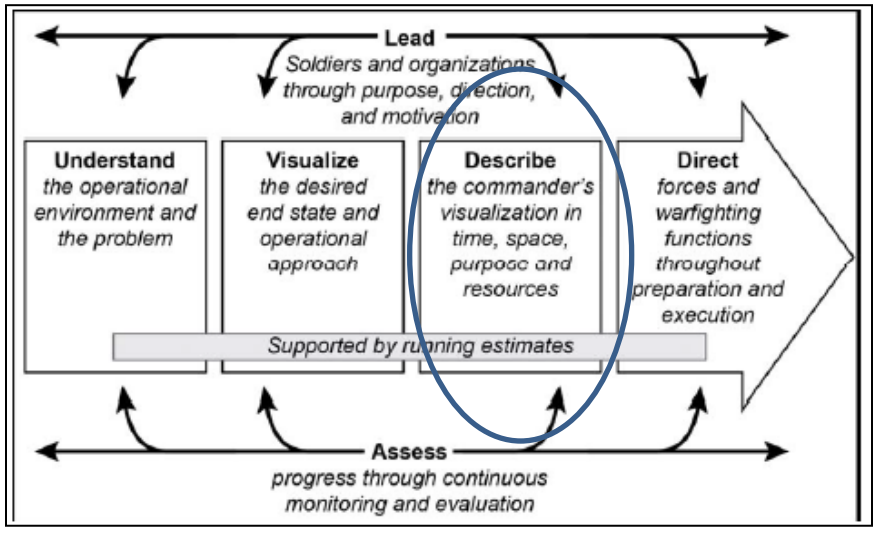
In time-constrained conditions requiring immediate action, or if the problem is familiar, commanders may conduct the MDMP and publish an operation order without formally conducting Army design methodology. As time becomes available during execution, commanders may then initiate Army design methodology to help refine their commander's visualization and the initial plan developed using the MDMP.[17]

Figure 5-12

There are a number of terms that are used when describing the design methodology such as **environmental frame** and **problem frame** that will be discussed in detail in a later chapter (chapter seven). The **mission narrative** is a product that will also be discussed in its own chapter (chapter eight). These terms describe some of the tools that are used in the Army design methodology to assist the commander in understanding, visualizing, and describing the operational approach to the problem.

Bottom line: The objective for the **describe** component for mission command and planning is for the commander to clearly communicate his understanding, visualization, and approach to addressing a problem. No amount of wisdom, insight, or experience means much unless it is communicated to those who need to know… the commander must be involved during the entire process and provide the description of his visualization. The design concept, commander's intent, planning guidance, and other products are intended to share the insight of the

commander with the staff and other stakeholders – to enable unity of effort.



Notes

1. ADP 5-0, paragraph 9.
2. ADP 5-0, paragraph 10.
3. ADRP 5-0, paragraphs 2-92 – 2-94.
4. JP 5-0, page III-17.
5. ADRP 5-0, paragraph 1-20- 1-21.
6. JP 5-0, page IV-16.
7. ADRP 5-0, paragraph 1-22.
8. JP 5-0, page IV-11.
9. ADRP 5-0, paragraph 1-25.
10. ADRP 5-0, paragraph 1-26.
11. JP 5-0, Figure IV-5.
12. JP 5-0, page IV-13.
13. ADRP 5-0, paragraph 1-27.
14. JP 5-0, page IV-21.
15. ADRP 5-0, paragraphs 2-61 – 2-62.
16. JP 5-0, page III-16.
17. ADRP 5-0, paragraph 2-63.

Chapter Six:
Exercising Collaborative Leadership

The previous chapters have addressed different components of planning as they relate to Mission Command – including understanding the context of the environment, visualizing the desired future conditions or desired end state, visualizing the broad operational concept to "bridge" the current context and the desired future conditions, and using the commander's visualization and planning guidance in describing the commander's intent and design concept.

While using the conceptual thinking tools of planning and Mission Command, there is a renewed emphasis on **collaboration and dialogue** – and throughout Army and joint doctrine, the terms collaboration, dialogue, debate, discourse, and discussion are used frequently to characterize the interaction commanders have with staff, subordinates, superiors, and other stakeholders. The design methodology, in particular, emphasizes the importance of **collaboration and dialogue**. Along this line, an interesting question was posed by one of my colleagues some time ago concerning this emphasis:

What Am I Missing?

My read of design is that **THE** fundamental feature that distinguishes design from engineering, construction, planning, etc. is this dialogue between designer and customer. Some might argue that many healthy commanders and staffs and components already do this.... What I heard in the discussion today reiterated the top-down visualization that we see in previous doctrine... What am I missing?

Figure 6-1

He had a good point; it's the commander's visualization – the commander's intent – and the commander is the central figure in planning. These concepts do, at times, foster a "top-down" approach to planning, with the commander being the sole source of information and wisdom. A draft Army publication from 2008 (that led to the incorporation of the design methodology) entitled *Commander's Appreciation and Campaign Design* addressed this concern:

The Flow of Understanding

Traditional planning processes implicitly assume that plans and orders from higher headquarters have framed the problem for their subordinates. *Commander's Appreciation and Campaign Design (CACD)* recognizes that orders flow from higher to lower, but understanding often flows from lower to higher, especially when operational problems are complex. In these cases, a commander is often in a better position than his superiors to understand the full scope of a complex operational problem. Thus, it is more likely that commanders at all levels will frame the problem themselves and then share their understanding with their superiors and subordinates. However, this does not mean that understanding will only flow upwards. Superiors usually have a wider perspective, which any understanding of an operational problem must take into account: where does this campaign or operation fit within the larger strategy? A significant goal of *Commander's Appreciation and Campaign Design (CACD)* is a shared understanding of complex problems. This requires battlefield circulation by higher commanders; candid discourse with superiors, subordinates, peers, and staff; and strategic thinking at all levels.[1]

Figure 6-2

The concept of the Commander's Appreciation and Campaign Design is still an important legacy for our understanding today for the Design Methodology – collaboration "flows" both from higher to lower, as well as lower to higher and to adjacent echelons of command. Commanders collaborate in a variety of ways, including battlefield circulation, communicating with other commanders, and interacting with staffs throughout the exercise of mission command to gain a shared understanding of complex problems.

Collaboration and Dialogue – Army

Throughout the operations process, commanders encourage continuous collaboration and dialogue among the staff and with unified action partners. Collaboration and dialogue aids in developing shared understanding throughout the force and with unified action partners. Collaboration is two or more people or organizations working together toward common goals by sharing knowledge and building consensus. Dialogue is a way to collaborate that involves the candid exchange of ideas or opinions among participants and that encourages frank discussions in areas of disagreement. Throughout the operations process, commanders, subordinate commanders, staffs, and unified action partners actively collaborate and dialogue, sharing and questioning information, perceptions, and ideas to better understand situations and make decisions.[2]

Figure 6-3

Years ago, I had the privilege of serving with a commander who would frequently go to staff briefings and inform all of the staff that he was "the smartest person in the room." He may or may not have been the smartest person, but he was undoubtedly

the most arrogant. The reaction of the staff was to give this commander just exactly what he wanted – no more, no less. As a result, the products were only as good as that commander was – and it could have been much better had the commander fostered collaboration and dialogue. He would have still been in charge as the commander, but he missed the opportunity to build a learning organization that encourages all to contribute. Army doctrine addresses this issue:

Building Learning Organizations – Army

Through collaboration and dialogue, the commander creates a learning environment by allowing participants to think critically and creatively and share their ideas, opinions, and recommendations without fear of retribution. Effective dialogue requires candor and a free, yet mutually respectful, competition of ideas. Participants must feel free to make viewpoints based on their expertise, experience, and insight; this includes sharing ideas that contradict the opinions held by those of higher rank. Successful commanders willingly listen to novel ideas and counterarguments concerning any problem.[3]

Figure 6-4

Joint doctrine also acknowledges that "the commander is the central figure in operational design," based on education, experience, judgment, and the requirement for decisions to guide the staff through the design process. This is even more important the more complex the situation, which requires the commander to play a critical role in the early stages of planning.[4] At the same time, commanders are also required to develop a learning organization to foster collaboration and dialogue:

Building Learning Organizations – Joint

Operational design requires the commander to encourage discourse and leverage dialogue and collaboration to identify and solve complex, ill-defined problems. To that end, the commander must empower organizational learning and develop methods to determine if modifying the operational approach is necessary during the course of an operation. This requires continuous assessment and reflection that challenge understanding of the existing problem and the relevance of actions addressing that problem.[5]

Figure 6-5

Exercising collaborative leadership also includes collaboration and dialogue with organizations not under the direct control of the commander – both "up and down" the echelons of military headquarters:

Collaboration Between Echelons – Army

When applying operational art, commanders and staff must create a shared understanding of purpose. This begins with open, continuous collaboration and dialogue between commanders at various echelons of command. Such collaboration and dialogue enables commanders to share an understanding of the problem and conditions of an operational environment. Effective collaboration facilitates assessment, fosters critical analysis, and anticipates opportunities and risk.[6]

Figure 6-6

The importance of coordinating with higher level headquarters is strongly emphasized in joint doctrine:

Collaboration with Higher Headquarters – Joint

In particular, commanders collaborate with their higher headquarters to resolve differences of interpretation of higher-level objectives and the ways and means to accomplish these objectives. Understanding the operational environment, defining the problem, devising a sound approach, and developing a workable solution are rarely achieved the first time. Strategic guidance addressing complex problems can initially be vague, requiring the commander to interpret and filter it for the staff. **While CCDRs (*combatant commanders*) and national leaders may have a clear strategic perspective of the problem, operational-level commanders and subordinate leaders often have a better understanding of specific circumstances that comprise the operational situation.** Both perspectives are essential to a sound solution. Subordinate commanders should be aggressive in sharing their perspective with their higher headquarters, and both should resolve differences at the earliest opportunity. While policy and strategic guidance clarify planning, it is equally true that planning offers clarity to policy formulation.[7]

Figure 6-7

This collaboration "up and down" through the military command should also include going "out" to nonmilitary organizations as stakeholders. This is particularly true in stability or counterinsurgency (COIN) operations, where operations utilize a comprehensive approach:

Comprehensive Approach

A *comprehensive approach* is an approach that integrates the cooperative efforts of the departments and agencies of the United States Government, intergovernmental and nongovernmental organizations, multinational partners, and private sector entities to achieve unity of effort toward a shared goal. A comprehensive approach is founded in the cooperative spirit of unity of effort. It is common in successful operations involving actors participating at their own discretion or present in the operational area but not acting as a member of a coalition. Integration and collaboration often elude the diverse array of actors involved; a comprehensive approach achieves unity of effort through extensive cooperation and coordination to forge a shared understanding of a common goal. A comprehensive approach is difficult to sustain but still critical to achieving success in an operation with a wide representation.[8]

Figure 6-8

Army doctrine emphasizes that collaboration with joint, interagency, and multinational partners is essential for success:

Collaboration, Coordination, and Cooperation

Army forces do not operate independently but as a part of a larger joint, interagency, and frequently multinational effort. Army leaders are responsible for integrating Army operations within this larger effort… Effective integration requires creating shared understanding and purpose through collaboration with all elements of the friendly force.[10]

Figure 6-9

Joint doctrine also identifies the need to include other stakeholders in the comprehensive approach during planning.

Unity of Effort

Unity of effort is essential to meet the complex challenges facing the US. The need to embrace the participation of interagency and multinational partners in the interest of a comprehensive, unified approach to operations is as important as the commander's effort to build a coherent operational approach. The commander must decide how and when to include other partners early in this effort, and understand that the resulting operational approach may, of necessity, be a consensus-based product.[10]

Figure 6-10

Perhaps most importantly is collaboration and dialogue with subordinate organizations; commanders and their staffs need to regularly interact with subordinate organizations to ensure that there is a shared understanding throughout planning and execution of operations.

Battlefield Circulation

Directly engaging subordinates and staffs allows commanders to motivate Soldiers, build trust and confidence, exchange information, and assess operations. Commanders understand and use human relationships to overcome uncertainty and chaos and maintain the focus of their forces. They communicate in a variety of ways, adjusting their communication style to fit the situation and the audience.[11]

Figure 6-11

This concept of battlefield circulation – face to face discussions with subordinate units – is critical for commanders to get a "feel" for how well these organizations understand the commander's intent, as well as receiving feedback with candor:

Collaboration with Subordinate Units

In many instances, a leader's physical presence is necessary to lead effectively. Commanders position themselves where they can best command without losing the ability to respond to changing situations. Commanders carefully consider where they need to be, balancing the need to inspire Soldiers with maintaining an overall perspective of the entire operation. The commander's forward presence demonstrates a willingness to share danger and hardship. It also allows commanders to appraise for themselves a subordinate unit's condition, including its leaders' and Soldiers' morale. Forward presence allows commanders to sense the human dimension of conflict, particularly when fear and fatigue reduce effectiveness. Commanders cannot let the perceived advantages of improved information technology compromise their obligation to lead by example, face-to-face with Soldiers.[12]

Figure 6-12

Gaining this shared understanding is essential in mission command; because greater understanding of the "reality on the ground" often flows from lower to higher echelons, this collaboration is essential.

So, to answer my colleague's concern at the beginning of this chapter, Design and Mission Command is not "top-driven," but

incorporates the process of collaboration and dialogue – up, down, and around – as a necessary component for commanders to understand and visualize.

Bottom line: Within a command, the commander is obviously "the central figure" in planning and execution, and the involvement of the commander is absolutely essential. Commanders draw on collaboration and dialogue to overcome the challenges of complexity, leveraging their knowledge, experience, judgment, and intuition to generate a clearer understanding of the conditions needed to achieve success. The commander has to create conditions to allow for staff and subordinates to participate in collaboration and dialogue – as well as discourse and debate – to inform planning and execution.

Establishing a Collaborative Environment

...Leaders are increasingly responsible for creating environments in which individuals and organizations learn from their experiences and for establishing climates that tap the full ingenuity of subordinates. Open channels of discussion and debate are needed to encourage growth of a learning environment in which experience is rapidly shared and lessons adapted for new challenges....[13]

Figure 6-13

Notes

1. CACD, paragraph 1-1.e.
2. ADRP 5-0, paragraph 1-43.
3. ADRP 5-0, paragraph 1-44.
4. JP 5-0, page III-2.
5. JP 5-0, page III-3.
6. ADRP 5-0, paragraph 4-5.
7. JP 5-0, page III-3.
8. FM 3-07, paragraph 1-20.
9. ADP 3-0, paragraph 26.
10. JP 5-0, page III-4.
11. ADRP 6-0, paragraph 2-72.
12. ADRP 6-0, paragraph 2-73.
13. FM 3-24, paragraph 7-46.

Chapter Seven:
Framing and Reframing

The previous chapter discussed the issue of exercising collaborative leadership in planning and mission command; this is a key element understanding the context of the environment, visualizing the desired future conditions / desired end state, refining the problem statement, visualizing the broad operational concept to "bridge" the current context and the desired future conditions, and using the commander's visualization and a planning directive in describing the commander's intent.

As mentioned earlier, conditions change as time moves on, and therefore future desired conditions should evolve accordingly as commanders reframe and refine their understanding of the operational environment as well as their understanding of the problem and determining the desired end state. This constant dynamic of changes in the environment, problem, and end state should also result in changes in the operational approach. These changes necessitate creating a "frame" of the environment and of the problem that is a "moving frame" or, in essence, a "running commander's estimate." **Framing** is defined in Figure 7-1:

Framing – Army

Framing is the act of building mental models to help individuals understand situations and respond to events. Framing involves selecting, organizing, interpreting, and making sense of an operational environment and a problem by establishing context… Framing facilitates constructing hypotheses, or modeling, that focuses on the part of an operational environment or problem under consideration. Framing provides a perspective from which commanders and staffs can understand and act on a problem.[1]

Figure 7-1

Again, framing, by necessity, limits your perspective. Just as a "timeframe" looks at just a certain span of time, framing is like a camera lens that only shows a certain view – there is more around the frame, but the focus is only within the frame. When you don't limit your planning frame, you have too much information to analyze; when you overly limit and focus the frame, there is the danger of missing important details. Too much information can result in "paralysis by analysis" whereas too little information can lead planners to solve the wrong problem because they can't see the real issue at hand. For this reason, it is essential to constantly review framing and to be willing to reframe as needed.

In Army doctrine, there are two different kinds of "frames" that commanders develop – framing the operational environment (**the environmental frame**) and framing the problem (**the problem frame**). The interaction between these two frames (using collaboration and dialogue) develops greater understanding to conceptualize the solution, or the operational approach.

Framing (and reframing) is a key concept for mission command and planning. The **design methodology** frames the operational environment, frames the problem, and considers operational approach to answer three key questions to foster organizational learning and to produce an actionable **design concept**:

- What is the context in which design will be applied? (understanding / framing the operational environment);
- What problem is the design intended to solve? (framing the problem); and
- What broad, general approach will solve the problem? (developing the operational approach)[2]

Figure 7-2 shows a depiction of this interaction between framing the operational environment, framing the problem, and

developing an operational approach that leads to the development of a plan.[3]

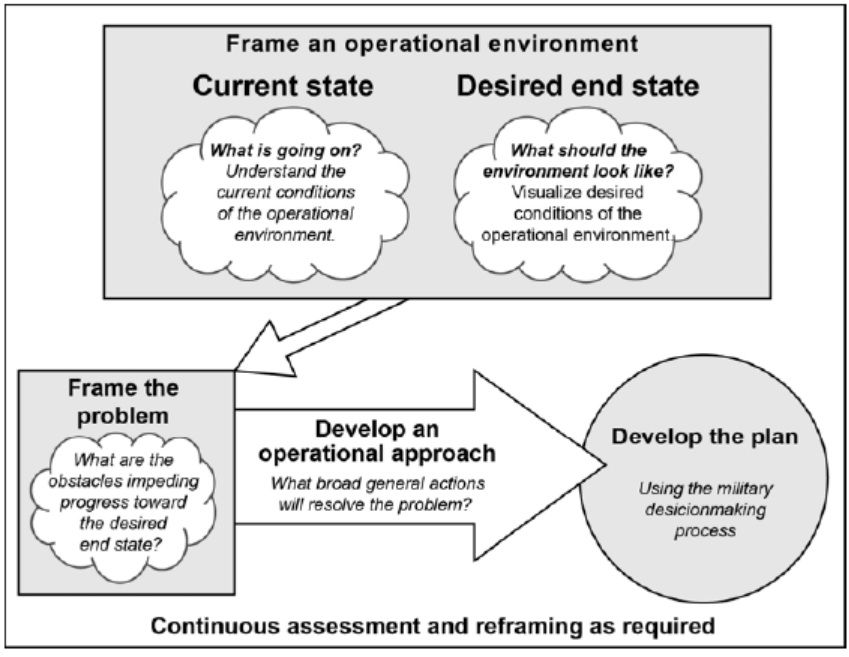


Figure 7-2

Conceptually, framing of the operational environment, framing the problem, and developing the operational approach is a nonlinear process. This is particularly true when considering the **tendencies** (how conditions are trending) and **potentials** (how conditions could turn out) of the future end state based on the competitive nature of the problem – the "give and take" of all actors in the operational environment will impact the operational approaches considered. This iterative process of framing and reframing the operational environment and the problem continues throughout the activities of the Army design methodology. Figure 7-3 depicts this interaction.[4]

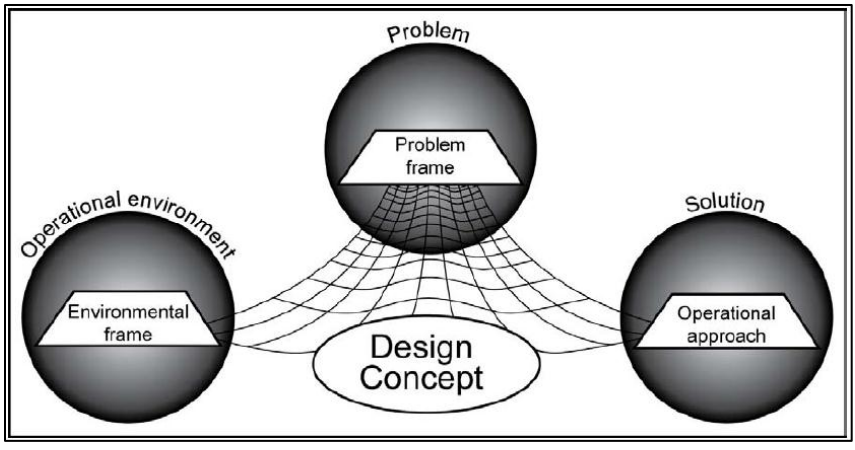


Figure 7-3

Framing to Develop the Operational Approach

Army design methodology entails framing an operational environment, framing a problem, and developing an operational approach to solve the problem. Army design methodology results in an improved understanding of the operational environment, a problem statement, initial commander's intent, and an operational approach that serves as the link between conceptual and detailed planning. Based on their understanding and learning gained during Army design methodology, commanders issue planning guidance, to include an operational approach, to guide more detailed planning using the MDMP… While planners complete some activities before others, the learning generated in one activity may require revisiting the learning derived in another activity. The movement between the activities is not entirely unidirectional, because what the commander, staff, and partners learn later will affect previous conclusions and decisions.[5]

Figure 7-4

The **environmental frame** is developed focusing on the operational variables (PMESII-PT), as well as the mission variables (METT-TC) within the context of the situation based on guidance and direction from higher authorities. The **environmental frame** should not just be "backwards looking," but should focus on how to change conditions to the desired end state. Developing the desired end state and conditions, determining relevant actors, and analyzing tendencies and potentials are important components of the environmental frame. Determining opportunities, challenges, and threats in the environment can be a useful construct for developing the environmental frame.

The Environmental Frame

In framing an operational environment, the planning team focuses on defining, analyzing, and synthesizing the characteristics of the operational and mission variables. Members of the planning team capture their work in an operational environmental frame (using narrative and visual models) that describes and depicts the history, culture, current state, relationships, and future goals of relevant actors in an operational environment. An operational environmental frame consists of two parts—the current state of the operational environment and the desired end state of the operational environment.[6]

Figure 7-5

The **problem frame** builds on the environmental frame, focusing on the tension, or the competitive nature of the problem. Problem framing involves understanding and isolating the symptoms, underlying tensions, and the root causes of conflict – getting to a greater understanding of the problem to ensure that the right problem is being solved.[7] The commander and staff should refine the problem statement ("how to…") in the

development of the **problem frame**. The problem frame is also communicated in text and graphics, articulating how the operational and mission variables can be expected to resist or support transformation to the desired end state.

The Problem Frame

Problem framing involves identifying and understanding those issues that impede progress toward the desired end state. The planning team frames the problem to ensure that they are solving the right problem, instead of solving the symptoms of the problem. Framing the problem involves understanding and isolating the root causes of conflict. The planning team closely examines the symptoms, the underlying tensions, and the root causes of conflict. Tension is the resistance or friction among and between actors. From this perspective, the planning team can identify the fundamental problem with greater clarity and consider more accurately how to solve it. A technique for framing the problem begins with two basic questions:

- What is the difference between the current state and the desired state of the operational environment?
- What is preventing US forces from reaching the desired end state?[8]

Figure 7-6

As discussed earlier, both the environment and the problem are dynamic, and not static. As a result, framing for both the environmental frame and the problem frame should be continually assessed and evaluated – and may, at times, be completely reframed based on changed conditions and objectives. This leads to several questions: When should a commander reframe? What should "trigger" a reframing of the problem?

Part of the answer rests in assessment. **Assessment** is defined as "process that evaluates changes in the environment and measures progress of the joint force toward mission accomplishment."[9] Assessment is a continuous activity throughout the operations process and includes monitoring the current situation to collect relevant information, evaluating progress toward attaining end state conditions, achieving objectives, and performing tasks, and recommending or directing action for improvement.[10] As a result of assessment, reframing may be necessary based on a number of conditions: the end state may evolve as an operation progresses, commanders may refine guidance, the operational environment's conditions might change, and situational understanding may increase. In any of these conditions, reframing may be required.

It is important to note that the process of reframing does not focus on "progress toward the end state," but instead may force a new visualization of the desired conditions for a different and updated end state or set of conditions. Assessment may indicate a requirement to begin a reframing effort and to develop a completely new plan based on changed conditions.[11]

Much of planning is based on hypotheses and assumptions; even the best staff will not have all of the answers. Assessment and evaluation should also continually review the hypotheses and the assumptions. When the hypotheses or assumptions are no longer valid, reframing may be required as well.[12] The process of reframing can take place at any time – during planning as well as during execution of operations. Understanding the importance and necessity at times to reframe preserves the ability to ensure that actions are linked to achieving the desired end state and is an important component of agility and adaptability while exercising mission command.[13]

Merely doing assessment doesn't "trigger" reframing; commanders should establish reframing criteria based on a number of factors:

Reframing Criteria

Reframing is the activity of revisiting earlier design hypotheses, conclusions, and decisions that underpin the current operational approach. In essence, reframing reviews what the commander and staff believe they understand about the operational environment, the problem, and the desired end state. At any time during the operations process, the decision to reframe may be triggered by factors such as—

- Assessment reveals a lack of progress.
- Key assumptions prove invalid.
- Unanticipated success or failure.
- A major event that causes "catastrophic change" in the operational environment.
- A scheduled periodic review that shows a problem.[14]

Figure 7-7

The concept of **reframing criteria** is not the same as the Commander's Critical Information Requirements, or CCIR, because CCIR support a commander's ability to act and are tied to decisions. In contrast, reframing criteria should support the commander's ability to understand, learn, and adapt – and reframe as necessary. Reframing criteria should "cue the commander to rethink his understanding of the operational environment, and hence rethink how to solve the problem(s)."[15]

As listed in figure 7-7, there are six different potential "triggers" for reframing criteria; three of these are highlighted below:

* **Assessment and Reflection**: Design requires the commander to lead adaptive work – the commander must lead the learning in an organization. This requires continual assessment, evaluation, and reflection that challenge how commanders understand the existing problem and the relevance of actions addressing that problem. Commanders and staff should continually assess and reflect on the problem, constantly asking the nagging question, "Are we solving the right problem?" This reflection should become apparent when you realize that "the enemy we're fighting is not the enemy we'd wargamed against."[16]

* **Catastrophic Events**: A major event causes a "catastrophic change" in the environment that necessitates reframing the problem. Examples would include the 9/11 attack, the attack in Samarra, and the Anbar Awakening... these events clearly changed the situation and required comprehensive reframing of the problem.

* **Periodic Review**: Commanders need to schedule a time where reframing takes place. At the strategic level, major OPLANS are normally reviewed every two years; at the operational and tactical level, Battle Update Assessments (BUAs) provide an opportunity to review "where you are and where you are going" on a regular basis. These periodic reviews can form an opportunity to reframe the problem through focused, deliberate action.

A fourth area to highlight that triggers reframing is the factor of unanticipated success or failure. Many will identify failures and obviously address the need to reframe, but it is equally important to reframe in the "wake of success" that is unanticipated. Success transforms the environment, creating unforeseen opportunities to exploit the initiative. Organizations are strongly motivated to

reflect and reframe following failure, but they tend to neglect reflection and reframing following successful actions.

Back to the earlier questions: When should a commander reframe? What should "trigger" a reframing of the problem? The answer is obvious -- commanders should be prepared to reframe constantly; as a mental process, commanders should be asking questions throughout planning and operations such as:

- What's the real story right now? Has this changed?
- What are the strengths and weaknesses of the actors? Has this changed?
- What are the opportunities, challenges, and threats? Has this changed?
- What are the conditions needed for success? Has this changed?
- How do we go from existing conditions to desired conditions? Has this changed?
- What else can happen? Has this changed?
- What are the risks? Has this changed?

Commanders may want to develop "reframing criteria" – measures that indicate when there has been significant change that should force reframing. Establishing these measures will require practice and discipline, because the normal tendency will be to continue to "fight the plan" rather than conditions.

As previously discussed, commanders may also use the "red-team" concept to ask these questions to determine if the command is framing the right problem. Commanders also seek expertise outside the military such as civilian academics to help them to determine if reframing is necessary in order to accomplish the mission better. Integrating this concept into an organization may be difficult because it requires a change in mindset to stay adaptive and flexible – but this change in mindset is essential for success.

Bottom line: There are two different kinds of "frames" that commanders develop – framing the operational environment (**the environmental frame**) and framing the problem (**the problem frame**). The interaction between these two frames (using collaboration and dialogue) develops greater understanding to develop the solution, or the operational approach. Commanders must be willing to reframe constantly to ensure that the focus is on the right problem.

Notes

1. ADRP 5-0, paragraphs 2-25 – 2-26.

2. ATTP 5-0.1, paragraph 4-5.

3. ADRP 5-0, Figure 2-2.

4. FM 5-0, Figure 3-1. ATTP 5-0.1 uses the term “design concept,” although the term does not appear in ADRP 5-0.

5. ADRP 5-0, paragraphs 2-30 – 2-32.

6. ADRP 5-0, paragraph 2-33.

7. ADRP 5-0, paragraph 2-41 – 2-42.

8. ADRP 5-0, paragraph 2-42.

9. JP 3-0, page II-9.

10. ADRP 5-0, paragraph 5-3.

11. ADRP 5-0, paragraph 4-30.

12. JP 5-0, page D-5.

13. ADRP 5-0, paragraph 2-51.

14. ADRP 5-0, paragraph 2-50.

15. CACD, paragraph 3-1.d.(3)(c).

16. Atkinson, page 176.

Chapter Eight:
Developing the Narrative

Army and joint doctrine emphasize the importance of information in the operational environment. For planning and executing operations, it is essential to communicate broadly with stakeholders through **collaboration and dialogue**. Information as a tool has an even broader application:

Information as a Tool

Information enables commanders at all levels to make informed decisions on how best to apply combat power. Ultimately, this creates opportunities to achieve definitive results. Knowledge management enables commanders to make informed, timely decisions despite the uncertainty of operations. Information management helps commanders make and disseminate effective decisions faster than the enemy can. Every operation requires complementary tasks of inform and influence activities that affect the commander's intent and concept of operations. Every operation also requires cyber electromagnetic activities. These activities ensure information availability, protection, and delivery as well as a means to deny, degrade, or disrupt the enemy's use of its command and control systems and other cyber capabilities. Commanders use information and a mission command system to understand, visualize, describe, and direct operations.[1]

Figure 8-1

Joint doctrine also notes that "the strategic environment is characterized by uncertainty, complexity, and rapid change, which requires persistent engagement."[2] To enable this "persistent engagement," a number of "common operating precepts" are outlined for all operations:

Common Operating Precepts

- Inform domestic audiences and influence the perceptions and attitudes of key foreign audiences as an explicit and continuous operational requirement.
- Achieve and maintain unity of effort within the joint force and between the joint force and US Government, international, and other partners.
- Leverage the benefits of operating indirectly through partners when strategic and operational circumstances dictate or permit.
- Integrate joint capabilities to be complementary rather than merely additive.
- Avoid combining capabilities where doing so adds complexity without compensating advantage.
- Focus on operational objectives whose achievement suggests the broadest and most enduring results.
- Ensure freedom of action.
- Maintain operational and organizational flexibility.
- Plan for and manage operational transitions over time and space.
- Drive synergy to the lowest echelon at which it can be managed effectively.[3]

Figure 8-2

Note that the first two "common operating precepts" – to "inform domestic audiences and influence the perceptions and attitudes of key foreign audiences as an explicit and continuous operational requirement" and to "achieve and maintain unity of effort within the joint force and between the joint force and US

Government, international, and other partners" – require active engagement. The Army used to call this process **information engagement**, but that term has now been rescinded in favor of the new and improved term of **inform and influence activities**.[4]

Inform and Influence Activities

Inform and influence activities **is the integration of designated information-related capabilities in order to synchronize themes, messages, and actions with operations to inform United States and global audiences, influence foreign audiences, and affect adversary and enemy decisionmaking.** As a primary staff task under mission command, conduct inform and influence activities aids the commander to inform domestic and friendly audiences. It enables the commander to develop and maintain relationships with partners and influence adversary and enemy decisionmaking to gain an operational advantage. All assets and capabilities at a commander's disposal have the capacity to inform and influence audiences at varying degrees. Called information-related capabilities, these tools and techniques use a dimension within an information environment to generate a desired end state. When properly integrated, information-related capabilities enhance and reinforce mission objectives, giving the commander an information advantage.[5]

Figure 8-3

When conducting planning and operations, it is critical to understand the importance of communicating to <u>all</u> audiences – there will be a message received, and ensuring that this message is the intended message should be a deliberate activity:

Synchronizing Information with Operations

Commanders use inform and influence activities to ensure actions, themes, and messages compliment and reinforce each other to accomplish objectives. *Inform and influence activities* are the integration of designated information-related capabilities in order to synchronize themes, messages, and actions with operations to inform United States and global audiences, influence foreign audiences, and affect adversary and enemy decisionmaking. An information theme is a unifying or dominant idea or image that expresses the purposes for an action. A message is a verbal, written, or electronic communication that supports an information theme focused on an audience. It supports a specific action or objective. Actions, themes, and messages are inextricably linked. Commanders use inform and influence activities to ensure actions, themes, and messages compliment and reinforce each other and support operational objectives. They keep in mind that every action implies a message, and they avoid apparently contradictory actions, themes, or messages. Throughout operations, commanders inform and influence audiences, both inside and outside of their organizations.[6]

Figure 8-4

One of the components of the Design Concept that was discussed in Chapter Five ("Describe") was the **mission narrative**. The concept of narrative construction – to "tell a story" – is a relatively new concept in doctrine, although the terms and definitions have been evolving over the past few years. The initial definition of the **mission narrative** was developed for a draft doctrinal publication from 2009 – and, although this definition has not survived the editing process for current doctrine, the definition does provide some insight into the concept.

"Mission Narrative" Initial Definition (2009)

A mission narrative is a single narrative statement made by the commander, published within base plans, articulating the conditions, opportunity, key actions and payoffs associated with a particular mission. The mission narrative is constructed for the purposes of providing common 'azimuth' for subordinate Army forces and Soldiers to communicate effectively and accurately to critical publics and actors. Mission Narratives ideally arise from a collaborative effort that truthfully and accurately reflects what the mission itself is likely to communicate or signal to those publics observing it. Since any mission's success is largely dependent on the 'story' it communicates, prospective mission narratives may be used as criteria on which to evaluate the feasibility, suitability, acceptability, and distinguishability of specific courses of action. At the operational level, the mission narrative is expressed as the campaign narrative.[7]

Figure 8-5

The concept of the **mission narrative** is distinct from the **commander's intent**; the commander's intent focuses on internal actions of the force and addresses the components of "what" and "so what" with key tasks, end state, and purpose. The commander's intent guides subordinates in knowing what they have to do (key tasks), why they are doing it (purpose), what success looks like (end state), and how actions fit into the larger plan (linkage).

The **mission narrative** instead focuses on the external audiences, emphasizing the "payoff" from their perspective. The "mission narrative" addresses the components of "which means" and "therefore," focusing on perceptions, attitudes, beliefs, and

behaviors of external audiences. Subordinates' actions are guided by the "mission narrative" (just as they are guided by the commander's intent), but the "mission narrative" is intended to look at how key actions and their payoffs are perceived "in the shoes" of external audiences observing those actions.

The current Army planning doctrine no longer defines a specific product of the mission narrative; the definition that existed for the mission narrative from previous doctrine is in Figure 8-6:

Mission Narrative (2011)

The mission narrative is the expression of the operational approach for a specified mission. It describes the intended effects for the mission, including the conditions that define the desired end state. The mission narrative represents the articulation, or description, of the commander's visualization for a specified mission and forms the basis for the concept of operations developed during detailed planning. An explicit reflection of the commander's logic, it is used to inform and educate the various relevant partners whose perceptions, attitudes, beliefs, and behaviors are pertinent to the operation. It also informs development of supporting information themes and messages for the mission and serves as a vital tool for integrating information engagement tasks with other activities during execution.[8]

Figure 8-6

Army and joint doctrine are constantly being revised to incorporate lessons from current operations – and the doctrine for the concept of the mission narrative is no exception. The draft doctrinal publications have broadened the approach to discuss **narrative construction** instead of just describing the **mission narrative** as a component of the design concept.

Narrative Definition

…A narrative is a story constructed to give meaning to things and events. Individuals, groups, organizations, and countries all have narratives with many components that reflect and reveal how they define themselves. Political parties, social organizations, and government institutions, for example, all have stories bound chronologically and spatially. They incorporate symbols, historical events, and artifacts tied together with a logic that explains their reason for being. To narrate is to engage in the production of a story–an explanation of an event or phenomenon by proposing a question or questions in relation to the artifacts themselves. These questions may include—

- What is the meaning of what I see?
- Where does the story begin and end?
- What happened, is happening, and why?[9]

Figure 8-7

The draft doctrine does emphasize that narrative construction is a conscious, deliberate activity that relates directly to framing.

Narrative Construction

Narrative construction—the conscious bounding of events and artifacts in time and space—is central to framing. Commanders, staffs, and unified action partners construct a narrative to help understand and explain the operational environment, the problem, and the solutions. Not only is the narrative useful in communicating to others, the act of constructing the narrative itself is a key learning event for the command.[10]

Figure 8-8

By constructing a narrative, a commander is providing insight into his focus (the frame) as well as his operational approach to a problem. This narrative is complementary to the commander's intent, and is told as a story that provides insight into the conditions in the environment, the opportunities that exist, the approach to the problem, and finally (and most importantly to most stakeholders) the potential payoffs for actions. Figure 8-9 provides my proposed definition for the mission narrative – the narrative construction that relates directly to planning and the design concept:

"Mission Narrative" – Proposed Definition

The Mission Narrative is a single narrative statement made by the commander that articulates conditions, opportunities, key actions and potential payoffs associated with a particular mission. At the campaign level, the mission narrative is described as the campaign narrative. The mission narrative is developed to provide a common 'azimuth' to communicate effectively and accurately to external audiences, whose perceptions, attitudes, beliefs, and behaviors are relevant to the unit's mission. Mission Narratives should be developed from a collaborative effort that truthfully and accurately reflects what the mission itself is likely to communicate to those external audiences. Since any mission's success is largely dependent on the 'story' it communicates, mission narratives should be analyzed as part of the evaluation process when comparing specific courses of action.

Figure 8-9

Developing a **mission narrative** should be an essential component of mission command and planning, drawn heavily on

collaboration and dialogue, as well as the insight that is developed from the interaction between the environmental frame and the problem frame that results in the operational approach. The mission narrative should also be unclassified to enable all stakeholders (including the public) to gain insight into the operation.

Using the construct of conditions, opportunities, key actions and potential payoffs, the figure below shows the general construction of a **mission narrative**:

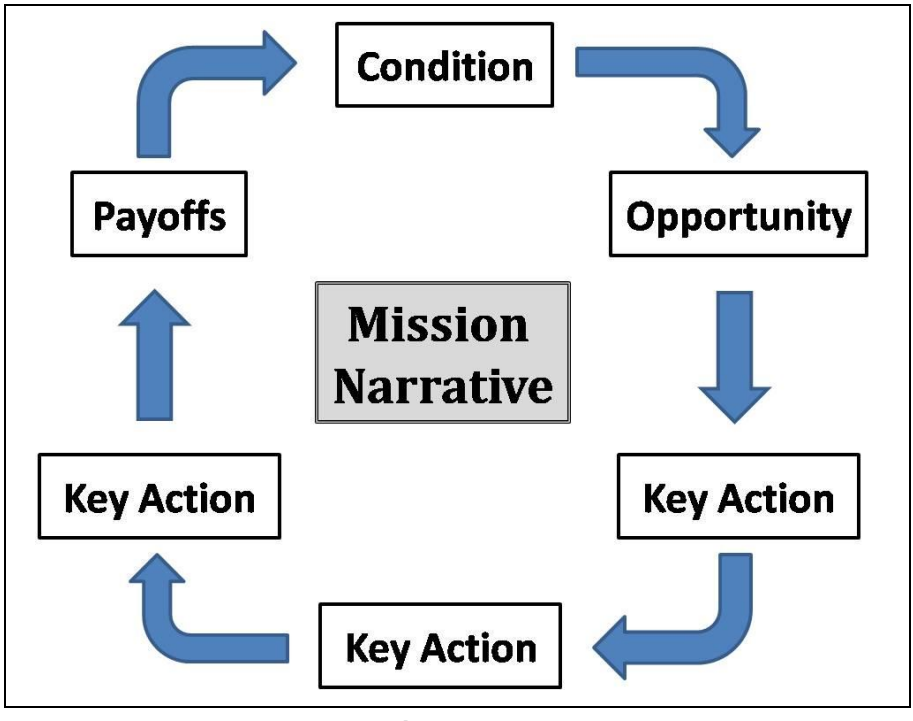


Figure 8-10

Figure 8-10 provides a schematic to provide "a way" to develop a **mission narrative**. The "mission narrative" should consist of a series of statements of 150 words or less that can be

communicated in no more than a minute. The start point for the "mission narrative" should be a statement of the current conditions (informed by the commander's understanding of the environment and easily understood by listeners). Based on these conditions, there should be a statement of the opportunities that are presented by the environment that permit change and transformation to better conditions (the desired end state). In response to these opportunities, there will be a number of key actions that will be observed by external audiences. These actions will result in different payoffs – for some audiences, the payoffs will be positive; for others (primarily adversaries), the payoffs will be negative. The payoffs will result in a new set of conditions – the transformed environment (the desired end state).

They key component in the **mission narrative** – the important part of the "story" – is in communicating the payoff for external audiences.

President Obama's 2009 Inaugural Address provides an example narrative construction. Excerpts from his address have the components of the mission narrative:

> ...Our nation is at war against a far-reaching network of violence and hatred... (**Conditions**)
>
> ...earlier generations faced down fascism and communism not just with missiles and tanks, but with the sturdy alliances and enduring convictions. ...we can meet those new threats that demand even greater effort, even greater cooperation and understanding between nations... (**Opportunities**)
>
> We will begin to responsibly leave Iraq to its people and forge a hard-earned peace in Afghanistan. With old friends and former foes, we'll work tirelessly to lessen the nuclear threat, and roll back the specter of a warming planet. (**Key Actions**)

> ...For those who seek to advance their aims by inducing terror and slaughtering innocents...you cannot outlast us, and we will defeat you; To those leaders around the globe who seek to sow conflict, or blame their society's ills on the West, know that your people will judge you on what you can build, not what you destroy; To those who cling to power through corruption and deceit and the silencing of dissent, know that you are on the wrong side of history, but that we will extend a hand if you are willing to unclench your fist...; To the people of poor nations, we pledge to work alongside you to make your farms flourish and let clean waters flow; to nourish starved bodies and feed hungry minds... (**Payoffs**)

Bottom line: A narrative is a story constructed to give meaning to things and events; Narrative construction—the conscious bounding of events and artifacts in time and space—is central to framing. By constructing a narrative, a commander is providing insight into his focus (the frame) as well as his operational approach to a problem. This narrative is complementary to the commander's intent and is told in a narrative – or story – that provides insight into the conditions in the environment, the opportunities that exist, the approach to the problem, and finally (and most importantly to most stakeholders) the potential payoffs for actions.

Today's Challenge

"...today's challenge is to develop another generation of soldiers equally skilled in the narrative arts. Skill at feeding the narrative is no longer a contributor to achieving strategic success in irregular war. It is in fact the principal determinant, and the psychological center of gravity, for shaping the perceptions and influencing the will of the population. The "area of operations" concept has given way to a narrative stream defined by the global media. While the narrative stream is neutral, who occupies and exploits it is not. In the end, "ground truth" or actual battlefield conditions will prevail. In this new American era of warfare, however, the art of feeding the operational narrative requires skill in maneuvering across the expanse of human perception rather than an expanse of territory."[11]

MG (Ret) Robert H. Scales

Figure 8-11

Notes

1. ADRP 5-0, paragraph 3-5.
2. JP 3-0, page I-2.
3. JP 3-0, figure I-2.
4. ADP 3-0, paragraph 62.
5. ADRP 5-0, paragraphs 3-12 – 3-12.
6. ADRP 6-0, paragraph 3-11 – 3-13.
7. FM 3-13 (ID), paragraph 6-31.
8. FM 5-0, paragraph 3-66.
9. ADRP 5-0, paragraph 2-27.
10. ADRP 5-0, paragraph 2-28.
11. Scales, page 21.

Part II:
Planning for Action Tools

Now that you've mastered the foundational concepts for planning in the previous eight chapters, it's now time to get more into the details. The next seven chapters will focus on some of the specific tools and processes that are used in campaign planning.

Chapter nine will focus on the concept of **centers of gravity** – the sources of power that provide moral or physical strength. We'll look at how this concept has evolved over time, and how this can assist in directing actions – both in how to attack an opponent's centers of gravity as well as the necessity of protecting friendly centers of gravity.

Chapter ten will address how to focus a commander's visualization and operational approach from the initial guidance into a **distinct course of action**. During this chapter, we'll also discuss the concept of screening criteria to ensure that developed courses are valid, or that they can accomplish the mission. We will go into detail as well on defeat and stability mechanisms. Finally, this chapter will provide a methodology on developing courses of action that are distinct and distinguishable.

Chapter eleven discusses a common approach for developing courses of action - **lines of effort**. Using lines of effort enable commanders to link multiple tasks and mission with a logic of purpose to gain unity of effort – with all of the lines of effort leading to the desired end state. This chapter will also provide some examples of lines of effort, including using lines of effort for operations focused on integrating stability and civil support tasks.

Chapter twelve is focused on analyzing centers of gravity using **critical factor analysis** – the process of identifying critical capabilities, critical requirements, and critical vulnerabilities. This

approach of critical factor analysis should assist commanders and staff in directing actions that are directed at an opponent's centers of gravity – and ultimately lead to the attainment of the desired end state.

Chapter thirteen addresses a similar process for planning and targeting – **target value analysis**. Target value analysis results in identifying high payoff targets that, when attacked, support the friendly scheme of maneuver. In this chapter we'll also discuss a systems approach to targeting – the "Warden five rings."

Chapter fourteen looks at **wargaming**, which addresses the question "does the solution answer the problem?" Wargaming, as a critical component of course of action analysis, is hard to do at the tactical level, and even harder at the operational level. This chapter will provide some potential approaches to conduct a war game for operational level campaign plans. The distinction between **screening criteria** and **evaluation criteria** will also be discussed in this chapter.

Chapter fifteen discusses **assessment**, focusing on measures of effectiveness (MOEs) and measures of performance (MOP). Using MOEs and MOPs in campaign design is critical to provide insight into how well actions are translating into effects – as well as providing insight into potential reframing requirements.

Chapter sixteen – the "**parting thoughts**" and final chapter in the book – provides a summary of the key points from all of the previous chapters in the book.

Chapter Nine:
Centers of Gravity

One of the most important concepts that can be useful for planning is the analysis of **centers of gravity** (COGs), – including the analysis for both friendly and adversary sides. The concept of **centers of gravity** has been around for quite some time, but the definition has evolved from the initial definition from Clausewitz.

Center of Gravity – Joint Definition

A COG is a source of power that provides moral or physical strength, freedom of action, or will to act. It is what Clausewitz called "the hub of all power and movement, on which everything depends…the point at which all our energies should be directed." An objective is always linked to a COG. There may also be different COGs at different levels, but they should be nested. At the strategic level, a COG could be a military force, an alliance, political or military leaders, a set of critical capabilities or functions, or national will. At the operational level, a COG often is associated with the adversary's military capabilities—such as a powerful element of the armed forces—but could include other capabilities in the operational environment. In identifying COGs it is important to remember that irregular warfare focuses on legitimacy and influence over a population, unlike traditional warfare, which employs direct military confrontation to defeat an adversary's armed forces, destroy an adversary's war-making capacity, or seize or retain territory to force a change in an adversary's government or policies. Therefore, in an irregular warfare environment, the enemy and friendly COG will most likely be the same population.[1]

Figure 9-1

As described in the joint doctrine definition from figure 9-1, Clausewitz described a **center of gravity** as "the hub of all power and movement, on which everything depends . . . the point at which all our energies should be directed." The concept of the COG described as "the hub of movement" is not particularly useful today, which is why the focus has shifted to defining COGs as the "source of power." Heavy packages or equipment will have a COG, but that does not tell you where the power is or where you can deliver a knockout blow. A running back in football may have a "low COG," but you can take him out every time if you hit his knees. His knees are not really the COG, even though they may appear to be the hub of movement for the tackler.

Clausewitz's focus was on determining enemy centers of gravity – but the concept applies to friendly forces as well as adversaries because of the competitive nature of the problem – the competitive "clash of wills" between different sides working to attain different end states. Both sides are attempting to achieve their objectives, and both sides will try to prevent the other side by attacking centers of gravity:

The Clash of Wills

COGs exist in an adversarial context involving a clash of moral wills and/or physical strengths. They are formed out of the relationships between adversaries, and they do not exist in a strategic or operational vacuum. COGs are framed by each party's view of the threats in the operational environment and the requirements to develop/maintain power and strength relative to their need to be effective in accomplishing their objectives. Therefore, commanders not only must consider the enemy COGs, but they also must identify and protect their own.[2]

Figure 9-2

Joint doctrine also identifies the importance of analyzing COGs in operational design for both friendly and adversary forces:

Analysis of COGs – Joint

Analysis of friendly and adversary COGs is a key step in operational design. Joint force intelligence analysts identify adversary COGs, determining from which elements the adversary derives freedom of action, physical strength (means), and the will to fight. The J-2, in conjunction with other operational planners, then attempts to determine if the tentative or candidate COGs truly are critical to the adversary's strategy. This analysis is a linchpin in the planning effort. Others on the joint force staff conduct similar analysis to identify friendly COGs. Once COGs have been identified, JFCs and their staffs determine how to attack enemy COGs while protecting friendly COGs. The protection of friendly strategic COGs such as public opinion and US national capabilities typically requires efforts and capabilities beyond those of just the supported CCDR. An analysis of the identified COGs in terms of critical capabilities, requirements, and vulnerabilities is vital to this process.[3]

Figure 9-3

Army doctrine has a slightly different definition for a **center of gravity** from joint doctrine; rather than defining a center of gravity as "a source of power" the Army defines a center of gravity as "the source of power." The Army definition also emphasizes that the analysis of the center of gravity is a focus point for planning and that the loss of a center of gravity ultimately results in defeat:

Center of Gravity – Army Definition

A center of gravity is the source of power that provides moral or physical strength, freedom of action, or will to act (JP 3-0). This definition states in modern terms the classic description offered by Clausewitz: "the hub of all power and movement, on which everything depends." The loss of a center of gravity ultimately results in defeat. The center of gravity is a vital analytical tool for planning operations. It provides a focal point, identifying sources of strength and weakness.[4]

Figure 9-4

Dr. Joe Strange, formerly from the US Marine Corps War College, developed an approach to identifying and addressing centers of gravity, which will be discussed in a later chapter.[5] The modified definition for **centers of gravity** in figure 9-5 draws heavily upon the work of Dr. Strange.

Centers of Gravity – Modified Definition

Physical or moral entities that are **the primary** components of physical or moral strength, power, and resistance. They do not just contribute to strength; they **are** the strength. They offer resistance. They strike effective (or heavy) physical or moral blows. At the strategic level they are usually leaders and populations determined to prevail. At the operational level they are almost invariably specific military or insurgent forces. Generally, there is no COG at the tactical level; it has decisive points.

Figure 9-5

Dr. Strange goes even further than the Army definition; he doesn't describe a center of gravity as a "source of power" but instead as the power and strength, which is always described as a noun.

The Army has recognized the evolution of the concept of the center of gravity as part of the operational environment, which may be "dynamic and related to human factors." The Army has also recognized that addressing a center of gravity may take more than military means alone:

Understanding Centers of Gravity

Centers of gravity are not limited to military forces and can be either physical or moral. They are part of a dynamic perspective of an operational environment. Physical centers of gravity, such as a capital city or military force, are typically easier to identify, assess, and target. They can often be influenced solely by military means. In contrast, moral centers of gravity are intangible and more difficult to influence. They can include a charismatic leader, powerful ruling elite, religious tradition, tribal influence, or strong-willed populace. Military means alone usually prove ineffective when targeting moral centers of gravity. Affecting them requires the collective, integrated efforts of all instruments of national power.[6]

Figure 9-6

From a planning perspective, one purpose for determining the COG is to discern where the real power is and where a knockout blow can take the enemy out, or at least bring the enemy to a culminating point where he ceases to be effective. At the strategic level this is almost always the population that is resolved to win or the leader who is leading out ahead of the population with firm

resolve and dedication. It is important to note that a leader as a strategic COG may be only true in certain societies; the population in terms of "national will" may be a COG only if the society allows the population a voice. This distinction of the leader rather than population begs the "chicken-egg" argument with a big gray area, but it is still useful to analyze and determine from a planning perspective which of the two is the strategic COG.

An example of the importance of identifying the leader rather than population as the strategic center of gravity is the case of Prime Minister Winston Churchill and the British population at the beginning of World War II:

> ***"We shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender."***[7]
>
> —Winston Churchill, 1940

Figure 9-7

During World War II the strategic COG for Great Britain was arguably Prime Minister Winston Churchill. The population was dedicated to the cause, but the prime minister was out front, committed, and urged the British people to never surrender and to look forward to the future. His urgings held the country together during what some felt was their darkest hour, while Churchill considered it to be their finest hour. Although the British were determined to prevail with the strong support of the United States as an ally, Churchill's was the voice that kept the British encouraged and resolved at every step. In 1940, before the United States' commitment to the war and after the evacuation from Dunkirk, Churchill rallied the British people.

At the beginning of Operation Enduring Freedom (OEF) in Afghanistan, the friendly COG for the United States was arguably former President George W. Bush. After the 11 September 2001 (9/11) attacks on the World Trade Center and the Pentagon, former President Bush showed a level of resolve and determination that enabled the fight to continue. Other leaders in the United States at that time could have continued the fight, but probably not with the same level of support that Bush had in the early stages of OEF in Afghanistan and in the early stages of Operation Iraqi Freedom (OIF) in Iraq. His will and determination was the source of power. Even though many in the United States were not totally committed to fighting a long, protracted war on terrorism, Bush personally demonstrated the determination and resolve that sustained support for the war in the early stages – and, at during the latter part of his administration with the decision to move forward with the "surge strategy." Like Churchill, Bush's will and firmness was ahead of the population, urging the people of the United States to remain committed.

The enemy strategic COG in the global war on terrorism, after the 9/11 attacks, was considered to be Osama bin Laden or the Middle Eastern terror groups centered on al-Qaeda. This was the core; these were the "physical or moral entities that were the primary components of physical or moral strength, power and resistance." If the United States had been able to "take out" al-Qaeda and the associated terrorist organizations, it would have given the enemy a knockout blow. There may have been other entities that would have caused problems, but they would be greatly weakened and ineffective. Some would argue that the COG was (and has become) a radical fundamental ideology or the many loosely aligned radical terrorist groups, but the spark—the driving force—for this ideology to fight against the United States initially was Osama bin Laden and al-Qaeda.

For the initial stages of Operation Iraqi Freedom (OIF), the friendly strategic COG shifted to domestic and international will

and the solidarity of the "coalition of the willing." The enemy strategic COG for Iraq was Saddam Hussein and his regime. The COG shifted as the focus of the operation shifted after the fall of the regime; the enemy COG became the resolve of sectarian and insurgent fighters to succeed, which no doubt still included some of the leaders of the former regime. With Saddam Hussein out of the picture, the COG for the enemy did indeed shift to other entities and other sources of power. The friendly COG shifted to a domestic and international will, supported by the "surge" in order to buy time for the COG to shift to the Iraqi government capacity as they obtained full sovereignty in Iraq.

Today, after extraordinary costs, we are bringing the Iraq war to a responsible end. We will remove our combat brigades from Iraq by the end of next summer, and all of our troops by the end of 2011. That we are doing so is a testament to the character of the men and women in uniform. Thanks to their courage, grit and perseverance, we have given Iraqis a chance to shape their future, and we are successfully leaving Iraq to its people.[8]

—President Barack Obama, 1 December 2009

Figure 9-8

At the operational level the COG is almost invariably specific military or insurgent forces.[9] Because the operational level of war is more fluid and subject to changes, the COG at the operational level is more likely to change over time. During Operation DESERT STORM (1990-91) and Operation Iraqi Freedom (OIF) the enemy COG for the Iraqis was the premier Iraqi military force, the Republican Guard. During OIF, however, this quickly shifted to the paramilitary forces, the Saddam Fedayeen—the enemy that had not been wargamed against.[10] During the initial stability operations after the fall of the Saddam regime the operational

COG shifted again to insurgent forces in An Najaf and in the Anbar province; the operational COG continued to shift as the campaign focused on other forces. Joint doctrine states, "Planners must continually analyze and refine COGs due to actions taken by friendly forces and the adversary's reactions to those actions."[11]

The COG at the operational level is, of course, theater-specific and should represent an entity that can be attacked either directly or indirectly. It is preferable, from a planning framework, that there only be one COG, but this is not always the ground truth—there may be more than one. This is especially true in a campaign that has multiple logical lines of operation / effort (more on that later) such as humanitarian operations, offensive operations, and other stability operations that are ongoing simultaneously.

There will no doubt be wide variance between planners on determining the COG at the strategic and operational levels. This should not be cause for concern. The discussion and open debate that lead to the identification of the COGs help focus the staff and commanders on the all-important task of identifying and understanding the problem—an example of **critical thinking** as described in chapter one. The discussion and open debate will help to identify the sources of power and assist in identifying how to address these sources—an example of **creative thinking**.

At the tactical level there is disagreement among the services concerning the COG concept. The Army viewpoint is that COG does not apply to the tactical level, but instead there are decisive points that lead to the COG. The Marine Corps believes the COG construct applies at the tactical level; so be it. Your commander will establish the position in your organization. It seems to me to be mostly a matter of semantics. The thought process appears to be similar between how the tactical COG (Marine concept) and decisive points (Army concept) are approached. Figure 9-9 provides the definition from joint doctrine for **decisive points**.

Decisive Point – Joint

A geographic place, specific key event, critical factor, or function that, when acted upon, allows commanders to gain a marked advantage over an adversary or contribute materially to achieving success.[12]

Figure 9-9

The Army definition for **decisive points** uses the same description as joint doctrine but adds additional clarification:

Decisive Points – Army

A common characteristic of decisive points is their importance to a center of gravity. A decisive point's importance requires the enemy to commit significant resources to defend it. The loss of a decisive point weakens a center of gravity and may expose more decisive points, eventually leading to an attack on the center of gravity itself. Decisive points are not centers of gravity; they are key to attacking or protecting centers of gravity. Commanders identify the decisive points that offer the greatest physical, temporal, or psychological advantage against centers of gravity.[13]

Figure 9-10

Each of the levels of COGs (and decisive points) must have linkage. The identified decisive point (or tactical COG) must have some logical connection to the COG at the operational level, and the operational COG must have some logical connection to the strategic COG. Although this may not be as clean as a "nesting diagram," planners should assess their identified COGs in terms of how "taking out" the enemy COGs at every level contributes to

achieving the end state that friendly forces want to achieve. The inverse is also true; planners should consider how the protection and "care and feeding" of the friendly COGs contribute to the enemy who fails to achieve his proposed end state

Planners should consider these three levels of COGs (and decisive points) as a three-dimensional chessboard. If you know that the strategic COG for friendly forces is the will of the American people and the solidarity of the coalition, that knowledge should make a difference when you develop the plan for information operations even (and perhaps especially) at the tactical level. Planners at the strategic level should consider how the considerations of protecting the friendly COG and attacking the enemy COG impact those at the operational and tactical levels of war. Planners at all three levels should consider the COG linkage at all levels.

Bottom line: Determining the friendly and enemy COGs (and decisive points) at the strategic, operational, and tactical levels is critical for linking plans to the end state. Continually reassess the COGs, and use them as a sanity check to ensure you stay focused on attacking the enemy COGs while protecting the friendly ones.

Notes

1. JP 5-0, page III-22.
2. JP 5-0, pages III-22 – III-23.
3. JP 5-0, page III-23 – III-24.
4. ADRP 3-0, paragraph 4-14.
5. Strange.
6. ADRP 3-0, paragraph 4-15.
7. Churchill.
8. Obama.
9. JP 5-0, page III-22.
10. Atkinson, page 176.
11. JP 5-0, page III-23.
12. JP 3-0, page GL-8.
13. ADRP 3-0, paragraph 4-18.

Chapter Ten:
Developing Distinct Courses of Action

The Army definition of planning states that the outcome of planning is to develop effective ways of envisioning a desired future, or a **course of action** for preparation and execution:

Planning – Army Definition

Planning is the art and science of understanding a situation, envisioning a desired future, and laying out effective ways of bringing about that future. Planning consists of two separate but closely related components: a conceptual component and a detailed component. Successful planning requires integrating both these components. Army leaders employ three methodologies for planning after determining the appropriate mix based on the scope of the problem, their familiarity with it, and the time available.[1]

Figure 10-1

As mentioned in the introduction to this book, planning consists of two separate, but closely related components: a conceptual component, represented by the cognitive application of the Army design methodology, and a detailed component, which introduces specificity through a formal planning process, such as the military decision making process (MDMP) or the joint operation planning process (JOPP).[2] The third methodology for planning is troop leading procedures, "a dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation."[3]

The design methodology focuses on the commander applying **mission command** through understanding, visualizing, and describing the environmental frame, the problem frame, and the

operational approach to develop **planning guidance**, including a **design concept**. Normally, there is an "ebb and flow" between the conceptual component of planning (design) and the detailed component (MDMP and JOPP) of planning. The **commander's planning guidance** and **design concept** provide the "bridge" between the conceptual component of planning and the detailed component of planning.[4]

Developing courses of action – and commander's ultimately selecting a course of action – is a key component of translating the operational approach from design into action.

Translating Concepts into Plans for Action

Decisionmaking skills refer to the ability to select a course of action as the one most favorable to accomplish the mission. Commanders apply knowledge to the situation thus translating their visualization into action. Decisionmaking includes knowing whether to decide or not, when and what to decide, and the consequences. Commanders understand, visualize, describe, and direct to determine and communicate their commander's intent, concept of operations, commander's critical information requirements, and desired end state.[5]

Figure 10-2

This chapter will focus on the components of a **course of action** (COA) and provide some tools for developing distinct COAs, focusing at the operational level of war, or campaign planning. Joint doctrine provides a fairly detailed definition of a **course of action**:

Course of Action – Joint

A COA is a potential way (solution, method) to accomplish the assigned mission. The staff develops COAs to provide unique choices to the commander, all oriented on accomplishing the military end state. Since the *operational approach* contains the JFC's (*joint force commander's*) broad approach to solve the problem at hand, each COA will expand this concept with the additional details that describe **who** will take the action, **what type** of military action will occur, **when** the action will begin, **where** the action will occur, **why** the action is required (purpose), and **how** the action will occur (method of employment of forces).[6]

Figure 10-3

Joint doctrine states that "A good COA accomplishes the mission within the commander's guidance, provides flexibility to meet unforeseen events during execution, and positions the joint force for future operations. It also gives components the maximum latitude for initiative."[7] **Essential tasks**, or those specified or implied tasks that the organization must perform to accomplish the mission, must be common to all potential courses of action. These essential tasks should be identified during mission analysis and also included in the draft mission statement.[8]

The joint inputs for developing a course of action include staff estimates, the draft mission statement, the commander's refined operational approach (from the planning guidance), and the initial commander's critical information requirements. Figure 10-4 shows the outputs of course of action development, which includes revised staff estimates and alternative courses of action with concept narratives and sketches.[9]

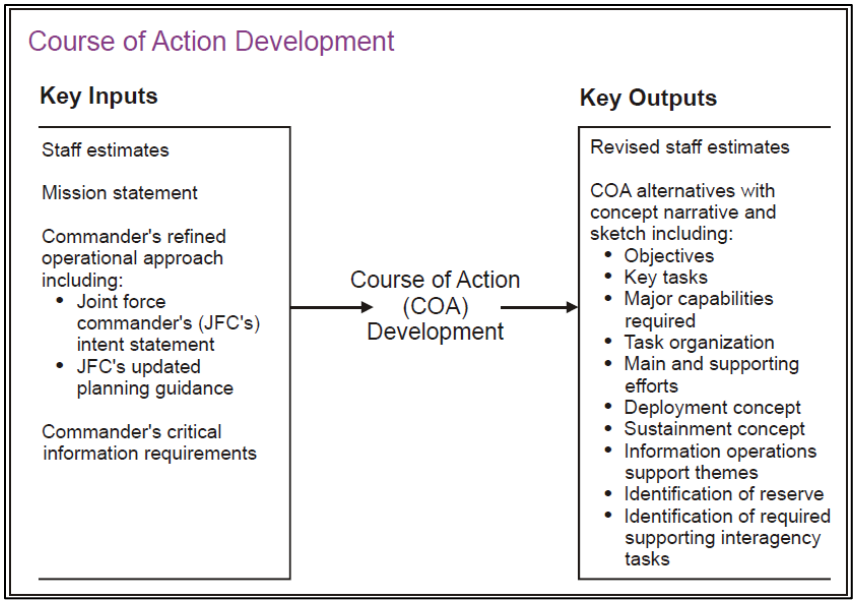


Figure 10-4

It is important to note that each of these alternative courses of action must be "stand-alone" COAs:

COA Development – Joint

The products of COA development are **tentative COAs**, with a sketch for each if possible. Each COA describes, in broad but clear terms, what is to be done throughout the campaign or operation, the size of forces deemed necessary, and time in which joint force capabilities need to be brought to bear. These COAs will undergo additional validity testing, analysis and wargaming, and comparison, and they could be eliminated at any point during this process. These COAs provide conceptualization and broad descriptions of potential concepts of operation for the conduct of operations that will accomplish the desired end state.[10]

Figure 10-5

The Army uses a relatively simple definition for a course of action – a "broad potential solution to an identified problem."

Course of Action – Army

A COA is a broad potential solution to an identified problem. The COA development step generates options for follow-on analysis and comparison that satisfy the commander's intent and planning guidance. During COA development, planners use the problem statement, mission statement, commander's intent, planning guidance, and various knowledge products developed during mission analysis.[11]

Figure 10-6

The inputs for the Army course of action development include the approved mission statement, initial commander's intent and planning guidance, design concept, specified and implied tasks, assumptions, running estimates and intelligence products, and COA evaluation criteria.[12]

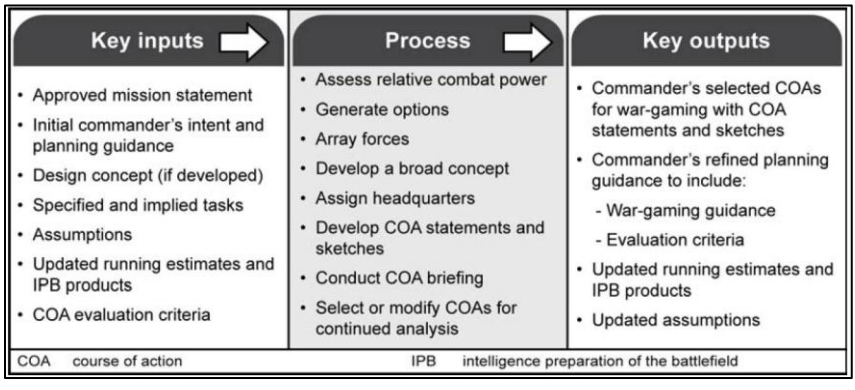


Figure 10-7

Even though the Army defines a COA as a "broad potential solution to an identified problem," this broad concept has a number of components.

Components of a Broad COA Concept – Army

- The purpose of the operation.
- A statement of where the commander will accept risk.
- Identification of critical friendly events and transitions between phases (if the operation is phased).
- Designation of the decisive operation, along with its task and purpose, linked to how it supports the higher headquarters' concept.
- Designation of shaping operations, along with their tasks and purposes, linked to how they support the decisive operation.
- Designation of sustaining operations, along with their tasks and purposes, linked to how they support the decisive and shaping operations.
- Designation of the reserve, including its location and composition.
- Reconnaissance and security operations.
- Essential stability tasks.
- Identification of maneuver options that may develop during an operation.
- Assignment of subordinate AOs.
- Scheme of fires.
- Information themes, messages, and means of delivery.
- Military deception operations.
- Key control measures.[13]

Figure 10-8

This "broad concept" must be developed for each of the different courses of action that are developed as "stand-alone" COAs:

Developing a Broad COA Concept – Army

The broad concept describes how arrayed forces will accomplish the mission within the commander's intent. It concisely expresses the how of the commander's visualization and will eventually provide the framework for the concept of operations. The broad concept summarizes the contributions of all warfighting functions. The staff develops a broad concept for each COA expressed in both narrative and graphic forms. A sound COA is more than the arraying of forces. It presents an overall combined arms idea that will accomplish the mission.[14]

Figure 10-9

It is important to emphasize that each course of action must be a "stand-alone" COA that is valid – that each COA can accomplish the mission, albeit in different ways. Chapter One described the development of three different courses of action in a staff – but each of these courses of action had to meet the objectives of the mission and be realistic – but a different way of looking at the problem and the solution. In the same way, for a course of action to be valid, the COA must meet certain **screening criteria**; it must be feasible, acceptable, suitable, distinguishable, and complete.[15]

Joint doctrine provides a description of screening criteria for courses of action; these criteria test the validity of each *tentative* COA.

Valid Course of Action Characteristics – Joint

Adequate — Can accomplish the mission within the commander's guidance.

Feasible — Can accomplish the mission within the established time, space, and resource limitations.

Acceptable — Must balance cost and risk with the advantage gained.

Distinguishable — Must be sufficiently different from other COAs in the following:

1. The focus or direction of main effort.
2. The scheme of maneuver (land, air, maritime, and special operation).
3. Sequential versus simultaneous maneuvers.
4. The primary mechanism for mission accomplishment.
5. Task organization.
6. The use of reserves.

Complete — Must incorporate:

1. Objectives (including desired effects) and tasks to be performed.
2. Major forces required.
3. Concepts for deployment, employment, and sustainment.
4. Time estimates for achieving objectives.
5. Military end state and mission success criteria.[16]

Figure 10-10

The list of screening criteria for developing a distinguishable or distinct course of action is important to note; more on this later.

Army doctrine also provides a description of screening criteria. Just as noted in joint doctrine, for a course of action to be valid, the COA must meet certain screening criteria; the Army uses the screening criteria of feasible, acceptable, suitable, distinguishable, and complete (joint doctrine uses the term "adequate" whereas Army doctrine uses the term "suitable" for the same concept).

Valid Course of Action Characteristics – Army

Feasible. The COA can accomplish the mission within the established time, space, and resource limitations.

Acceptable. The COA must balance cost and risk with the advantage gained.

Suitable. The COA can accomplish the mission within the commander's intent and planning guidance.

Distinguishable. Each COA must differ significantly from the others (such as scheme of maneuver, lines of effort, phasing, use of the reserve, and task organization).

Complete. A COA must incorporate—

- How the decisive operation leads to mission accomplishment.
- How shaping operations create and preserve conditions for success of the decisive operation or effort.
- How sustaining operations enable shaping and decisive operations or efforts.
- How to account for offensive, defensive, and stability or civil support tasks.
- Tasks to be performed and conditions to be achieved.[17]

Figure 10-11

Note that, according to Army doctrine, for a course of action to be "distinguishable" it must "differ significantly" from other COAs. There is also a listing of some of the areas that can be used to determine significant differences, although these areas can be somewhat subjective. The criteria to determine distinguishability are somewhat different from the joint definition, but both joint and Army doctrine include the components of scheme of maneuver, task organization, and use of reserves.

The joint description of distinguishability in figure 10-10 also refers to "the primary mechanism for mission accomplishment." Identifying the **defeat mechanism** or the **stability mechanism** (or combinations of these mechanisms) in a course of action is another approach to determine whether a course of action is distinguishable.

The term **defeat mechanism** is not a new concept, but it has only recently been re-introduced into Army and joint doctrine.[18] Twenty five years ago the Command and General Staff College (CGSC) tactics student text (ST) at Fort Leavenworth, Kansas, ST 100-9, defined the **defeat mechanism** concept as a component of course of action development. The definition of the **defeat mechanism** at that time was the primary way you would defeat the enemy—that single, decisive action that would take the enemy out. For a tactical operation, it might be using a penetration to take out the enemy's command and control and logistics structure and bring him to a culmination point or the like. During Operation DESERT STORM, the defeat mechanism could have been the XVIII Airborne Corps' "Hail Mary" envelopment of the Republican Guard.

Current Army doctrine has developed the concept of the defeat mechanism to include that defeat mechanisms should be used in combination to achieve complementary and reinforcing effects.

Defeat Mechanisms – Army

A defeat mechanism is a method through which friendly forces accomplish their mission against enemy opposition. Army forces at all echelons use combinations of four defeat mechanisms: destroy, dislocate, disintegrate, and isolate. Applying focused combinations produces complementary and reinforcing effects not attainable with a single mechanism. Used individually, a defeat mechanism achieves results proportional to the effort expended. Used in combination, the effects are likely to be both synergistic and lasting.[19]

Figure 10-12

Army doctrine provides operational definitions for each of the **defeat mechanisms,** which are normally used in combination. The definitions are:

- **When commanders *destroy*, they apply lethal combat power on an enemy capability so that it can no longer perform any function. The enemy cannot restore it to a usable condition without being entirely rebuilt.**[20] To most effectively destroy enemy capabilities, units use a single, decisive attack. When units cannot mass the necessary combat power simultaneously, commanders apply it sequentially. This approach is called attrition. It defeats the enemy by maintaining the highest possible rate of destruction over time.
- **Commanders *dislocate* by employing forces to obtain significant positional advantage, rendering the enemy's dispositions less valuable, perhaps even irrelevant.**[21] It aims to make the enemy expose forces by reacting to the dislocating action. Dislocation requires enemy commanders to make a choice: accept neutralization of part of their force or risk its destruction while repositioning. Turning movements

and envelopments produce dislocation. When combined with destruction, dislocation can contribute to rapid success.

- ***Disintegrate*** **means to disrupt the enemy's command and control system, degrading its ability to conduct operations. This action leads to a rapid collapse of the enemy's capabilities or will to fight.**[22] It exploits the effects of dislocation and destruction to shatter the enemy's coherence. Typically, disintegration—coupled with destruction and dislocation—follows the loss of capabilities that enemy commanders use to develop and maintain situational understanding. Simultaneous operations produce the strongest disintegrative effects. Disintegration is difficult to achieve; however, prolonged isolation, destruction, and dislocation can produce it.

- **When commanders *isolate*, they deny an enemy or adversary access to capabilities that enable the exercise of coercion, influence, potential advantage, and freedom of action.**[23] Isolation limits the enemy's ability to conduct operations effectively by marginalizing one or more of these capabilities. It exposes the enemy to continued degradation through the massed effects of the other defeat mechanisms. There are two potential types of isolation:
    - Physical isolation, which is difficult to achieve, but easier to assess. An isolated enemy loses freedom of movement and access to support.
    - Psychological isolation, which, while difficult to assess, is a vital enabler of disintegration. The most important indicators include the breakdown of enemy morale and the alienation of a population from the enemy.

Joint doctrine has a similar definition for defeat mechanisms, with a slightly different twist to include the concepts of *attrition* and *disruption* as the "basic defeat mechanisms" in the definition. Joint doctrine also identifies the use of defeat (and stability

mechanisms) as a complementary approach to conducting center of gravity analysis as a "useful tool for describing main effects a commander wants to create along a LOO (line of operation) or line of effort."[24]

Defeat Mechanisms – Joint

Defeat mechanisms primarily apply in combat operations against an active enemy force. Combat aims at defeating armed enemies—regular, irregular, or both, through the organized application of force to kill, destroy, or capture by all means available. There are two basic defeat mechanisms to accomplish this: *attrition* and *disruption*. The aim of disruption is to defeat an enemy's ability to fight as a cohesive and coordinated organization. The alternative is to destroy his material capabilities through attrition, which generally is more costly and time-consuming. Although acknowledging that all successful combat involves both mechanisms, joint doctrine conditionally favors disruption because it tends to be a more effective and efficient way of causing an enemy's defeat, and the increasing imperative for restraint in the application of violence may often preclude the alternative.[24]

Figure 10-13

Although joint doctrine identifies the two "basic defeat mechanisms" as *attrition* and *disruption*, while also preferring the defeat mechanism of *disruption* as the most effective and efficient defeat mechanism. Joint doctrine also provides operational definitions for the same four **defeat mechanisms** that the Army lists – *destroy*, *dislocate*, *disintegrate*, and *isolate*.

Defeat Mechanism Definitions – Joint

Destroy. To identify the most effective way to eliminate enemy capabilities; it may be attained by sequentially applying combat power over time or with a single, decisive attack.

Dislocate. To compel the enemy to expose forces by reacting to a specific action; it requires enemy commanders to either accept neutralization of part of their force or risk its destruction while repositioning.

Disintegrate. To exploit the effects of dislocation and destruction to shatter the enemy's coherence; it typically follows destruction and dislocation, coupled with the loss of capabilities that enemy commanders use to develop and maintain situational understanding.

Isolate. To limit the enemy's ability to conduct operations effectively by marginalizing critical capabilities or limiting the enemy's ability to influence events; it exposes the enemy to continued degradation through the massed effects of other defeat mechanisms.[26]

Figure 10-14

Army doctrine notes that *defeat mechanisms* are generally appropriate for combined arms maneuver, or the "application of the elements of combat power in unified action."[27] When conducting wide area security, or the "application of the elements of combat power in unified action to protect populations, forces, infrastructure, and activities; to deny the enemy positions of advantage; and to consolidate gains in order to retain the initiative," *stability mechanisms* are best suited.[28] **Stability mechanisms** leverage the constructive capabilities inherent in military forces, as opposed to **defeat mechanisms**, which focus

the destructive and coercive capabilities of the force to provide security and public order and safety for the local populace.[29]

Stability Mechanisms – Army

A **stability mechanism** is the primary method through which friendly forces affect civilians in order to attain conditions that support establishing a lasting, stable peace. As with defeat mechanisms, combinations of stability mechanisms produce complementary and reinforcing effects that accomplish the mission more effectively and efficiently than single mechanisms do alone. The four stability mechanisms are *compel*, *control*, *influence*, and *support*.[30]

Figure 10-15

Army doctrine has also provided an operational definition for each of the four stability mechanisms:

- ***Compel*** **means to use, or threaten to use, lethal force to establish control and dominance, effect behavioral change, or enforce compliance with mandates, agreements, or civil authority.**[31] The appropriate and discriminate use of lethal force reinforces efforts to stabilize a situation, gain consent, or ensure compliance. Conversely, misusing force can adversely affect an operation's legitimacy. Legitimacy is essential to producing effective compliance. Compliance depends on how the local populace and others perceive the force's ability to exercise lethal force to accomplish the mission.
- ***Control*** **involves imposing civil order.**[32] It includes securing borders, routes, sensitive sites, population centers, and individuals. It also involves physically occupying key terrain and facilities. Control includes activities related to

disarmament, demobilization, and reintegration, as well as security sector reform.

- ***Influence*** **means to alter the opinions, attitudes, and ultimately behavior of foreign friendly, neutral, adversary, and enemy populations through inform and influence activities, presence, and conduct.**[33] It aims to change behaviors through nonlethal means. Influence is as much a product of public perception as a measure of success. It reflects the ability of friendly forces to operate within the cultural and societal norms of the local populace while accomplishing the mission. Influence requires legitimacy. Developing legitimacy requires time, patience, and coordinated, cooperative efforts across the operational area.

- ***Support*** **is to establish, reinforce, or set the conditions necessary for the instruments of national power to function effectively.**[34] It requires coordination and cooperation with civilian agencies as they assess the immediate needs of failed or failing states and plan for, prepare for, or execute responses to them. In extreme circumstances, support may require committing considerable resources for a protracted period. This commitment may involve establishing or reestablishing the institutions required for normal life. These typically include a legitimate civil authority, market economy, and criminal justice system supported by government institutions for health, education, and civil service.

Army doctrine notes that in those operations where "where military interaction with the local populace is inherent to the mission," the most effective operational approach can be achieved through *combinations* of stability and defeat mechanisms – combining the constructive and destructive capabilities of the force.[35]

Joint doctrine has also incorporated the concept of stability mechanisms, as shown in figure 10-16:

Stability Mechanisms – Joint

A stability mechanism is the primary method through which friendly forces affect civilians in order to attain conditions that support establishing a lasting, stable peace. Combinations of stability mechanisms produce complementary and reinforcing effects that help to shape the human dimension of the operational environment more effectively and efficiently than a single mechanism applied in Isolation. Stability mechanisms may include compel, control, influence, and support. Proper application of these stability mechanisms is key in an irregular warfare environment where success is dependent on enabling a local partner to maintain or establish legitimacy and influence over relevant populations.[36]

Figure 10-16

Joint doctrine has also provided operational definitions for each of the four stability mechanisms in great detail:

- **Compel.** To maintain the threat—or actual use—of lethal or nonlethal force to establish control and dominance, effect behavioral change, or enforce cessation of hostilities, peace agreements, or other arrangements. Legitimacy and compliance are interrelated. While legitimacy is vital to achieving host-nation compliance, compliance depends on how the local populace perceives the force's ability to exercise force to accomplish the mission. The appropriate and discriminate use of force often forms a central component to success in stability operations; it closely ties to legitimacy. Depending on the circumstances, the threat or use of force can reinforce or complement efforts to stabilize a situation, gain consent, and ensure compliance with mandates and agreements. The misuse of force—or even the perceived threat of the misuse of force—can adversely affect the

legitimacy of the mission or the military instrument of national power.[37]

- **Control.** To establish public order and safety, securing borders, routes, sensitive sites, population centers, and individuals and physically occupying key terrain and facilities. As a stability mechanism, control closely relates to the primary stability task, establish civil control. However, control is also fundamental to effective, enduring security. When combined with the stability mechanism compel, it is inherent to the activities that comprise disarmament, demobilization, and reintegration, as well as broader security sector reform programs. Without effective control, efforts to establish civil order—including efforts to establish both civil security and control over an area and its population—will not succeed. Establishing control requires time, patience, and coordinated, cooperative efforts across the OA (*operational area*).[38]

- **Influence.** To alter the opinions and attitudes of the host-nation population through IO (*information operations*), presence, and conduct. It applies nonlethal capabilities to complement and reinforce the compelling and controlling effects of stability mechanisms. Influence aims to effect behavioral change through nonlethal means. It is more a result of public perception than a measure of operational success. It reflects the ability of forces to operate successfully among the people of the host nation, interacting with them consistently and positively while accomplishing the mission. Here, consistency of actions, words, and deeds is vital. Influence requires legitimacy. Military forces earn the trust and confidence of the people through the constructive capabilities inherent to combat power, not through lethal or coercive means. Positive influence is absolutely necessary to achieve lasting control and compliance. It contributes to success across the lines of effort and engenders support among the people. Once attained, influence is best

maintained by consistently exhibiting respect for, and operating within, the cultural and societal norms of the local populace.[39]

- **Support.** To establish, reinforce, or set the conditions necessary for the other instruments of national power to function effectively, coordinating and cooperating closely with host-nation civilian agencies, and assisting aid organizations as necessary to secure humanitarian access to vulnerable populations. Support is vital to a comprehensive approach to stability operations. The military instrument of national power brings unique expeditionary capabilities to stability operations. These capabilities enable the force to quickly address the immediate needs of the host nation and local populace. In extreme circumstances, support may require committing considerable resources for a protracted period. However, easing the burden of support on military forces requires enabling civilian agencies and organizations to fulfill their respective roles. This is typically achieved by combining the effects of the stability mechanisms compel, control, and influence to reestablish security and control; restoring essential civil services to the local populace; and helping to secure humanitarian access necessary for aid organizations to function effectively.[40]

Let's return to the intent for this chapter – how to develop distinct courses of action , focusing at the operational level of war for campaign planning. Planners can use a tool that is a hybrid of the different lists of COA components and the concept of defeat and stability mechanisms to develop a distinct and distinguishable course of action. The list in Figure 10-17 provides a methodology with which to quickly develop a COA, to consider the way the COA succeeds (using the concepts of the defeat and stability mechanisms), and to ensure that each COA developed is distinguishable from others.

COA Development Checklist

- Task organization
- Scheme of maneuver
- Main effort
- Defeat and/or stability mechanisms
- Anticipated use of reserves

Figure 10-17

COAs are developed to accomplish the restated mission that resulted from the mission analysis. This restated mission provides the task and purpose for the COA, or the **ends**. The task organization provides in part the **means** to accomplish the COA. How the means are put together to accomplish the mission in the identifying the scheme of maneuver, main effort, defeat and/or stability mechanisms, and anticipated use of reserves provides the **ways** to accomplish the mission.

Developing a COA using these five components provides a skeleton plan—one that can be "fleshed out" with greater details and fidelity as time permits. This methodology can be used for the entire plan or for a component or line of operation of the campaign plan. This methodology can also be used to develop enemy or adversary courses of action. Here is the broad-brush explanation of the methodology:

Task organization. This is derived from the forces that are assigned and available in theater; organizational structure, command relationships, and geographic locations should be provided. This can be derived from the "Annex A" in military plans, but should also include those assets that are not under the direct command and control of a commander but can contribute to mission accomplishment. For developing the task organization for adversaries and enemy courses of action, the intelligence

estimate should include a paragraph called "the enumeration of enemy capabilities" that provides a good starting point.

Scheme of maneuver. This should include shaping operations, decisive operations, and sustaining operations.

Main effort. This is distinct from the concept of the decisive operation but relates to the effort that will receive the most resources in terms of support (fire support, sustainment, etc.). At one point, only one unit or one effort gets the priority; determine who or what that will be. Of course, the decisive operation becomes the main effort when initiated.[41]

Defeat and/or stability mechanism. As defined above, what is the operational approach, applying combinations of defeat and stability mechanisms, that focuses operations toward establishing the end state?

Anticipated use of reserves. The reserves should have been identified in the task organization, but here you define how the reserves will be used. *It is important to make sure that you use the reserves to help you win, not to keep you from losing*. The anticipated use of reserves should not be used as a stopgap measure when the plan does not go well. If you are planning to use reserves to help you avoid disaster, it is likely that you have a plan well on the way to disaster.

There is an added benefit of using this particular technique in developing a COA. If the entire staff is well versed in this technique, it also becomes a great way to provide a quick assessment (or "summary update") of the campaign or operation. As a briefing technique, you can quickly describe what is going on by checking off the five components of the COA. When someone asks you for a quick update, you have a way to give it in an organized manner with this technique.

Bottom line: Think of COAs in terms of both simultaneous and sequential actions; all components of a campaign will not be

linear. Think beyond the campaign at the operational level. Winning the conflict is more than winning in combat; victory is achieved by ultimately setting the conditions for the strategic end state. Develop COAs using task organization, scheme of maneuver, main effort, defeat/ stability mechanisms, and anticipated use of reserves.

Notes

1. ADP 3-0, paragraph 40.

2. ADP 3-0, paragraphs 41-42.

3. ADP 3-0, paragraph 43.

4. ATTP 5-0.1, paragraph 4-5.

5. ADRP 5-0, paragraph 2-53.

6. JP 5-0, pages xxxvi – xxxvii.

7. JP 5-0, page IV-17.

8. JP 5-0, page IV-17 and GL-9.

9. JP 5-0, Figure IV-7.

10. JP 5-0, page IV-18.

11. ATTP 5-0.1, paragraph 4-79.

12. ATTP 5-0.1, Figure 4-3.

13. ATTP 5-0.1, paragraph 4-101.

14. ATTP 5-0.1, paragraph 4-101.

15. ATTP 5-0.1, paragraph 4-81 lists screening criteria as feasible, acceptable, suitable, distinguishable, and complete (FASCD); ATTP 5-0.1, paragraph 11-20 lists suitable, feasible, acceptable, distinguishable, and complete (SFADC); JP 5-0 pages IV-24 – IV-25 lists adequate, feasible, acceptable, distinguishable, and complete (AFADC). Joint doctrine uses the term "adequate" whereas Army doctrine uses the term "suitable." The order is different in all three places; meaning and purpose are the same.

16. JP 5-0, pages IV-24 – IV-25.

17. ATTP 5-0.1, paragraph 4-81.

18. The term **defeat mechanism** was described in the 2002 edition of JP 5-00.1. This publication was superseded with the

publication of JP 5-0 in December 2006, then reintroduced in the 2011 edition of JP 5-0, along with the term **stability mechanism**.

19. ADRP 3-0, paragraph 2-36.

20. ADRP 3-0, paragraph 2-36.

21. ADRP 3-0, paragraph 2-36.

22. ADRP 3-0, paragraph 2-36.

23. ADRP 3-0, paragraph 2-36.

24. JP 5-0, page III-29.

25. JP 5-0, page III-30.

26. JP 5-0, page III-30.

27. ADRP 3-0, paragraphs 2-33 – 2-34.

28. ADRP 3-0, paragraphs 2-33 and 2-39.

29. FM 3-07, paragraph 4-44.

30. ADRP 3-0, paragraphs 2-43 – 2-44.

31. ADRP 3-0, paragraph 2-44.

32. ADRP 3-0, paragraph 2-44.

33. ADRP 3-0, paragraph 2-44.

34. ADRP 3-0, paragraph 2-44.

35. FM 3-07, paragraph 4-44.; ADRP 3-0, paragraph 2-33.

36. JP 5-0, page III-30.

37. JP 5-0, pages III-30 – III-31.

38. JP 5-0, page III-31.

39. JP 5-0, page III-31.

40. JP 5-0, page III- 31.

41. ADRP 3-0, paragraph 1-75.

Chapter Eleven:
Lines of Effort

Now that we have discussed analyzing the center of gravity and the development of distinct COAs, I would like to shift to the concept of **lines of effort**. Not long ago, there was disconnect between joint and Army doctrine for the terminology of lines of effort, but the terms have fortunately aligned.

At one time, the concept of **lines of effort** was described using the term **logical lines of operation**. You'll still find the term **logical lines of effort** in some doctrine – most notably the doctrine for counterinsurgency – but that term has been rescinded for the more useful term **lines of effort**.

Today, you'll see two terms paired up in doctrine – **lines of operation** (not logical lines) and lines of effort. They are two different, although related, terms that are used in campaign design. Before we discuss **lines of effort** (the purpose for this chapter), it is probably a good idea to discuss the related term **lines of operation**.

The original concept of **lines of operation** dates back to Jomini with the concepts of interior and exterior lines – and the ability for a force to control areas for movement and resupply. Today, **lines of operation** have a similar construct and relate to freedom of action and are tied to geographic or positional references. Army doctrine calls this concept "lines of operations," using the plural *operations*. Joint doctrine previously used the term "physical lines of operation" but now simply uses the term lines of operation, or LOOs.

The definitions for lines of operation(s) from Army and joint doctrine are very similar. Both are focused on geographic or positional references to an enemy; both focus on decisive point or nodes; and both have the concepts of interior and exterior lines to describe lines of operation(s).

Line of Operation – Joint

A *LOO (line of operation)* defines the interior or exterior orientation of the force in relation to the enemy or that connects actions on nodes and/or decisive points related in time and space to an objective(s). LOOs describe and connect a series of decisive actions that lead to control of a geographic or force-oriented objective. Operations designed using LOOs generally consist of a series of actions executed according to a well-defined sequence, although multiple LOOs can exist at the same time (parallel operations). Major combat operations are typically designed using LOOs. These lines tie offensive, defensive, and stability tasks to the geographic and positional references in the OA. Commanders synchronize activities along complementary LOOs to achieve the end state.

A force operates on *interior lines* when its operations diverge from a central point. Interior lines usually represent central position, where a friendly force can reinforce or concentrate its elements faster than the enemy force can reposition. With interior lines, friendly forces are closer to separate enemy forces than the enemy forces are to one another. Interior lines allow an isolated force to mass combat power against a specific portion of an enemy force by shifting capabilities more rapidly than the enemy can react.

A force operates on *exterior lines* when its operations converge on the enemy. Operations on exterior lines offer opportunities to encircle and annihilate an enemy force. However, these operations typically require a force stronger or more mobile than the enemy.[1]

Figure 11-1

Line of Operations – Army

A *line of operations* is a line that defines the directional orientation of a force in time and space in relation to the enemy and that links the force with its base of operations and objectives. Lines of operations connect a series of decisive points that lead to control of a geographic or force-oriented objective. Operations designed using lines of operations generally consist of a series of actions executed according to a well-defined sequence.

A force operates on *interior lines* when its operations diverge from a central point.

A force operates on *exterior lines* when its operations converge on the enemy. Combined arms maneuver is often designed using lines of operations. These lines tie offensive and defensive tasks to the geographic and positional references in the area of operations.[2]

Figure 11-2

Joint and Army doctrine also show example sketches of a line of operation(s). Figure 11-3 is the example of a line of operation from joint doctrine;[3] figure 11-4 is the example of a line of operations from previous Army doctrine.[4]

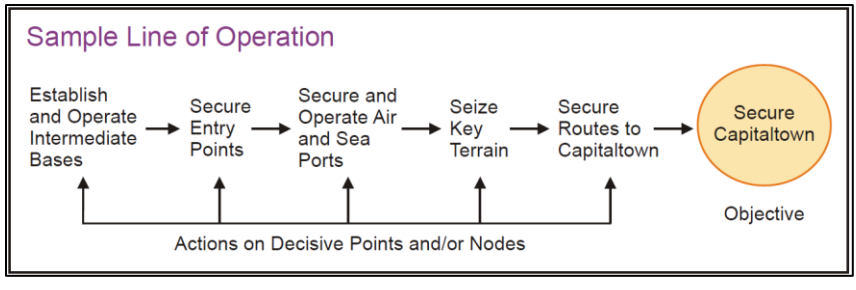


Figure 11-3

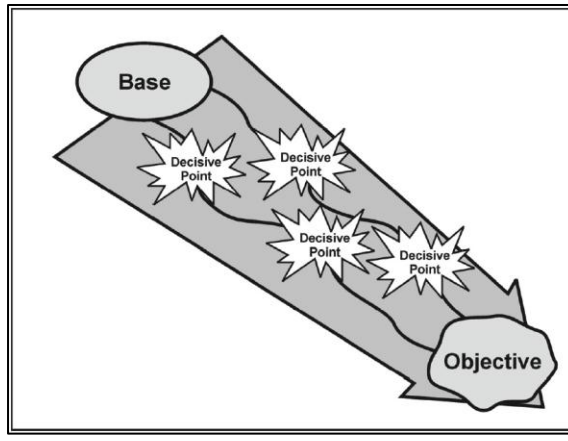


Figure 11-4

Figure 11-5 provides the graphic explanation of the Jominian concept of lines of operations - this figure is taken from a 2001 edition of Army doctrine, but it still provides a good graphic explanation of the distinction between interior lines of operations and exterior lines of operations.[5]

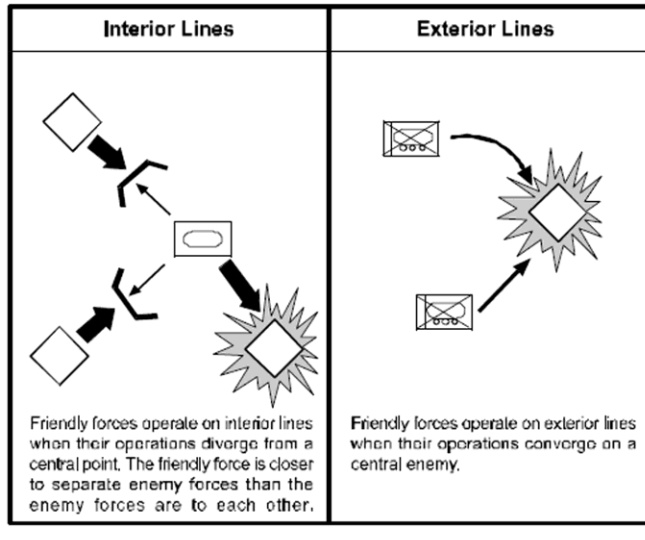


Figure 11-5

Although the Jominian concept of **lines of operation(s)** is an important component for developing an operational approach for major combat operations, the concept is not the same as **lines of effort**. Rather than being geographically oriented, **lines of effort** is a cognitive planning construct that helps visualize the different types of operations that are taking place simultaneously in an operation or campaign. The joint definition (as well as the Army definition) emphasizes this cognitive framework for the line of effort to link multiple actions by "logic of purpose."

Line of Effort – Joint

A line of effort is a line that links multiple tasks using the logic of purpose rather than geographical reference to focus efforts toward establishing operational and strategic conditions. Lines of effort are essential to long-term planning when positional references to an enemy or adversary have little relevance. In operations involving many nonmilitary factors, lines of effort may be the only way to link tasks to the end state. Lines of effort are often essential to helping commanders visualize how military capabilities can support the other instruments of national power. They are a particularly valuable tool when used to achieve unity of effort in operations involving MNFs and civilian organizations, where unity of command is elusive, if not impractical. Commanders at all levels may use lines of effort to develop missions and tasks and to allocate resources. Commanders synchronize and sequence related actions along multiple lines of effort. Seeing these relationships helps commanders assess progress toward achieving the end state as forces perform tasks and accomplish missions.[6]

Figure 11-6

The Army definition for **line of effort** is remarkably similar, with only minor changes in wording.

Line of Effort – Army

A *line of effort* is a line that links multiple tasks and missions using the logic of purpose—cause and effect—to focus efforts toward establishing operational and strategic conditions. Lines of effort are essential to long-term planning when positional references to an enemy or adversary have little relevance. In operations involving many nonmilitary factors, lines of effort may form the only way to link tasks, effects, conditions, and the desired end state. Lines of effort help commanders visualize how military capabilities can support the other instruments of national power. Commanders use lines of effort to describe how they envision their operations creating the intangible end state conditions. These lines of effort show how individual actions relate to each other and to achieving the end state. Commanders often visualize wide area security using *stability* and *defense support of civil authorities* tasks along lines of effort. These tasks link military actions with the broader interagency effort across the levels of war. As operations progress, commanders may modify the lines of effort after assessing conditions and collaborating with multinational military and civilian partners.[7]

Figure 11-7

Lines of effort are particularly useful when conducting what the Army terms as *decisive action* – the concept of continuous, simultaneous offense, defense, stability, or defense support of civil authorities.[8] The integration of stability and civil support

operations (focusing on the *constructive* capabilities of the force) along with traditional offensive and defensive operations (drawing on the *destructive* capabilities of the force) can be visualized conceptually using lines of effort.

Integrating Stability and Civil Support on LOEs – Joint

Commanders typically visualize stability and civil support operations along lines of effort. For stability operations, commanders may consider linking primary stability tasks to their corresponding DOS (*Department of State*) post-conflict technical sectors. These stability tasks link military actions with the broader interagency effort across the levels of war. A full array of lines of effort might include offensive and defensive lines, as well as lines for public affairs, IO, and integrated financial operations (IFO). All typically produce effects across multiple lines of effort.[9]

Figure 11-8

The Army also notes that using the construct of **lines of effort** are useful when framing the concept of operations when stability or civil support operations dominate.[10] "Commanders often visualize wide area security using stability and defense support of civil authorities tasks along lines of effort. These tasks link military actions with the broader interagency effort across the levels of war."[11] As mentioned in figure 11-8, these lines of effort may be directly linked to the five Department of State post-conflict technical sectors of security, justice and reconciliation, humanitarian assistance and social well-being, governance and participation, and economic stabilization and infrastructure.[12] The linkage of these DOS technical sectors to the Army stability tasks of civil security, civil control, restore essential service, support to governance, and support to economic and infrastructure

development provides an approach to link multiple tasks to achieve the overall desired end state.[13]

Army stability doctrine addresses how these lines of effort in stability operations relate to each other and all lead towards achieving the overall end state.

Lines of Effort – Stability Operations (Army)

Commanders use lines of effort to describe how they envision their operations creating the more intangible end state conditions inherent in stability operations. These lines of effort show how individual actions relate to one other and to achieving the desired end state. In these situations, lines of effort combine the complementary, long-term effects of stability tasks with the cyclic, short-term events typical of offensive or defensive tasks. Commanders at all levels use lines of effort to develop missions and tasks, identify complementary and reinforcing actions, and allocate resources appropriately. Commanders may designate actions on one line of effort as the decisive operation and others as shaping operations. They synchronize and sequence related actions across multiple lines of effort; recognizing these relationships helps them to assess progress toward achieving the end state.[14]

Figure 11-9

Figure 11-10 shows an example on how these lines of effort would be conceptually arrayed – with specific actions along each line of effort. The figure also provides a statement of desired conditions for each of the lines of effort that will lead to the overall desired end state in a stability operation.[15]

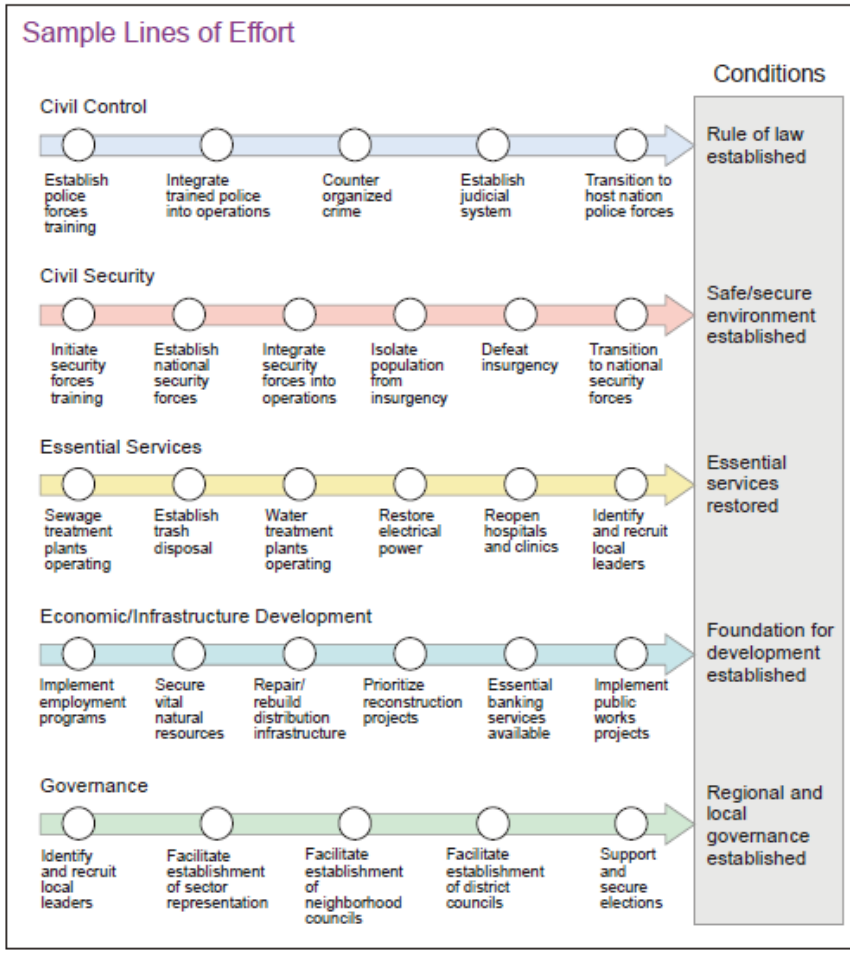


Figure 11-10

The example above is "not the default solution for every operation." Developing lines of effort requires collaborative interagency planning and dialogue, as well as assessment during planning and execution. The key is to ensure that lines of effort keep operations and actions focused on achieving the desired end state, even as the situation develops.[16]

Note the first circle along the civil control line of effort in figure 11-10 that is entitled "establish police forces training." The term for this action can be a source of doctrinal confusion – especially when working with multinational forces (where using lines of effort is particularly useful). Our NATO allies use the term **decisive points** along the lines of effort (and many would call this a **logical line of operation** rather than a **line of effort**).

A **decisive point** is "a geographic place, specific key event, critical factor, or function that, when acted upon, allows commanders to gain a marked advantage over an adversary or contribute materially to achieving success."[17] As such, a **decisive point** would always be a noun – and relates more to the concept of line of operation(s), which is normally tied to geographic or positional references. An **objective**, which I believe is the right term, is "the clearly defined, decisive, and attainable goal toward which every operation is directed" and as "the specific target of the action taken which is essential to the commander's plan."[18] Joint doctrine also states that "the operational approach should describe the operational objectives that will enable achievement of the key conditions of the desired end state. The operational approach may be described using LOOs/lines of effort to link **decisive points** to achievement of **objectives**."[19]

It's no surprise that there's confusion. For campaign planning, the best answer appears to have objectives – "the clearly defined, decisive, and attainable goal toward which every operation is directed" – listed along the lines. These objectives should lead to an "end state" that is defined in terms of conditions to be met and preferably be stated in verb form ("establish"). Of course, it really doesn't matter a great deal if you depict "decisive points," objectives," "tasks," or "missions" along the lines, as long as you are consistent and it's what your commander understands.

The example of **lines of effort** from Army counterinsurgency doctrine (figure 11-11) follows this convention.[20]

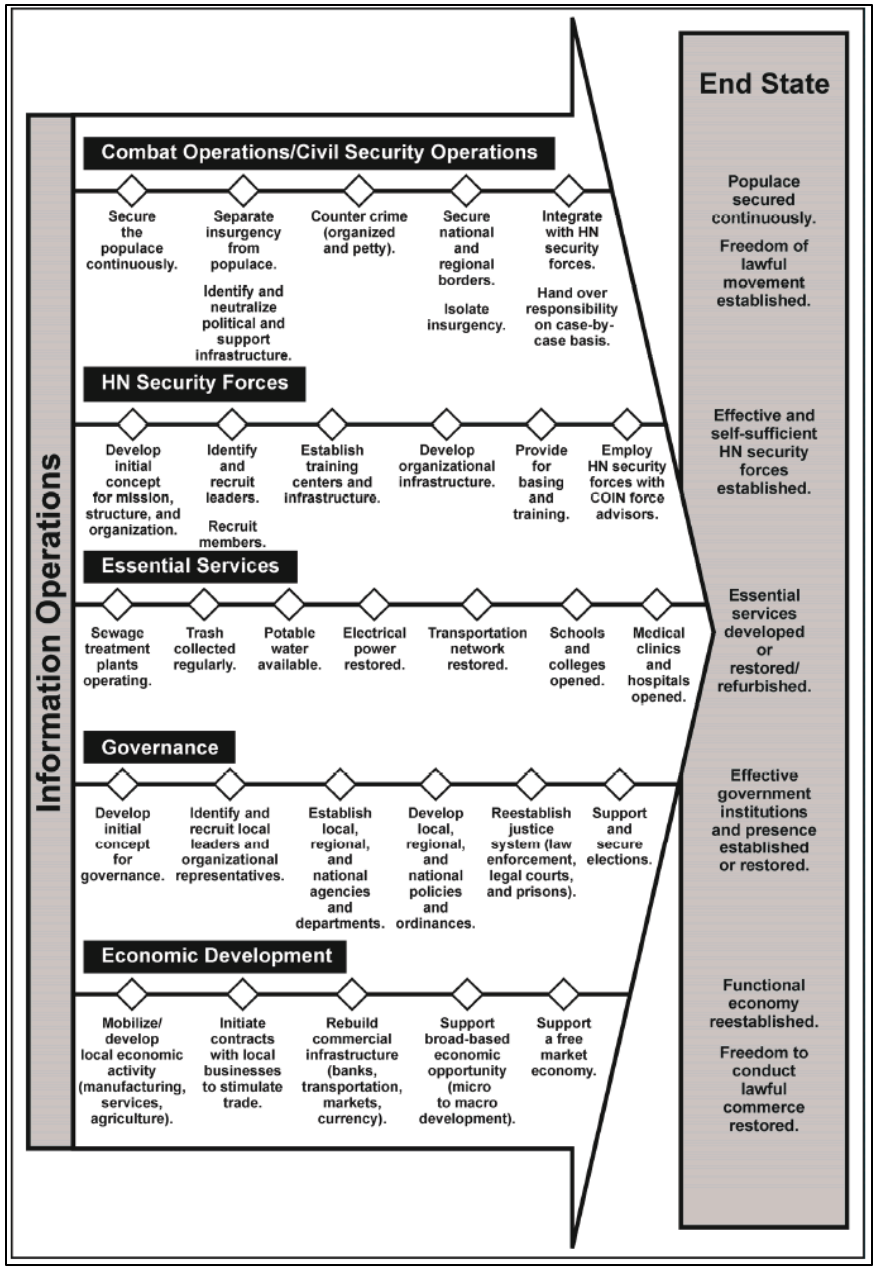

Information Operations
Combat Operations/Civil Security Operations
Secure the populace continuously.
Separate insurgency from populace.
Identify and neutralize political and support infrastructure.
Counter crime (organized and petty).
Secure national and regional borders.
Isolate insurgency.
Integrate with HN security forces.
Hand over responsibility on case-by-case basis.
HN Security Forces
Develop initial concept for mission, structure, and organization.
Identify and recruit leaders.
Recruit members.
Establish training centers and infrastructure.
Develop organizational infrastructure.
Provide for basing and training.
Employ HN security forces with COIN force advisors.
Essential Services
Sewage treatment plants operating.
Trash collected regularly.
Potable water available.
Electrical power restored.
Transportation network restored.
Schools and colleges opened.
Medical clinics and hospitals opened.
Governance
Develop initial concept for governance.
Identify and recruit local leaders and organizational representatives.
Establish local, regional, and national agencies and departments.
Develop local, regional, and national policies and ordinances.
Reestablish justice system (law enforcement, legal courts, and prisons).
Support and secure elections.
Economic Development
Mobilize/ develop local economic activity (manufacturing, services, agriculture).
Initiate contracts with local businesses to stimulate trade.
Rebuild commercial infrastructure (banks, transportation, markets, currency).
Support broad-based economic opportunity (micro to macro development).
Support a free market economy.
End State
Populace secured continuously.
Freedom of lawful movement established.
Effective and self-sufficient HN security forces established.
Essential services developed or restored/ refurbished.
Effective government institutions and presence established or restored.
Functional economy reestablished.
Freedom to conduct lawful commerce restored.

Figure 11-11

Joint doctrine provides an example of an operational approach using lines of effort in figure 11-12. This interesting example shows the lines of effort, defeat or stability mechanisms that characterize the actions along the lines of effort, objectives that support each of the lines of effort, and desired conditions for each line of effort. All of the actions are linked to transform the conditions from the current conditions to the desired end state. Objectives also frequently support more than one line of effort.[21]

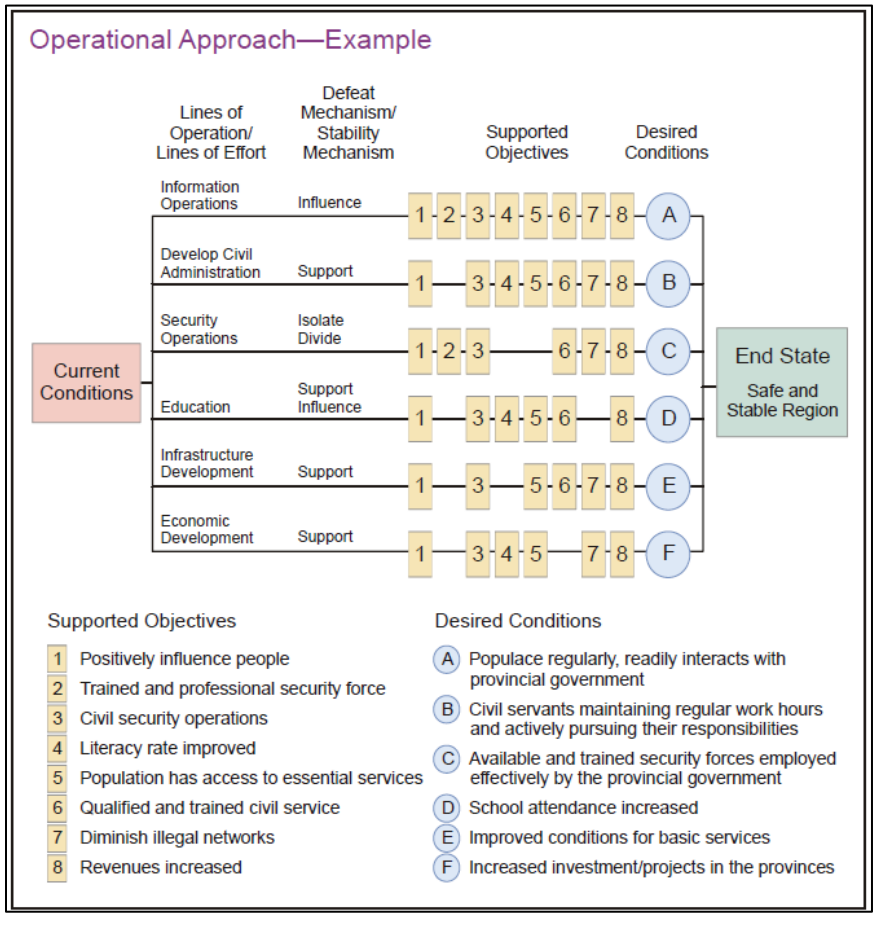


Figure 11-12

Let me put it all together on what I think the construct of the lines of operation/effort should be. Here is what I propose as an operational definition for lines of operation and lines of effort.

> A **line of operation** is the directional orientation of a force in relation to the enemy; the link between a force's objective and its bases of operation. The **line of effort** is a cognitive operational framework/planning construct used to define the concept of multiple, and often disparate, actions arranged in a framework unified by purpose. The actions and objectives in a line of effort depict causal relationships that are both linear and nonlinear. Operational objectives are depicted along a line of effort; the same operational objective may be depicted along more than one line of effort. All lines of operation and lines of effort should lead to a center of gravity and ultimately contribute to achieving the desired end state.[22]

Now, for some examples of using lines of effort… Even though the terminology used at the time for some of these examples was **logical lines of operation**, I'll use the term **lines of effort** in the descriptions for consistency.

For the initial stages of Operation Enduring Freedom in Afghanistan, the military objectives were "to remove the Taliban regime, destroy al-Qaeda and its operating and training bases, and prevent resurgence of the terrorist support structure."[23] The lines of effort developed for these strategic objectives were—

- Diplomatic line (staging, basing, and overflight).
- Special operations line.
- Operational fires line.
- Humanitarian assistance line.
- Building the "coalition of the willing" line.[24]

In the early stages of planning for Operation Iraqi Freedom, General Tommy Franks developed the concept of "lines and slices" to visualize the campaign based on a "policy goal . . . to

remove Saddam Hussein from power." For this campaign, he envisioned seven different lines of effort:

- Operational fires line.
- Special Operations Forces (SOF) operations line.
- Operational maneuver line.
- Information operations line.
- Unconventional warfare line.
- Politico-military line.
- Civil-military operations line.

In conjunction with the seven lines of effort, General Franks developed nine different slices, defined as the "columns" that kept Saddam in power. Franks focused on this concept of slices because "Iraq was a twenty-first century totalitarian police state, with highly centralized leadership that survived and wielded power through a well-developed internal intelligence and security apparatus that spread outward from Saddam Hussein."[25] These slices were the elements that helped the source of power—Saddam Hussein—exert control. The slices that General Franks identified were—

- Leadership.
- Internal security/regime intelligence.
- Weapon of mass destruction (WMD) infrastructure/research and development.
- Republican Guard/Special Republican Guard forces.
- Selected Regular Army forces.
- Territory (south, north, west).
- Infrastructure.
- Commercial and diplomatic leverage.[26]

General Franks developed a matrix to depict the lines of effort as rows and the different slices in columns. The matrix indicated that each of the slices impacted different line of effort. Even though the slices were not operational objectives, they did provide a visualization of how attacking different slices impacted

on the different lines of effort. For example, civilians, as one of the slices, helped keep Saddam in power. Along the operational fires and operational maneuver lines of effort, civilians would not be targeted; they would, however, be targeted along the lines of effort for information operations and civil-military operations. Targeting efforts for information operations and civil-military operations were primarily focused on nonlethal means and were focused on stability operations. Operational maneuver and operational fires were primarily focused on lethal means and were primarily focused on offensive operations. Figure 11-13 provides a similar matrix to the one General Franks developed.[27]

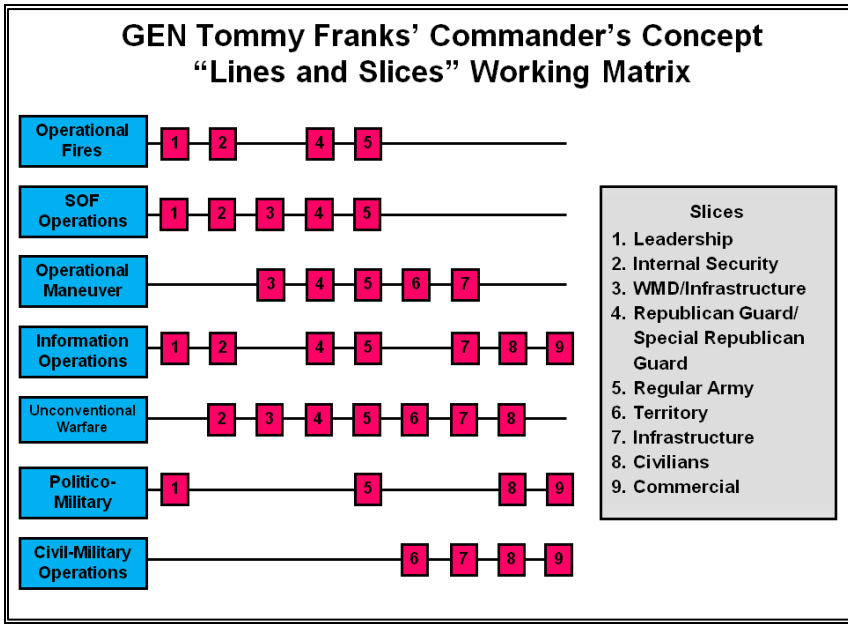


Figure 11-13

The example of General Franks' initial campaign concept for Operation Iraqi Freedom indicates that theater-level commanders were comfortable with the construct of the lines of effort because it helped to visualize the different activities in the campaign,

particularly when the activities included a combination of the traditional warfighting actions of offensive and defensive operations as well as stability and support operations. The concept of lines and slices is unique to Franks, but it still follows the doctrinal definition that lines of effort "link multiple tasks and missions using the logic of purpose" and allow commanders to "to focus efforts toward establishing operational and strategic conditions."[28]

Unfortunately, the construct that Franks developed did not have the apparent advantage of communicating beyond the initial offensive actions in OIF. All of the lines and slices were focused on Hussein and not on the necessary stability operations and support operations that were necessary for achieving the policy goal of removing Hussein from power—not on the end state that was, at the time, to establish a stable, democratic Iraq. General Franks' lines and slices led to the COG but not to the end state.

There is, however, an excellent example of how to use lines of effort during Operation Iraqi Freedom that was focused on the end state in northern Iraq. Once the initial offensive and defensive operations were completed, the focus—the main effort—shifted to stability operations. In northern Iraq the 101st Airborne Division (Air Assault), commanded by then-MG David Petraeus, was responsible for developing democratic institutions and stabilizing the situation while still conducting combat operations throughout the division's area of operations. There were also a large number of civilian (both US and international) organizations that were active in northern Iraq which required a framework to enable unity of effort from all of the stakeholders. Figure 11-14 lists the **lines of effort** that were developed by General Petraeus and his staff in northern Iraq.[29]

Lines of Effort – Northern Iraq Stability Operations

Rule of law—coalition and local police actions that establish a security environment so that individuals have a realistic expectation that their property rights and economic gains are safe from unlawful seizure.

Economic development/infrastructure recovery—coalition and other international organizations' efforts to encourage investment and rebuild/construct key industries and institutions.

Democratic reform—developing, adopting, and enforcing laws that foster the principles of representative government and respect for human rights.

Combat operations/leadership interdiction—coalition military operations to defeat noncompliant forces and capture high-value targets.

Security sector reform—coalition and other international organizations' efforts to reconstitute/train judiciary, police, border security, intelligence agencies', and military forces.

Information operations—actions taken to keep the public informed of coalition actions, reduce adversary influence, and disrupt the destabilizing forces' decision-making process.

Figure 11-14

The six lines of effort were developed to establish a cognitive operational framework and planning construct to synchronize and sequence multiple, and often disparate, actions to provide unity of purpose. In addition to the six lines of effort, the 101st Airborne Division (Air Assault) developed six **different operational objectives** in northern Iraq shown in Figure 11-15 (note that the objectives are written in verb form).

Operational Objectives – Northern Iraq

Establish a single, transparent, market-based economy fully integrated with the rest of Iraq and its neighbors.

Establish democratic institutions and conduct elections that result in representation of northern Iraq's diverse population.

Establish the rule of law that fosters the people's confidence in the legal and judicial systems.

Establish a national identity among the citizens of northern Iraq that will result in a shared view of themselves as belonging to Iraq.

Repair infrastructure to the extent that basic life services are restored and improved to international standards and natural resources are used to allow for the equitable economic development of all Iraqis.

Establish professional border security forces and military forces to international standards, and base Iraqi military forces that answer to civilian leaders.

Figure 11-15

The 101st Airborne Division (Air Assault) then conducted a crosswalk of the lines of effort with the operational objectives. The intent of the crosswalk was to determine which objectives contributed to meeting the conditions for each of the lines of effort – and to analyze the interaction between the lines of effort as a planning construct to synchronize and sequence and the operational objectives that had been established for northern Iraq. Figure 11-16 shows this crosswalk; note that many of operational objectives contributed to all of the lines of effort in northern Iraq.

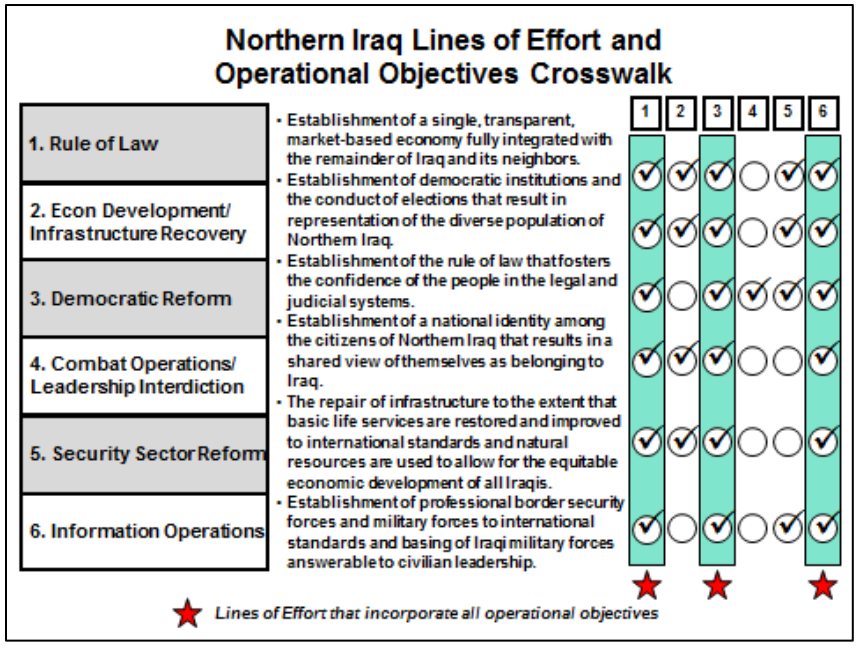


Figure 11-16

For each of the operational objectives, the 101st Airborne Division (Air Assault) developed key tasks to achieve those objectives and measures of effectiveness to determine the progress on meeting the operational objectives and key tasks. In addition, the 101st also determined the key players for each of the lines of effort and operational objectives, coordinating with not only U.S. and coalition forces in northern Iraq, but also with the various NGOs, PVOs, and OGAs in the region, assigning responsibility and coordination authority.

Figure 11-17 shows a different way of depicting the lines of effort and how the operational objectives are met along the different lines of effort. It is important to note that this chart has the appearance of a linear process, and even though some of the objectives will happen sequentially, they are not necessarily linear and sequential. The note on Figure 11-17 is critical; operational

objectives may not be addressed sequentially. In this example, all objectives were addressed simultaneously.

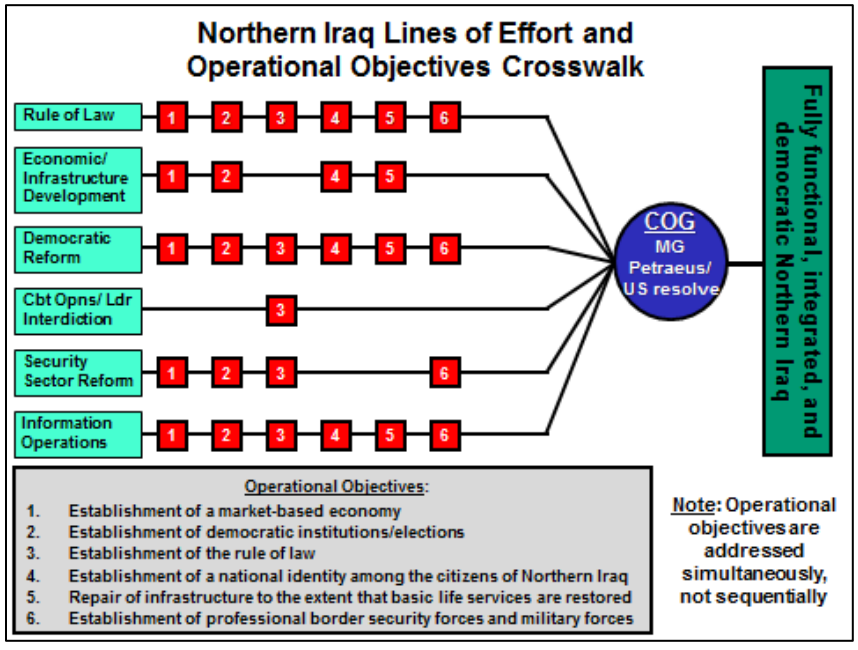


Figure 11-17

Figure 11-17 also attempts to depict that the lines of effort and operational objectives were designed to lead to the end state of a fully functional, integrated, and democratic government in Northern Iraq. Depicting this end state assists planners and executors of the plan in having unity of effort; all lines of effort should lead to the end state. Although this may be the subject of debate, the physical or moral entities that were the **primary** components of physical or moral strength, power, and resistance during this period were MG Petraeus and the resolve of the United States.

Figure 11-18 provides an example of a NATO depiction of lines of effort during the initial stages of operations in Afghanistan.

Note that NATO uses the concept of decisive points rather than operational objectives in their use of the construct.

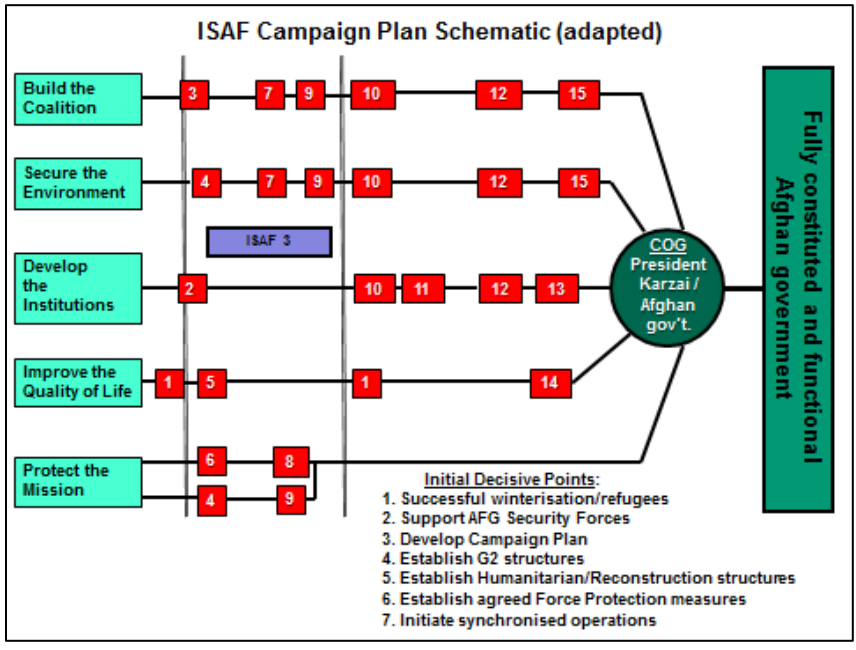


Figure 11-18

Additional Considerations of Lines of Effort

There are several other considerations that I would like to briefly discuss before moving on to the next chapter that concern using lines of effort. The first consideration in using lines of effort is using them during **wargaming** and **rehearsals**.

First, a big advantages of using lines of effort, especially when the lines of effort are a mixture of offensive, defensive, stability, and support operations, is that this allows you to consider actions in the entire theater while wargaming and conducting a rehearsal. When conducting a wargame of a COA, you simply address every one of the lines of effort in each wargaming move. This method

forces the staff conducting the wargame to not only consider the comfort zone areas of offense and defense for each move but also to address other areas such as humanitarian operations and civil affairs in each move. For rehearsals, the same applies—all rehearsals or "rock drills" should include those involved in the entire campaign, including stability operations. This makes sure the enemy you wargame against is more comprehensive than the standard warfighting scenario (more on wargaming in a later chapter).

The **second** consideration is that using lines of effort allows you to **assess the effects** of each of your operational objectives and key tasks against each line of operation. An operational objective that is primarily thought of in terms of offensive actions may have an effect on a stability line. For example, you may want to destroy a television or radio tower because enemy insurgent forces are using it to pass military messages. Destroying that television or radio tower may be a wonderful operational objective by eliminating insurgent forces' ability to attack friendly forces, but it could have a negative effect later on in providing a forum for the legitimate government to communicate to the populace. Each operational objective and key task should be considered in terms of line of effort, and planners should determine if the second- and third-order effects of those objectives and key tasks are positive or negative effects.

Hopefully, the assessment of effects of operational objectives and key tasks will be apparent while developing the courses of action. If not, it should be apparent during the wargaming process and the rehearsal if planners ensure that each line of effort has a proponent that considers the effect of each action on their line of effort.

The **third** consideration is that the lines of effort construct is a model – it's the representation of the plan that should be used to enhance understanding. In fact, it's not the complete model – it's

an “element of operational design” that is used (along with other elements such as center of gravity and decisive points) to help communicate the intent of the commander and to help focus efforts.

As a model, however, it is not complete and not the entire plan – it’s just an aid in understanding how to translate plans into action. It should, if used properly, assist in understanding how all the “pieces and parts” of a campaign are taking place and facilitate initiative. Campaigns are complex endeavors, with a hundred moving parts… and the construct of lines of effort can help all involved see how their part fits into the whole.

Fourth, the lines of effort construct should not be thought of as a series of sequential actions – all of the actions on the lines of effort are not necessarily sequential and linear. Because there are so many moving parts in a campaign, it is important to see how all of these actions lead to the conditions identified in the end state – which means that many of the actions and objectives on the lines of effort will be simultaneous. Of course, some actions will necessarily have to precede other actions – but the overall construct of lines of effort is intended to represent how all of the actions lead to the end state.

Fifth, objectives may appear on more than one line of effort. An objective may have significant impact on more than one line of effort; for example, an objective to “establish police stations” may be significant for lines of effort such as establishment of the rule of law, security, and information operations. Depicting this objective along all three lines of effort provides a different “lens” to look at how the objective contributes to the overall conditions in the end state. This provides greater coherence to the purpose of “establishing police stations” and helps to identify second- and third-order effects related to how those police stations are established.

A **sixth** consideration is that using the construct of lines of effort can assist in identifying second- and third-order effects of operations. This is true in the initial wargaming process, as well as during subsequent updates and assessments of operations (such as during BUAs, or battle update assessments). As different activities are conducted, these activities should be assessed in terms of all of the lines of effort for their effect on the overall campaign plan.

Seventh, lines of effort should be identified in terms of ways, not means. The "Establishment of the Rule of Law" line of effort will have objectives that use all of the available means and resources to a commander. Think of lines of effort as a construct to describe "how" the campaign is being fought to integrate all of the available resources, thereby enhancing unify of effort… a means approach (such as having lines of effort depicted as diplomatic, information, military and economic) tends to compartmentalize actions and doesn't contribute to the "comprehensive approach."[30]

Bottom line: The construct of lines of effort provides a methodology with which to visualize campaigns, particularly when there are a variety of offensive, defensive, stability, and support operations that occur simultaneously. Using the lines of effort enables the planner to synchronize activities and ensure that all operations contribute to achieving the desired end state. Using lines of effort also helps ensure that offensive, defensive, stability, and support operations are integrated in the plan and that the effects of all of the operational objectives and key tasks are considered in terms of each line of effort.

Notes

1. JP 5-0, page III-27.

2. ADRP 3-0, paragraph 4-22.

3. JP 5-0, Figure III-13.

4. FM 5-0, Figure 7-4.

5. FM 3-0 (2001), Figure 5-2.

6. JP 5-0, page III-28.

7. ADRP 3-0, paragraphs 4-23 – 4-24.

8. ADRP 3-0, paragraph 2-9.

9. JP 5-0, page III-28.

10. ADRP 5-0, paragraph 2-106.

11. ADRP 3-0, paragraph 4-24.

12. ADRP 3-0, paragraph 2-21.

13. ADRP 3-0, Table 2-1; see also FM 3-0, Figure 3-3.

14. FM 3-07, paragraph 4-54.

15. JP 5-0, Figure III-14.

16. ADRP 5-0, paragraphs 2-107 – 2-108.

17. JP 5-0, GL-8.

18. JP 5-0, GL-13.

19. JP 5-0, page III-16.

20. FM 3-24, Figure 5-2. FM 3-24 (written in 2006) uses the term **logical lines of operation** rather than **lines of effort**.

21. JP 5-0, Figure III-8.

22. This definition draws heavily from the description of logical lines of operation found in an excellent monograph produced at the School of Advanced Military Studies, Fort

Leavenworth, Kansas. See Major Mario A. Diaz, *Prosperity or Perdition: Do Lines of Operation Apply in Stability Operations?* 2003, pages 56-57.

23. Franks, page 338.

24. Franks, page 338.

25. Franks, page 336.

26. Franks, pages 338-339.

27. Franks, page 340.

28. JP 5-0, page III-28.

29. I am indebted to General David Petraeus for allowing me to use excerpts of briefing slides used during operations of the 101st Airborne Division (Air Assault) in northern Iraq and to Lieutenant Colonel Bill Abb, former G3 Plans Officer, 101st Airborne Division (Air Assault), for his explanations of the slides and processes of the 101st Airborne Division (Air Assault) in northern Iraq.

30. JP 5-0, page III-28.

Chapter Twelve:
Critical Factor Analysis (CC-CR-CV)

Previous chapters discussed the concepts of centers of gravity, course of action development, and lines of effort. Each of these concepts and their related tools provides a way to develop an operational approach – an approach to transform current conditions into a desired end state. Lines of effort are used to focus efforts toward establishing operational and strategic conditions; lines of effort should also lead to a **center of gravity** and ultimately contribute to achieving the desired end state.

Operational design essentially involves understanding strategic guidance, identifying the adversary's centers of gravity and critical factors, and developing an operational concept to achieve strategic objectives.[1]

Figure 12-1

The focus for this chapter is to discuss how to conduct an analysis of the centers of gravity to assist in operational design. This analysis should assist in focusing actions toward the centers of gravity for planning, and especially for focusing and targeting actions. Conducting a **critical factor analysis** of the centers of gravity was developed by Dr. Joe Strange, formerly at the US Marine Corps War College. Most of this chapter is drawn heavily from his monograph, but there are some modifications to his approach that have been incorporated into joint doctrine; there are also some modifications that I have made that I'll clearly identify throughout the chapter.[2]

Joint doctrine states that "understanding the relationship among COGs not only permits but also compels greater precision in thought and expression in operational design. Planners should analyze COGs within a framework of three critical factors—

capabilities, **requirements**, and **vulnerabilities**—to aid in this understanding."[3] The process for analyzing these three critical factors – **critical capabilities** (CC), **critical requirements** (CR), and **critical vulnerabilities** – is drawn directly from Dr. Strange's work.

Dr. Strange describes **critical factor analysis** as the "CG-CC-CR-CV Process." His synopsis of this process is shown in figure 12-2.

The CG-CC-CR-CV Process – Dr. Strange

At each level of war the commander and his staff should:

(1) Identify enemy and friendly **centers of gravity**.

(2) Identify those "**critical capabilities**" inherent in each center of gravity which enable it to function as a center of gravity (i.e., what things must each CG be able to do to exert the moral or physical power which makes it a CG).

(3) Identify those "**critical requirements**" which enable each of the "critical capabilities" to be realized.

(4) Identify "**critical requirements**" or components thereof which are deficient, or vulnerable (or potentially so) to friendly neutralization, interdiction or attack. These are the enemy's "**critical vulnerabilities**."

(5) Devise a strategy, campaign plan, or plan of attack which takes maximum advantage of one **or more** enemy "**critical vulnerabilities**."

***Remember**: (1) Steps 1-4 do not have to be considered in a precise or rigid sequential manner. (2) Insights related to a higher-numbered step might influence decisions make at a lower-numbered step and vice versa. (3) While all steps need to be accomplished in a professional manner, steps 4 & 5 may require superior creativity and judgment.[4]

Figure 12-2

Joint doctrine provides a definition for each of the critical factors, as shown in figure 12-3.

Critical Factors – Joint

Critical capabilities are those that are considered crucial enablers for a COG to function as such, and are essential to the accomplishment of the adversary's assumed objective(s).

Critical requirements are the conditions, resources, and means that enable a critical capability to become fully operational.

Critical vulnerabilities are those aspects or components of critical requirements that are deficient or vulnerable to direct or indirect attack in a manner achieving decisive or significant results.

In general, a JFC (joint force commander) must possess sufficient operational reach and combat power or other relevant capabilities to take advantage of an adversary's critical vulnerabilities while protecting friendly critical capabilities within the operational reach of an adversary.[5]

Figure 12-3

To understand **critical factor analysis**, it is important to fully understand the associated terms and their definition. Here are the key terms used in this chapter:

- Centers of gravity (COG)
- Critical capabilities (CC)
- Critical requirements (CR)
- Critical weaknesses (CW)
- Critical vulnerabilities (CV)

The first term is **centers of gravity** (COG). Although this term was the subject of chapter nine, I want to review the concept and indicate the differences between my definition and Strange's definition. The biggest difference is the concept of decisive points at the tactical level—the Marine Corps believes that COG applies at the tactical level; the general consensus in the Army is that COG only applies at the strategic and operational levels. Hence, the last sentence in the definition shown in chapter nine (figure 9-5) and reviewed in Figure 12-4 is mine, but the focus of this book and of this chapter is at the strategic and operational levels, so this should not pose a problem in applying **critical factor analysis** at this point.

Centers of Gravity – Modified Definition

Physical or moral entities that are **the primary** components of physical or moral strength, power, and resistance. They do not just contribute to strength; they **are** the strength. They offer resistance. They strike effective (or heavy) physical or moral blows. At the strategic level they are usually leaders and populations that are determined to prevail. At the operational level they are almost invariably specific military or insurgent forces. Generally, there is no COG at the tactical level; it has decisive points.

Figure 12-4

The next term **critical capabilities** (CC). Strange identifies CC as the "primary abilities which merit a Center of Gravity to be identified in the context of a given scenario, situation, or mission." These include the physical, mental, financial, or legal power to perform an action.[2] CC represent the overarching ways that resources are applied (and hence, "critical") to accomplish the

objectives or end state. Critical capabilities (CC) are normally expressed in verb form (and specifically in the infinitive form – such as "to command" or "to project power"). For example, the CC for a theater commander could be his **critical capability** "to project military power" into a theater of operations. In this example, the operational COG is the theater commander and theater-level forces. For a strategic-level example, a CC could be expressed as the US President's ability "to lead a concerted and sustained campaign**"** in order to defeat the extremist terrorist organizations. In this example, the strategic COG is the US President's leading a committed US population that is determined to prevail. Figure 12-5 defines **critical capabilities**.

Critical Capabilities (Verb!)

Every COG has some primary ability (or abilities) that makes it a COG in the context of a given scenario, situation, or mission, including phases within campaigns or operations. Simply stated, what can this COG do to you that puts great fear (or concern) into your heart in the context of your mission and level of war? Within a CC, the key word is the **verb**: for example, **to destroy** something, **to seize** an objective, or **to prevent** you from achieving a mission.

Figure 12-5

Before we go any further, it is important to acknowledge that joint doctrine identified **critical capabilities** as "crucial enablers" which could be defined as either "ways" or "means." A critical capability should be thought of as "ways" that a force applies essential means to accomplish objectives; using the infinitive verb form (to do something) reinforces this concept that a CC is the "way" to apply resources. These resources, or means, are known

as critical requirements (CR). Dr. Strange's definition of CR is "essential conditions, resources, and means for a Critical Capability to be fully operative."[3] Joint doctrine also describes critical requirements as "conditions, resources, and means." Define **critical capabilities** in the infinitive verb form (ways "to do something") and **critical requirements** (means) in noun form.

Critical Requirements (Noun!)

Conditions, resources, and means that are essential for a COG to achieve its CC. Examples are—

- Good weather, precise intelligence, fuel and ammunition resupply, chemical gear, and the ability to go 35 miles per hour across open desert for 6 hours.
- Force X must accomplish its mission as a precondition before force Y can accomplish its mission.
- A robust sea train for a warfighting fleet must operate for long periods at sea.
- Political leader Y needs no less than X percent of the popular support.
- International support for a given US military operation to provide political credibility, regardless of overwhelming US military superiority over country Y.

Figure 12-6

In the previous examples, the theater commander had the CC **to project** military power into a theater of operations – this is the way or method that the commander would be able to accomplish his objectives – and this is a **critical capability** that would cause great concern for an adversary. This critical capability, to be fully

effective, would have certain critical requirements, including secure bases, strategic transport assets, intelligence on the situation in theater, sufficient trained forces for deployment, and the like. These **critical requirements** (CR) enable the theater commander to accomplish the **critical capability** (CC) of projecting forces into a theater of operations.

For the President of the United States to accomplish the **critical capability** (CC) "to lead a concerted and sustained campaign in order to defeat the extremist terrorist organizations," **critical requirements** (CR) would include the US population's committed support (and therefore support from Congress) for the campaign, as well as intelligence on the organizations.

The next step in Dr. Strange's construct is the concept of **critical vulnerabilities** (CV). I believe there is an additional consideration before you look at vulnerabilities—that of **critical weaknesses** (CW). Before you can determine what is vulnerable (and susceptible to attack), you must first determine what the weaknesses or deficiencies are in a force's critical requirements (CR). There may be weaknesses for a system, but these weaknesses may not be exploitable or "targetable" for a variety of reasons, which could include inadequate resources to target the weakness, accessibility, redundancy, or impact of the weakness on the system.[8]

The step of identifying **critical weaknesses** is not found in Dr. Strange's monograph or in joint doctrine; therefore, this step may simply be a mental step prior to determining **critical vulnerabilities**. Critical vulnerabilities should, however, be a subset of critical weaknesses. Critical weaknesses are also described in noun form. Figure 12-7 explains the concept of critical weaknesses (CW).

Critical Weaknesses (Noun!)

Those CR, or components thereof, that are deficient or lacking for the enemy. These differ from CV because they may not significantly contribute to achieving a CC, they may not be vulnerable to attack by friendly forces, or they may not be "targetable" entities. Understanding CW may provide insight into the specific COA the enemy may choose and the means through which the enemy may try to accomplish his objectives. For example, the enemy may easily understand that he has a CW in that he cannot fight US forces in a conventional battle. Because of this weakness in means, he chooses other ways to fight and achieve his objectives. However, in the COA he selects, there will be inherent CW. Generally, CV are a subset of these inherent CW.

Figure 12-7

Once you have determined **the critical weaknesses** (CW), you can then analyze those weaknesses to determine which are also vulnerable to attack or exploitation—and thereby contribute to the opponent's plan if attacked—and can also be targeted by the opponent. This analysis provides a list of c**ritical vulnerabilities** (CV) to consider – those aspects of a critical requirement that are deficient weaknesses, are vulnerable to attack, and can be targeted.

As stated earlier, a critical capability (CC) is a capability that causes great concern for an adversary; this CC is how a force uses his power against the adversary. A **critical vulnerability** (CV) provides an opportunity for the adversary to attack that power. Figure 12-8 shows the definition of a **critical vulnerability** (CV). **Critical vulnerabilities** (CV) are also listed in noun form.

Critical Vulnerabilities (Noun!)

Those CR, or components thereof, that are deficient or vulnerable to neutralization or defeat in a way that will contribute to a COG's failing to achieve its CC. The lesser the risk and cost in friendly lives, the better. CV may, unusually, be of the silver-bullet type such as where one precisely targeted cruise missile destroys the enemy's leaders and results in an immediate end to a conflict. More typically, CV are of the lead-bullet type where final success can only be achieved by focusing on a combination of vulnerable CR that can be neutralized, interdicted, or attacked simultaneously or sequentially. Here, it is the **cumulative** effect that produces decisive results, seeking a series of successive battlefield advantages that will lead to unbalancing and eventually culminating the enemy, with or without a final dramatic decisive act.

Figure 12-8

The next series of figures will provide examples of how this construct works to "connect the dots" from the COG to the CC to the CW to the CV. The first set of figures addresses COG analysis of the enemy immediately after the 9/11 attacks (don't focus as much on the example as the process of analysis). The second set of figures will address critical factor analysis from the friendly center of gravity perspective in the post-9/11 war on terrorism.

In the first case, as shown in figure 12-9, the enemy COG is identified as enemy Middle Eastern terrorist groups that centered on al-Qaeda – al Qaeda and Associated Movements. These groups, especially al-Qaeda, were the **primary** components of physical or moral strength, power, and resistance. As they demonstrated on 9/11, they offered resistance and provided both physical and moral strength.

War Against Terrorism, Post 9/11

Enemy Critical Factor Analysis

Enemy Center of Gravity (COG):

Enemy terrorist organizations centered on al-Qaeda.

Enemy Critical Capabilities (CC – Verb)

To create the conditions whereby extremist groups can topple moderate Middle East regimes through persistent terrorist attacks against US and indigenous targets, with or without forcing the United States to withdraw from the Middle East.

Figure 12-9

The critical capability (CC) of these groups is stated as a verb—**to create** the conditions to force the toppling of moderate Middle East regimes—which leads to the end state of finally toppling Western governments, especially that of the United States. The CC is shown to include "with or without forcing US withdrawal" as an acknowledgment of the proposed end state at this time; toppling Middle East regimes in the short term is the CC that these groups hope to achieve to set the conditions for their overall long-term end state; as mentioned before, end states can (and should) adjust as conditions change. Once the immediate post-9/11 end state is achieved, the objectives of these groups would shift to a broader end state of toppling Western governments, focusing on the United States – and requiring different critical capabilities. To enable the current fight and enemy critical capabilities, there are inherent critical requirements, as listed in Figure 12-10.

War Against Terrorism, Post-9/11

Enemy Critical Factor Analysis

Enemy Critical Requirements (CR – Noun)

- Secure bases for training, logistic support, and command.
- Continued recruitment of committed followers for the long war:
  - —The cause—the Arab-Israeli conflict.
  - —Transmit the message.
- Charismatic leadership.
- Financial backing to position and sustain long-term "sleepers" in Western states.
- Technological "know-how" to develop and use weapons of mass destruction to force the eventual ending of the West's will to win.

Figure 12-10

These critical requirements (CR) are necessary (critical) for the enemy to achieve the CC. A further analysis of these requirements indicates that there are some inherent weaknesses. Although these requirements may have been achievable before 9/11, many of the CR have become more difficult to procure and can be possibly exploited; "shoring up" each of these weaknesses is necessary for the enemy to have the CR available in order to achieve the CC. To develop the critical weaknesses (CW) list it is important to consider that not all of them represent a targetable entity—it may be a weakness, but it is not vulnerable unless the opposing side (the friendly side in this case) **can** and **wants** to attack it. Figure 12-11 provides the CW assessment.

War Against Terrorism, Post-9/11

Enemy Critical Factor Analysis

Critical Weaknesses (CW – Noun)

- Dependence on refuge for training and planning.
- Lack of traditional military forces.
- Decentralized, compartmentalized operations.
- Long lead time for detailed planning.
- Personality dependence.
- Difficulty in infiltrating Western society.
- Legitimacy in the political arena.
- Dependence on use of "surprise" to achieve results.
- Lack of coherent message throughout the world.
- Requires periodic success for recruiting efforts.

Figure 12-11

Based on a review of the CW, there are a number of CV—deficiencies that the enemy has in his CR that are also exploitable and contribute to success in the eyes of the friendly commander.

There may be a tendency at this point to confuse the concepts of COG and CV; by definition, a COG cannot also be a CV.[9] The COG consists of the "primary components of physical or moral strength, power and resistance. They don't just contribute to strength; they ARE the strength," while a CV consists of those components of critical requirements that are deficient, are targetable, and thereby vulnerable to neutralization or defeat in a way that will contribute to a center of gravity's failing to achieve its critical capability.

From a systems standpoint, you are not attacking the entire system; you are attacking a critical component of the system that is vulnerable to attack in order to "de-link" the system from fully functioning. Figure 12-12 presents the CV for our example.

War Against Terrorism, Post-9/11

Enemy Critical Factor Analysis

Critical Vulnerabilities (CV – Noun)

- Bases need host nations upon which military, diplomatic, and economic pressure can be mounted.
- Resolution of the Arab-Israeli conflict will remove the most potent cause for recruitment.
- Most Muslims worldwide are moderate; the isolation of extremists in most societies would limit the spread of the message.
- Charismatic leaders can be found and removed from influence, although care should be taken to avoid martyrdom.
- Worldwide financial network and movement of money can now be monitored through advanced IT, potentially identifying terrorist groups' sources of funds.
- Limiting flow of "know-how" to developing nations will make leaking technology and material to terrorist groups more difficult.

Figure 12-12

An additional step that is useful at this point is to conduct a crosswalk between the CR and the CV. The crosswalk shows the planner and commander in a visual way how attacking a CV

directly impacts the CR for the enemy and helps to focus efforts. This crosswalk does not use the CW construct. That step was necessary to determine and refine the CV, but it is not necessary to show the linkage between CR and CV. From an operations perspective, this crosswalk shows how attacking a CV achieves the effects on a CR. An example of the crosswalk is shown in Figure 12-13.

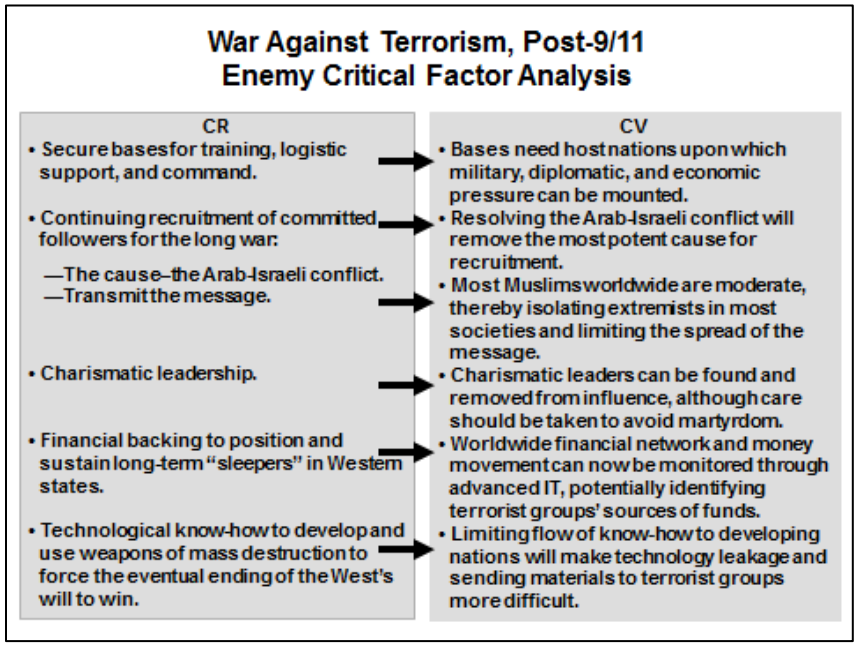


Figure 12-13

At this point the planner has a clear linkage that ties together the CV that will be targeted to the COG—attack a CV to affect the CR that in turn affects the CC that in turn affects the COG that produces the desired effects.

Let me now shift gears and present the analysis from a friendly perspective. This process is similar to the process for the enemy analysis but is important in terms of assessing possible

enemy actions. The friendly analysis is also important because the planner needs to look at the same considerations from a friendly perspective to protect CR and to prevent friendly vulnerabilities from being exploited.

War Against Terrorism, Post-9/11

Friendly Critical Factor Analysis

Friendly Center of Gravity (COG)

Former President George W. Bush and the determination of the American people.

Friendly Critical Capability (CC – Verb)

To lead a concerted and sustained campaign to defeat extremist terrorist organizations.

Figure 12-14

Figure 12-14 shows the friendly center of gravity (COG) as the President of the United States and the determination of the American people, as discussed earlier. The critical capability (CC) for the President in the war on terrorism is "to lead a concerted and sustained campaign to defeat the extremist terrorist organizations," focusing on al-Qaeda and Associated Movements. To be able to achieve this friendly critical capability (CC), there are a number of inherent friendly critical requirements (CR) that must be acquired and protected. Figure 12-15 shows the friendly critical requirements (CR) to achieve the friendly critical capability (CC) to lead a concerted and sustained campaign.

War Against Terrorism, Post-9/11

Friendly Critical Factor Analysis

Friendly Critical Requirements (CR – Noun)

- Committed support of the US population (and therefore Congress) for the long war.
- Excellent intelligence on terrorist groups, organizations, personalities, and intentions.
- Bases in the Middle East and Central Asia from which military and other operations can be mounted.
- Worldwide support for US actions to give legitimacy to any military action, increase diplomatic pressure on host states, and ensure international application of antiterror measures.
- A temper, mood, or mind-set of the Middle East "street" that does not result in active or passive support to terrorists, insurgents, and enemies of the United States.

Figure 12-15

There are, of course, inherent weaknesses from a friendly perspective in the war on terrorism. Identifying these weaknesses requires some critical thinking—thinking through the problem not only from friendly eyes but also from how the enemy considers us as weak. This is not an easy task but nonetheless necessary – and a task well-suited for red teaming as mentioned earlier. Figure 12-16 provides a blunt assessment of some of the inherent critical weaknesses of friendly forces in the post-9/11 war on terrorism, especially for the United States.

War Against Terrorism, Post-9/11

Friendly Critical Factor Analysis

Friendly Critical Weaknesses (CW – Noun)

- Requires resolve for the long term with fickle populations.
- Lack of unanimity in the world political arena.
- Perceived history of "cut and run" in Vietnam, Lebanon, Somalia.
- Religious tension—concept of a "crusade."
- Instantaneous press coverage of everything.
- Requirement to fight fair, even when the enemy does not.
- "Cold War" mind-set and military organization.
- Lack of coherent coordination between diplomatic, informational, military, and economic (DIME) elements.
- Personality dependent, particularly with allies.

Figure 12-16

These critical weaknesses (CW) can translate into a number of critical vulnerabilities (CV) for the United States and its allies. This is particularly true when the enemy does not fight fair and is fighting not only a fight in theater but also in the "living rooms of America" as we saw have seen in previous conflicts such as during the Vietnam War. Figure 12-17 provides an expanded list of the possible friendly critical vulnerabilities (CV) for the Post-9/11 War on Terrorism.

War Against Terrorism, Post-9/11

Friendly Critical Factor Analysis

Friendly Critical Vulnerabilities (CV – Noun)

- Possible loss of interest if lack of observable activity over a long period.
- Possible reaction against campaign if mass casualties mount over time.
- Lack of human intelligence (HUMINT) within terrorist organizations; shortcomings of technical intelligence in this form of conflict.
- Depends on support of Russia and Islamic states that are vulnerable to criticism of US pro-Israeli bias.
- Such support may ebb in the long term as narrow national interests begin to reemerge.
- Perception that the United States cannot win.
- Perception of a "quagmire" or restlessness because of US inability to exert some measure of success.
- Perception of US pro-Israeli bias that will remain long after the Americans are gone.
- Perception that the US tendency is to quit and leave when things go sour (as in Vietnam, Lebanon, Somalia).
- Perception that the motive behind US actions is a renewed Christian "crusade" against Islam.

Figure 12-17

Figures 12-18 and 12-19 show the friendly crosswalk of the critical requirements and critical vulnerabilities.

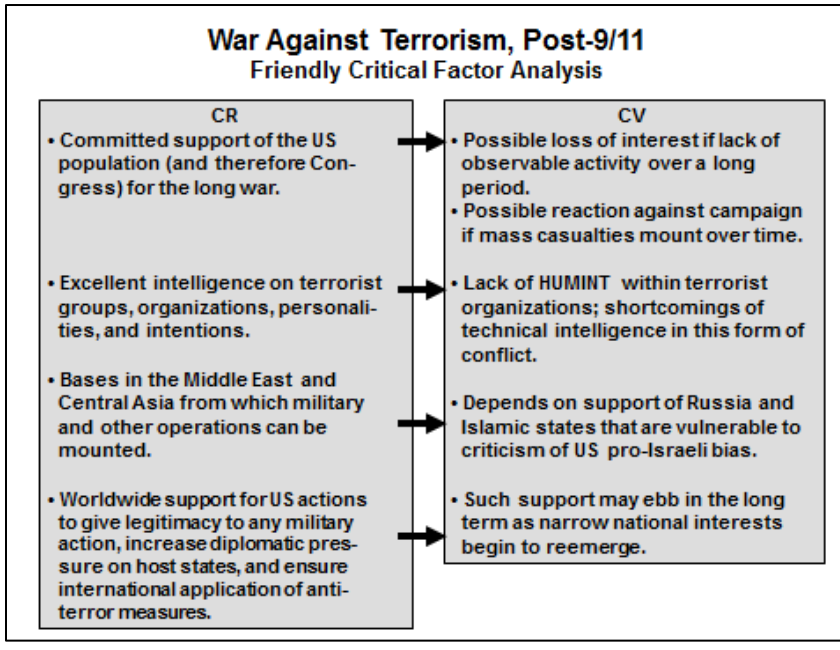


Figure 12-18

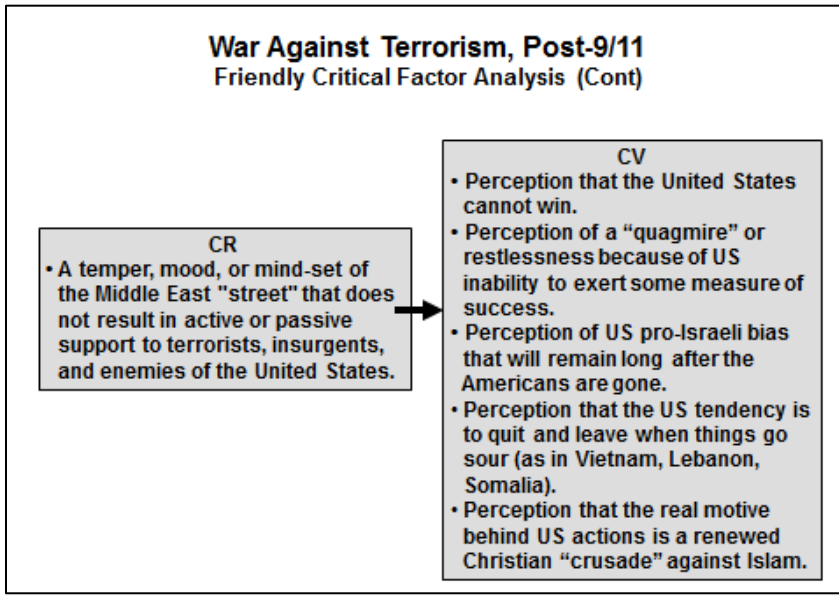


Figure 12-19

Let's look at the relationship between the concepts of CV, CR, CC, and the COG. Conceptually, the planner wants to attack the COG, but normally the COG, as the **primary** component of physical or moral strength, power, and resistance, is the most difficult to attack. The CV construct allows the planner to analyze and determine how to effectively plan to attack vulnerabilities that give the "biggest bang for the buck" in affecting the COG.

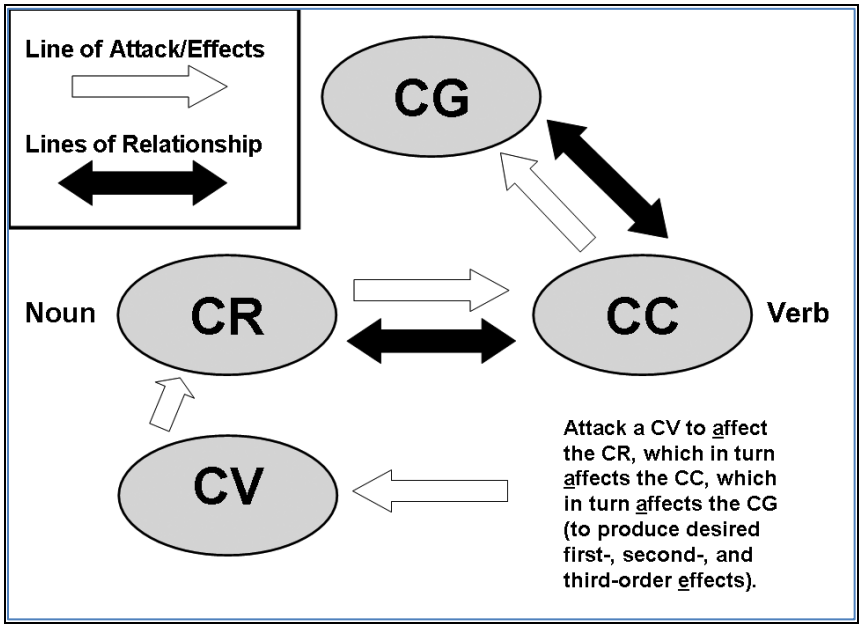


Figure 12-20

Planners should plan to attack a CV to affect the CR—the process shown on the crosswalk figures earlier in this chapter. The **effects** on the CR **affect** the enemy's ability to achieve a CC that, in turn, affects the COG and prevents the enemy from achieving his desired end state. Figure 12-20 depicts the process of the CV construct. Figure 12-21 shows a simplified version of the CV construct with the linkage to the end state.

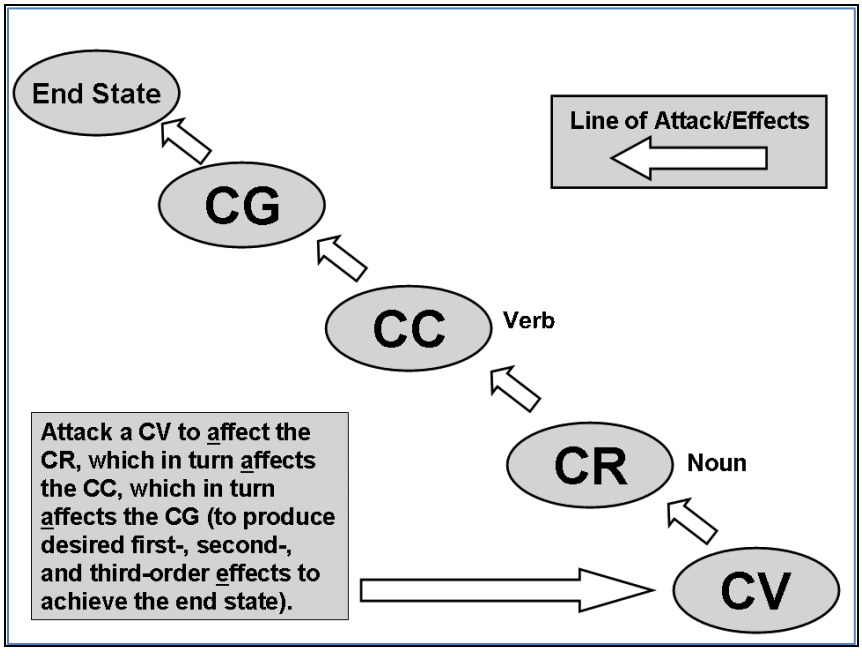


Figure 12-21

This construct has an additional advantage when thinking of the construct of ends, ways, and means. In chapter two I discussed the relationship of ends, ways, and means for campaign planning. That construct includes three components: determining the ends (the purpose for the COA), determining the ways (the methods, or how you will achieve the ends), and determining the means (the resources available to achieve the ways). Using the ends-ways-means methodology helps provide a coherent planning and targeting methodology that links actions in the campaign to the purpose for the campaign.

The end state is, of course, the **ends**. Critical capabilities (CC) (expressed in verb form) provide insight into the **ways**. Critical requirements (CR) and Critical vulnerabilities (CV) (expressed as

nouns) provide insight into the **means**. Figure 12-22 provides a graphic depiction of this conceptual framework.

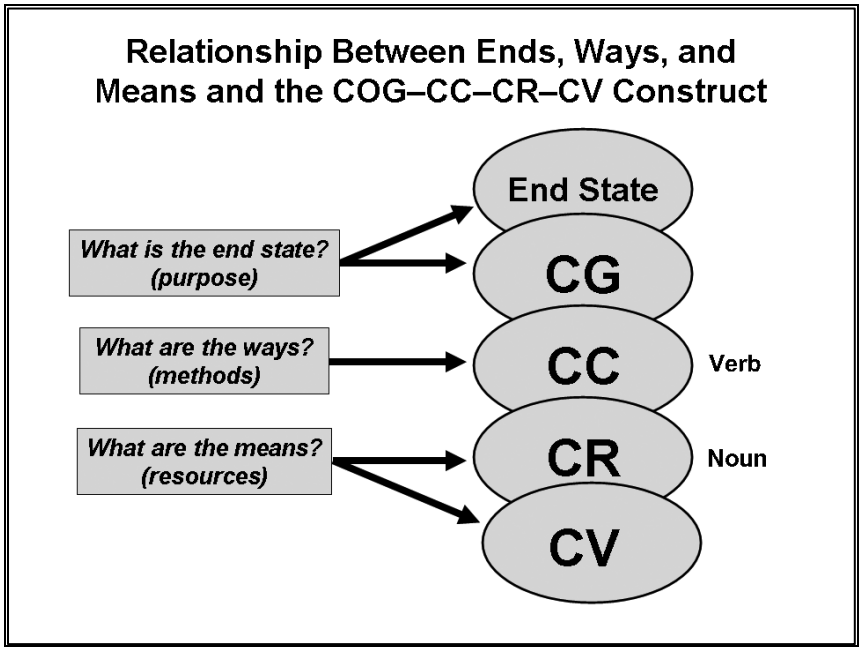


Figure 12-22

Bottom line: Critical Factor Analysis provides a methodology by which to focus actions directed to the center of gravity which leads to the end state. Conducting critical factor analysis and developing critical vulnerabilities provides a useful tool for the planner to visualize the campaign using a systems approach.

Notes

1. JP 1, page I-18.

2. For chapter twelve, the concepts of Dr. Strange are drawn from his monograph. See Dr. Joe Strange, *Centers of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundation So That We Can All Speak the Same Language*, Marine Corps University Perspectives on Warfighting Number Four, Second Edition (Quantico, VA: Marine Corps University Foundation, 1996).

3. JP5-0, page III-24.

4. Strange, page 146.

5. JP 5-0, page III-24.

6. Strange, 43.

7. Strange, 34.

8. JP 5-0, page III-24.

9. Strange, 74.

Chapter Thirteen:
Target Value Analysis

The previous chapter addressed the critical factor analysis construct that was initially developed by Dr. Joe Strange at the USMC War College. This chapter will address and compare other analysis and targeting methodologies as additional tools for campaign planners, focusing on target value analysis (TVA).

Target Value Analysis

TVA links the effects of attacking a target directly to the targeting function and involves detailed analysis of enemy doctrine, tactics, equipment, organization, and expected behavior. TVA listings indicate which targets are important, which are vulnerable, and when and where they are likely to be most vulnerable.

Through TVA the staff identifies those assets that the enemy commander requires to successfully complete the mission. These are identified as high-value targets (HVTs). Because these targets are key to the enemy commander's success, they are normally given a higher priority for attack.

If an HVT can be successfully acquired, is vulnerable to attack, and if such an attack supports the friendly scheme of maneuver, the target may be nominated as a high payoff target (HPT).

Figure 13-1

Simply put, there are two primary steps in TVA. The first step is developing the high-value targets (HVTs)—targets that are "key to the enemy commander's success," seen from the enemy's

perspective. The intelligence staff (G2/J2) is primarily responsible developing the high value targets to be integrated into the high value target list (HVTL).

The second step is to develop the high payoff target list (HPTL). These targets are derived from the HVTL, but the target is not only important from the enemy's perspective. The HPTL is also important from the friendly commander's perspective (supports his scheme of maneuver), can be acquired, and can be attacked. Simply put, a target on the HPTL is a target the enemy commander needs and the friendly commander **can** and **wants** to attack. The fires and operations staffs (G3/J3) are primarily responsible for developing the high payoff targets to be integrated into the high payoff target list.

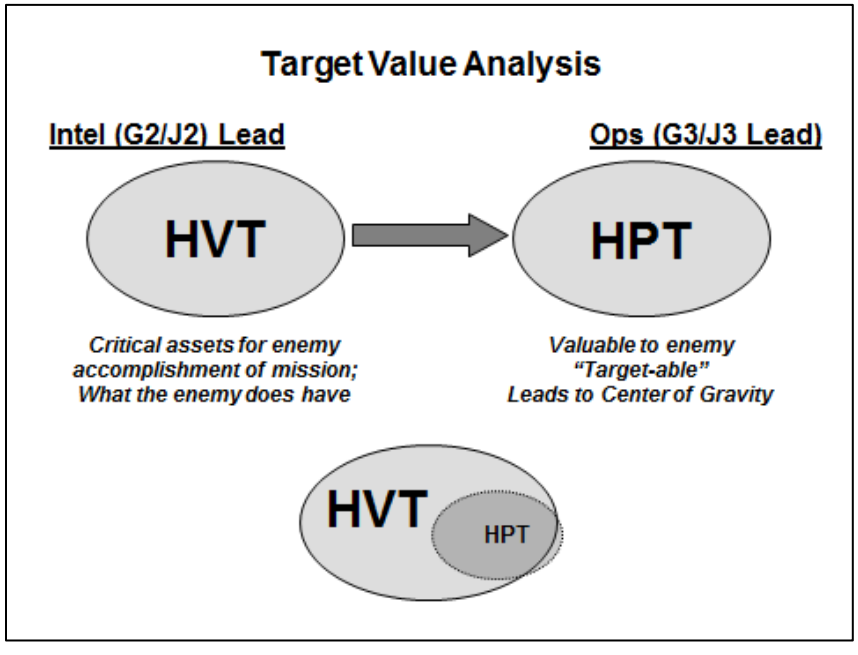


Figure 13-2

Figure 13-2 provides a graphic depiction of the TVA process. Note that at the bottom of the figure that high payoff targets are a subset of the high value targets. Of course, there normally will be more targets that are identified than can be or should be targeted. An HPT is normally already an HVT with the additional steps of the friendly commander wanting and being able to attack the target to achieve his objectives. In recognition that there may be some targets the enemy commander may not even realize are of great value to him but are of value to the friendly commander, the HPTL subset circle extends somewhat beyond the boundaries of the HVTL. An example of this could be a one-of-a-kind system such as a telephone switching system. Eliminating the telephone switching system could support the friendly scheme of maneuver but seemingly be of no real value to the enemy commander.

This process is conceptually similar to Critical Factor Analysis (Strange's methodology), as shown in Figure 13-3. Two of the steps in critical factor analysis include developing critical weaknesses (CW) and critical requirements (CR) that are deficient or lacking for the enemy. The intelligence staff (G2/J2) should have the primary responsibility for identifying the CW. Critical vulnerabilities (CV) are derived from the CW—those CW that contribute significantly to achieving a CC, are vulnerable to attack, and are "targetable" by the friendly commander. Again, there may be rare situations in which a CV is not identified as a CW. The fires and operations staffs (G3/J3) should be responsible for developing the CV.

Figure 13-4 depicts the relationship between TVA and critical factor analysis. Although the processes for TVA and critical factor analysis are similar, they are not the same. Some military theorists contend that "Strange's concept is that he provides a systematic method for translating the often-nebulous concept of the COG into meaningful military tasks. Yet, in a way, this is a high-value/high-payoff target approach to operational planning."[1]

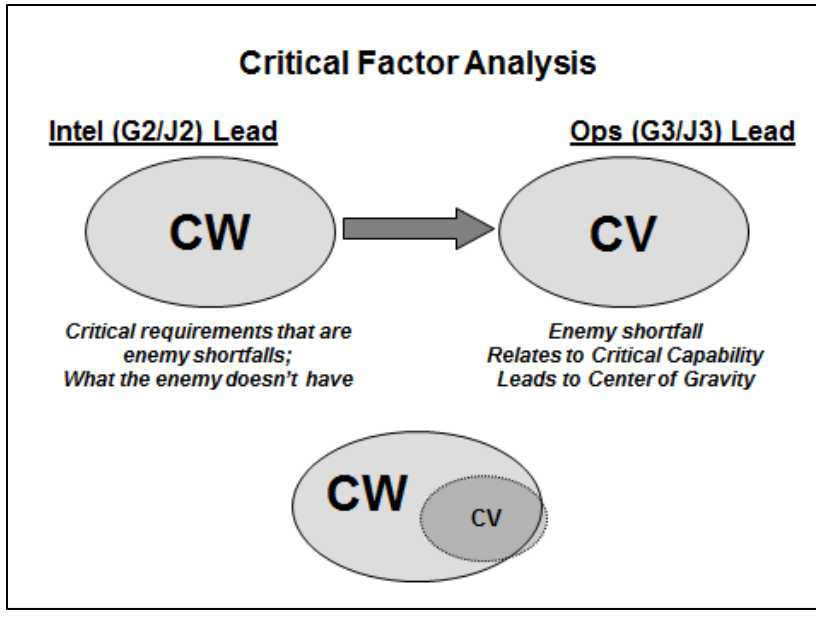


Figure 13-3

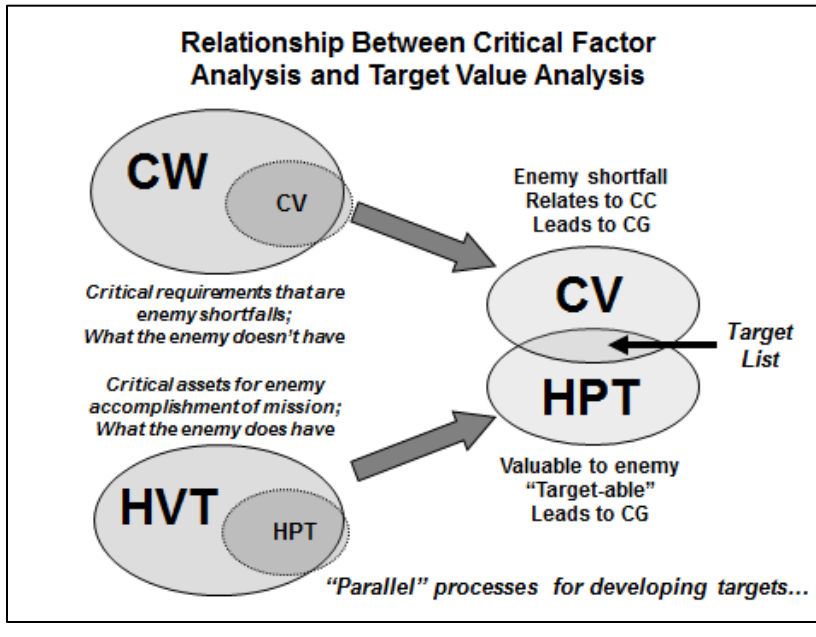


Figure 13-4

The approach may have similarities, but there are distinct differences. TVA approaches targeting from **what the enemy has** while Strange's critical factor analysis approaches targeting from **what the enemy does not have and needs**. Both methods are important to use for targeting. Both have value; each of the methods approaches the planning and targeting problem from a complementary, yet different perspective.

John Warden's Five Rings

An additional targeting approach that I think is of use is based on the writing of Colonel John Warden, US Air Force. As an airpower theorist, Warden's approach is a systems approach to targeting based on being able to attack a number of targets simultaneously. Figure 13-5 shows his systems framework of the five systems in a society that should be considered for attack.[2]

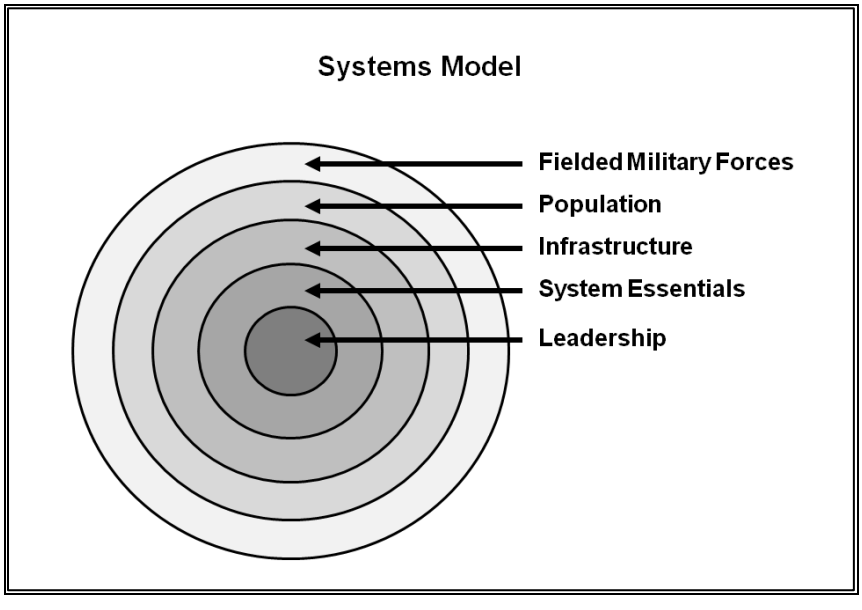


Figure 13-5

The systems framework of Warden's model is designed to indicate that targets closer to the center of the concentric circles are closer to the COG. Warden's model is consistent if the COG at the strategic level is the leader (rather than the population). Each of these systems provides a source of power for the COG; targeting these systems can be accomplished by using lethal or nonlethal means. Warden expanded his explanation of system attributes to systems other than a nation state, as shown in Figure 13-6.[3]

System Attributes

	Body	State	Drug Cartel	Electric Company
Leader	Brain -eyes -nerves	Government -communication -security	Leader -communication -security	Central control
Organic Essential	Food/oxygen -conversion via vital organs	Energy (electricity, oil, food), money	Coca source plus conversion	Input (heat, hydro) Output (electricity)
Infrastructure	Vessels, bones, muscles	Roads, airfields, factories	Roads, airways, sea lanes	Transmission lines
Population	Cells	People	Growers, distributors, processors	Workers
Fighting Mechanism	Leukocytes	Military, police, firemen	Street soldiers	Repairmen

Figure 13-6

It is interesting to see the parallel between the five different systems in Warden's targeting methodology and the concept of "slices" by General Franks in the early stages of Operations Iraqi Freedom, as described in chapter eleven. Figure 13-7 shows the "Franks' slices" and "Warden's rings" approaches side by side for comparison.

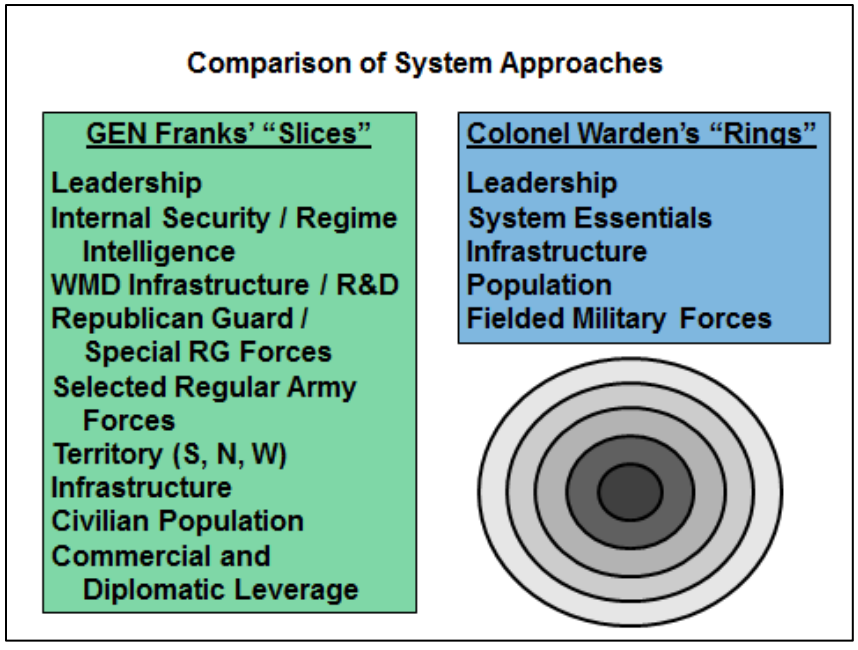


Figure 13-7

Bottom line: Target Value Analysis (TVA) and Critical Factor Analysis are conceptually similar but approach the planning and targeting problem from two different perspectives. TVA approaches planning and targeting from what the enemy has; Critical Factor Analysis approaches planning and targeting from enemy deficiencies – what the enemy does not have. John Warden's framework provides another useful methodology for approaching planning and targeting from a systems perspective.

Notes

1. Greer, page 29.
2. Warden, page 108.
3. Warden, 107.

Chapter Fourteen:
Wargaming

Once you have pulled it all together and developed the tools from the earlier chapters for campaign planning, it is imperative to go through the process of course of action (COA) analysis or, as it is better known, to **war game** the COAs that you have developed. This chapter provides guidance for wargaming a COA and sets the stage for conducting a rehearsal at the operational, or campaign level. The wargaming process addresses the question posed at the beginning of the book in chapters one and two - "Does the solution answer the problem?"

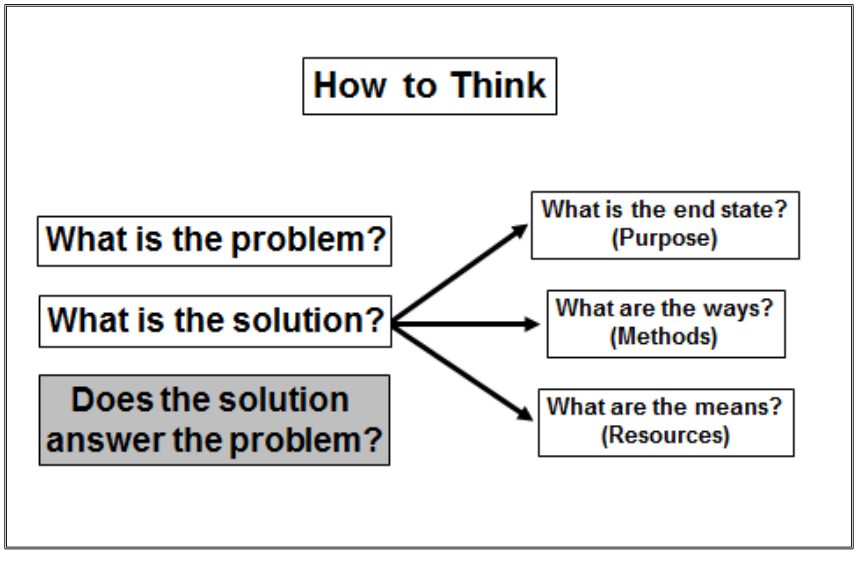


Figure 14-1

No one has the magic answer for conducting a COA analysis or wargaming at the operational or campaign level, so the description in this chapter is **a** way rather than **the** way to conduct a war game. Joint doctrine provides the following description of wargaming in figure 14-2:

Wargaming Description – Joint

Wargaming is a disciplined process, with rules and steps that attempt to visualize the flow of the operation. The process considers friendly dispositions, strengths, and weaknesses; enemy assets and probable COAs; and characteristics of the physical environment. It relies heavily on joint doctrinal foundation, tactical judgment, and operational experience. It focuses the staff's attention on each phase of the operation in a logical sequence. It is an iterative process of action, reaction, and counteraction. Wargaming stimulates ideas and provides insights that might not otherwise be discovered. It highlights critical tasks and provides familiarity with operational possibilities otherwise difficult to achieve. Wargaming is a critical portion of the planning process and should be allocated more time than any other step. **Each retained COA should, at a minimum, be wargamed against both the most likely and most dangerous enemy COAs.** During the war game, the staff takes a COA statement and begins to add more detail to the concept, while determining the strengths or weaknesses of each COA. Wargaming tests a COA and can provide insights that can be used to improve upon a developed COA. The commander and staff (and subordinate commanders and staffs if the war game is conducted collaboratively) may change an existing COA or develop a new COA after identifying unforeseen critical events, tasks, requirements, or problems.[1]

Figure 14-2

Army doctrine provides the description of wargaming as shown in figure 14-3:

Wargaming Description – Army

War-gaming is a disciplined process, with rules and steps that attempt to visualize the flow of the operation, given the force's strengths and dispositions, enemy's capabilities and possible COAs, impact and requirements of civilians in the AO, and other aspects of the situation. The simplest form of war-gaming is the manual method, often utilizing a tabletop approach with blowups of matrixes and templates. The most sophisticated form of war-gaming is modern, computer-aided modeling and simulation. Regardless of the form used, each critical event within a proposed COA should be war-gamed using the action, reaction, and counteraction methods of friendly and enemy forces interaction. This basic war-gaming method (modified to fit the specific mission and environment) applies to offensive, defensive, and stability or civil support operations.… War-gaming results in refined COAs, a completed synchronization matrix, and decision support templates and matrixes for each COA. A synchronization matrix records the results of a war game. It depicts how friendly forces for a particular COA are synchronized in time, space, and purpose in relation to an enemy COA or other events in stability or civil support operations. The decision support template and matrix portray key decisions and potential actions that are likely to arise during the execution of each COA.[2]

Figure 14-3

Joint doctrine notes that wargaming is the primary means to conduct course of action analysis – and that wargaming should answer two primary questions: ***Is the COA feasible, and is it acceptable?***[3]

Wargaming Purpose – Joint

Wargaming is a conscious attempt to visualize the flow of the operation, given joint force strengths and dispositions, adversary capabilities and possible COAs, the OA, and other aspects of the operational environment… COA wargaming allows the commander, staff, and subordinate commanders and their staffs to gain a common understanding of friendly and enemy COAs. This common understanding allows them to determine the advantages and disadvantages of each COA and forms the basis for the commander's comparison and approval… Wargaming stimulates thought about the operation so the staff can obtain ideas and insights that otherwise might not have occurred. This process highlights tasks that appear to be particularly important to the operation and provides a degree of familiarity with operational-level possibilities that might otherwise be difficult to achieve.[4]

Figure 14-4

The basic requirements for wargaming, as described in this chapter, include a developed distinct course of action that leads to a clearly identified desired end state; strategic and operational COGs (or DPs at the tactical level); defined defeat and/or stability mechanisms; and lines of effort to retain a focus on all activities within the area of operation and ensures that planning and targeting is linked to the COG and end state (using either critical factors analysis or target value analysis, or better yet – a combination of the two). There are a number of other products that are required (such as assumptions, a list of critical events, and evaluation criteria) that we will discuss later on. With these components present within your COA, you can now move forward

and conduct a solid war game that considers the entire campaign area of operations. Most importantly, you can link specific activities and objectives to the end state. Figure 14-5 shows the key inputs and key outputs for course of action analysis and wargaming from joint doctrine.[5]

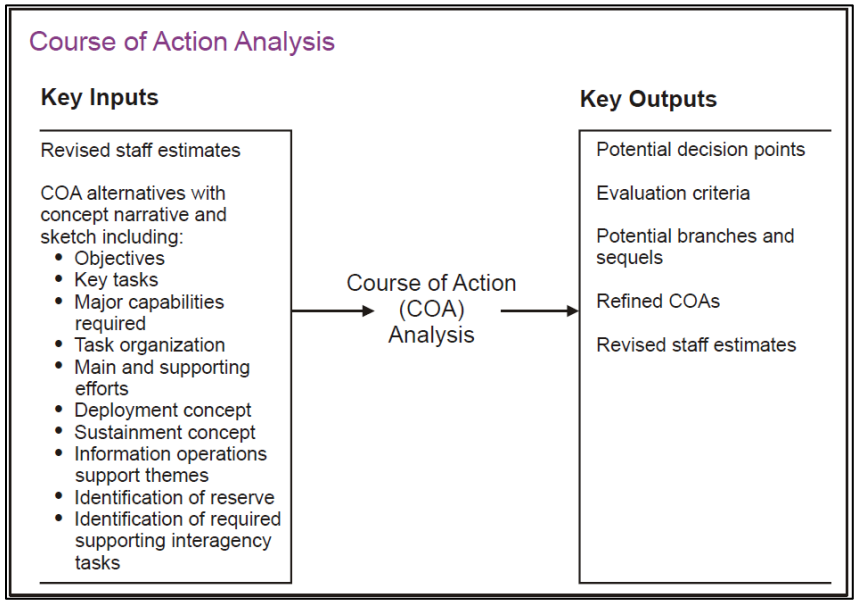


Figure 14-5

One caveat about figure 14-5: **Evaluation criteria** are listed as a "key output," but joint doctrine clearly identifies that evaluation criteria are identified before wargaming begins; in fact, evaluation criteria should be identified even earlier – prior to developing courses of action. More on this later…

Joint doctrine states that there are two key decisions that must be made prior to beginning a war game: to decide what type of war game will be used and to prioritize the enemy COAs that the war game will be analyzed against. Once these decisions are

made, there are three primary steps for conducting a war game: (1) prepare for the war game, (2) conduct the war game and assess the results, and (3) prepare products.[6] Figure 14-6 shows the sample wargaming steps.[7]

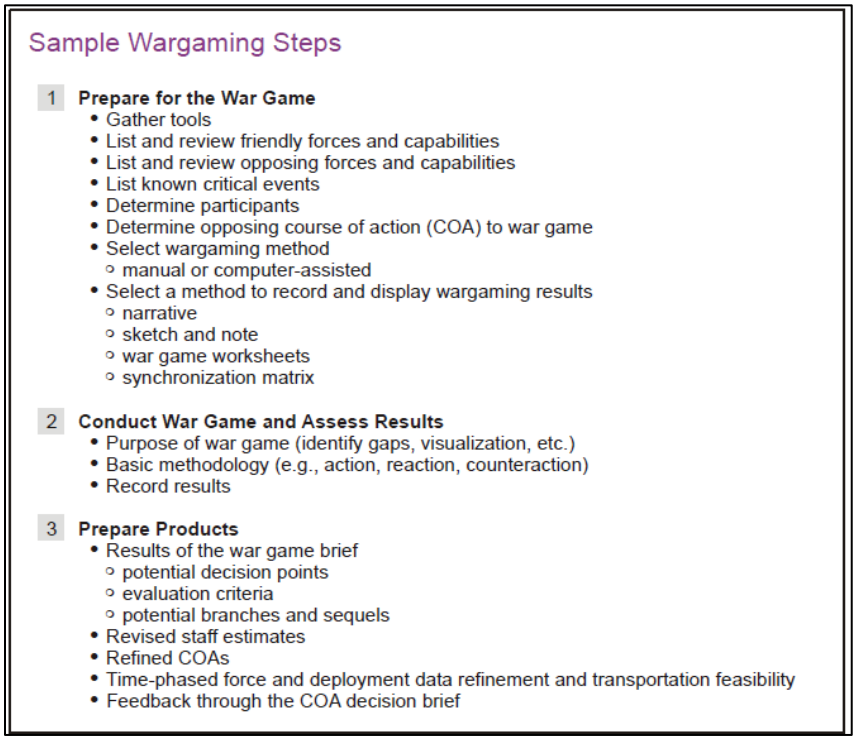


Figure 14-6

Army doctrine also identifies the purpose for course of action analysis and wargaming, with a similar focus of enabling commanders and staff to "think through" the tentative plan.

Wargaming Purpose – Army

COA analysis enables commanders and staffs to identify difficulties or coordination problems as well as probable consequences of planned actions for each COA being considered. It helps them think through the tentative plan. COA analysis may require commanders and staffs to revisit parts of a COA as discrepancies arise. COA analysis not only appraises the quality of each COA but also uncovers potential execution problems, decisions, and contingencies. In addition, COA analysis influences how commanders and staffs understand a problem and may require the planning process to restart.[8]

Figure 14-7

Figure 14-8 shows the key inputs and key outputs for course of action development and wargaming from Army doctrine, as well as an overview of the wargaming process.[9]

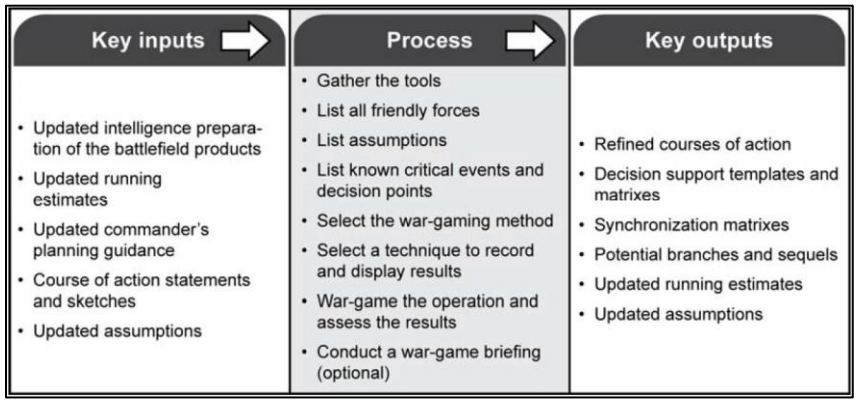


Figure 14-8

Army doctrine does not list evaluation criteria as a key output for the wargaming process; by Army doctrine, evaluation criteria

are developed during mission analysis (prior to developing courses of action and conducting wargaming).[10]

Let's focus on the first step – to prepare for the war game. Figure 14-9 shows these specific steps according to joint doctrine.

Wargaming Preparation – Joint

- Gather tools.
- List and review friendly forces and capabilities.
- List and review opposing forces and capabilities.
- List known critical events.
- Determine participants.
- Determine opposing course of action (COA) to war game.
- Select wargaming method.
  - Manual or computer assisted.
- Select a method to record & display wargaming results.
  - Narrative.
  - Sketch & note.
  - War game worksheets.
  - Synchronization matrix.

Figure 14-9

Army doctrine does not break the process of wargaming into the three joint steps of preparing for the war game, conducting the war game and assessing the results, and preparing products – but does provide a similar list for the preparation for a war game as part of the overall process. Figure 14-10 shows the steps for wargaming preparation according to Army doctrine.[11]

Wargaming Preparation – Army

- Gather the tools.
- List all friendly forces.
- List assumptions.
- List known critical events and decision points.
- Select the war-gaming method.
- Select a technique to record and display results.

Figure 14-10

Note that Army doctrine lists the important additional step of listing assumptions; joint doctrine lists the additional step of listing and reviewing enemy forces, as well as determining participants for the war game. Joint doctrine notes that two decisions should be made prior to the preparation for the war game: to decide what type of wargaming method will be used (which is in the Army and joint list) and to prioritize the enemy COAs that the war game will be analyzed against (which is in the joint list). Evaluation criteria should be developed prior to developing courses of action, but these should also be clearly listed during the war game – if you are going to list assumptions and critical events, it also makes sense that you should also list the evaluation criteria that will be used to analyze each of the courses of action.

Just a reminder – both joint and Army doctrine describe wargaming as a deliberate process; joint doctrine states that "Wargaming is a critical portion of the planning process and should be allocated more time than any other step." As a result, time spent in preparation and ensuring that all the tools and steps are ready is critical. As a result, figure 14-11 shows a proposed modified list that combines the elements of both lists for the preparation of a war game.

Modified Wargaming Steps – Combined

- Gather the tools.
- List and review friendly forces and capabilities.
- List and review opposing forces and capabilities.
- List assumptions.
- List known critical events and decision points.
- List evaluation criteria.
- Determine participants.
- Determine opposing courses of action (COA).
  - Opposing Most Likely COA (MLCOA).
  - Opposing Most Dangerous COA (MDCOA).
- Select wargaming method.
  - Manual or computer assisted.
- Select a method to record & display wargaming results.
  - Narrative.
  - Sketch & note.
  - War game worksheets.
  - Synchronization matrix.

Figure 14-11

Let's review each of these steps in terms of conducting a war game at the operational level.

Gather the tools. Tools include staff estimates, results of intelligence preparation of the battlefield, a working COA (based on lines of effort), Critical Factor Analysis (including the crosswalk of CR and CV), defined objectives and decision points, maps, and everything else you have from mission analysis or from operational design. The process of gathering the tools continues throughout the preparation for the war game – you'll also need the problem statement, your restated mission, assumptions, evaluation criteria, and all the other previously developed products for "eye candy" to display to keep focused during the

wargaming process. This “eye candy” display should be the same for the friendly forces as for opposing forces.

List and review friendly forces. Ensure that you do not just consider those forces on your annex A (troop list) but that you also consider those organizations and entities in the theater that can influence your actions. This includes, but is not limited to, NGOs, PVOs, OGAs, friendly units not under your control, the friendly population, etc. It is also useful to consider those “gray” organizations that are in the theater that may not even cooperate directly with you because of their policies or culture (such as Doctors Without Borders / *Médecins Sans Frontières*) but whose actions may lead towards the desired end state. This is particularly true when considering the myriad of organizations that will conduct humanitarian assistance activities in a theater but want nothing to do with the military. Their actions will have an impact—identify them at this step. You may even want to consider going beyond a “two-way” war game and develop LOEs for key players, such as the host nation – it is quite possible that these players have different objectives, lines of effort, and a different desired end state. This, no doubt, makes the war game process more difficult – but also more realistic.

List and review opposing forces. Just as with friendly forces, ensure that you do not just consider those forces that you have identified as available to the adversary but that you also consider those organizations and entities available to the adversary in theater that can contribute to the opposing COA(s). This includes, but is not limited to, affiliated forces such as criminal elements, insurgent organizations, sympathizers, and the like. Some of the “gray” organizations in theater may also – wittingly or unwittingly – contribute to the opposing COA(s). Keep all of these elements in mind when listing and reviewing opposing forces.

List assumptions. These need to be evaluated for validity (are they assumed to be true?) and necessity (does the plan really

hinge on this?).[12] When considering and listing assumptions, use the lines of effort that you have developed as a cross-check to ensure you have covered everything. For example, if you have a line of effort for information operations, which I believe you should have for every campaign, have you assumed that you will be able to get your message to the local populace to "stay put" through the local media?

List evaluation criteria. This is a tough one to do; the evaluation criteria should be determined before developing courses of action based on the initial commander's guidance. When will you know if you have succeeded? It is dangerous to think only in terms of an exit strategy for campaign planning. Remember, for campaigns you not only want to win the battle, you also want to set the conditions for winning the war and winning the peace for the long term. The evaluation criteria for success are tied to achieving the end state. For each of the lines of effort you should have developed measures of performance and measures of effectiveness (more on these in the next chapter), but it is the cumulative effect of all the lines of effort that achieve the desired end state.

There are, of course, a number of additional concerns that should be addressed when identifying evaluation criteria. The number of casualties will always be a concern, as will the amount of time it takes to achieve the end state. Additionally, strategic guidance and intent will always be a concern.

There is a tendency, especially among Army officers, to use a laundry list, such as the principles of war or the feasible, acceptable, suitable, distinguishable, and complete (FASDC) test for the evaluation criteria. Of course, during the development of a COA the principles of war should be considered. Using FASDC is a mistake – FASDC comprises the screening criteria, not evaluation criteria; every COA must meet the FASDC test or it's not a valid COA! Even though joint doctrine states that there are two

questions asked during wargaming (*is the COA feasible, and is it acceptable?*) that are screening criteria, these questions only determine if the course of action is valid. Screening criteria determine if the course of action is **good enough** to accomplish the mission; evaluation criteria determine if the course of action is the **best** COA to accomplish the mission.

It is important to remember that the process of "comparison of courses of action" starts by comparing a COA against the evaluation criteria – not comparing courses of action against each other… Joint doctrine states that "COAs are not compared to each other directly. Each COA is considered independently and is compared with evaluation criteria."[13]

Applying Evaluation Criteria

COA comparison is a subjective process whereby COAs are considered independently and evaluated/compared against a set of criteria that are established by the staff and commander. The goal is to identify and recommend the COA that has the highest probability of success against the enemy COA that is of the most concern to the commander. COA comparison facilitates the commander's decision-making process by balancing the ends, means, ways, and risk of each COA.[14]

Figure 14-12

A solid approach to evaluation criteria would be to use the additional *principles of joint operations* for three of the criteria – these are legitimacy, perseverance, and restraint.[15] Use a total of no more than 5-6 criteria, and establish a working definition of the terms prior to conducting the war game.

For example, if you chose "perseverance" as one of the elements of your evaluation criteria, the working definition of the

term (derived from JP 3-0) and a "rubric" for evaluation could be as shown in Figure 14-13:

Evaluation Criteria: Perseverance

Perseverance: To ensure the commitment necessary to attain the strategic end state. Commanders prepare for measured, protracted military operations in pursuit of the desired Coalition strategic end state. Some multinational operations may require years to reach the desired end state. The patient, resolute, and persistent pursuit of coalition goals and objectives often is a requirement for success.

Less than desirable: The COA involves operations which fail to demonstrate unity of effort, or those that degrade legitimacy (indirectly affecting perseverance).

Desirable: The COA fosters commitment within the Coalition and its international and Host Nation partners while preserving the Coalition and Host Nation Security forces/assets over time.

Optimal: The COA demonstrates unity of effort and coalition will by presenting an opportunity to fortify what our enemies assume is our primary vulnerability; convincing the population and our partners that we intend to stay the course.

Figure 14-13

List known critical events and decision points. If you have done your homework on developing the lines of effort by developing objectives and decision points, you are ahead of the game. At the operational level, it is also important to think of critical events beyond what you have planned in the lines of

effort. Are there significant local religious holidays during the conduct of the campaign? Are elections taking place? Are there any particular anniversaries of critical events occurring during the campaign? Think of critical events not only geographically but also chronologically.

Determine participants. This is an essential step because everyone is important during wargaming. As Army doctrine states, "the war game focuses not so much on the tools used but on the people who participate."[16] At a minimum, those participating in the war game must have detailed knowledge of the COA. There should be a dedicated red cell that can aggressively pursue the opponent's points of view; this red cell should have also developed the opponent's COAs and supporting red cell staff products (LOE chart, adversary assumptions, etc.). The recorder is also a key member of the wargaming team, carefully capturing the results of the war game – these products will be essential in the COA analysis and during further development of the COA after COA selection.

There is also a requirement to have someone play the role of the umpire – in a competitive war game, there is a need to have someone dedicated to do adjudication so the war game can continue. The umpire must be objective to ensure the results are meaningful. This shouldn't be the recorder – the recorder has enough to do! The umpire should also be the timekeeper – limit the times allowed for each turn so the game moves along, giving the same amount of time to each side.

When using the construct of lines of effort, it is also essential to have a proponent assigned for every line of effort (a "LOE proponent"). This individual has the responsibility to consider the actions that take place along that line of effort during every game turn and to consider the impact of the actions on the other lines of effort. For example, if the initial main effort is establishing a hasty defense during the campaign, the staff focuses on each

action that takes place to prepare for that defense. The staff judge advocate may be responsible for the "promotion of democracy" line of effort. At every game turn, the staff judge advocate will consider the actions taking place in the "democracy line of effort" as well as the impact of the "hasty defense line of effort" (and the information operations line of effort, and the humanitarian assistance line of effort, etc.). This is an essential element of wargaming with lines of effort – forcing the staff to look at the second and third order effects for every action.

The process – having "LOE proponents" – will most likely reveal that some actions will have a positive effect on one line while having a negative effect on another line. Using the example above, it may be useful for maneuver units to establish hasty defensive positions using obstacles, but that could have a negative effect on humanitarian operations and information operations with the local populace. At this point, it may be necessary to determine if there are ways to mitigate the conflict between the two lines of effort or to determine an alternate approach. When this dilemma (positive effects on one line with negative effects on another line) is identified, this forces the commander to either accept risk with the negative effects or to make modifications to mitigate the negative effects. More on this later.

Determine opponent's courses of action (COA). Similar to friendly COA development, opponent COAs should be prepared using opponent lines of effort that lead to the opponent's desired end state. The most likely COA would be the way the opponent prefers to operate in each of his own lines of effort and should also be tied to an opponent's desired end state. The most dangerous COA should be that COA that causes you, as the friendly commander, the greatest concern—those actions the opponent can accomplish that keep you awake at night (and are directly related to the opponent's critical capabilities). This

process also ensures that all of the opponent's actions are purposeful activities that lead to his end state.

A note of caution here. If you have limited time, it is **more important to war game more than one opponent COA** (most likely and most dangerous at a minimum) than it is to war game more than one friendly COA. If you war game one solid friendly COA against the two adversary COAs with some success, you have a pretty good idea that your COA will work regardless of what the opponent throws at you. If, on the other hand, you war game multiple friendly COAs against just one opponent COA, you are assuming that the opponent will do exactly what you want him to do, and you will likely be surprised. As joint doctrine states, "Each retained COA should, at a minimum, be wargamed against both the most likely and most dangerous enemy COAs."[17]

*** Additional courses of action.** In the real world, it may not be as simple as having two "players" in the operational environment; there will no doubt be a host nation, there may be "fence-sitters" and other potential actors in the operational area. You may want to consider going beyond a "two-way" war game and develop LOEs for key players, such as the host nation (a "green cell"). It is quite possible that these players have different objectives, lines of effort, and different end states. This, no doubt, makes the war game process more difficult when you do a "three way" (or more) war game – but this is also more realistic.

Select the war game method. The three recommended war game methods in Army doctrine are the belt, avenue-in-depth, and box methods.[18] All three methods are oriented on terrain, which does not work well if you focus on lines of effort that happen all over the operational area. For this reason, I recommend that you use a modified box method. The modification is that the box you use is always focused on the main effort during a critical event—that effort at a time and space that receives the primary focus of support and attention. Army

doctrine describes this method as one that "is particularly useful when planning operations in noncontiguous areas of operation" that "isolates an area and focuses on critical events in it."[19]

Here is the big difference when using the modified box method for campaign planning: when conducting the war game, the staff will isolate the box and focus on critical events, **but it will also consider at every action, or "game turn," the simultaneous actions that take place along each of the lines of effort.**

To make this work, as mentioned before, a staff proponent must be assigned as the "LOE proponent" for every line of effort. For wargaming, this individual has the responsibility to consider the actions that take place along that line of effort during every game turn and to consider the impact of the actions in the other lines of effort.

The method for conducting the war game should also be clearly understood by all of the participants. For each critical event, the first "move" should be made by the player with the initiative; generally, this should be friendly forces since the war game is evaluating the friendly course of action (although there are exceptions; for an attack across the border with friendly forces in the defense, the initiative would be for the opponent crossing the border).

At the beginning of every turn, it is important to ensure that the starting conditions are fully understood – the turn should begin with a statement of the current situation, using the COA development checklist from chapter 10 (figure 10-17): Task organization, scheme of maneuver, main effort, defeat and/or stability mechanisms, and the anticipated use of reserves. This methodology gives the "summary update" of the forces at the start of the critical event. Both friendly and adversary forces should use this same construct to provide situation awareness at the beginning of each turn (as well as any "third player").

After providing the starting conditions, the first player outlines actions in the modified box by stating moves using Asset – Task – Purpose; this methodology helps the recorder to capture the actions and ensures that all assets are considered – and will provide the basis for the "tasks to subordinate units" in the written plan. When describing moves in terms of Asset – Task – Purpose, the "purpose" for the main effort during the critical event should match the defeat and/or stability mechanism to ensure coherence to the plan. All moves should contribute to achieving the conditions listed in the desired end state.

After providing task and purpose for each asset, the "LOE managers" should provide their assessment of the effects of the moves along their lines of effort. This ensures that second- and third-order effects are considered, and has the additional benefit of considering the effects of moves throughout the area of operation – looking beyond the modified box. LOE considerations should also be captured by the recorder; these will frequently become included in the coordinating instructions for the written plan. LOE considerations may also capture any potential branches to the plan; since the war game focuses on sequels, LOE considerations help to identify branches that may require additional contingency plans.

At the conclusion of the turn, there should be another statement of the ending conditions – again, using the same elements of a COA: task organization, scheme of maneuver, main effort, defeat and/or stability mechanism, and the anticipated use of reserves. This provides the "summary update" of the forces at the end of each turn.

At this point, the turn is over for the first player. The second player does an identical process:

War Game "Turn" Process

1. Starting "Summary update" (TO, SM, ME, D/SM, Reserves)
2. Asset – Task – Purpose move of all forces
3. Lines of Effort (LOE) Considerations
4. Ending "Summary update" (TO, SM, ME, D/SM, Reserves)

Figure 14-14

The turns continue until the critical event comes to a conclusion or until a new critical event begins – each of the "turns" should represent a specific time frame and should allow time for each of the sides to have multiple turns as the critical event unfolds.

This process is admittedly different than the "action – reaction – counteraction" cycles in joint and Army doctrine. Army doctrine provides the following description:

> The war game follows an *action-reaction-counteraction* cycle. *Actions* are those events initiated by the side with the initiative. *Reactions* are the opposing side's actions in response… *Counteractions* are the first side's responses to reactions. This sequence of action-reaction-counteraction continues until the critical event is completed or until the commander decides to use another COA to accomplish the mission.[20]

This process seems inherently unfair… the initiator gets two turns whereas the other side just gets one turn! In a simulation, both sides input their moves at the same time – and then the computer "runs" the game and spits out the results; a one-for-one process. In the real world, time doesn't

stop for either side – and both have the same opportunity to act, react, and counteract on the fly.

This is also a problematic approach when conducting a "three way" war game – who gets the last turn in the act-react-counteract cycle?

In the modified approach described in this chapter, the first turn is the "act" – and all subsequent turns incorporate the processes of acting, reacting, and counteracting. In this way, each side has to "wrestle the initiative" from the other.

Select a method to record and display results. Using a synchronization matrix across time and space and using lines of effort as a guide provides the best mechanism for capturing the results of the war game. The results of the war game should clearly identify those activities that have positive and negative effects for different lines of operation. If all of the players follow the guidelines of providing the "thumbnail update" of task organization, scheme of maneuver, main effort, defeat/stability mechanism, and the anticipated use of reserves – and use asset – task – purpose to define moves, it will be much easier for the recorders to capture the war game. In addition, the "LOE managers" need to be explicit when describing the effects on their LOEs, and the results of adjudication need to be clearly stated.

War game the battle and assess the results. Of course, in this step you are wargaming the entire campaign, not the battle, albeit one critical event at a time. The players needed for the war game not only include the different proponents for each line of effort but also proponents for the opponent's lines of effort. For campaign planning, it is essential that the enemy players represent only enemy actions during the war game rather than have staff officers from the intelligence (G2/J2) section who are dual-hatted as friendly and enemy players.

At the end of the war game the commander and staff should be able to make the necessary modifications to the COA as well as identify the critical decisions the commander will have to make while executing the plan. Joint doctrine notes that when the war game is complete "there should be enough detail to flesh out the bones of the COA and begin orders development."[21]

The most important question of the war game should be "does the solution answer the problem?" or specifically "does the COA get us to the end state?" If it does not, it may be time to go back to developing a COA that does accomplish the mission – to develop a valid course of action. The "eye candy" displays, especially one that lists the desired end state, should help to retain this focus throughout the war game. An effective war game should also set the stage for rehearsing the selected COA using the same procedures—using the process of "asset – task – purpose" and designating a "LOE proponent" for each of the lines of effort to represent the actions along their line during each step of the rehearsal to synchronize the COA.

Of course, the results of the war game should provide insight into each of the courses of action (friendly and opponent) and identify strengths and weaknesses of each friendly COA to enable the commander to select the best COA to accomplish the mission.

Bottom line: Conducting a war game of a COA at the operational level follows the same basic steps as a war game at the tactical level. At the operational level, wargaming should use a modified box method with proponents for each of the lines of effort for both enemy and adversary actions. During each turn of the war game, LOE proponents should identify actions along their respective lines of effort as well as the effects of actions in other lines of effort.

Modified Wargaming Steps – Review

- Gather the tools.
- List and review friendly forces and capabilities.
- List and review opposing forces and capabilities.
- List assumptions.
- List known critical events and decision points.
- List evaluation criteria.
- Determine participants.
- Determine opposing courses of action (COA).
  - Opposing Most Likely COA (MLCOA).
  - Opposing Most Dangerous COA (MDCOA).
- Select wargaming method.
  - Manual or computer assisted.
- Select a method to record & display wargaming results.
  - Narrative.
  - Sketch & note.
  - War game worksheets.
  - Synchronization matrix.
- War game the battle and assess the results.

Figure 14-15

Notes

1. JP 5-0, pages IV-29 – IV-30.

2. ATTP 5-0.1, paragraphs 4-114 – 4-115.

3. JP 5-0, page IV-27.

4. JP 5-0, pages IV-27 – IV-28.

5. JP 5-0, Figure IV-10.

6. JP 5-0, page IV-32.

7. JP 5-0, Figure IV-12.

8. ATTP 5-0.1, paragraph 4-113.

9. ATTP 5-0.1, Figure 4-5.

10. ATTP 5-0.1, paragraph 4-172 – 4-173.

11. ATTP 5-0.1, Figure 4-5.

12. ATTP 5-0.1, paragraph 11-14.

13. JP 5-0, page G-1.

14. JP 5-0, pages xxvii and IV-36.

15. JP 3-0, page I-2 and Appendix A.

16. ATTP 5-0.1, paragraph 4-157.

17. JP 5-0, page IV-30.

18. ATTP 5-0.1, paragraph 4-145.

19. ATTP 5-0.1, paragraph 4-151.

20. ATTP 5-0.1, paragraph 4-158.

21. JP 5-0, page IV-35. For a comprehensive list of possible results from an effective war game see ATTP 5-0.1, paragraphs 4-165 – 4-169.

Chapter Fifteen:
Assessment (MOE and MOP)

One of the most important concepts for campaign planning is to understand how to do assessment – determining how well the solutions, or courses of action, address the problem. There are a number of different constructs for assessment, but the most useful is in understanding indicators, measures of performance (MOP), and measure of effectiveness (MOE).

The first concept, **indicators**, won't be discussed in great detail in this chapter; an **indicator** is defined as "an item of information that provides insight into a measure of effectiveness or measure of performance."[1] In the context of assessment, indicators can be either quantitative (observation based / objective) or qualitative (opinion based / subjective).[2] Indicators must be measurable (can be gauged either quantitatively or qualitatively) collectable (data can be reasonably obtained), and relevant (provide insight into a support measure of effectiveness or measure of performance).[3] Indicators provide evidence that a certain condition exists or certain results have or have not been attained, and enable decision makers to direct changes to ongoing operations to ensure the mission remains focused on the end state.[4]

The two terms that will be addressed in this chapter are Measures of Performance (MOP) and Measures of Effectiveness (MOE). Joint doctrine provides the following definition of these two terms:[5]

Measure of Effectiveness: A **MOE** is a criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of an end state, an objective, or the creation of an effect. It measures the relevance of actions being performed.

Measure of Performance: A **MOP** is a criterion used to assess friendly actions that is tied to measuring task accomplishment.

Joint doctrine also provides an explanatory chart that provides some clarity to the concepts of MOE and MOP. This chart helps to understand how these concepts interrelate:[6]

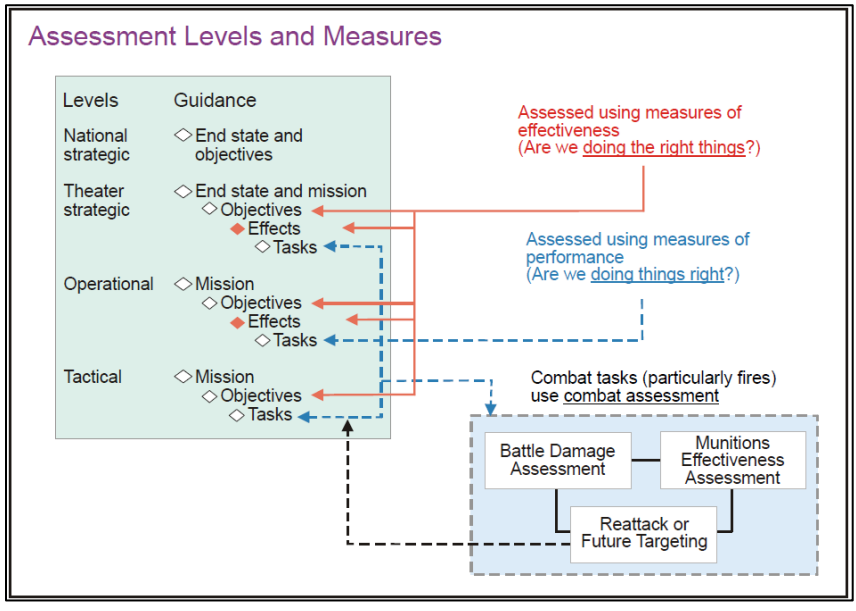


Figure 15-1

It is important to note that **measures of effectiveness** – MOE – relate to the effects and objectives with the question "are we doing the right things?" MOEs are used at all levels of war to assess the impact of operations and measure changes in the operational environment, changes in system behavior, or changes to adversary capabilities. MOEs are directly tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect.[7] While planning for assessment, you must first determine the end state (or objective), then determine the measure of effectiveness to see if there is progress towards the end state, and then define indicators to measure that progress.

Measures of performance – MOP – relate to the tasks being performed with the question "are we doing things right?" MOPs are used to assess friendly actions and are tied to measuring task accomplishment. Typical MOP questions are "Was the action taken?" or "Were the tasks completed to standard?"[8] MOPs don't measure progress towards the end state – they measure how well the organization is accomplishing assigned tasks. Hopefully, those tasks do contribute to the overall end state - but the focus for MOP is to confirm or deny that a unit has performed a task properly.[9] As a result, MOPs are "heavily used to evaluate training" to see if tasks have been accomplished to standard.[10]

Figure 15-2 provides additional information concerning Army doctrine's approach to assessment measures and indicators.[11]

MOE	*MOP*	*Indicator*
Answers the question: Are we doing the right things?	Answers the question: Are we doing things right?	Answers the question: What is the status of this MOE or MOP?
Measures purpose accomplishment.	Measures task completion.	Measures raw data inputs to inform MOEs and MOPs.
Measures *why* in the mission statement.	Measures *what* in the mission statement.	Information used to make measuring what or why possible.
No hierarchical relationship to MOPs.	No hierarchical relationship to MOEs.	Subordinate to MOEs and MOPs.
Often formally tracked in formal assessment plans.	Often formally tracked in execution matrixes.	Often formally tracked in formal assessment plans.
Typically challenging to choose the correct ones.	Typically simple to choose the correct ones.	Typically as challenging to select correctly as the supported MOE or MOP.

Figure 15-2

Army doctrine on Stability Operations provides a more explicit definition of the concepts of MOE and MOP:

> **MOE:** A **measure of effectiveness** is a criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect. They focus on the results or

consequences of task execution and provide information that guides decisions to take additional or alternate actions. Examples of measures of effectiveness include reduced insurgent activity, reduced inflation rates, and improvements in agricultural production. [12]

MOP: A **measure of performance** is a criterion used to assess friendly actions that is tied to measuring task accomplishment. At the most basic level, every Soldier assigned a task maintains a formal or informal checklist to track task completion. The items on that checklist are measures of performance. At battalion level and above, command posts monitor measures of performance for assigned tasks. Examples of measures of performance include the construction of a training facility for host-nation security forces or an increased border presence by friendly forces.[13]

Army Stability Operations doctrine also provides an excellent description and example of how indicators are used to assess MOEs and MOPs:

Indicator: An **indicator** is an item of information that provides insight into a measure of effectiveness or measure of performance. Indicators use available information to inform a specific measure of performance or measure of effectiveness. A single indicator can inform multiple measures of performance and measures of effectiveness. Valid indicators are measurable, collectable, and relevant to a specific time. Examples of indicators include bushels of apples sold in a specific market in the past month, number of escalation of force incidents along a given route in the past 90 days, and number of bridges repaired in a province.[14]

One useful way to think of MOEs and MOPs is to think of them in terms of **task** and **purpose**; MOEs relate to the accomplishment of the purpose, and MOPs relate to accomplishment of the task. For example, a unit may be given the task and purpose of occupying a hill *in order to* provide early warning. Whether or not the unit successfully accomplishes the task of occupying the hill is related to a **measure of performance**. Whether or not the occupation of the hill accomplishes the purpose of providing early warning is related to **measure of performance**.

Another example is that a unit may be tasked to conduct at least 10 patrols a day in a neighborhood *in order to* gain confidence of the local populace. Even though the unit might conduct the requisite number of patrols to standard, it still may not gain confidence. From an MOP (task) standpoint, the unit is successful; from an MOE (purpose) standpoint, it may not be. In this case, the MOP is easily measured **quantitatively** (at least 10); the MOE is a **qualitative** measure (confidence) and more difficult to obtain. Generally, MOP tends to follow quantitative measures against established standards, whereas MOE tends to be measured qualitatively against effects and the desired end state. There will, of course, always be exceptions to this generalization.

The focus for **MOP is primarily internal** – answering the question "are we doing what we are told to do?" **MOE may have an external focus** – answering the question "do our actions have the effect on others that we are expecting?

Figure 15-3 provides a comparison of the concepts of MOE and MOP in four different concepts: how they relate to task and purpose, quantitative vs. qualitative measures, internal vs. external focus, and the primary questions to ask for each measure.

Concept	MOE	MOP
Relationship to Task and Purpose	*Relates to Purpose*	*Relates to Task*
Quantitative vs. Qualitative Measures	*Generally Qualitative*	*Generally Quantitative*
Internal vs. External Focus	*External Focus (effect of actions)*	*Internal Focus (task at hand)*
Primary Questions	*Are we doing the right things? Are we getting to the end state we want?*	*Are we doing things right? Are we doing things to standard?*

Figure 15-3

The concepts of using MOP and MOE for assessment does not just apply to combat operations – the concepts also easily apply to stability operations and to support to civil authorities. In stability operations, there may be a number of objectives that easily translate to MOP and MOE measures. To go back to the example from Northern Iraq in chapter 11, if a line of effort in a stability operation is the establishment of the rule of law, there will be a number of tasks that are given to units to support the legal system in a region.

Figure 15-4 is a similar figure as shown in chapter 11 (Figure 11-18), with the line of effort "establish the rule of law," which is also an operational objective. To accomplish this operational objective, there are a number of associated key tasks, as shown in Figure 15-5.

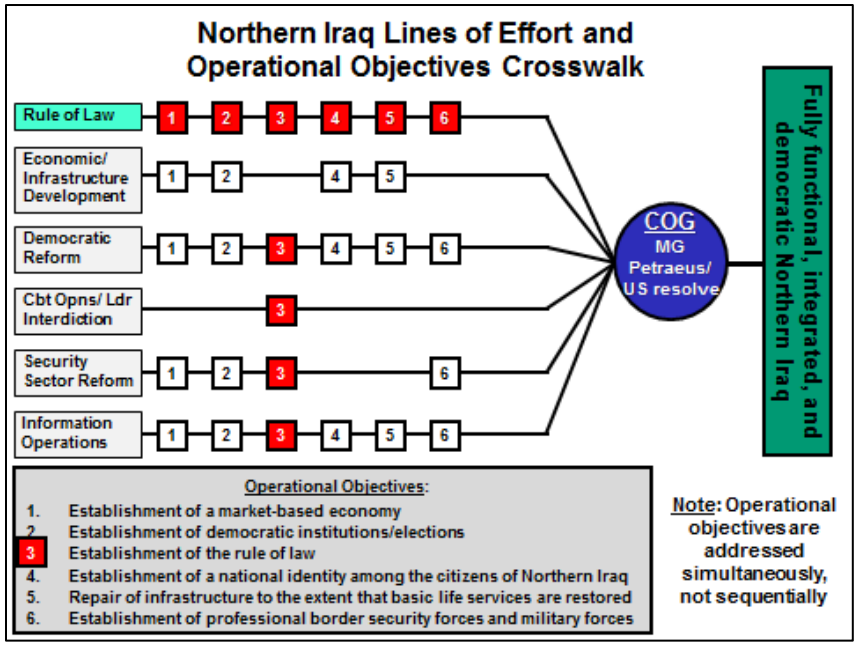


Figure 15-4

MOP – MOE Example: Northern Iraq

Operational Objective #3: Establishment of the rule of law that fosters the confidence of the people in the legal and judicial systems.

Key Task 3.1: Establish and train to international standards ethnically diverse police forces that are representative of the populations they safeguard and are fair and independent

Key Task 3.2: Establish and train efficient and democratically controlled intelligence services

Key Task 3.3: Establish civilian trust in the legitimacy of the judiciary system

Figure 15-5

Figure 15-6 shows the associated sub-tasks with Key Task 3.3, "establish civilian trust in the legitimacy of the judiciary system." These subtasks indicate measure of performance – which should lead to the accomplishment of the measure of effectiveness in the Key Task, which should in turn lead to the end state:

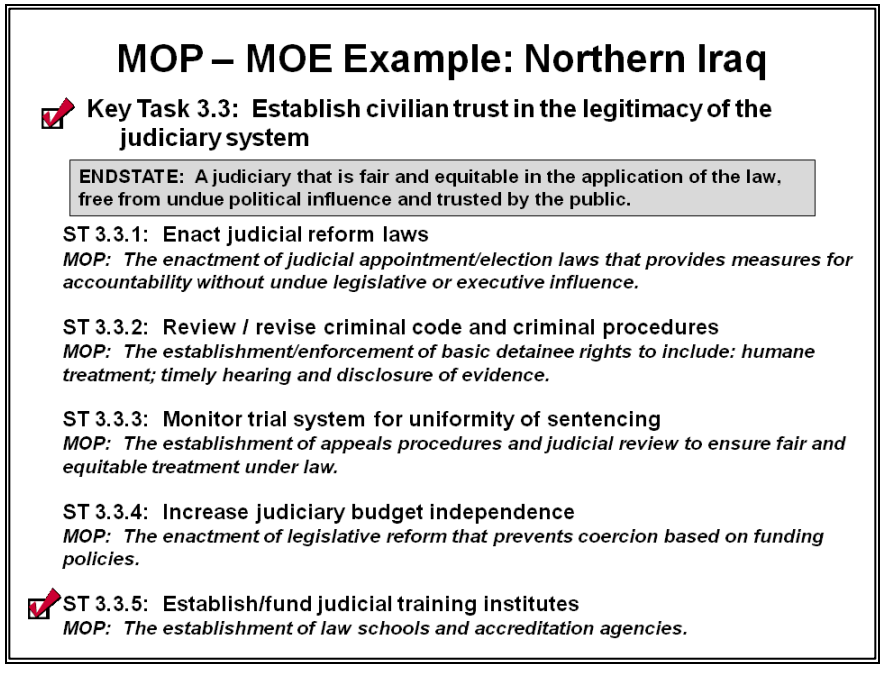


Figure 15-6

The task and purpose for a unit assigned responsibility for this key task could be stated in such a way:

> ***Establish/fund judicial training institutes <u>in order to</u> establish civilian trust in the legitimacy of the judiciary system and to further the establishment of the rule of law that fosters the confidence of the people in the legal and judicial systems.***

In this case, the MOP and MOE could be:

MOPs:

- Numbers of judicial training institutes established
- Amount of funding contributed for institutes
- Establishment of accreditation agency for law schools

MOEs:

- Increase in public trust in the judiciary system
- Increase in confidence in the legal and judicial systems

Another example from a support to civil authorities example (Hurricane Katrina) could be in support of a line of effort for "safeguarding citizenry" with a effort directed towards public health and medical services as shown in Figure 15-7.

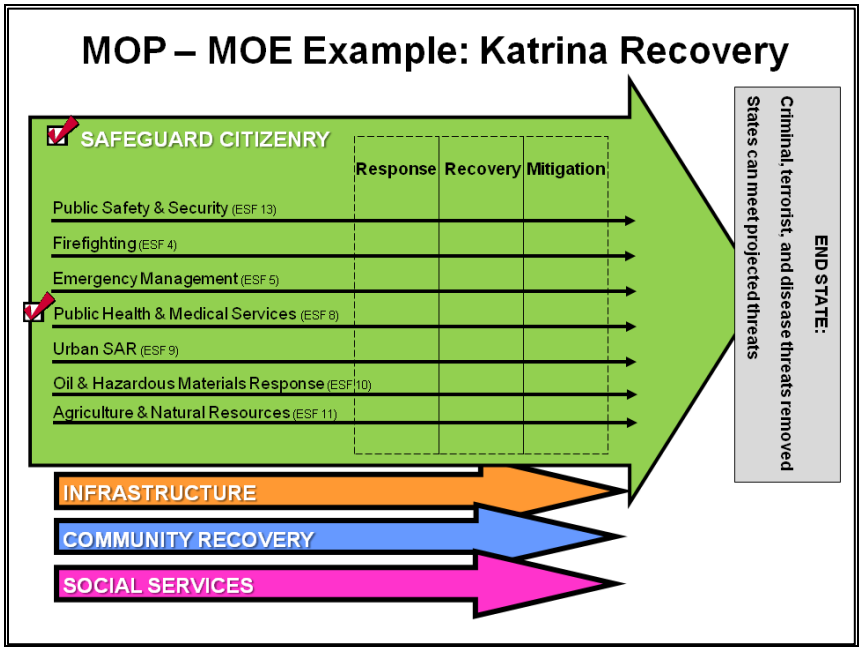


Figure 15-7

The task and purpose for a unit assigned responsibility along this major effort could be stated in such a way:

> ***Re-establish public health and medical services <u>in order to</u> remove disease threat to save lives, mitigate human suffering and restore critical services and to enable the transfer of DOD relief operations to civil authorities.***

In this case, the MOP and MOE could be:

MOPs:

- Number of patients treated
- Number of hospitals operational
- Number of vaccines administered

MOEs:

- Decrease in disease threat
- Restoration of critical services in the community
- Increased ability of civil authorities to respond

In both of these cases, the MOPs relate to the task, are primarily quantitative measures, and are focused on the internal actions of the unit. MOEs, on the other hand, relate to the purpose, are primarily qualitative measures, and are focused on the external effects that result from the unit's actions.

<u>Bottom Line</u>: Understanding how to apply MOEs and MOPs for assessments is a critical task in both planning and during operations. Selecting appropriate MOEs and MOPs – and relating them to task and purpose – can ensure that actions are focused on the desired end state.

Notes

1. ADRP 5-0, paragraph 5-14.
2. ADRP 5-0, paragraph 5-26.
3. ATTP 5-0.1, paragraphs 7-21 – 7-24.
4. JP 5-0, pages D-2 – D-3.
5. JP 5-0, page III-45.
6. JP 5-0, Figure D-1.
7. JP 5-0, page D-3.
8. JP 5-0, page D-4.
9. ADRP 5-0, paragraph 5-10.
10. JP 5-0, page D-4.
11. ADRP 5-0, Table 5-1.
12. FM 3-07, paragraph 4-68.
13. FM 3-07, paragraph 4-67.
14. FM 3-07, paragraph 4-69.

Chapter Sixteen:
Parting Thoughts

As stated in the introduction, the purpose of this book is straightforward: to provide an overview of planning principles and the tools used by planners to design campaign plans. Campaign planning has changed rather dramatically over the past twelve years, with new approaches and tools adopted to assist planners. Even though the approaches and tools have changed, the basic nature of conflict has not changed – and the underlying principles for developing campaign plans have remained consistent. Understanding the problem, visualizing a different future, linking actions to objectives, exercising proactive leadership at critical junctures… these have all remained constant for centuries.

The outline for the book was to first provide the context for planning with concepts and principles – and then to provide some of the more useful tools that could be used to assist in planning. The two conceptual frameworks of **design** and **mission command** have, over the past few years, become interrelated – but in reality they really provide different terminology for what great commanders have always practiced as the art of command. As the 2011 Army Operations doctrine states, "while the character of conflict changes with time, the violent and chaotic nature of warfare does not. The essence of military art remains timeless."[1]

Each chapter has described a concept or tools that are used in campaign planning. These tools can be combined or used separately in planning and execution to help commanders understand, visualize, and describe a campaign. Following is a review of the bottom lines for each chapter:

Chapter One: Problem Solving – Separate the issues of **critical thinking** (identifying the problem) and **creative thinking** (identifying the solution). Do not cheat on critical thinking. If you do you may well have the best solution—but for the wrong

problem. When developing the solution, use a combination of innovative and adaptive approaches.

Chapter Two: Ends, Ways, and Means – Keep in mind the separate components of **ends, ways, and means** when approaching campaign planning. Determine the ends first, then analyze the means available, and finally determine the ways to accomplish the ends.

Chapter Three: "Understand" – Understanding is a deliberate activity that should continue throughout planning and execution and includes understanding the problem, the operational environment, initially defining the potential end state, addressing the impact of ends, ways, means, and risk, using collaboration, and problem framing. Even though the commander is the central figure in understanding, the objective is to enable a shared understanding that can answer the questions "What is the problem?" and "What are we trying to do?"

Chapter Four: "Visualize" – The objective in **visualization** is to refine the end state and to develop a broad approach to resolve a complex problem. This process provides the tools to understand and frame the current context of the operational environment, to visualize the desired end state conditions, and then to develop a broad approach to bridge the gap. Once commanders have framed and visualized the problem, they are prepared to describe broadly and conceptually how to generate desirable change as part of the commander's visualization.

Chapter Five: "Describe" – The objective of the **describe** component for mission command and planning is for the commander to clearly communicate his understanding, visualization, and approach to addressing a problem. No amount of wisdom, insight, or experience means much unless it is communicated to those who need to know… the commander must be involved during the entire process and provide the description of his visualization. The design concept, commander's

intent, planning guidance, and other products are intended to share the insight of the commander with the staff and other stakeholders – to enable unity of effort.

Chapter Six: Exercising Collaborative Leadership – Within a command, the commander is obviously "the central figure" in planning and execution, and the involvement of the commander is absolutely essential. Commanders draw on **collaboration and dialogue** to overcome the challenges of complexity, leveraging their knowledge, experience, judgment, and intuition to generate a clearer understanding of the conditions needed to achieve success. The commander has to create conditions to allow for staff and subordinates to participate in collaboration and dialogue – as well as discourse and debate – to inform planning and execution.

Chapter Seven: Framing and Reframing – There are two different kinds of "frames" that commanders develop – **framing the operational environment** (the environmental frame) and **framing the problem** (the problem frame). The interaction between these two frames (using collaboration and dialogue) develops greater understanding to develop the solution, or the operational approach. Commanders must be willing to reframe constantly to ensure that the focus is on the right problem.

Chapter Eight: Developing the Narrative – A narrative is a story constructed to give meaning to things and events; **narrative construction**—the conscious bounding of events and artifacts in time and space—is central to framing. By constructing a narrative, a commander is providing insight into his focus (the frame) as well as his operational approach to a problem. This narrative is complementary to the commander's intent and is told in a narrative – or story – that provides insight into the conditions in the environment, the opportunities that exist, the approach to the problem, and finally (and most importantly to most stakeholders) the potential payoffs for actions.

Chapter Nine: Centers of Gravity – Determining the friendly and enemy **centers of gravity** (COGs) – as well as decisive points – at the strategic, operational, and tactical levels is critical for linking plans to the end state. Continually reassess the COGs and use them as a sanity check to ensure you stay focused on attacking the enemy COGs while protecting the friendly ones.

Chapter Ten: Developing Distinct Courses of Action – Think of **courses of action** (COAs) in terms of both simultaneous and sequential actions; all components of a campaign will not be linear. Think beyond the campaign at the operational level. Winning the conflict is more than winning in combat means setting the conditions for the strategic end state. Develop COAs using task organization, scheme of maneuver, main effort, defeat/ stability mechanisms, and anticipated use of reserves.

Chapter Eleven: Lines of Effort – The construct of **lines of effort** provides a methodology with which to visualize campaigns, particularly when there are a variety of offensive, defensive, stability, and support operations that occur simultaneously. Using the lines of effort enables the planner to synchronize activities and ensure that all operations contribute to achieving the desired end state. Using lines of effort also helps ensure that offensive, defensive, stability, and support operations are integrated in the plan and that the effects of all of the operational objectives and key tasks are considered in terms of each line of effort.

Chapter Twelve: Critical Factor Analysis (CC-CR-CV) – Critical Factor Analysis provides a methodology by which to focus actions directed to the center of gravity which leads to the end state. Conducting **critical factor analysis** and developing critical vulnerabilities provides a useful tool for the planner to visualize the campaign using a systems approach.

Chapter Thirteen: Target Value Analysis – Target Value Analysis (TVA) and Critical Factor Analysis are conceptually similar but approach the planning and targeting problem from two

different perspectives. TVA approaches planning and targeting from what the enemy has; Critical Factor Analysis approaches planning and targeting from enemy deficiencies – what the enemy does not have. John Warden's framework provides another useful methodology for approaching planning and targeting from a systems perspective.

Chapter Fourteen: Wargaming – Conducting a **war game** of a course of action (COA) at the operational level follows the same basic steps as a war game at the tactical level. At the operational level, wargaming should use a modified box method with proponents for each of the lines of effort for both enemy and adversary actions. During each turn of the war game, LOE proponents should identify actions along their respective lines of effort as well as the effects of actions in other lines of effort.

Chapter Fifteen: Assessment (MOE & MOP) – Understanding how to apply **measures of effectiveness** (MOEs) and **measures of performance** (MOPs) for assessments is a critical task in both planning and during operations. Selecting appropriate MOEs and MOPs – and relating them to task and purpose – can ensure that actions are focused on the desired end state.

Planning, especially when the **design methodology** is used, should goes beyond analyzing the "what" and "so what" of a problem – commanders and organizations need to synthesize and evaluate data, going to the "which means" and "therefore" in operations and planning. To get to the "therefore" of a problem requires not only looking at strengths, weaknesses, opportunities, and challenges... but also at interaction and system evolution and transformation.

Even though planning emphasizes the role of the commander, planning is clearly a team sport. Effective planning should focus on "harvesting the corporate intellect" of the commander, staff,

superiors, and subordinates. Commanders exercise collaborative leadership much as a football coach or the quarterback exercises leadership on the football team – everyone has a role to play with unique capabilities and contributions to make.

In closing, I think it is important to remember the context for campaign planning:

> **Operational art is the use of creative thinking by commanders and staffs to design strategies, campaigns, and major operations and organize and employ military forces.** It is a thought process that uses skill, knowledge, experience, and judgment to overcome the ambiguity and uncertainty of a complex environment and understand the problem at hand. Operational art also promotes unified action by encouraging JFCs (*joint force commanders*) and staffs to consider the capabilities, actions, goals, priorities, and operating processes of interorganizational partners, while determining objectives, establishing priorities, and assigning tasks to subordinate forces. It facilitates the coordination, synchronization, and, where appropriate, integration of military operations with those of interorganizational partners, thereby promoting unity of effort….
>
> Operational art requires a broad vision, the ability to anticipate, and the skill to plan, prepare, execute, and assess. It helps commanders and their staffs order their thoughts and understand the conditions for victory before seeking battle. Without operational art, campaigns and operations would be sets of disconnected events.[2]

Notes

1. FM 3-0, paragraph 7-92.

2. JP 3-0, pages II-3 – II-4.

Appendix A:
General Ridgway in Korea

The 1999 edition of the Army Leadership manual contained an excellent historical case study of General Matthew Ridgeway and his leadership 1950-51 in Korea.[1] The case study provides an example of the enduring principles of the art of command that integrates the concepts of mission command and the design methodology.

Although the 1999 version of the Army's Leadership manual has been replaced by an updated version (which includes a vignette of Ridgway derived from the 1999 case study[2]), the leadership excellence demonstrated by Ridgway during this difficult period is timeless.

The case study is included in its entirety; underlined passages are for emphasis to indicate components of mission command and the design methodology.

* * * * * * * * * * * * *

6-142. Few leaders have better exemplified effective organizational leadership in combat than GEN Matthew B. Ridgway. GEN Ridgway successfully led the 82d Airborne Division and XVIII Airborne Corps in the ETO during World War II and Eighth (US) Army during the Korean War. His actions during four months in command of Eighth Army prior to his appointment as UN Supreme Commander bring to life the skills and actions described throughout this chapter.

6-143. At the outbreak of the Korean War in June 1950, GEN Ridgway was assigned as the Army Deputy Chief of Staff, Operations. In an agreement between the Army Chief of Staff, GEN J. Lawton Collins, and the UN Supreme Commander, GA Douglas MacArthur, GEN Ridgway was identified early as the

replacement for the Eighth Army commander, GEN Walton H. Walker, in the event GEN Walker was killed in combat.

6-144. That year, on 23 December, GEN Walker died in a jeep accident. Following approval by Secretary of Defense George C. Marshall and President Truman, GEN Ridgway was ordered to take command of Eighth Army. At that time, Eighth Army was defending near the 38th parallel, having completed a 300-mile retreat after the Chinese intervention and stunning victory on the Chongchin River.

6-145. The UN defeat had left its forces in serious disarray. One of Eighth Army's four American divisions, the 2d, needed extensive replacements and reorganization. Two other divisions, the 25th and 1st Cavalry, were seriously battered. Of the Republic of Korea divisions, only the 1st was in good fighting shape. A British brigade was combat ready, but it too had suffered substantial losses in helping cover the retreat.

6-146. Within 24 hours of GEN Walker's death, GEN Ridgway was bound for Korea. During the long flight from Washington, DC, to GA MacArthur's headquarters in Japan, GEN Ridgway had an opportunity to reflect on what lay ahead. He felt this problem was like so many others he had experienced: "Here's the situation—what's your solution?" He began to formulate his plan of action. He determined each step based on his assessment of the enemy's strengths and capabilities as well as his own command's strengths and capabilities.

** Reflection, experience, and intuition of the commander, informed by assessment of strengths and weaknesses; initial framing of the environment and the problem.*

6-147. The necessary steps seemed clear: gain an appreciation for the immediate situation from GA MacArthur's staff, establish his presence as Eighth Army commander by sending a statement of his confidence in them, and then meet with his own staff to establish his priorities. His first message to his new command was straight to the point: "You will have my utmost. I shall expect yours."

** Collaboration with higher staff; meeting with his own staff to gain an appreciation of the situation.*

6-148. During the flight from Japan to his forward command post, GEN Ridgway carefully looked at the terrain upon which he was to fight. The battered Eighth Army had to cover a rugged, 100-mile-long front that restricted both maneuver and resupply. Poor morale presented a further problem. Many military observers felt that Eighth Army lacked spirit and possessed little stomach for continuing the bruising battle with the Chinese.

** Initial PMESII-PT analysis; initial understanding of the time and space relationship of the problem.*

6-149. For three days GEN Ridgway traveled the army area by jeep, talking with commanders who had faced the enemy beyond the Han River. GEN Ridgway wrote later, *I held to the old-fashioned idea that it helped the spirits of the men to see the Old Man up there, in the snow and the sleet and the mud, sharing the same cold, miserable existence they had to endure.*

** Battlefield circulation; collaboration and dialogue*

6-150. GEN Ridgway believed a commander should publicly show a personal interest in the well-being of his soldiers. He needed to do something to attract notice and display his concern for the front-line fighters. Finding that one of his units was still short of some winter equipment, GEN Ridgway dramatically ordered that the equipment be delivered within 24 hours. In response, the logistical command made a massive effort to comply, flying equipment from Pusan to the front lines. Everyone noticed. He also ordered—and made sure the order was known—that the troops be served hot meals, with any failures to comply reported directly to him.

** Continued Battlefield circulation; framing the problem*

6-151. GEN Ridgway was candid, criticizing the spirit of both the commanders and soldiers of Eighth Army. He talked with riflemen and generals, from front-line foxholes to corps command posts. He was appalled at American infantrymen who didn't patrol, who had no knowledge of the terrain in which they fought, and who failed to know the whereabouts of their enemy. Moreover, this army was roadbound and failed to occupy commanding terrain overlooking its positions and supply lines. GEN Ridgway also sensed that Eighth Army—particularly the commanders and their staffs—kept looking over their shoulders for the best route to the rear and planned only for retreat. In short, he found his army immobilized and demoralized.

** Candor, continued assessment of the situation; collaboration and dialogue throughout the area of operations*

6-152. An important part of GEN Ridgway's effort to instill fighting spirit in Eighth Army was to order units to close up their flanks and tie in with other units. He said he wanted no units cut off and abandoned, as had happened to the 3d Battalion, 8th Cavalry at Unsan, Task Force Faith at Chosin Reservoir, and the 2d Division at Kuni-ri. GEN Ridgway felt that it was essential for soldiers to know they would not be left to fend for themselves if cut off. He believed that soldiers would be persuaded to stand and fight only if they realized help would come. Without that confidence in the command and their fellow soldiers, they would pull out, fearing to be left behind.

** Visualization of the problem in 8th Army and identification of new conditions to be established*

6-153. As he visited their headquarters, GEN Ridgway spoke to commanders and their staffs. These talks contained many of his ideas about proper combat leadership. He told his commanders to get out of their command posts and up to the front. When commanders reported on terrain, GEN Ridgway demanded that they base their information on personal knowledge and that it be correct.

** Collaboration; description of intent; continued situational understanding; describing his commander's intent*

6-154. Furthermore, he urged commanders to conduct intensive training in night fighting and make full use of their firepower. He also required commanders to personally check that their men had adequate winter clothing, warming tents, and writing materials. In addition, he encouraged commanders to locate wounded who had been evacuated and make every effort

to return them to their old units. Finally, the army commander ordered his officers to stop wasting resources, calling for punishment of those who lost government equipment.

6-155. During its first battle under GEN Ridgway's command in early January 1951, Eighth Army fell back another 70 miles and lost Seoul, South Korea's capital. Major commanders didn't carry out orders to fall back in an orderly fashion, use field artillery to inflict the heaviest possible enemy casualties, and counterattack in force during daylight hours. Eighth Army's morale and sense of purpose reached their lowest point ever.

6-156. Eighth Army had only two choices: substantially improve its fighting spirit or get out of Korea. GEN Ridgway began to restore his men's fighting spirit by ordering aggressive patrolling into areas just lost. When patrols found the enemy few in number and not aggressive, the army commander increased the number and size of patrols. His army discovered it could drive back the Chinese without suffering overwhelming casualties. Buoyed by these successes, GEN Ridgway ordered a general advance along Korea's west coast, where the terrain was more open and his forces could take advantage of its tanks, artillery, and aircraft.

** Identification of range of "end states"; use of MOEs and MOPs for assessment*

6-157. During this advance, GEN Ridgway also attempted to tell the men of Eighth Army why they were fighting in Korea. He sought to build a fighting spirit in his men based on unit and soldier pride. In addition, he called on them to defend Western Civilization from Communist degradation, saying: *In the final*

analysis, the issue now joined right here in Korea is whether Communism or individual freedom shall prevail; whether the flight of the fear-driven people we have witnessed here shall be checked, or shall at some future time, however distant, engulf our own loved ones in all its misery and despair.

** Constructing the narrative; emphasizing the payoffs that are to be achieved ("Mission Narrative")*

6-158. In mid-February of 1951, the Chinese and North Koreans launched yet another offensive in the central area of Korea, where US tanks could not maneuver as readily and artillery could be trapped on narrow roads in mountainous terrain. In heavy fights at Chipyon-ni and Wonju, Eighth Army, for the first time, re-repulsed the Communist attacks. Eighth Army's offensive spirit soared as GEN Ridgway quickly followed up with a renewed attack that took Seoul and regained roughly the same positions Eighth Army had held when he first took command. In late March, Eighth Army pushed the Communist forces north of the 38th parallel.

** Reframing in the "wake of success" for a new end state*

6-159. GEN Ridgway's actions superbly exemplify those expected of organizational leaders. His knowledge of American soldiers, units, and the Korean situation led him to certain expectations. Those expectations gave him a baseline from which to assess his command once he arrived. He continually visited units throughout the army area, talked with soldiers and their commanders, assessed command climate, and took action to mold attitudes with clear intent, supreme confidence, and unyielding tactical discipline.

6-160. He sought to develop subordinate commanders and their staffs by sharing his thoughts and expectations of combat leadership. He felt the pulse of the men on the front, shared their hardships, and demanded they be taken care of. He pushed the logistical systems to provide creature comforts as well as the supplies of war. He eliminated the skepticism of purpose, gave soldiers cause to fight, and helped them gain confidence by winning small victories. Most of all, he led by example.

** Constant collaboration; providing new purpose and end state; developing an operational approach / theory of action for success*

6-161. In April GEN Ridgway turned Eighth Army over to GEN James A. Van Fleet. In under four months, a dynamic, aggressive commander had revitalized and transformed a traumatized and desperate army into a proud, determined fighting force. GA Omar N. Bradley, Chairman of the Joint Chiefs of Staff, summed up GEN Ridgway's contributions:

> ***It is not often that a single battlefield commander can make a decisive difference. But in Korea Ridgway would prove to be that exception. His brilliant, driving, uncompromising leadership would turn the tide of battle like no other general's in our military history.***

Notes

1. FM 22-100 (1999), paragraphs 6-142 – 6-161.
2. FM 6-22, paragraph 9-49.

Appendix B:
Examples

The following pages contain some examples of past products from the classroom – again, these examples do not provide the way to apply some of the tools from campaign planning, but are just examples of how some of the concepts contained in this book can be applied. Even though some of the products are labeled "LLO" for the rescinded term logical line of operation, the intent was the same as lines of effort, which is reflected in the descriptions.

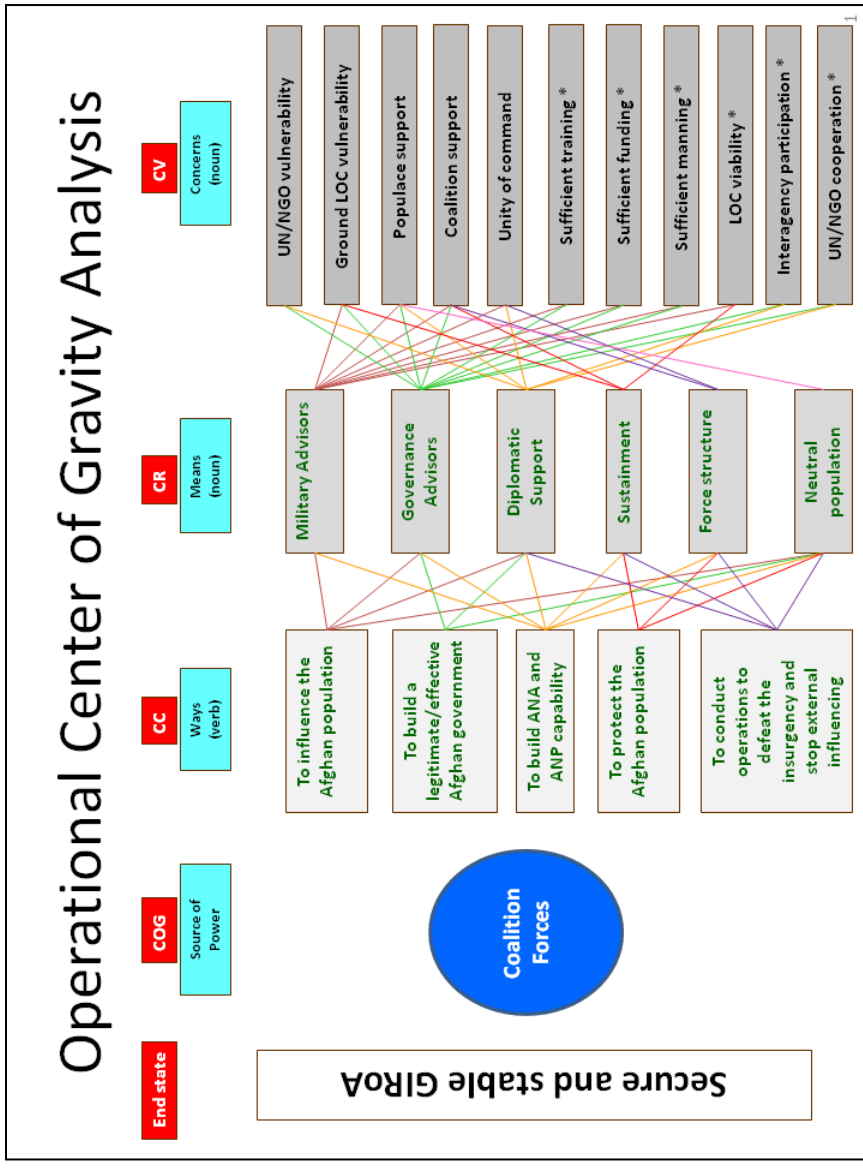

Operational Center of Gravity Analysis
End state
COG
Source of Power
CC
Ways (verb)
CR
Means (noun)
CV
Concerns (noun)
Secure and stable GIRoA
Coalition Forces
To influence the Afghan population
To build a legitimate/effective Afghan government
To build ANA and ANP capability
To protect the Afghan population
To conduct operations to defeat the insurgency and stop external influencing
Military Advisors
Governance Advisors
Diplomatic Support
Sustainment
Force structure
Neutral population
UN/NGO vulnerability
Ground LOC vulnerability
Populace support
Coalition support
Unity of command
Sufficient training*
Sufficient funding*
Sufficient manning*
LOC viability*
Interagency participation*
UN/NGO cooperation*

Figure B-1

Figure B-1 on the previous page is an example of how to do a crosswalk of a friendly **critical factor analysis** using the CC-CR-CV methodology.

Note that the example displays the friendly end state to the far left; the end state is accomplished by the Center of Gravity (in this case, coalition forces) applying their critical capabilities (CC). The CC is shown as the "ways" that the COG will achieve the end state, and is expressed in verb form.

The critical capabilities require certain critical requirements (CR); the CR are displayed as means – and in noun form. Note that the CC need more than one CR, and that the CR are not independent, but are used to support multiple CC.

The critical vulnerabilities (CV) are displayed as the concerns because of shortages or deficiencies that are vulnerable to exploitation by the adversary. The CVs listed are not independent; many of the CVs are concerns for multiple CR.

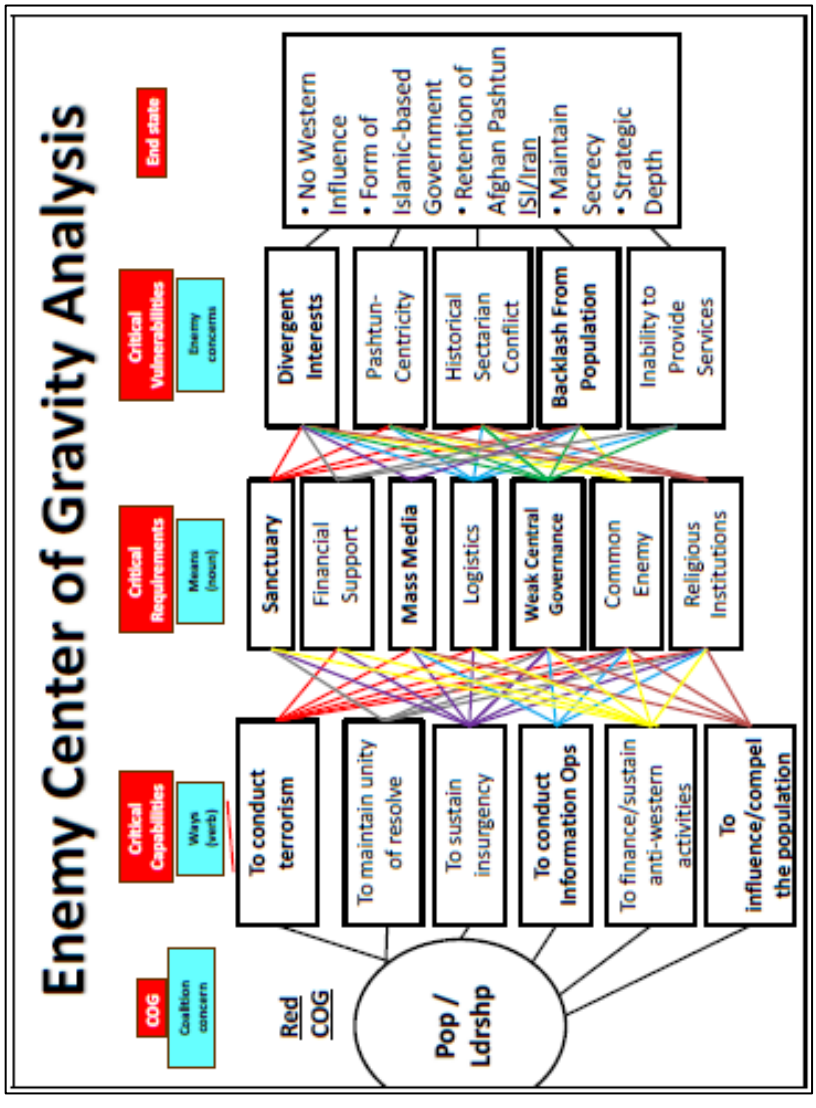

Enemy Center of Gravity Analysis
COG
Coalition concern
Critical Capabilities
Ways (verb)
Critical Requirements
Means (noun)
Critical Vulnerabilities
Enemy concerns
End state
Red COG
Pop / Ldrshp
To conduct terrorism
To maintain unity of resolve
To sustain insurgency
To conduct Information Ops
To finance/sustain anti-western activities
To influence/compel the population
Sanctuary
Financial Support
Mass Media
Logistics
Weak Central Governance
Common Enemy
Religious Institutions
Divergent Interests
Pashtun-Centricity
Historical Sectarian Conflict
Backlash From Population
Inability to Provide Services
• No Western Influence
• Form of Islamic-based Government
• Retention of Afghan Pashtun ISI/Iran
• Maintain Secrecy
• Strategic Depth

Figure B-2

Figure B-2 on the previous page is an example of how to do a crosswalk of an enemy **critical factor analysis** using the CC-CR-CV methodology – this example is done from the enemy perspective (by a different group of students).

Note that the example displays the enemy end state to the far right; the end state is accomplished by the Center of Gravity (in this case, population and the enemy leadership) applying their critical capabilities (CC). The CC is shown as the "ways" that the COG will achieve the end state, and is expressed in verb form.

The critical capabilities require certain critical requirements (CR); the CR are displayed as means – and in noun form. Note that the CC need more than one CR, and that the CR are not independent, but are used to support multiple CC.

The critical vulnerabilities (CV) are displayed as the concerns because of shortages or deficiencies that are vulnerable to exploitation by friendly forces. The CVs listed are not independent; many of the CVs are concerns for multiple CR.

This example also shows the desired end state conditions for the enemy force.

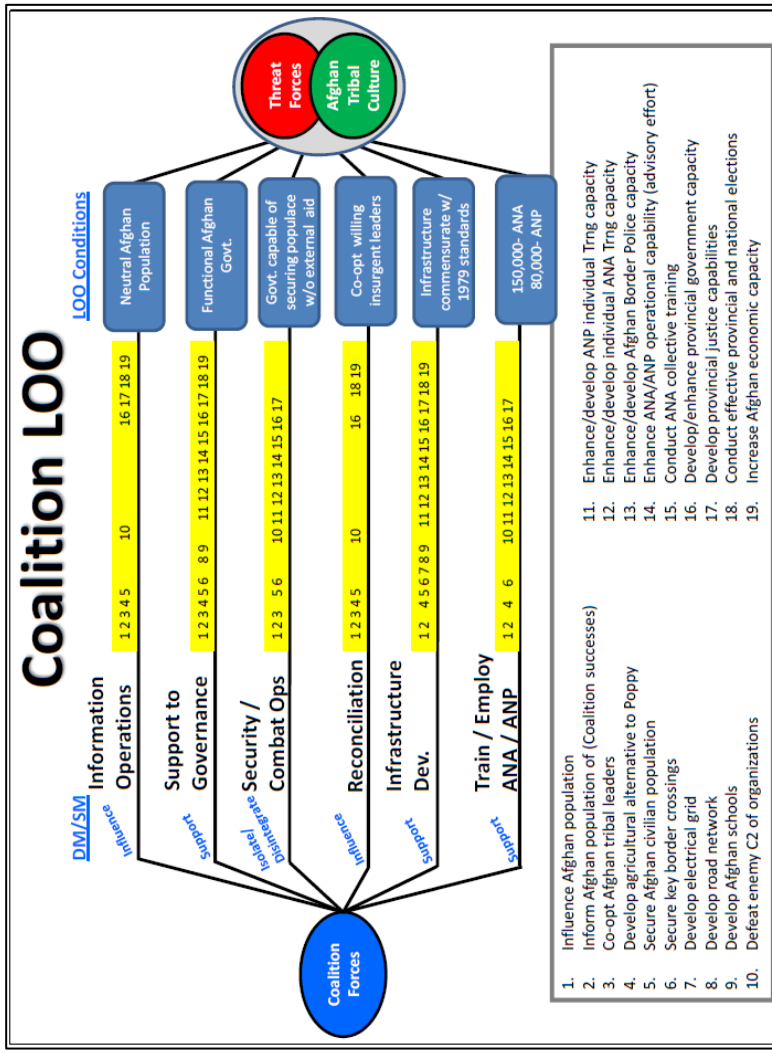

Coalition LOO
DM/SM
LOO Conditions
Information Operations
Support to Governance
Security / Combat Ops
Reconciliation
Infrastructure Dev.
Train / Employ ANA / ANP
Influence
Support
Overwatch / Transition
Coalition Forces
Neutral Afghan Population
Functional Afghan Govt.
Govt. capable of securing populace w/o external aid
Co-opt willing insurgent leaders
Infrastructure commensurate w/ 1979 standards
150,000- ANA 80,000- ANP
Threat Forces
Afghan Tribal Culture
1. Influence Afghan population
2. Inform Afghan population of (Coalition successes)
3. Co-opt Afghan tribal leaders
4. Develop agricultural alternative to Poppy
5. Secure Afghan civilian population
6. Secure key border crossings
7. Develop electrical grid
8. Develop road network
9. Develop Afghan schools
10. Defeat enemy C2 of organizations
11. Enhance/develop ANP individual Trng capacity
12. Enhance/develop individual ANA Trng capacity
13. Enhance/develop Afghan Border Police capacity
14. Enhance ANA/ANP operational capability (advisory effort)
15. Conduct ANA collective training
16. Develop/enhance provincial government capacity
17. Develop provincial justice capabilities
18. Conduct effective provincial and national elections
19. Increase Afghan economic capacity

Figure B-3

Figure B-3 on the previous page shows the lines of effort (although displayed as a "LOO"), as well as the operational objectives along each of the lines. In this example, the friendly center of gravity (coalition forces) is depicted on the left side – the COG, the source of power, uses the lines of effort to "channel" that power to meet the end state. In this example, the end state is shown as the different conditions that should exist along each of the lines of effort. This example also shows the defeat and/or stability mechanism that characterizes operations along each line of effort.

This example is also unique; the example indicates a "full spectrum operation" that includes a combination of offense, defense, and stability operations. The efforts of the coalition are focused against an adversary (threat forces) as well as focused towards stabilizing the host nation. In the initial appreciation of the problem, the greatest hindrance to supporting the establishment of a functional Afghan government was the cultural component of the Afghan tribal culture – and hence, the lines of effort use the stability mechanism of support to enable the governance, infrastructure, and development of the ANA and ANP forces.

The key is that the lines of effort help the coalition forces to synchronize their actions along multiple lines to accomplish objectives – and thereby establish conditions that lead to the desired end state.

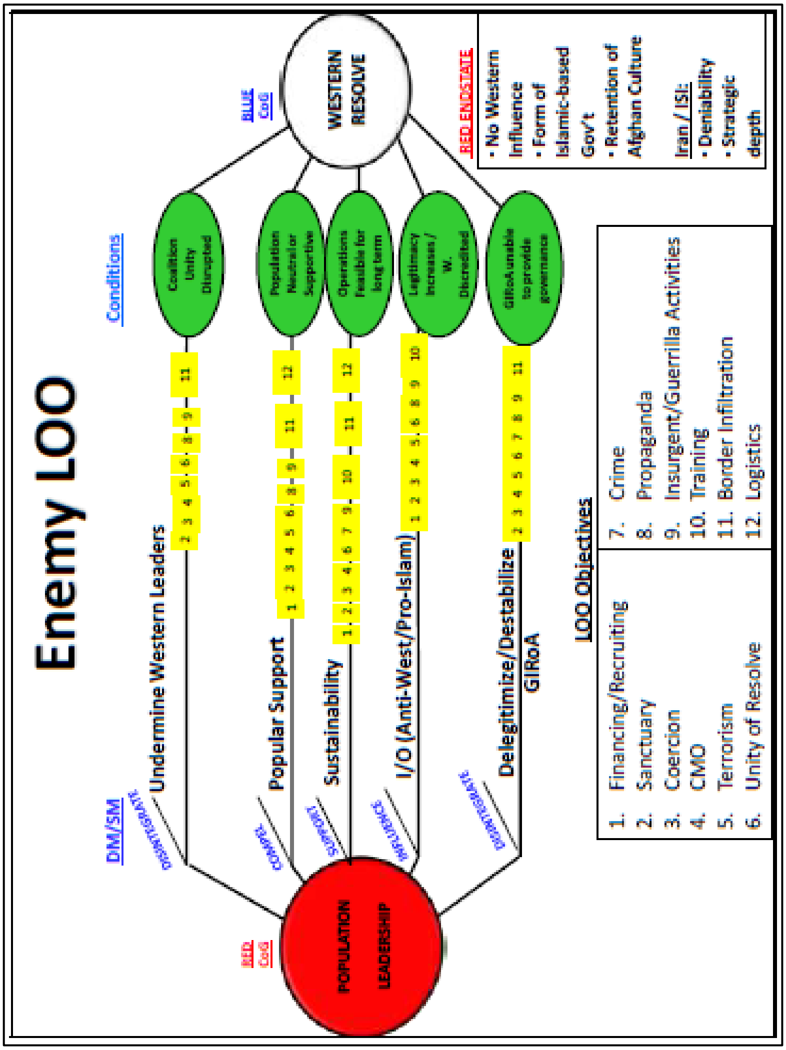

Enemy LOO
DM/SM
DISINTEGRATE
COMPEL
SUPPORT
INFLUENCE
DISINTEGRATE
Undermine Western Leaders
Popular Support
Sustainability
I/O (Anti-West/Pro-Islam)
Delegitimize/Destabilize GIRoA
Conditions
Coalition Unity Disrupted
Population Neutral or Supportive
Operations Feasible for long term
Legitimacy Increases / W. Discredited
GIRoA unable to provide governance
BLUE CoG
WESTERN RESOLVE
RED CoG
POPULATION
LEADERSHIP
RED ENDSTATE
• No Western Influence
• Form of Islamic-based Gov't
• Retention of Afghan Culture
Iran / ISI:
• Deniability
• Strategic depth
LOO Objectives
1. Financing/Recruiting
2. Sanctuary
3. Coercion
4. CMO
5. Terrorism
6. Unity of Resolve
7. Crime
8. Propaganda
9. Insurgent/Guerrilla Activities
10. Training
11. Border Infiltration
12. Logistics

Figure B-4

Figure B-4 on the previous page shows an assessment of the enemy lines of effort (although displayed as a “LOO”), as well as the operational objectives along each of the lines. In this example, the enemy center of gravity (population and leadership) is depicted on the left side – the COG, the source of power, uses the lines of effort to “channel” that power to meet the end state. In this example, the end state is shown as conditions for each of the lines of effort as well as the different conditions that should exist for the overall enemy campaign. This example also shows the defeat and/or stability mechanism that characterizes operations along each line of effort.

This example is also unique; the example indicates a “full spectrum operation” that is focused on insurgent operations. The efforts of the enemy are focused against western leaders and GIRoA, as focused on popular support.

The key is that this is an assessment of how the enemy will attempt to synchronize their actions along multiple lines to accomplish objectives – and thereby establish conditions that lead to the enemy’s desired end state.

Endstate – MOE / MOP Crosswalk

LLOs	Conditions	MOEs	MOPs
Information Operations (across all LOOs)	• Afghan populace comprehends message and is at least neutral	• > 65% of Afghan populace approves of GIRoA	• # of media outlets • # of messages countered
Support to Governance	• Functional, legitimate government capable of self-rule	• > 65% of Afghan populace approves of GIRoA	• # of people with basic needs met • # of people receiving basic utilities
Security / Combat Ops	• Insurgent activity neutralized, populace is confident in Governments ability to secure citizens	• BCTs providing security to PRTs	• Decrease in # of daily attacks by province
Reconciliation	• Co-opt all insurgents capable and willing to reconcile	• # of belligerents who no longer oppose GIRoA	• # of Key Leader Engagements
Infrastructure Development	• Establish infrastructure commensurate or better than 1979 Afghan standards	• % of population accessible to governmental infrastructure	• # of schools • # of markets active • # of miles paved
Train / Employ ANA / ANP	• 134,000 trained members of the ANA	• ANA/ANP Forces securing province independently	• # of ANA / ANP units capable of independent ops • Increase in retention rate

Figure B-5

Figure B-5 on the previous page shows the crosswalk of the lines of effort, the conditions for each of the lines of effort, and the measures of effectiveness and measures of performance that lead to those conditions.

It goes without saying that this is an inexact science, but this provides a tool to determine success or failure along each of the lines of effort – and insight for the commander to consider prioritization of assets.

Note that the most problematic area in the chart is to determine measures of effectiveness; in many ways, the MOE shown in the chart is more accurately described as indicators that provide an indirect measure of effectiveness.

Evaluation Criteria
-Legitimacy-
• Develop and maintain the will necessary to attain the national strategic end state. For Coalition Forces, legitimacy comes from three important factors. First, the campaign or operation should develop or reinforce the authority and acceptance of the host-nation government by both the governed and the international community. Second, the operation must be conducted according to international laws and treaties recognized by the United States and any Coalition partners, particularly the law of war. Third, the operation or campaign must be conducted under U.S. law.
The COA involves operations which challenge any of the three criteria; it has the potential for INFO OPS exploitation by REDFOR.
The COA acts in the interest of the Afghan people as defined by the norms and laws of both the Afghan people and the international community.
The COA has clear legality in its contribution to the resolution of the problem; it will earn the respect of the Afghan population / international community and reinforce our enduring relationship with them.

Figure B-6

Figure B-6 on the previous page shows one of the evaluation criteria that was used in the development of the courses of action, as well as in the comparison of courses of action. This example also uses one of the additional principles of joint operations – legitimacy.

Evaluation criteria were established at the conclusion of mission analysis and prior to the development of courses of action – so the courses of action were developed with these in mind.

The staff conducted six war games – analyzing each of the three courses of action against the enemy most likely course of action and against the enemy most dangerous course of action. At the conclusion of the war games, each COA was compared against each of the evaluation criteria independently and assessed according to the rubric (minus/less than desirable, neutral/desirable, or plus/optimal) at the bottom of Figure B-6. After each of the COAs were assessed independently, the staff conducted an analysis of the COAs against each other – as well as the results of each friendly COA against each enemy COA.

COA Comparison - Most Dangerous

	COA1 Population Focus	COA2 Border Security	COA3 Building ANSF	Comments
Legitimacy	1 - Optimal 2 - Desirable 0 - Less Than Desirable	0 - Optimal 2 - Desirable 1 - Less Than Desirable	3 - Optimal 0 - Desirable 0 - Less Than Desirable	COA3 = Most Legitimate
Perseverance	1 - Optimal 1 - Desirable 1 - Less Than Desirable	1 - Optimal 1 - Desirable 1 - Less Than Desirable	2 - Optimal 1 - Desirable 0 - Less Than Desirable	All COAs equally support Perseverance
Freedom of Action	1 - Optimal 1 - Desirable 0 - Less Than Desirable	2 - Optimal 1 - Desirable 0 - Less Than Desirable	1 - Optimal 2 - Desirable 0 - Less Than Desirable	COAs 1&2 equally provide the most Freedom of Action
Restraint	0 - Optimal 3 - Desirable 0 - Less Than Desirable	0 - Optimal 3 - Desirable 0 - Less Than Desirable	2 - Optimal 1 - Desirable 0 - Less Than Desirable	COA 3 exercises the most Restraint
Transition-ability	0 - Optimal 2 - Desirable 1 - Less Than Desirable	0 - Optimal 2 - Desirable 1 - Less Than Desirable	0 - Optimal 2 - Desirable 1 - Less Than Desirable	All COAs equally support Transitionability
Total	3 -Optimal **9 - Desirable** 2 - Less Than Desirable	3 -Optimal **9 - Desirable** 3 - Less Than Desirable	**8 -Optimal** 6 - Desirable 1 - Less Than Desirable	**COA 3**

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Figure B-7

Figure B-7 on the previous page shows the comparison of the three friendly courses of action against the enemy's most dangerous course of action. The results from this analysis were that COA 3 was the "best" course of action – which was not the same result as the war game series against the enemy's most likely course of action.

This created a dilemma for the staff… which then looked at the evaluation criteria, which had not been weighted. From this second look, the staff still decided that intuitively COA3 was the preferred course of action and met the objectives of the campaign best.

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About the Author

Dr. Jack D. Kem retired as a colonel from the US Army in 1998, having served as a Field Artillery and Military Intelligence officer. From November 2009 to November 2011 he served as the Civilian Deputy to the Commander, NATO Training Mission–Afghanistan / Combined Security Transition Command–Afghanistan (NTM-A/ CSTC-A). He is currently a Supervisory Professor in the Department of Joint, Interagency, and Multinational Operations (DJIMO), U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. His military education includes graduation from the US Army Command and General Staff College, Air Command and Staff College, Joint Forces Staff College, and the US Army War College. He holds a B.A. from Western Kentucky University, an M.P.A. from Auburn University at Montgomery, and a Ph.D. from North Carolina State University. His current research interests include innovation, ethics, spirituality, military transformation, and campaign planning.