

The Applied Critical Thinking Handbook

(Formerly the Red Team Handbook)



A product of the TRADOC G2
Operational Environment Enterprise



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Table of Contents

CHAPTER I: Introduction.....1
Why Red Teaming?.....1
What is Red Teaming?2
How is Red Teaming Conducted?.....4
How is a UFMCS Education Unique?.....5
Why this Red Teaming Handbook?.....7
Summary8
Endnotes8

CHAPTER II: Self-Awareness.....9
What is Self-Awareness?9
Who Am I?10
Journaling Daily.....15
Interpersonal Communication.....16
Personality Temperaments18
Summary21
Endnotes21

CHAPTER III: Fostering Cultural Empathy.....22
Cultural Awareness23
Ethnocentrism24
Some Cultural Frameworks.....27
Functional Systems Approach.....32
Cultural Relevance37
Summary38
Endnotes41

CHAPTER IV: Critical Thinking.....43
Introduction43
What Do Critical Thinkers Do?43
Why is Critical Thinking Necessary?47
Summary55
Endnotes56

CHAPTER V: Groupthink Mitigation & Decision Support	57
Groupthink.....	57
Groupthink Mitigation	59
Military Decision Making Process	62
Mitigating Groupthink during the MDMP	62
Red Teaming During Planning	64
Red Teaming During Problem Framing.....	65
Red Teaming During Operational Design.....	71
Summary	73
Endnotes	73
CHAPTER VI: Red Teaming TTP	74
1-2-4-Whole Group	74
1 on 1, 2 on 2, Exchange Emissaries	76
4 Ways of Seeing.....	77
5 Whys.....	78
5 Will Get You 25	79
6 Empathetic Questions	80
6 Words	80
Alternative Futures Analysis.....	81
Analysis of Competing Hypotheses (ACH)	84
Argument Deconstruction	87
BATNA.....	89
Brainstorming.....	90
Challenges to Effective Planning	93
Circle of Voices	104
Circular Response	105
Cognitive Biases	106
Common Logic Fallacies.....	108
Critical MDMP Questions	110
Critical Review Steps	112
Critical Thinking Traits	113

Critical Variables (CVs).....116

Cultural Perception Framework.....123

Deception Detection.....142

Determining the Suitability of an Analogy144

Devil's Advocacy.....146

Divergence - Convergence148

Dot Voting149

Fishbowl.....150

Frame Audit151

High-Impact/ Low-Probability Analysis.....153

Indicators or Signposts of Change155

Key Assumption Check.....157

Liberating Structures.....159

Mitigating Groupthink160

My 15%.....162

Onion Model.....163

Outside-In Thinking.....165

Premortem Analysis.....167

Problem Restatement170

Quality of Information Check.....172

Red Team Analysis.....174

Red Teaming – Assessment Questions.....177

Red Teaming – Assumption Questions.....178

Red Teaming – Key Questions180

Red Teaming – MDMP Actions.....181

Shifting the Burden186

Stakeholder Mapping188

Strategies for Structured Analysis.....193

String of Pearls195

S-W-O-T Analysis206

Team A / Team B Analysis207

Telling Stories	209
TRIZ.....	210
Troika Consulting (Ad Agency)	211
Validating Assumptions.....	212
What if? Analysis	224
Why Assess?	226
Endnotes.....	229
Bibliography	233
Abbreviations	238
Index	240
My Notes	241

CHAPTER I: Introduction

“We need to help our commanders and staffs escape the gravitational pull of Western military thought.”

-- CSA Peter Schoomaker¹

Why Red Teaming?

The premise of the program at the University of Foreign Military and Cultural Studies (UFMCS) is that people and organizations court failure in predictable ways, that they do so by degrees, almost imperceptibly, and that they do so according to their mindsets, biases, and experience, which are formed in large part by their own culture and context. The sources of these failures are simple, observable, and lamentably, often repeated. They are also preventable, and that is the point of ‘red teaming’.

Our methods and education involve more than Socratic discussion and brainstorming. We believe that good decision processes are essential to good outcomes. To that end, our curriculum is rich in divergent processes, red teaming tools, and liberating structures, all aimed at decision support.

We educate people to develop a disposition of curiosity, and help them become aware of biases and behavior that prevent them from real positive change in the ways they seek solutions and engage others.

We borrow techniques, methods, frameworks, concepts, and best practices from several sources and disciplines to create an education, and practical applications, that we find to be the best safeguard against individual and organizational tendencies toward biases, errors in cognition, and groupthink.

Red teaming is diagnostic, preventative, and corrective; yet it is neither predictive or a solution. Our goal is to be better prepared and less surprised in dealing with complexity.

What is Red Teaming?

Red teaming is a function that provides commanders an independent capability to fully explore alternatives in plans, operations, concepts, organizations and capabilities in the context of the operational environment (OE) and from the perspectives of partners, adversaries and others.

A Red Team performs three general types of tasks:

- Support to operations, planning, and decision support
- Critical review and analysis of already-existing plans
- Intelligence support (Threat Emulation)

(UFMCS provides education for the first two tasks; TRADOC's Intelligence School and Center provides education on the third.)

In order for a Red Team to effectively contribute to decision making all of the following elements are required:

- The ability to think critically about the problem. While this may seem obvious, the reality is that critical thinking is a skill set that requires training, education and tools. The Army assimilates people from different backgrounds across the nation. One of the drawbacks of that assimilation is our military tendency to reflect the same biases and perspectives. We pride ourselves in common values—which while ingrained in the Army culture are not universal outside of that culture.
- Thinking critically and challenging the group is an unnatural act for military staffs. Doing so effectively requires tools and methods that enable leaders to see different perspectives.
- Red Teams require top cover to be allowed to challenge the conventional wisdom and the organization's leaders. No matter the quality of the Red Team or the methods they employ, dictatorial or toxic leaders are incompatible with successful red teaming.

- Red teaming is not easy, and not everyone can do it. Red Teamers must be effective written and oral communicators. They must have credibility in the area in which they are providing red teaming insights. They must be able to constructively challenge the plan. This means focusing on what is truly important, able to explain why it is being challenged and offering some alternative ways to think about the problem. Constituting a Red Team with those the organization ‘can afford to give up’ is a sure recipe for failure.
- There is no given template for a red teaming approach to a problem, no “one size fits all.” Red teaming activity must be tailored to specific requirements. Time available is a critical factor, as is expertise with the issue at hand, the makeup of the team, engaged leaders and their predisposition to provide too much input, etc.

A Red Team works best behind the scenes, assisting the commander and staff in a non-critical, helpful manner, without taking credit. (It is hard enough to accept someone criticizing your thinking—it is much tougher if they are obnoxious and loud about it.)

While there is no formula for red teaming, there are some common activities that most Red Teams do most of the time. These include challenging facts and explicit assumptions, looking for implicit (unstated) assumptions, identifying cultural assumptions and developing targeted cultural questions for subject matter experts (SMEs), challenging the problem frame (and proposing alternative frames), identifying cognitive biases and symptoms of underlying groupthink, etc. All of these activities lead to the development of alternative perspectives.

How is Red Teaming Conducted?

Not everyone should practice medicine. Scalpels, drugs, and the procedures in which they are used are not to be trusted to those with a passing familiarity of their application. Everyone should have a basic knowledge of how to maintain their health and wellness (basic elements of diet, exercise, sleep). Red teaming is like medicine. Medicine is diagnostic, preventative, and corrective. It works best when applied in small applications over time. And so it is with red teaming. Everyone needs medicine at one time or another. Not everyone needs the same dose. You want a well-trained Red Team for the same reasons you want a well-trained physician. As with your relation with your physician, monitoring and periodic checkups are preferable to intervention. What does your unit need... intervention, prevention, triage, a second opinion, or a dose of common sense? The applications for red teaming are dependent on the needs of the unit. The following are some important questions to consider when practicing red teaming. Some have definite answers; some answers are dependent on context and the needs of the unit:

- What does a Red Team look like? (Ad hoc, standing team, an individual, or an on-call team)?
- What does it do? (Challenges assumptions, tests hypotheses, explores alternatives, and heightens awareness).
- Who are the best people to do it? (Rank and education are not exclusive discriminators. You want reflective, critical thinking persons with a curious disposition.)
- When is it done? (Continuous, on call, in planning, or when things are going poorly)?
- To whom does the Red Team belong? (Optimally, to the commander, though they may work directly for the Chief of Staff.)
- Where in planning does red teaming belong? (Everywhere.)

How is a UFMCS Education Unique?

Our approach has proven effective in units and organizations from brigades to the Joint Staff. UFMCS' curriculum is designed to improve critical thinking, and proceeds from a premise that before you point out to someone the errors of their thinking, you had better understand your own.

Most of us are disinclined to naturally challenge prevailing thoughts. We challenge students to examine things they hold sacrosanct. We expose them to the ethnocentrism of their own thinking, their overreliance on method, their tendency to default to Western/Aristotelian logic, their lack of appreciation for the frames that subconsciously capture their thinking, their failure to avoid common cognitive biases, and their predisposition to seek consensus while exhibiting classic symptoms of groupthink.

UFMCS' curriculum revolves around some fundamental questions:

- What does it mean to be “self-aware?”
- When I perceive and interpret information, what are those interpretations based upon?
- What do I value and believe? Why? How do these values and beliefs motivate my behavior? How do others' values and beliefs motivate their behaviors *differently*?
- How can cultural anthropology help me think about another culture without resorting to mirror imaging?
- How do I improve my ability to think critically?

UFMCS' curriculum is organized around the following major areas, designed to improve a soldier's ability to think and understand in new and continually evolving environments:

Self-Awareness: Understanding how our values and beliefs affect how we think and decide ... and how that differs for others. Major sub-elements:

- Personal reflection, Jungian typology, Personality Dimensions, Thomas-Kilmann conflict mode instruments, etc.
- Watershed event story telling
- Daily Journaling

Groupthink Mitigation & Decision Support: The challenges inherent in hierarchical environments and elite teams—groups which might value maintaining social relationships more than making a tough decision.

- Use of fungible, small group techniques to mitigate groupthink: use of anonymous feedback, liberating structures, etc.
- How to connect critical thinking to operational design, problem framing, assumption validation, assessment tools, and MDMP.

Critical Thinking: Support for planning and decision making - deconstructing arguments, examining analogies, challenging assumptions, and exploring alternatives.

- The role of intuition—System 1 versus System 2 thinking.
- Numerous tools to examine a plan through different lenses—*Premortem Analysis*, *Stakeholder Mapping*.
- Thinking meta-cognitively, and enabling graduates to understand how humans think, and how culture shapes thoughts.

Fostering Cultural Empathy: Developing better questions about culture, in order to facilitate strategic and operational decision making which is informed by cultural empathy.

- Culture examined from the perspective of a cultural anthropologist, versus “dos and don’ts.”

- Conscious examination of the roles of ethnocentrism, versus cultural relativism.
- Culturally-centric case studies.
- Tools to help understand foreign cultural contexts, and to foster empathy.

Our intent is to inculcate behaviors designed to make critical thinking a discipline. The outcome of this process is a student with a bundle of cognitive capabilities—at the heart of which is a better ability to apply one’s normal thought processes and their common sense, to the circumstances of a given situation.

Why this Red Teaming Handbook?

The purpose of this Red Teaming Handbook is to provide an aide memoir for UFMCS graduates, and an introduction to the concepts for those unfamiliar with red teaming. This handbook is not a checklist of actions or tasks, but rather serves as a compendium of key ideas and information taught in the UFMCS curriculum to help facilitate practical red teaming. The contents of this handbook are neither doctrine nor the “school solution.”

This handbook represents the essence of what students study at UFMCS. It provides an overview in the four major educational areas of the red teaming program as described earlier in this introduction. Each chapter points the user to tools and methods in Chapter VI for use when confronting challenges associated with: Self Awareness and Reflection, Groupthink Mitigation and Decision Making, Critical Thinking, or Fostering Cultural Empathy.

This handbook is a living, UNCLASSIFIED document.

We welcome your comments, suggestions, and input. Time and personal preference of different facilitators may result in some of these ideas or tools being new to you despite having attended the program. As you go through this handbook, if you see things you were not exposed to in class, please engage our faculty.

Summary

People and organizations court failure in predictable ways, by degrees, almost imperceptibly, and according to their own culture and context. As a countermeasure, we can fully explore alternatives in that context and from differing perspectives. We call this function *red teaming*.

Red teaming requires challenging the facts, problem frame, and assumptions. This function also seeks to qualify the assumptions, develop targeted cultural questions, and propose alternative perspectives, as well as identify any cognitive biases, groupthink mitigations, etc.

To that end, organizations can utilize individuals taught to execute red teaming, or charter an empowered *Red Team* (standing, ad hoc, or on-call). Either way, red teaming has worked best behind the scene.

UFMCS offers a unique red teaming education. The curricula is designed to challenge one's view of the surrounding world and self. The school creates an experience built upon: self-awareness, cultural awareness, critical thinking, groupthink mitigation, decision support, and practical experiences with red teaming tools.

Endnotes

¹ Conversation CSA Schoomaker, Greg Fontenot and Steve Rotkoff, Spring 2006.

CHAPTER II: Self-Awareness

Everything that irritates us about others can lead us to an understanding of ourselves. -- Carl Jung¹

Most of the shadows of life are caused by standing in our own sunshine. -- Ralph Waldo Emerson²

The unexamined life isn't worth living. -- Socrates³

What is Self-Awareness?

Everyday life is a flurry of activity that demands our attention. From training and deployment schedules, to children and home life responsibilities, we are always on the go. As a result, we have little time for self-awareness and personal development. The process of improving self-awareness via introspection happens when we take a dedicated look inward and examine our own thoughts, feelings, and motives. But, who has the time to do that?

Self-awareness is the capacity for introspection and the ability to recognize oneself as an individual separate from the environment and other individuals.

Why is Self-Awareness Important?

The self-aware person is more enabled as a critical thinker, more aware of personal biases and recognizes his or her own cultural framework. It is with this understanding of self that an expanded world view opens—one that is more empathetic to the differences of other cultures and ways of thinking and thus primed to engage as a Red Teamer.

UFMCS focuses on four areas to develop Self-awareness:

1. Study of Temperament, Personality Dimensions® Instrument and Model, Introversion and Extraversion
2. Study of Interpersonal Communications
3. Introspection Exercise—Who Am I?
4. Daily Journaling Exercise

People are complex and diverse. A self-aware person has dedicated introspective time to acknowledge personality traits, personal values, habits, psychological needs and emotions that drive behaviors.

Personality - An understanding of your personality can help create awareness of strengths and weaknesses, talents, motives, stressors and motivators for decision making and interpersonal communications.

Values - It's important that we each know and focus on our personal values. In doing so, we are more likely to accomplish what we consider most important.

Habits - Our habits are the behaviors that we repeat routinely and often automatically.

Needs - Our needs cause motivation; and when needs aren't satisfied, they can cause frustration, conflict and stress.

Emotions - recognizing your own feelings, what causes them, and how they impact your thoughts and actions is emotional self-awareness.

Who Am I?

The *Who Am I* exercise requires reflection and introspection of your personal family narratives and dynamics, regional culture, religion, educational experiences, and critical watershed moments that shape your worldviews and values—that all put together construct an idea of who you are as an individual. In its whole, the exercise enhances the individual's self-awareness while at the same time creates cohesion and relationship bonding within the participating group.

There are two critical elements to the exercise: private preparation through solo reflection and introspection, and group sharing and storytelling.

1. Individuals first must do the hard work of reflection, of recalling the seminal life events that were critical in shaping their personalities and deeper values. One might

think of these events as crucibles, both difficult and triumphant, that forged the individual's character. In essence, this private preparation is intended to encourage introspection. Such deep reflection takes time, and must be built into the structure of the entire exercise.

What exactly participants choose to share with their classmates in the verbal portion is a different question. It is important during preparation that participants be completely honest with themselves as to how they developed into the person they are today. This preparation can take an hour or longer, and is ideally conducted at least one day prior to the group sharing.

2. In the second step, the group sits together in a private setting, and one by one the individuals hold the floor, sharing aloud their story. Participants should take as long as they want, uninterrupted while providing their story. This enables a degree of rambling which intentionally creates an environment where many people end up sharing more than they originally planned. This open time frame can be very liberating, as for many this is the first opportunity they have ever had to share aloud with others why they are who they are.
3. As such, any interruptions in the form of questions or time limits tend to kill the magic of the moment. To mitigate the abuse of this open ended opportunity to talk, facilitators are encouraged to get their story down under 15 minutes, as this then sets an example that most others will naturally follow. The story should be conducted entirely as narrative—no power point slides or film clips etc.—nothing to distract from the story each person is telling the group, and nothing to hide behind. This activity should be like telling stories around the campfire—but the story we tell is about ourselves.
4. There is no question and answer period following the story so as to avoid any semblance of an 'interrogation', and also to keep the playing field even, (i.e., if the

facilitator were to ask one participant three questions and another only one, it might leave the impression that the first participant's story was more interesting, etc.)

5. Every member of the group who is not sharing is asked to practice 'full-body' listening by giving their complete and unfettered attention to the person speaking. Receiving this attention while sharing is extremely powerful and the facilitator can both model this and suggest that participants give the kind of attention you yourself would want to receive.
6. Every participant must provide a narrative, but the order of presentation is purely voluntary, an important factor in creating safety. While every participant must share something, precisely how much to reveal about themselves is an individual decision. In this way, the exercise entails individually manageable personal risk.
7. No more than three personal narratives are conducted in a row. If someone goes exceedingly long this may be shortened to two or even simply one. In order for the group to exercise 'full-body' listening and remain engaged, the entire group 'who am I' must be spaced out over time. Done right, the story is often draining both for the listeners and the presenters. Each hour of stories should be broken up with an hour or more of some other less emotionally investing activity.
8. It is highly recommended that the facilitator models their own story before the participants commence their solo reflection. What the facilitator shares will set the tone for what the participants share. Facilitators are urged to go out on a limb and reveal meaningful events in their life that genuinely shaped them as people. By taking action and modeling this openness first, the facilitator encourages participants to risk being personally vulnerable themselves.
9. From past experience, several participants have initially told the group that they had felt they did not know

everyone well enough to completely share who they are and everything they had learned about themselves in preparing for the exercise. In most cases, they came forward later and decided to redo their story on their own initiative—sharing things they had learned through introspection but needed time to process. This methodology allows people to operate within their comfort zone while simultaneously establishing a group norm that encourages them to both reflect and share.

10. By now, it should be clear that this exercise is definitely NOT a normal biographical recitation. Positions held, size and composition of family, etc. are not important unless they are linked to some watershed event. In an Army context, when someone commanded a company or held some other position of importance is not relevant UNLESS some critical event happened while in that position that has stayed with, and continues to shape their daily outlook. Similarly, while the birth of a child is without question a significant event in anyone's life, it may or may not necessarily change your worldview about things like the nature of personal responsibility, values, etc. Hence participants are ideally sharing events that were personally transformational on a fundamental level.
11. Finally, and most importantly, this all requires a degree of confidentiality among the group. While not confession or protected speech, it is critical that if someone chooses to share personal vulnerabilities (e.g., current struggles at home or difficult events from the past) that this content does not become fodder for gossip. To gain buy-in on this, the facilitator should openly propose confidentiality as a group norm, and foster a brief discussion about what this means. A good rule of thumb is —what happens in 'Who Am I', stays in 'Who Am I'.

Outcomes of Introspection

'Who Am I' is a deceptively simple exercise that works on many personal and emotional levels simultaneously.

Several outcomes are enumerated below:

1. Using introspection to better understand how one engages the world, allows participants to view themselves in profound ways at depths rarely encouraged in the Army. Results may be scary for those unlocking doors in their head that may have long been closed, but it universally produces a better self-understanding.
2. When participants share their story, and listen as others share their own, it invariably dawns on them that they are not alone in coping with problems in life such as grief, prejudice, disappointment, relationship issues, etc. This leaves participants feeling significantly more connected with the group and less alone in the world.
3. Practicing active listening is not something we routinely do or reward in leader development. In fact, in some cases people are penalized for not contributing in volume to class discussions. This creates an environment where we reward the loudest who frequently crowd out and undermine efforts at collaboration. This exercise reinforces active listening and more importantly it reinforces listening for a deeper understanding of what they mean. This understanding promotes a connection on an emotional level. This is an exceedingly important skill for leaders to develop. Organizations where leaders and those led are emotionally connected have higher morale, are more committed to the mission, can better discern intent in the absence of explicit orders, and are more adaptable in extreme circumstances.
4. This exercise creates an environment where alternative perspectives can be valued. When a participant hears another tell a personal story about encountering direct prejudice and how that shaped them, they are less likely to think of that participant as simply 'hypersensitive.'

They understand *where* that person is coming from and *why* they see the world as they do—elements foundational to actual communication and education.

5. Finally, this is a tremendous team building vehicle. Upon completion, each member of the group knows all other members in a deeper way, faster than such knowledge normally develops. Often group members express that they now know other participants better than long time neighbors or even some members of their own family.

Journaling Daily

UFMCS requires students to journal daily, reflect on events and information. This layer of personal consciousness is seldom explored in the normal course of a day; paramount to critical thinking habits. Through introspective time with personal thoughts and feelings, this writing process induces the reflection on, and synthesis of, concepts as well as the subsequent application to one's own life experiences.

Journals are not intended to be simple regurgitations of the day's events. Entries should reflect a deeper and more considered review of the day's topics as well as down other paths those considerations lead. The act of journaling often leads the person writing the journal to examine their beliefs, attitudes, and values beyond what was discussed in class.

While students are required to turn in their journals, it is important to remember that the act of keeping a journal is designed to provide a vehicle for reflection for the individual writing them. Entries are not be looked on as graded writing. Bottom-line, they are designed for the writer not the reader.

Prompting questions:

- What have I learned about myself?
- What have I learned about my emotional responses?
- What learning topics or tasks did I respond to most easily/ with most difficulty?
- What do I feel proudest about/ most dissatisfied about regarding my personal growth?

Interpersonal Communication

Interpersonal communication is the face to face exchange between two or more persons that conveys ideas, emotions, and information; what is said and what is received verbally and nonverbally via body language and facial expressions. Personal objectives are one of the many driving forces underlying interpersonal communication.

- Interpersonal communication involves the use of semiotics which includes verbal and non-verbal representations of ideas, emotions, or events.
- Interpersonal communication occurs between people who are themselves developing and changing.
- Ethics, the use of moral principles to guide action, are part of interpersonal communication.
- Interpersonal communication can be strategic.
- Consider how one's communication affects others.
- To achieve their goals, communicators must be competent, meaning both appropriate and effective.

The many benefits of effective interpersonal communication include personal and professional success, more satisfying relationships, and goal achievement.

Strategic Questioning: seeking information to facilitate choices or open a space for new ways of thinking about a problem. It is open and closed questions, not a statement in the form of a question.

When to do it:

- Your professional role demands it
- As part of Critical Thinking
- You are confused about the purpose of the interaction
- You are problem-solving

How to do it:

- Use active listening
- Weigh they are saying against your goals
- Ask clarifying questions and offer paraphrases
- Stay open to new discoveries

Strategic Listening": listening to shape the outcome and help you accomplish your ends; measured later, by whether you gain information or improve the relationship. It considers when to use open and closed questioning, not stating the form of a question.

When to do it:

- Your professional role demands it
- As part of Critical Thinking
- You are confused about the purpose of the interaction
- You are problem-solving

How to do it:

- Use active listening
- Weigh they are saying against your goals
- Ask clarifying questions and offer paraphrases
- Stay open to new discoveries

Active Listening": listening to foster social relationships. This is measured at the time by how well you show your interest. It shows respect and involvement. Its absence can show lack of interest and dismissal.

When to do it:

- When the relationship matters
- As part of strategic listening

How to do it:

- Keep your eyes on the other's face
- Show emotional reaction but don't interrupt
- Echo parts of what they are saying

Empathic Listening": listening in support of emotions, demonstrating care and involvement. In the moment it helps the person feel understood and supported. Its absence can show impatience, disinterest, or dismissal.

When to do it:

- When you can be sincere
- When you truly understand or want to understand how your counterpart feels

- When you want to defuse strong emotions

How to do it:

- Show emotional reaction but don't interrupt; murmur
- Use indirect questions to echo parts of what they say
- Keep your eyes on the other's face
- Comment on their emotions

Personality Temperaments

Interpersonal Conflict

An awareness of others' temperaments can be quite helpful when conflict arises. Acknowledging the similarities and differences between the four temperaments allows for bridging strategies to be developed. In other words, courses of action that take into account each temperament's needs, motivators, and skills to form a more mutually beneficial outcome to manage the conflict.

Learning the four temperaments and examining your own personal patterns (dominant to least used) helps to frame your own personal needs, values, inter-personal stressors, and biases. An understanding your own and observing the patterns of others you work and live with allows you to:

- Influence and persuade others in a positive manner.
- Acknowledge your talents and those of others.
- Improve interpersonal communication.
- Identify potential problems early.
- Support and encourage others.
- Narrow gaps and differences.
- Improve team performance.
- Negotiate more effectively.
- Organize efficient teams.
- Increase productivity.
- Elevate morale.

Temperament

Temperament is defined as a pattern of observable personality traits, such as habits of communication, patterns of action, and sets of characteristic attitudes, values, and talents. It also encompasses personal needs, the kinds of contributions that individuals make in the workplace, and the roles they play in society. In essence, the study of temperament describes the ‘why’ of our behaviors, motivators and sources of stress.

Historically, theorists have identified four unique patterns of individual tendencies, values, and needs. These patterns were not arbitrary collections of characteristics, but sprang from an interaction between basic dimensions of human behavior: our communication and our action, our words and our deeds, or, simply, *what we say* and *what we do*.

Personality Dimensions® is a human relations and communications model rooted in Jungian typology and temperament theory that creates a common language for understanding self and others. The model examines four temperaments with innate psychological needs, values, talents, and behaviors.

<i>Personality Dimensions</i> ®	Core Needs	Values
Inquiring Green	knowledge, competence, mastery, & self-control	scientific inquiry, concepts, theories, & logical consistency
Authentic Blue	finding significance, meaning, & unique identity	harmony, cooperation, ethics, & authentic relationships
Organized Gold	membership, belonging, responsibility and duty	stability, security, procedures, and group preservation
Resourceful Orange	freedom to act in the moment; make an impact, & expediency	variety, adventure, excitement, and performance with skill

Introversion and extraversion were first popularized by Carl Jung. This concept frames a continuum of traits with discernible differences or identifiers for preferences on the extraversion ↔ introversion continuum. Regardless of where one may naturally fall on the continuum, most will develop skills to effectively augment behaviors along the entire continuum to fulfill core needs and motivations.

Those who prefer **introversion** will often:

- Do their best thinking, learning, and decision making through quiet reflection and individual contemplation.
- Seek stimulation from within and direct their energies inward in reflection.
- Prefer to inwardly think things through before sharing any of their thoughts.

Those who prefer **extraversion** will often:

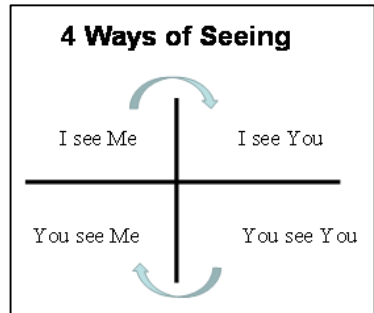
- Discuss thoughts out loud as a method to process information and make decisions.
- Seek stimulation from external sources and direct their energies outward.
- Prefer brainstorming out loud to get their creative juices flowing.

Linda Berens, *Understanding Yourself and Others*, also addresses the *core self*, the predisposition with which we are born. The *developed self*, the skills and behaviors we learn as we grow and mature; and the *contextual self*, how we prefer to react to a given situation. Berens claims that, given our "core self" and our "developed self", we are able to behave and react in a variety of ways in different situations or contexts. She states that we have the choice of: giving in to our core self, or following our developed self, or selecting an appropriate contextual response.

Summary

Self-Awareness and time introspecting is a fundamental element of the red teaming education. Self-awareness includes acknowledging that each of us come with differing values, behaviors, beliefs, personal stories, motivations and goals. Self-awareness enables the Red Teamer to improve their own: interpersonal communication, critical thinking, empathy for others, and cohesion within the group.

An understanding of individual temperament patterns and *introversion* ↔ *extraversion* confirms how we see ourselves (what we say and what we do) may be quite different from how others perceive what we say and what we do, and vice versa.



Endnotes

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² "Wisdom Quotes." Ralph Waldo Emerson Quote: "Most of the Shadows Of..." January 1, 2014. Accessed November 24, 2014. <http://www.wisdomquotes.com/quote/ralph-waldo-emerson-162.html>.

³ While this saying is attributed to Socrates, it was captured in Plato's *Apology*. Benjamin Jowett, *Six Great Dialogues*, (Mineola, N.Y.: Dover Publications, 2007), 18.

CHAPTER III: Fostering Cultural Empathy

"I don't think we should study things in isolation. I don't think a geographer is going to master anything, or an anthropologist is going to master anything, or a historian is going to master anything. I think it's a broad-based knowledge in all these areas, the ability to dissect a culture or an environment very carefully and know what questions to ask, although you might not be an expert in that culture, and to be able to pull it all together. Again, an intelligence analysis that isn't an order-of-battle, militarily oriented one, but one that pulls these factors together that you need to understand..."I mean, as simple as flora and fauna all the way up to basic geographic differences, environmental differences – cultural, religious and everything else. That becomes your life as a planner, or as the director of operations, and as the key decision maker."

-- General Anthony Zinni, 1998¹

This chapter is about developing better questions concerning culture, in order to facilitate planning, policy making, and strategic and operational decision making which is informed by cultural empathy and enhanced by red teaming tools and a functional systems approach. Red teaming methods and tools prevent us from accepting easy answers to hard questions about culture and its complexity. The functional systems approach enhances our ability to translate the abstractions and nuances of culture into doctrinal, operational terms. To that end, we emphasize the following in our approach to the red teaming method of cultural examination:

- Conscious examination of the roles of ethnocentrism vice cultural relativism
- Culturally centric case studies
- Tools to foster empathy

"Cultural analysis is intrinsically incomplete. And, worse than that, the more deeply it goes the less complete it is. It is a strange science whose most telling assertions are its most tremulously based, in which to get somewhere with the matter

at hand is to intensify the suspicion, both your own and that of others, that you are not quite getting it right. But that, along with plaguing subtle people with obtuse questions, is what being an ethnographer is like."

-- Anthropologist Clifford Geertz, 1973²

Cultural Awareness

In the above passage from *The Interpretation of Cultures*, Clifford Geertz was describing what it is like to be an ethnographer, but he may just as well have been describing a Red Team tasked with cultural analysis. A curious, skeptical disposition, rather than one of certainty befits the Red Teamer. For the Red Teamer, awareness means the discovery that there is no "normal" position in cultural matters.³

For the Red Teamer, culture may be best approached with techniques borrowed from the perspective of a cultural anthropologist instead of a prescriptive framework or list of 'dos and don'ts'; in other words, there is value in passively regarding what *is*. However, "Anthropology, or at least interpretive anthropology, is a science whose progress is marked less by a perfection of consensus than by a refinement of debate. What gets better is the precision with which we vex each other."⁴ This will not do. What is needed is a systemic approach to culture the outcome of which is designed to enhance military planning.

To observe dispassionately is the role of the ethnographer, but not necessarily the role of the military commander or Red Teamer. Their role is to decide what to "do," based on their observation and analysis.

Cultural awareness is not the same thing as cultural sensitivity. The idea is not to escape or discard our own deeply held values, beliefs, and ideals, or to practice cultural relativism, but to better understand the distinctions and similarities between our own and those held by others (both adversaries and allies) for the purpose of avoiding missteps in planning and policy formulation. Our methods and

outcomes as military planners differ from those of the ethnographer or anthropologist in that our task is not only to observe, but also to plan and act upon our analysis.

With that in mind, keep this caution in mind as you read this chapter and as you begin on any cultural examination: when we analyze another culture we must do so with full consciousness that our vantage point lies outside of it. Moreover, the things we see are the things we most often attempt to manipulate. These things are the superficial edifices of culture. Real wisdom here is to allow for the deep, unalterable foundations of culture, not to reconstruct it in the manner we desire.⁵

Ethnocentrism

One aim of the red teaming cultural methodology is the reduction of blind ethnocentrism. Ethnocentrism, the belief that *one's own culture is inherently superior to other cultures* is a natural tendency of most individuals⁶ (Haight, 1990). This is a problem in planning when the planner is so bound by their own culture as to be “blind to the ability to see the world through the eyes of another national or ethnic group.”⁷ Negative or distorted stereotypes too, are a challenge to complete cultural understanding as well. Stereotypes by themselves are not negative. At issue here is whether they are accurate or distorted. Distorted stereotypes are polarized, simplistic, and self-serving. Race and ethnicity are common characteristics that are historically susceptible to distorted stereotypes.

“Stereotyping is a process by which individuals are viewed as members of groups and the information that we have stored in our minds about the group is ascribed to the individual”

-- Behavioral Scientist Taylor H. Cox, 1994⁸

Often we tend toward oversimplification of cultural complexity in matters of planning. Our natural inclination is to construct simplified models of a complex reality in order to explain things. We develop simplified explanations based upon selected cultural aspects of the OE that facilitate our

planning and desired end states. The tendency is to regard culture as a block, a category with geographic or ethnic boundaries, and not as the people, the individuals that make up what is the human domain. For example, a simple answer to the question “Where is Mexico?” might be one that explains geographical boundaries, as on a political map. A more insightful answer is “It’s where Mexicans are,” or where Mexican food is, where “Mexican” Spanish language is spoken, or wherever Cinco de Mayo is celebrated, by whomever and for whatever reason. Cultures have social and psychological as well as geographical contexts. Culture’s complexity is illustrated by the hundreds or perhaps even thousands of culturally learned identities, affiliations, and roles we each assume at one time or another. “Complexity involves the identification of multiple perspectives within and between individuals.”⁹ Multiple and alternative perspectives, better questions, and thinking more “complexly” is the aim of the red teaming approach to culture.

To that end, we adopt the position that the study of culture is “not an experimental science in search of law but an interpretive one in search of meaning.”¹⁰ There are several challenges to forming an interpretive approach to culture, but that is our aim. We seek an explanation that accounts for the occurrence of certain phenomena in culture, in a place, at a certain time, for a certain group, for the purpose of planning, policy formulation, and decision support.

Challenges to interpreting culture

- To choose apperceptive (conscious perception with full awareness) frameworks that are sufficiently rigorous without being reductive.
- What cultural skills should a Red Teamer have?
- How are these skills best introduced in our practice?
- The most important aspects of multicultural awareness may be learned but cannot be taught.¹¹

- Good training can create favorable conditions for multicultural awareness to occur and provide the necessary knowledge and skills
- What is “good” training for Red Teams?

“It is difficult to know the cultures of others until and unless you have an awareness of your own culturally learned assumptions as they control your life”

-- Psychologists Mary Connerley and Paul Pedersen, 2005¹²

When seeking to interpret, understand, or analyze a culture, nothing is more essential than to realize the extent to which the interpretation is uniquely our own, with all the inherent and inescapable biases and ethnocentricity that comes with it. While we cannot completely escape our culturally learned ethnocentricity, there are tools, methods, and frameworks we employ to give us greater awareness of it and how it shapes our thinking and decision making.

There are hundreds of definitions of culture. Some are broad, general, and inclusive, while others are specific to the interest of the practitioner (ethnographer, social scientist, psychologist, warfighter, etc.).

Some definitions:

- “Whatever it is one has to know or believe in order to operate in a manner acceptable to its members.”¹³
- “The webs of significance designed by men for themselves.”¹⁴
- “The collective programming of the mind that distinguishes the members of one group or category of people from another.”¹⁵
- Operational Culture: Those aspects of culture that influence the outcome of a military operation; conversely, the military actions that influence the culture of an area of operations (AO).¹⁶
- “A theory on the way in which a group of people in fact behave.”¹⁷

The key point to remember is *it is all theory until you get there*.

Culture...

- Is learned.
- Is shared.
- Changes over time.
- Is not always rational to outsiders.

There are several frameworks that attempt to capture aspects of culture for the purpose of studying them. These are broad frameworks that lay out major categories of cultural differences.

Differences of the various approaches relate directly to the purpose of the research. Cultural frameworks do not explain everything, but they still explain something, and our attention should be focused on isolating what that something is with regard to military planning.

There is no ideal framework or best way to classify a culture. Moreover, frameworks should not supplant a straightforward explanation. The Red Teamer should understand that classifications and categories often only serve to provide a simplified basis for analysis. Opting for one categorization or framework over another not only determines the kind of questions we may ask, but may obscure other important questions that should be asked. For this reason, the Red Teamer should employ several frameworks or cultural “lenses” (like *4-Ways of Seeing*, p. 76) when conducting cultural analysis.

The Red Teamer views frameworks (including PMESII-PT as diagnostic tools, not by themselves explanations for the way things are.

Some Cultural Frameworks

While PMESII (Political, Military, Economic, Social, Information, Infrastructure) is the most frequently used method of organizing militarily-relevant knowledge about a place it is not the only valid framework nor is it complete in

and of itself. Graduates are encouraged to ask themselves the question ‘What is missing in an exclusively PMESII analysis...does it cover the WILL of the people in question, does it address how they view TIME either historically or day to day etc. Frameworks of all kinds are diagnostic tools not explanations for the way things really are in the society.

<p>Gluckhohn’s Six Age-Old Dimensions of Culture:</p> <ul style="list-style-type: none"> • The nature of people, good or bad? • The relationship between people and nature, Harmony or subjugation? • The relationship of people, individualism or Group? • The primary mode of activity, Being or Acting? • Conception of space, private or public? • Time orientation, past, present or future? 	
<p>Nesbitt on Cognitive Differences:</p> <ul style="list-style-type: none"> • Patterns of attention and perception • Assumptions about the composition of the world • Beliefs on controllability of the environment • Assumptions about stability and change • Preferred patterns of explanation of events • Habits of organizing the world • Use of formal logic rules • Application of dialectical approaches 	
<p>Hall on Communication Patterns:</p> <ul style="list-style-type: none"> • Context, what must be explicitly stated? • Space, how much personal space is necessary? • Time, monochromic (events occur one at a time) or polychromic (simultaneity) 	
<p>Ofstede’s Country Profiles:</p> <ul style="list-style-type: none"> • Power distance • Uncertainty avoidance • Individualism • Masculinity/femininity • Time Horizon 	<p>Five Operational Cultural Dimensions:</p> <ol style="list-style-type: none"> 1. The Physical Environment 2. The Economy 3. The Social Structure 4. The Political Structure 5. Beliefs & Systems <p><i>From Operational Culture for the Warfighter</i></p>

In the end, the framework(s) we choose is/are based on what we want to know and what we plan to do. We want to gather not only analysis and facts but explanations that lead to empathy / understanding that contribute to a methodological approach to operational Design, joint and service military decision making processes.

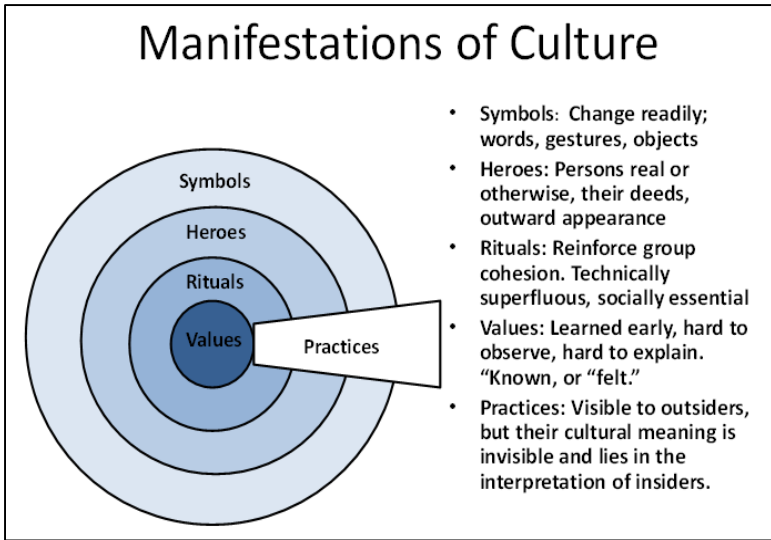
Every Red Teamer should possess a general OE knowledge of:

- Dimensions of Culture
- Aspects of National Culture
- Distinct motivational values born of cultural upbringing and context

Red-teaming instruction at UFMCS focuses on culture at the general level of knowledge. Emphasis is placed on culture because culture was identified as a gap in the understanding of the OE during OIF and OEF, and because culture is historically difficult to understand as its substance and significance is often abstract and not immediately observable.

The UFMCS Culture curriculum includes lessons focused principally on four subjects that are uniformly acknowledged in anthropological studies as foundational to any cultural study: social structure, politics (power and authority), economics, and religion (belief systems). The assumption is that to understand any one part of a culture or society we must look at all the rest of the socio-cultural context. The purpose of separating a society or culture into elemental parts or basic principles is not to isolate these elements, but to determine the nature of the whole.

General knowledge focuses learning about a complex OE on what is important for military planning and decision making. General knowledge is not concrete but an abstraction from experience; generalizations abstracted from multiple specific cases. Generalization simplifies a complex reality; complexity that otherwise overwhelms our ability to understand. An example of a model or framework that serves to simplify and illustrate an otherwise complex cultural reality is Hofstede's "Onion" model of Cultural Manifestations.



This simple, general model (p. 161), when populated, presents the Red Teamer with a cultural “... set of patterns, of and for behavior, prevalent among a group of human beings at a specified time period and which ... presents ... observable and sharp discontinuities.”¹⁸ Models like this one allow the Red Teamer to analyze what is the same, and what is different, the “sharp discontinuities” of the cultural context. It provides general categories and asset of patterns with which to begin a cultural examination of the OE that may be useful in the development of the Environmental frame of the Design process.

Without general categories we easily get lost in the complexity of specific details. At the population level, the human domain is extremely complex and is continuously changing which makes analysis to identify what can be influenced to achieve the desired outcome intractable. There are too many interconnected variables—at some level most all variables are connected—and causal relationships are constantly changing. This fact alone is enough to make planners take an essentialist view of culture, “It’s always been that way with these people.”

“To explain different patterns of culture we have to begin by assuming that human life is not merely random or capricious. Without this assumption, the temptation to give up when confronted with a stubbornly inscrutable custom or institution becomes irresistible” -- Anthropologist Marvin Harris, 1989¹⁹

Organization of cultural information is more than simple aggregation or populating a rigid systems model with general information. Important nuances of culture may be missed in a simple aggregation and cannot be examined by looking only at institutional design. This is where red teaming tools may be useful in determining which information, general and specific, is contextually important in the design or planning process, and help us to avoid the temptation to “give up,” or generalize in a stereotypical fashion.

The complexity of the human domain may be simplified by organizing specific information into general categories important for military operations. These general categories are based on what is important to know. At the highest level of organization for military operations, these general categories are the military operational variables, PMESII-PT. These categories simplify reality and provide a framework to focus collection of Regional Expertise and Culture (REC) - specific information relevant for military analysis.

Systems Thinking: According to CJCSI 3126.01A, *Language, Regional Expertise, and Culture (LREC) Capability Identification, Planning, and Sourcing*, systems thinking is: “Understanding how ...variables in the regional system interact with one another and change over time.”²⁰ At the population level, it is an understanding of the interaction of variables across a population. Given complexity, as mentioned above, “systems thinking” is enabled by the simplification of reality into relevant general categories of variables. The task for the Red Teamer is to render reality as simple as possible, but no simpler, for the purpose of military planning. For this reason, a functional approach to cultural analysis of the OE is suggested as one approach the Red Team may take for the purpose of connecting cultural

analysis to planning and operations. The following Functional Systems Approach to cultural analysis for planning is adapted from the USAFAS Regional Expertise and Culture Instructor Course (Pilot) developed by Dr. Daryl Liskey.

Functional Systems Approach

A *System* is an analytical approach to understand regular interacting relationships (links) and the associated entities (nodes) in an OE (see JP 2 01.3).²¹ It is an analytic device for separating from its context a set of phenomenon we want to study. Anthropologist Ronald Cohen describes it this way:

The system as a whole does something. It can be characterized as having an activity or activities, and its various parts contribute to the fulfillment of these ends. Indeed systems designers are quite clear on this point when they design systems, *since they start with functions* (emphasis added) and then work back to create a set of interrelationships that will, in fact, describe the carrying out of these ends.²²

How variables are related to produce a specific outcome is the definition of a *function*. The functional system consists of the regular patterns of interacting variables that cause the output. A functional systems approach is useful because it provides a systemic approach to analyzing interactions on what is important to know.

Keep in mind that the functional systems approach is not theory, nor is it doctrine. It is a method that links all aspects of cultural research together (Red Teaming, Design, LREC, PMESII, etc.). It is but one of many methods that may be used to enhance apperception (conscious perception with full awareness). Its intended use is as a bridging device between red teaming analysis and doctrine. The goal of this approach is an accurate description of a culture, leading to an explanation, and ultimately better informed planning and decision making.

The PMESII systems (which the Army identifies as the Operational Variables) purport to identify the *most important outputs or effects* relevant for military operations in a typical country at the campaign level of planning.

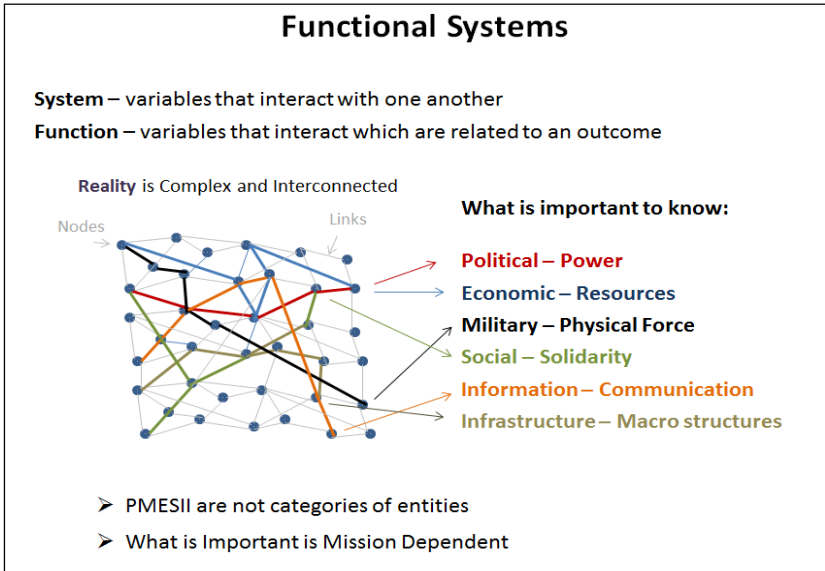
In functional terms, the Operational Variables are:

Political – power: how binding decisions are made

Military – physical force: how physical force is exercised

Economic – resources: how goods and services are produced, distributed, and consumed

Social – solidarity: how people interact in their everyday lives



Infrastructure – physical macro systems: how critical resources and activities move across man-made physical systems

Information – communications: how information is produced, distributed, and consumed

A functional understanding differs from but is consistent with the description of the operational variables in ADRP 5 and other Army and Joint Publications like JP 2-01.3.

At UFMCS, we include **Religion**, or belief systems, as a function.

In general, the PMES variables are important functions of any population, which is well established in the academic literature. A PMESII systems approach can be useful across the levels of war: a village, for example, may be usefully analyzed in terms of a PMESII framework for missions that cross the full range of military operations.

Caveats: In general, a PMESII Operational Variables approach is consistent with a functional systems approach given two **caveats**:

- ***PMESII are not meant to be stand-alone descriptive bins for categorizing entities (e.g., persons or institutions).*** In other words, it is unnecessary to think of any element of the system as a compartmentalized function which must be sharply separated from its context. A single entity or institution may be important across the PMESII operational variables. For example, a sheik may be an important variable in an analysis of power, force, resources, and solidarity of a tribe. If the sheik is categorized as a social variable but not a political variable, then the analysis of power misses an important variable. In more complex societies, institutions may be structured to perform a single specialized function; for example, a business enterprise is organized to perform an economic function or a government to perform a political function. However, a political analysis of American politics can include military, economic, and social institutions as important variables. If economic institutions are walled off from Political, then the analysis will be partial or biased and unlikely to accurately estimate the effect.

- **Mission Dependent:** What functions are important in a particular military mission may differ depending on the mission. As noted in JP 2 01.3, *Joint Intelligence Preparation of the OE*, for more-focused military operations, a full analysis of the PMESII variables is not needed. As, in governance operations, analysis of the political system can be the most useful (keeping in mind that PMESII are not descriptive categories) while for military force-on-force operations the analysis of the Military system is likely the most useful.

By now we have established that there are several frameworks, procedures, and models by which to examine culture. Whatever design we decide upon is dependent on the answer to four critical questions (adapted from Keesing, 1970):

1. What will be the shape and design of the cultural description?
2. What is the relation of such a cultural description to the overall goals of the military plan or decision?
3. How is the adequacy of the description to be evaluated?
4. What evidence is there that the descriptions we have sketched will be productive?

The purpose of these questions is to explain culture to what end? What is the connection? And the answers to these questions are critically important in determining the validity of whatever cultural framework, process or model we choose. The answer must be better understanding to inform the planning process.

The human domain is infinitely complex. It pushes back, evolves, and changes rapidly and unpredictably. We currently lack sufficient analytical power to reliably understand functions in the human domain in the same way we can in the biological or engineering domains. Institutions can be *engineered* to perform a function, but the OE outside

institutions, is more complex. Rather, red teaming tools and a functional approach to the human domain generate research questions that focus the purpose for an analysis and what casual relationships are important. Given a certain question, we structure research areas by identifying what is necessary to answer the question based on our general knowledge. To the extent that general knowledge is true, the categories and relationships will be true. It provides our “best initial guess” which is preferable to the alternatives. The Cultural Perceptions Framework (p. 122), Critical Variables (p. 115), and “Onion” model (p. 161) are useful red teaming tools in generating questions and categories that support the functional systems approach and in generating broader understanding (empathy) and alternative perspectives for cultural analysis.

Advantages of a Functional Approach: There are three important advantages of a functional approach.

- ***Focuses Analysis on Outcomes and Effects:***
Observing entities alone can tell us little about what is important for outcomes like power (control). A local government official or *sheik* may not be an important variable. In a village, the priest or large land owner may exercise more power. Or, power, more likely, is distributed throughout a functional political system. By understanding the functional system, entities or relationships can be identified that are important for causing an outcome. Systemic functional analysis increases the likelihood of developing course of action (COA) that will achieve a desired effect.
- ***Identifies what is important across specific areas:*** A functional approach also enables a REC-general understanding applicable across any area. Understanding key specific functional relationships like decision making, execution, and enforcement enables identification of the specific institutions across specific regions or systems. The specific institutional form can vary greatly: the ultimate decision-making function can

be exercised by Congress in the United States, the Central Committee in the People's Republic of China, or the religious leader in Iran. It may also be shared among different institutions to varying degrees. Understanding of functions provides general knowledge of what is important across specific areas where institutional form can vary widely.

- ***Synchronizes knowledge and analysis across echelons:*** Specific forms of institutions also vary across echelons within an AO. For example, political parties may have a national level organization, linked to regional political groups, which in turn are linked to local informal power holders in a village. A functional analysis enables an understanding of vertical as well as horizontal system relationships related to outcomes despite specific differences in form. This enables an analysis of how one level affects the other as well as enabling the aggregation of information and analysis across echelons.

Cultural Relevance

A few rules of thumb apply to recognize when culture may be more important:

Greater Cultural Differences: Culture is more important when cultures differ from our own. In countries like Afghanistan, these differences can be marked and more important than institutional considerations. In more Westernized cultures, culture differences may be few and institutional differences will matter more.

Unstable Countries: Where institutions are weak or are collapsing, cultural ties are relatively more important and can become a critical source of conflict as well as resilience.

Marked Differences within a Country: The cultures within a country can vary markedly. The culture in rural areas is less Westernized compared to major urban areas and the culture can vary from area to area within a country. Differences in culture can produce strong cultural dynamics

within a country even in highly institutionalized Western countries and these dynamics can be critical for Western countries.

Additionally, culture can be a more critical consideration in population Inform and Influence operations and, at the individual and organizational levels, operating with JIIM partners.

Summary

Anthropology is about observation, collection, and cross-cultural comparisons. Military planning is oriented toward action, and exhibits a bias toward a particular type of action (security, stability, decisive action, etc.) The processes of military planning can have a dramatic effect on the goals of those actions. Red teaming is about apperception, theory construction and testing. These fields frequently overlap, but tend to use different methodologies and techniques. Red teaming methods and tools aim at improving cultural understanding with the goal of enhancing the chances of successful outcomes in military planning. In the case of cultural empathy it is about explanations of the relationships of cultural functions. Red teaming represents a methodology, and the approach affects the method. The order of application reflects a strategy. The aim of the strategy is the support of operational planning in the form of Design and MDMP. The following are some thoughts for the Red Team to keep in mind when conducting cultural analysis:

- The study of culture is not performed in isolation. It is only meaningful when regarded as part of a larger body of thought (e.g., strategy, design, campaign planning).
- Cultural analysis is part of the larger intellectual process of war fighting and peace keeping.
- The tendency to depend on one authority, one theory, or one approach to cultural apperception is extremely dangerous in military planning.

- Red teaming cultural methodology is not a new way of knowing—it is a systematized approach—a synthesis of several works.
- A functional systems approach is useful because it provides a systemic way of analyzing what is important to know about the OE.
- Red teaming methodology does not produce solutions, but insights that inform planning—a logic of inquiry.
- The aim is to avoid spurious correlations and conclusions.
- The goal is to make sense of—or meaning of—what goes on in a particular cultural milieu; for that time, and in that context, for the purpose of planning and policy making.
- The red teaming cultural methodology aims to inventory and understand a people and their motivations at a level of general knowledge for the purpose of resolving or avoiding violence and conflict.
- The goal of general knowledge is not prediction per se, but understanding in order to control and influence the outcomes we desire in military operations.

And finally, some observations on “why we study culture”²³ from Dr. Geoff Demarest:

1. To find people and things. Cultural knowledge helps locate individuals, their wealth and their supporters. ‘Locate’ means establish their precise whereabouts -- where they will sleep tonight, where their mother is buried, the number of their bank account and the bank routing number, where their motorcycle is sitting, their email address, where and when they play golf...and where they feel safe. For the competitor in a violent struggle this is the first and most compelling reason for cultural knowledge. It is what Sam Spade, the private investigator, knows. The rest is useful, too, but if he knows where you are while you don’t know where he is,

you are the prey. To control anonymity, you must know the culture.

2. To communicate good. Cultural knowledge can improve communications with others so as to endear and not offend, to facilitate collaboration and compromise, and to settle disputes peacefully when preferable. This involves language beyond the verbal, and into customs, prejudices, habits, mores, expectations, fears, historical grievances, community pride and the like. All knowledge is grist to the mill. It will be especially productive to identify aspects of the culture related to honor and dishonor.
3. To identify objects of desire, sources and holders of power, grievances, agents (especially 'exclusive' agents), resolution mechanisms, debts, tax relationships, jurisdictions and expectations. In short, to comprehend the territorial geography of conflict and conflict resolution.
4. To set reasonable objectives. Knowing how or if to change the social compact, how long it might reasonably take you to implement such a change, and how long the changes might last. This may include determining the interrelationship between peoples' behaviors and their surrounding environment in order to derive durable improvements in human flourishing and harmony. When good intentions are not built on sufficient knowledge, the reward may be a set of nasty unintended consequences. In a domestic legal setting we demand due diligence of doctors and lawyers -- that they avoid negligent practice. Strategic due diligence presupposes the programmed and resourced study of foreign cultures in order to avoid strategic negligence.
5. To put things in the right places. Whether you want to optimally place a fish pond, police station, camera, or a shooter, it is local cultural knowledge (and usually the kind that cannot be gained via remote sensing) that will guide best.

6. To correctly time actions and activities. Knowing when to act and not act is a much easier standard if we are steeped in local cultural knowledge.
7. To get the joke or make the joke. Jokes work the same mental pathways as military deceptions. For practical purposes, military deceptions are jokes. Irregular armed conflicts are generally clothed in law, economics, propaganda and other aspects of quotidian, civilian life. Not being able to get civilian jokes means being vulnerable to the dangerous military or criminal ones. Just as the insurgent can move from military uniform to civilian attire, so can military thought hide in civilian guise.

Endnotes

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² Clifford Geertz, *The Interpretation of Cultures: Selected Essays* (New York: Basic Books, 1973), 29.

³ Geert Hofstede, Foreword to *Leadership in a Diverse and Multicultural Environment: Developing Awareness, Knowledge, and Skills* by Mary Connerley and Paul Pederson, (Thousand Oaks, Calif.: Sage Publications, 2005), ix-x.

⁴ Geertz, *The Interpretation of Cultures*, 29.

⁵ Ibid, page #?.

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- ¹¹ Connerley and Pedersen, *Leadership in a Diverse and Multicultural Environment*, xii.
- ¹² Ibid, xi.
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- ¹⁴ Geertz, *Interpretation of Cultures*, 5.
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- ¹⁷ Florence Rockwood Kluckhohn and Fred L. Strodtbeck, *Variations in Value Orientations*, (Evanston, Ill.: Row, Peterson, 1961) 7.
- ¹⁸ Claude Levi-Strauss, *The Elementary Structures of Kinship*. (Boston: Beacon Press, 1967), 10.
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- ²⁰ CJCSI 3126.01A. *Language, Regional Expertise, and Culture (LREC) Capability Identification, Planning and Sourcing*, H-1.
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- ²² Ronald Cohen, "The Political System," in *A Handbook of Method in Cultural Anthropology*, eds. Raoul Naroll and Ronald Cohen, pp. 484-499. New York & London: Columbia Press, 1970.
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CHAPTER IV: Critical Thinking

In all affairs it's a healthy thing now and then to hang a question mark on the things you have long taken for granted.

Many people would sooner die than think. In fact, they do.

-- Bertrand Russell¹

Introduction

Critical thinking is a term that many institutions hold in high regard, that most people have heard about, and that almost nobody practices on a thorough and systematic basis. This section of the Red Team Handbook is designed to acquaint you with many of the fine points associated with critical thinking by doing two things: exploring what critical thinking is, and addressing why critical thinking is necessary.

Critical thinking is hard, deliberative work and it takes an open, inquisitive mind. It is not easy, but it doesn't take a genius either. You can choose to believe whatever you hear and see. But to be a critical thinker, you must learn to ask yourself whether you *must* believe what you hear and see. *Ultimately, critical thinking is about what to believe.*

What Do Critical Thinkers Do?

What exactly is critical thinking? A common approach to answer that question is to consider how the term is defined. Let's look at a few definitions of critical thinking. Drs. Richard Paul and Linda Elder, authors of many critical thinking books and documents, define critical thinking as

"A process by which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them... [It requires] a commitment to overcome our native egocentrism and sociocentrism."²

Robert Ennis, also recognized as an expert in critical thinking, defines it differently: "Critical thinking is a process,

the goal of which is to make reasonable decisions about what to believe and what to do.”³

Are either of those definitions sufficient to explain what critical thinking *is* in full, or what critical thinkers do? Certainly not. Neither enumerate *what* critical thinking is, nor point us in the right direction in terms of *how* to think critically. The challenge of defining critical thinking is that it seems to defy definition—at least a definition that stands alone, fully explaining what it is and how to do it. In fact, several authors who have written about critical thinking do so without attempting to define the term. Among them are Stephen Gerras (“Thinking Critical About Critical Thinking”), Stephen Brookfield (*Developing Critical Thinkers*), Tim Hurson (*Think Better*), and Peter Facione (*Critical Thinking: What It Is and Why It Counts*).

Although the definitions leave us with questions concerning what critical thinking is and how to do it, they do provide insight. By closely reviewing several definitions, we can ferret out ideas that help us better understand the nature of the critical thinking.

Look at the definition by Drs. Paul and Elder above. Several tangible ideas emerge: critical thinking is a *process*, and it deals with the *quality of thinking by imposing intellectual standards*. In fact, in other writing these two authors assert that critical thinking *considers points of view, the quality of information, interpretation and inference, assumptions, and implications and consequences, and that critical thinkers think open-mindedly, and gather, assess and interpret relevant information*.⁴

Additional verbiage from other critical thinking experts, with their key ideas italicized, are as follows:

- Stephen Brookfield (*Developing Critical Thinkers*): Critical thinking consists of *challenging assumptions and exploring alternatives*.⁵

- M. Neil Browne and Stuart M. Keeley (*Asking The Right Questions*): “Critical thinking consists of an *awareness* of a set of interrelated critical questions, plus the ability and willingness to ask and answer them at appropriate times” (Italics added.)⁶
- Gary Jason (*Critical Thinking*): “Broadly defined, critical thinking means *developing an ever better worldview* and using it well in all aspects of your life... the essence of critical thinking is *questioning* and *arguing logically*. ... the heart of critical thinking is the ability to ... infer or reason well... *questioning and arguing logically*” (Italics added).⁷
- Sylvan Barnet and Hugo Bedau (*Critical Thinking, Reading, and Writing*): “[Critical thinking includes] *searching for hidden assumptions*, noticing various facets, unraveling different strands, and evaluating what is most significant ... [critical thinking] implies conscious, deliberate inquiry, and especially it implies *adopting a skeptical state of mind*.” “Critical thinkers are...*sufficiently open-minded*... [and] adopt a *skeptical attitude*.” “Critical thinking means questioning not only the assumptions of others, but also *questioning your own assumptions*” (Italics added.)⁸

Make a short list of all of the italicized words in the definitions shown thus far. Collectively, these words help illuminate what critical thinking *is*, and what critical thinkers *do*. Here is an initial list of the ideas expressed in italics:

- Critical thinking is:
 - *awareness*.
 - *a process*.
 - *quality of thinking*.
 - *imposing intellectual standards*.
 - *challenging assumptions and exploring alternatives*.
 - *searching for hidden assumptions*.

- *questioning and arguing logically.*
- *developing an ever better worldview.*
- Critical thinkers:
 - *are open-minded.*
 - *adopt a skeptical state of mind.*
 - *gather, assess, and interpret relevant information.*
 - *question [their] own assumptions.*
 - *consider points of view, the quality of information, interpretation and inference, assumptions, and implications and consequences.*

Let's elaborate on a few of the ideas expressed above. First, critical thinking is *awareness*: critical thinkers are aware of their surroundings, what they do know and (more importantly) what they do not know, and how their thinking can often fool them. Because of this, critical thinkers are self-reflective and defer judgment: they do not jump to conclusions, but rather take time to ask questions, ensure they've considered various perspectives, ask themselves what's missing that needs to be considered, and reflect upon how their values and beliefs may be conspiring to fool them.

Critical thinking is also a *process*. Good critical thinkers consider various frameworks when thinking about problems, because frameworks force us to consider alternative perspectives that we wouldn't naturally consider. The latter portion of the Red Team Handbook is filled with frameworks with which we can think critically about various challenges.

Critical thinking includes knowing that for many issues, assumptions prevail. Often these assumptions are hidden, or *implicit*: we make them without realizing that we are doing so. *All* assumptions need to be challenged. When the assumptions are challenged and found to be faulty, we may have better insight into the nature of the problem.

Exploring alternatives is equally important. Otherwise, we take for granted that the first thing that comes to our mind is the way it really is—we fall prey to default-mode thinking, allowing ourselves to be comfortable with the first conclusion we settle upon.

Considering the collective list of extracted ideas from critical thinking experts is a first step toward more fully appreciating what critical thinking is, and how to do it. To add to the list above, think of someone you admire as a critical thinker. What is it that s/he does that you admire? How is it that this person “thinks critically?” What habits of thought does this person exhibit? There is no perfect, all-inclusive list of critical thinking traits. But by constructing such a list, we can better understand the aspects of critical thinking that definitions alone won’t provide.

In summary, critical thinking definitions—however eloquently stated—often do not provide complete, self-contained understanding because there is much more to critical thinking than any one definition can provide. Rather than focus on definitions of critical thinking, we invite you to review the list of *Critical Thinking Traits* (p. 112). Review each item on this list. If you aren’t doing all of the things noted on the list, perhaps your critical thinking has room for improvement. Make sure to explore those ideas that you don’t understand.

This completes the discussion of what critical thinking is, and what critical thinkers do. But is critical thinking a necessity?

Why is Critical Thinking Necessary?

We maintain that critical thinking is indeed vitally necessary. Why? For a number of reasons—among them the fact that we spend most of our waking day on “cognitive autopilot,” not consciously thinking about the choices that we make; that each of us perceives and interprets the same information in several different ways; and that there are ingenious attempts on the part of the few to fool the many. This section will briefly examine these reasons.

Most human beings are on “cognitive autopilot” most of the time. Think about it: since you woke up this morning, how much of your daily routine has been just that—a routine? Unless you’re a child, and haven’t yet learned all of the things necessary to survive and thrive in the modern world, we don’t usually give a second thought to many of the things we do during the day. This includes dangerous activities—driving a car on a busy highway; playing ice hockey; working in a noisy, dangerous automotive plant; or crossing a busy street while listening to music on an iPod.

According to Daniel Kahneman, most impressions and thoughts arise in your conscious experience without your knowing how they got there. The mental work that produces impressions, intuitions, and many decisions *goes on in silence in our mind*. As we navigate our lives, we normally allow ourselves to be guided by impressions and feelings, and the confidence we have in our intuitive beliefs and preferences is usually justified.

But not always.⁹

According to Richards Heuer (*The Psychology of Intelligence Analysis*) and Morgan D. Jones (*The Thinker’s Toolkit*), we do not approach analysis with empty minds. Our minds are full of biases and assumptions. Unless we are forced to stop and think through a particular challenge, we are able to blot out much of the complexity surrounding us and rely on routines of habit. Usually, this works fine until we treat a truly unique situation as yet another *routine* situation, at which point we are taken by complete surprise. Hopefully we survive and learn. Sometimes we’re profoundly embarrassed.

Critical thinking helps us break the bond of unreflective dependence upon our intuition. It is a counter-weight to “cognitive autopilot.” Why? For several reasons, among them our reliance upon mental models, patterns and intuition; the effects of “frames”; and our values, beliefs and worldviews.

When we perceive and interpret information, we usually use mental models, patterns, and anomalies: our intuition. Mental models—also referred to as “mindsets”—are tools that we unknowingly create to replicate how we believe the world actually works. They act as *implicit* assumptions—unstated, hidden assumptions we don’t consciously make, but which nonetheless exist. We use these mental models to simplify our daily lives. Mental models allow us to cope with reality by providing a ready-made default mechanism: “when I see the following, here’s how I interpret it and here’s how I act.” Most of these mental models, like our values and beliefs, reside in our subconscious, which means that we are not normally cognizant when we are using them. Mental models do make our lives easier; they simplify the environment by bringing to each new experience a pre-established frame of reference. The absence of mental models would require us to figure out every situation as it presents itself, and we would soon be overwhelmed.

When our mental models of the world do not match the reality that we face, we often ignore that reality. Unfortunately, we often try to project our own mental models onto situations, whether or not they actually fit. We tend to perceive what we expect to perceive in the world around us, valuing information that is consistent with our views, and rejecting or overlooking information that is inconsistent with our views. And we perceive in a way that is least likely to disturb what we expect to see—least likely to disturb the mindsets buried in our subconscious.¹⁰

Related to mental models are sets of patterns that we establish throughout our experiences in life. The longer we live, the more experiences we gather and the more we are able to operate autonomously through the use of these patterns. Sometimes when a particular pattern that we expect doesn’t present itself—when we spot an anomaly—we are able to act upon that information too. Many times, however, spotting anomalies is difficult, especially if we are not looking for them in advance.

When we view the world around us in terms of patterns, however, we get into trouble when those patterns don't actually exist. This is a description of a "cognitive bias" called the Narrative Fallacy.

We can also fall into a trap of allowing our minds to jump to conclusions—having been deceived by the faulty use of mental models or patterns—and form a conclusion to a particular problem without first considering alternatives, simply because that's what our mental models or overreliance on patterns tells us is the truth. This is an example of what we call Confirmation Bias, which is another of the *Cognitive Biases* (p. 105). In order to preclude Confirmation Bias, we should not seek to confirm anything. Rather, we should seek to *disconfirm*, or disprove an idea, especially if that idea comes in the form of an assumption. An ideal tool that uses the principle of disconfirming evidence is the *Analysis of Competing Hypotheses* (p. 83).

A concept closely related to mental models is frames, which according to Edward Russo and Paul Schoemaker are "mental structures that simplify and guide our understanding of a complex reality."¹¹ Frames are hard to recognize, and distort what we see. Most of us don't realize that we have various frames and mental models. We often use frames to consider problems or situations, but fail to realize that we should use several frames instead of just one. Rather, we normally use the first frame that occurs to us. Challenging our frames is a necessity, but we can't challenge our frames if we don't realize that they exist. A useful tool in working with frames is the *Frame Audit*, p. 150).

Our values, beliefs and worldview act as filters to skew our perception and interpretation of information, and they motivate our subsequent behavior. Most of our values and beliefs reside in our subconscious; we know we have them, and when forced to think about them we can generally describe what they are. Values and beliefs are both forms of assumptions about how the world works, and our worldview

could be considered as a compilation of these beliefs and values.

Since each of us (even within the same culture) are apt to have subtle differences in our values, beliefs and worldview, it should be easy to understand that each of us is apt to perceive and interpret information differently from each another. Of course, when we work with people from other cultures, the differences are apt to be much more significant. Critical thinking helps us to think about each others' perspectives.

One way to think critically about issues in which our values, beliefs and worldview may have affected us is to adopt the role of a Devil's Advocate. *Devil's Advocacy* (p. 145) is a process which forces us to think through an issue from a completely different perspective, one which we wouldn't normally consider. *Each of us perceive and interpret information differently—for several reasons.* Among these reasons are the physical limitations of our perceptive processes; our inability to reason properly; our inability to differentiate between causation and correlation; and our difficulty in "thinking complexly" about complex problems.

We are limited in terms of what we can physically perceive. Hence, each of us is apt to see different elements of the same information. When we observe something, we often miss many things. According to Dr. Marcus Raichle, a neurologist at Washington University, each of us has ten *billion* bits of information hitting the backs of our retinas every second—of this, only six *million* bits make it to our optic nerve, and 100,000 bits make it to our visual cortex. Yet only *100* bits of information make it to our conscious brain each second. That is a significant physical filtering of information—from 10^{10} power to 10^2 power. Even if Dr. Raichle's numbers are a bit off, the effect should be readily apparent. We simply do not have the capability to register and think about everything we can perceive. When several of us look at the same thing, we often notice different aspects of it. Why? Our mental models, the patterns we've

experienced, our frames, our values and beliefs, and our worldview. This is why diversity among groups is important: each of us is apt to be able to think about key aspects and perspectives that others in our group are not, and vice versa.

Our vision is a *construction*. The process of observing includes recreating in our minds—constructing—what we believe we are observing. When we observe, our brains take in information, and relate that information to the surrounding context. Given all of the information that is physically filtered out, we are inclined to fill in the gaps by making assumptions in a way that makes sense to us: we assign meaning to what we perceive, because we are generally uncomfortable with a completely abstract picture devoid of meaning. The more abstract a perception, the more our brains will add meaning to it. (If you don't believe that, assemble a group of people and view the most abstract art you can find. Many will perceive and interpret the art piece in demonstrably different ways, in part because of the physical limitations described above, and in part due to the mental models, patterns, frames, and beliefs and worldview described above.) The completed “picture” that we see is not necessarily the reality in front of us; rather, it is the constructed version of that reality that reflects assumption-based conclusions to which our brains have already jumped. Again—this is why diversity of experience is crucial to groups conducting critical thinking.

Often our reasoning is faulty. We reason in one of a couple of ways—deductively or inductively. Deductive reasoning relies upon drawing a conclusion from two or more premises. So long as the premises are facts—the truth—then our conclusion is certain to be true. Deductive reasoning tends to be faulty, however, when one or more of our premises are not in fact true, but rather are unrealized assumptions that we have overlooked. In order to ensure that we deduce properly, it pays to think critically and ask whether each and every premise upon which we base our conclusion is factual information, and not a *presumed* fact—an assumption.

Inductive reasoning is different. When using inductive reasoning, we infer a conclusion that, at best, is probable (vice certain). The probability of the conclusion's truth varies directly with the degree of likelihood that its premises are true. Inductive reasoning occurs in a number of different ways: reasoning from a sample to a larger population; reasoning from a population to a sample; accepting a conclusion based on what people report observing; inferring "why" something happened; and reasoning from one sample to another, or analogizing (*Determining the Suitability of an Analogy*, p. 143). In all cases, the first requirement of a critical thinker is to realize that he is resorting to inductive reasoning, and as such acknowledge that his inferences and conclusions are at best probabilities. Following that, a critical thinker must ascertain the degree of probability to his conclusion in order to avoid surprise.

In thinking critically about either deductive or inductive reasoning, a valuable tool to consider using is the *5 Why's* (p. 77), which helps us by revealing unsound logic in our thinking.

We fail to differentiate between causation and correlation. Distinguishing between cause and correlation is an important function of critical thinking. Most of us are unaware that the two concepts exist, and tend to fall into a trap of connecting two events in a linear cause-and-effect relationship. We often fail to understand that linear chains of cause-and-effect are rarely the reality. Instead, what we perceive as a cause-and-effect relationship is in fact a correlative one. For example, during an insurgency we might infer that heaps of trash in the city are causing increased levels of violence among the insurgents. Based upon that linear cause-and-effect analysis, removing the trash should eliminate the insurgent violence. Closer examination, however, might dispel that hypothesis. Although both appear to happen with some relatively predictable levels, there is most likely a correlation between the two—that removal of the trash might

help reduce the level of insurgent activity, but not completely eliminate it.

A critical thinker asks himself, therefore, the following question: is there a cause-and-effect relationship at work here, or are the two actions I observe in some correlative relationship? If so, what is the nature of that correlative relationship? Once a critical thinker develops that hypothesis, s/he should test and amend it as necessary, based upon feedback. (Note: an even more troubling question a critical thinker should ask is whether s/he is inferring (or imagining) a relationship that doesn't exist at all. This question is related to the Narrative Fallacy, one of the *Cognitive Biases* (p. 105), as well as to a famous Logic Fallacy entitled *The False Cause* (p. 108).

We fail to appreciate the complexity in systems, and instead resort to “linear” cause-and-effect thinking. Life around us is incredibly complex, yet we tend to think in linear cause-and-effect relationships, according to Dietrich Doerner (*The Logic of Failure*) and Peter Senge (*The Fifth Discipline*). Most of us attempt to act upon a simple, single variable which creates unintended, cascading effects. Instead, we should consciously account for the interrelated variables in a particular scenario by creating and testing a hypothesis of what we believe the complex system consists of. We then should assess the feedback of our actions, amending our initial hypothesis until we have confidently figured out the system with which we're working. Several tools help when working with complexity: *Premortem Analysis* (p. 165), *Shifting the Burden* (p. 184), and *S-W-O-T Analysis* (p. 204).

Finally, we need to think critically because a lot of people are constantly trying to trick us. Beyond all of the reasons cited above for why critical thinking is necessary, there is also the fact that many people are simply trying to fool us.

Unfortunately, for the most part they succeed—because most of us don't think critically enough, or recognize many of the tricks that these folks use. Examples of these rhetorical tricks such as Appeal to the Masses, Appeal to Fear, Ad

Hominum, False Dichotomy, and the Slippery Slope, are all *Common Logic Fallacies* (p. 107). Critical thinkers are knowledgeable of these common logic fallacies and use logic to deconstruct arguments based upon them.

For all of the reasons cited above, critical thinking is a necessity. One of the most robust tools for thinking critically about written and oral argumentation is the *Argument Deconstruction* (p. 86).

Summary

That is critical thinking. As you can see, it is pretty involved—deliberative, hard work. To do it properly, you have to know a great deal—about how we perceive and interpret information differently from others, how our thinking can be affected by a number of things like mental models and values and beliefs, and how others are constantly trying to fool us. But with some diligence and hard work, critical thinking can become a valuable habit. We need to practice it thoroughly and systematically at all times.

Remember: critical thinking is about what to believe. *We can* believe most anything.

But *must* we?

The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and circumstances of inquiry permit.¹²

Endnotes

¹ "Quotations by Author." Bertrand Russell Quotes. January 1, 2013. Accessed November 24, 2014. http://www.quotationspage.com/quotes/Bertrand_Russell/.

² Richard Paul and Linda Elder, *The Miniature Guide to Critical Thinking: Concepts and Tools*, 6th ed., (Dillon Beach, Calif.: Foundation for Critical Thinking, 2009), 1.

³ Robert Hugh Ennis, *Critical Thinking*, (Upper Saddle River, NJ: Prentice Hall, 1996), xvii.

⁴ Paul and Elder, *The Miniature Guide to Critical Thinking*, 5.

⁵ Brookfield, Stephen. *Developing Critical Thinkers: Challenging Adults to Explore Alternative Ways of Thinking and Acting*. San Francisco, Calif.: Jossey-Bass, 1987.

⁶ M. Neil Browne, M. Neil and Stuart M. Keeley, *Asking the Right Questions: A Guide to Critical Thinking*, 8th ed., (Upper Saddle River, N.J.: Pearson Prentice Hall, 2007), 3.

⁷ Gary James Jason, *Critical Thinking: Developing an Effective Worldview*, (Belmont, CA: Wadsworth Thomson Learning, 2001), 2.

⁸ Sylvan Barnet and Hugo Bedau, *Critical Thinking, Reading, and Writing: A Brief Guide to Argument*, 7th ed., (Boston, MA: Bedford/St. Martins, 2011), 3-5.

⁹ Daniel Kahneman, *Thinking, Fast and Slow*, (New York: Farrar, Straus and Giroux, 2011), 4.

¹⁰ The section above refers to ideas found in Richards Heuer's book, *The Psychology of Intelligence Analysis*, and Morgan D. Jones' book, *The Thinker's Toolkit*.

¹¹ J. Edward Russo and Paul J. H. Schoemaker, *Winning Decisions: Getting It Right the First Time*, (New York: Currency, 2002), 21.

¹² Peter A. Facione, *Critical Thinking: What It Is and Why It Counts: A Resource paper* (Millbrae, CA: California Academic Press, 1998), 3.

CHAPTER V: Groupthink Mitigation & Decision Support

The penultimate purpose of red teaming and applying critical thinking techniques is to support the organization in reaching good decisions while avoiding the lure of groupthink. This sounds very simple but as Clausewitz reminded us, “Everything in war is very simple, but the simplest thing is difficult.”¹ This section covers identifying groupthink and recommendations for groupthink mitigation, how red teaming fits into the Army Design Model, and the Red Team’s role in the MDMP process.

Groupthink

Groupthink is one of a number of terms that we use without truly realizing what it is, why it occurs, and how we can mitigate it. Group norms—and the social pressures to conform to them—are in tension with the need for a staff to consider alternatives during decision-making.²

Irving Janis has defined groupthink as: “a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members’ strivings for unanimity override their motivation to realistically appraise alternative courses of action.” And, “Groupthink refers to a deterioration of mental efficiency, reality testing, and moral judgment that results from in-group pressures.”

Janis outlined seven defects in decision-making attributed to groupthink. We list them below for reference. During the conduct of the military decision making process watch for the indicators of these defects and apply red teaming methods and techniques to overcome them.

- Discussion limited to merely two or a few alternative courses of action (often only two)
- No survey of objectives to be fulfilled and the values implicated by the choice

- Failure to reexamine the selected COA from the standpoint of non-obvious risk and drawbacks not considered during the original evaluation
- Neglect COAs initially evaluated as unsatisfactory
- Little or no attempt to gain information from experts on other COAs
- Interest only in information that supports the group decision
- Failure to work out contingency plans to cope with foreseeable setbacks

The Army stresses teamwork, shared understanding and *esprit de corps*. These are admirable traits in the profession of arms. Janis points out however, “The more amiability and *esprit de corps* among the members of a policy making in-group, the greater is the danger that independent critical thinking will be replaced by groupthink, which is likely to result in irrational and dehumanizing actions directed against out-groups.” Officers educated in red teaming, whether or not they are acting as a Red Team or simply a member of a plans team, must ensure groupthink does not take hold.

Symptoms of groupthink are:

- Overestimations of the groups power/invulnerability, and morality
- Closed mindedness and the tendency to rationalize away contrary information
- Pressures toward uniformity of thought within the group
- Self-censorship by individuals in the group, inclination to keep quiet
- The emergence of self-appointed mind-guards to protect group from adverse information
- Stereotyped views of enemy leadership and culture

The consequences of groupthink as stated by Janis are; “whenever a policy making group displays most of the symptoms of groupthink, we can expect to find that the group also displays symptoms of defective decision-making.” How can a team avoid the consequences of groupthink?

Groupthink Mitigation

To mitigate groupthink in an organization certain techniques have been developed to try to overcome the symptoms identified by Janis. These techniques are targeted at the organizations as a whole, and situations where groups within that organization are in the decision making process. Janis discusses a number of themes at the organizational level that help mitigate groupthink:

- Senior leaders set the tone for the organization by encouraging decision making groups to air objections and doubts during the decision making process, and discourage members from soft-pedaling disagreements.
- Leaders in the organization should not prejudice the decision-making group with his/her favored course of action. The leader should allow the group to explore impartially a wide range of courses of action without the group feeling the pressure to conform to the leader’s views.
- The senior leaders should setup multiple groups to examine the same problem. This allows for differing views and solutions for the leader to consider (see *Team A / Team B*, p. 205)
- Senior leaders should bring in outside expertise to challenge the views being developed by the decision-making group.
- The leaders should assign individuals (if not individuals from the Red Team) to act as “devil’s advocate” for solutions and COAs the group is developing.

During the actual decision-making process the following actions can be initiated to mitigate groupthink tendencies in a decision-making group:

- One of the keys to mitigating groupthink is to have all members of the group express their opinion absent pressure from the leader or group to conform. Weighted anonymous feedback techniques give the individual the ability to express his or her opinion in an anonymous fashion without being crushed by group pressure. The leader of the group can have the individuals in the group pre-commit their ideas by writing down their initial answers to the problem being discussed before the meeting occurs. This helps establish the individuals' ideas prior to the group's deliberation, and mitigate the pull towards conformity. Another technique, *5 Will Get You 25* (p. 78), will give each individual a voice in the finding the best COA without the group being dominated by the senior leader or one individual.
- To better facilitate discussion within a group there are a number of techniques which help all members of a group communicate better without being dominated by the senior leader or one dominating individual. Techniques like *1-2-4-Whole Group* (p. 73), *5 Whys* (p. 77), *Circle of Voices* (p. 103), and *Troika Consulting* (p. 209) provide forums for everyone in the group to participate in the discussion concerning the problem.
- To better understand a problem the group faces, the group can use a number of techniques. Techniques like *Shifting the Burden* (p. 184), *Stakeholder Mapping* (p. 186), and *TRIZ* (p. 208) help the group elucidate the problem in a more coherent fashion and provide each individual an opportunity to participate in the discussion and become more aware of the nuances of the problem.
- To help generate a wider range of options/COAs for a problem, the group needs to go through a divergence-convergence thought process. Divergence thinking allows

the group to explore multiple solutions to problems without constraints. A divergence technique like *Brainstorming* (p. 89) allows each group member to offer ideas for a solution to a problem without the idea being judged or “shot down” by the senior or dominating individual in the group. Once the group has identified a number of solutions/COAs, they can begin the convergence process of whittling down and refining viable options by using techniques like *6 Words* (p. 79), *Dot Voting* (p. 148), *My 15%* (p. 160), *Troika Consulting (Ad Agency)* (p. 209). All of these techniques help the group collectively come up with the best COA without being dominated by one individual.

The Operational Environment Laboratory (OEL) at Fort Leavenworth invited a Red Team in for a three-day leader program. The OE lab was being restructured and wanted to use red teaming techniques as a means of identifying and addressing organizational priorities. Much as described above, the Red Team facilitators used weighted anonymous feedback and other tools to identify the single most critical problem the leadership had to address in the near term. The OEL leaders then broke into small groups to work through some solutions. Towards the end of the second day the group appeared to have developed a plan to address its single biggest problem. The OEL Director and all of his lieutenants seemed in agreement.

The Red Team facilitator asked everyone to take out a piece of paper and anonymously provide feedback on the action plan to address the problem. Feedback was a simple: Yes, I think we are on the right track; No, this will not work and the reason why is as follows; or this issue does not affect my section I choose to abstain on judging the merits of the solution.

The facilitator asked the director of the lab to predict, based on the discussion, how many would vote in which manner. The director predicted three of his subordinates would choose to abstain and the remaining six would all vote that the plan was a good one. What actually happened is three did in fact abstain; the remaining six, when allowed anonymity, all said the plan was not executable. In one form or another their major objection to the plan was it lacked any forcing function which would require them to participate in providing the data required to implement the plan. They knew how busy they were and they knew without some hammer they would simply not comply with the very solution they designed. The remaining day of the engagement was spent designing the forcing function that would enable the policy.

Military Decision Making Process

“The *military decision making process* (MDMP) is an iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or order. The MDMP combines the conceptual and detailed aspects of planning and integrates the activities of the commander, staff, subordinate headquarters, and other partners throughout the planning process. The MDMP helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to understand situations, develop options to solve problems, and reach decisions. The MDMP results in an improved understanding of the situation and a plan or order that guides the force through preparation and execution.”³

Army Doctrine Publication [ADP] 5-0, *The Operations Process*, and Army Doctrine Reference Publication [ADRP] 5-0, *The Operations Process*, 26 September 2011, serve as the primary references for the Army’s planning and operations system. Red Team members must understand this planning process in order to know *how and when to influence the planning process*. Red Teams supports the wide range of operations across the spectrum of conflict and during all phases of an operation – from shaping to post-conflict stability and support operations.

Chapter VI provides Critical MDMP Questions on p. 109.

Mitigating Groupthink during the MDMP

There is a tendency for organizations, during the Design and the MDMP, to follow formalized procedures which can limit individual participation and lead to groupthink. With the groupthink mitigation recommendations in the paragraphs above, a Red Team can help the organization integrate the full potential of the staff and assist the organization in avoiding groupthink. The following are areas where integration of the mitigating techniques can be integrated in the Design and MDMP processes.

- The Design process, in itself, was developed as a collaborative activity; however personalities can force it down the groupthink path. Within an Operational Planning Team (OPT) the Red Team member can help the team leader overcome groupthink by using groupthink mitigating techniques such as *Team A / Team B Analysis* (p. 205), to help the group look at the problem from multiple perspectives. This will help the OPT Leader maximize all individuals in the group and allow more divergent viewpoints to emerge. Techniques such as *4 Ways of Seeing* (p. 76), *Alternative Future Analysis* (p. 80), *Shifting the Burden* (p. 184), *Stakeholder Mapping* (p. 186), and *TRIZ* (p. 208) can help the group elucidate the problem within steps 1-5 of the Design process, and bring greater participation by all members of the planning team. In smaller organizations, where there are no formalized/separate planning teams (Brigade Combat Teams, Battalions), the XO or Deputy Commander can use the techniques outlined above to avoid the closed-mindedness, self-censorship, and pressure to conform within normally extremely cohesive groups during the design process. Further, individuals in smaller organizations could have a tendency to view problems in a more limited fashion, given the possible commonality of the staff's background. The groupthink mitigating techniques will help the XO/Deputy Commander facilitate the staff in looking at the problem in a broader framework during the design process.
- The MDMP process is one of the most formalized and systematic processes that the U.S. Military uses on a habitual basis. Units have a tendency to conduct the MDMP in a systematic, and in some cases, a lock step approach to produce a decision or an order for execution. This formalized approach to decision-making lends itself to many aspects of groupthink, to include limited COAs, using information that only supports the group's COAs and decisions, lack of outside input from SMEs, self-censorship, mind guards, and ethnocentrism towards the

enemy. The groupthink mitigating techniques helps organizations make the MDMP more dynamic by using the full potential of the personnel in the OPT or staff. During steps 1 and 2 of the MDMP the leader of the OPT or staff can use similar mitigating techniques (*4 Ways Of Seeing* p. 76, *Shifting the Burden* p. 184, *Stakeholder Mapping* p. 186) as in the design process to frame and explore all aspects of the problem more fully. During the COA development the OPT/staff can use the divergence-convergence thought process to develop a broader range of COAs. *Brainstorming* (p. 89) is particularly helpful for expanding the group capability to develop multiple COAs. During the COA war-gaming and COA decision mitigating techniques such as *5 Will Get You 25* (p. 78) and *Dot Voting* (p. 148), can help the OPT/staff narrow and refine the COA options. Once the COA is decided upon by the commander, the OPT/staff can continue to improve and refine the selected COA by using *Troika Consulting (Ad Agency)* (p. 209), again giving the group a collective stake in developing the best possible COA for the organization. All the groupthink mitigating techniques outlined above will help organization execute more comprehensive decision-making, while providing for the fuller use of the greater potential of the OPT/staff as a whole.

Red Teaming During Planning

The commander/chief of staff's guidance, available time, and size of the team will influence the tasks to be completed.

- Red Teams should participate at each phase in the planning process—often without overt intervention and largely remaining in the background.
- Red Teams should avoid briefing in staffing meeting or open forums.
- The Red Team's communication skill and finesse will determine their effectiveness in the planning process.

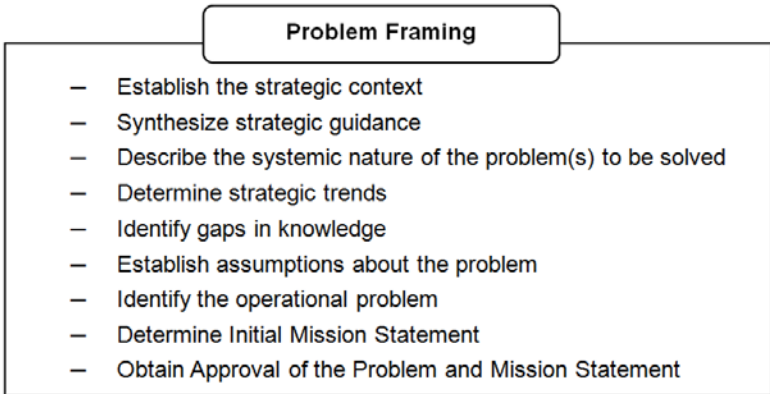
- Identify unseen opportunities, alternatives, gaps and vulnerabilities, and threats to the friendly courses of actions that may generate development of additional branches and sequels not previously considered—determines the Red Team’s “value added.”
- Timely and tailored Red Team input to the staff and the commander avoids having them move backward in the planning sequence. Early engagement is paramount.
- The echelon, size and expertise of the team, time, and the information available influences the scope of the effort and ability of the Red Team to support the planning process.
- Discuss and consider Red Team inputs at the lowest appropriate level in order to resolve, discount, or incorporate them into the plan.
- Items discounted by the staff but determined as critical to the success of the mission by the Red Team Leader should be elevated—first with the individual staff member, followed by the primary staff member, the Chief of Staff, and ultimately to the Commander (if required).

Red Teaming During Problem Framing

This section contains key ideas and questions to assist Red Teams during problem framing. Below are concepts and several key questions for the Red Team in the design process.⁴ Problem framing establishes an initial hypothesis about the character of the friendly, adversarial, and wider environmental factors which define the situation. Problem framing also explores cultural narratives, institutional histories, propensities, and strategic trends in order to postulate a general structure of the factors and their relationships. This hypothesis will be incomplete at first, but will provide a basis from which the commander can visualize the design of his campaign and begin operations to uncover the true nature of the problems. The hypothesis thus defines

the art of the possible, warns what may be unachievable, and anticipates how the situation might evolve.

The art of framing the problem is the art of seeing the essential and relevant among the trivial and irrelevant; penetrating the logic of the broad received mission and its messy contextual situation; and reshaping it into a well-enough structured working hypotheses. It requires commanders to inquire into the nature or character of the factors—friendly, opposing, and the larger environmental—which define the situation into which his command will operate. The figure below refers to the strategic level but the steps are equally applicable to the operational and tactical levels of war.



1. Establish the strategic context. Context establishes the reasons why the problem came to exist, its history, and

how it may develop. Consider and define both the domestic and international context:

- political and/or diplomatic long- and short-term causes of conflict
- domestic influences, including public will, competing demands for resources, and political, economic, legal, and moral constraints
- international interests (reinforcing or conflicting with U.S. interests, including positions of parties neutral to the conflict), international law, positions of inter-governmental organizations, and other competing or distracting international aspects of the situation.

When considering the strategic context, the commander should consider the following questions:

- (a) What is the history of the problem?
What is its genesis?
- (b) Who are the parties interested in the problem
- (c) What are the implications of likely outcomes?
- (d) What caused the problem to come to the fore?
- (e) Why is this emerging problem important to the nation's strategic leaders? Determine how they "see" the problem. For example:
 - Are national interests and ideals at stake?
 - What are the economic considerations of action?
 - Are there treaty obligations that require or block the ability to act?

2. Synthesize strategic guidance: must identify logical boundaries for the problem by establishing its essential relationship to the nation's strategic aims.

- Do the currently tasked strategic aims/objectives vary with previously established policy and objectives? If so, why?

- What policy objectives or statements serve as potential limitations to meeting current strategic guidance?
 - Determining the desired strategic ends. What strategic aims define the strategic conditions that constitute success?
 - Determining the expected outcomes in terms of time and resources.
3. Describe the systemic nature of the problem. Key components include:
- Defining the factors, constituents, and relationships, bearing on the problem.
 - Consider the relationships from the points of view of the constituents:
 - Friendly forces, organizations, and entities.
 - Adversaries and those opposed.
 - Neutrals: both with and without interests relative to the problem at hand.
 - Unknowns: those with clear interests and influence but whose intentions are unknown. Consider using *4 Ways Of Seeing* (p. 76) and the *Cultural Perception Framework* (p. 122).
 - Defining the interests and strategies of each constituent, as they understand them, and how they relate—positively and/or negatively—to one another, as well as to those of the U.S. Government.
 - Defining/synthesizing the problem in terms of its constituents' systemic components:
 - How are the constituent parts of the problem related and influenced in terms of capabilities, interests, and intent, from the perspective of culture, politics, social infrastructure, economy, military power, and information?

- What are the power groups and functional components of these systems?
 - How do these systems relate to one another? Are there relationships to the constituent's strategic outlook?
 - How do these systems sustain themselves?
 - Describing the tensions in these relationships and identify opportunities for exploitation, positively or negatively, during the conduct of the campaign.
4. Determine strategic trending. This activity involves describing how the strategic situation might evolve over time. What are the possible "futures" that could unfold based on current understanding? Consider using *Alternative Future Analysis* (p. 80).
 5. Identify gaps in knowledge.
 6. Establish assumptions about the problem.
 7. Identify the operational problem. Based on the tasks above, the commander must identify the critical factors of the problem in order to satisfy strategic aims or objectives. Binding the problem this way requires the commander to distill the essential components from the broad set of factors bearing on the problem to focus the command's efforts to achieve the best effect.
 8. Determine initial mission statement.
 - Express the mission in terms of who, what, when, where, and why (purpose).
 - Frame the mission with a clear, concise statement of the essential task(s) and the purpose(s).
 9. Obtain approval of the problem and mission statements. The final task in framing the problem requires the commander to obtain approval of the problem statement, the rationale for the development of the problem

statement, and the initial mission statement from his superior.

Conduct mission analysis after you frame the problem and the commander obtained approval of the mission statement. Unlike the traditional mission analysis described in the military decision making process—this mission analysis is just that—an analysis of the mission. This process does not result in a restated mission as the mission has been approved as a result of framing the problem.

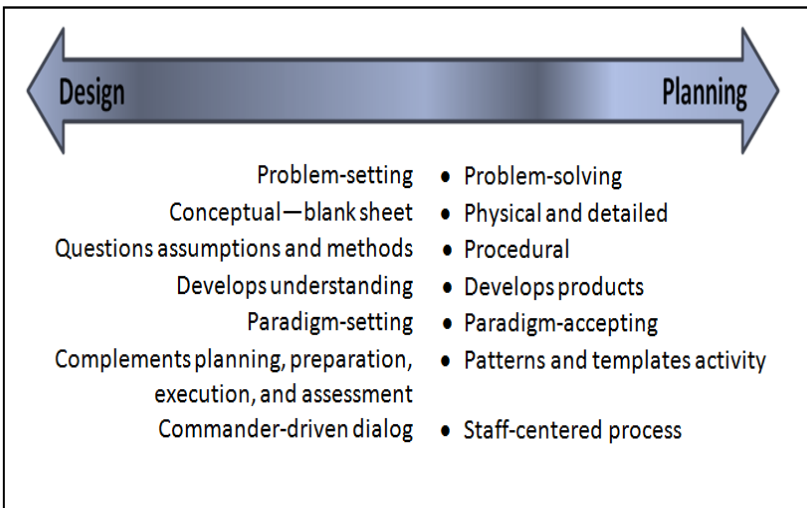
Red Teaming During Operational Design

Design is embedded in Joint and Army doctrine. Army Doctrine Reference Publication, ADRP, 5-0, *The Army in Unified Land Operations*, states:

“The Army design methodology is a methodology for applying critical and creative thinking to understand, visualize, and describe problems and approaches to solving them. The Army design methodology is particularly useful as an aid to conceptual thinking about unfamiliar problems.”⁵

When contemplating unfamiliar problems, design aids the commander’s visualization of the problem, the initial understanding of the OE, and provides the foundation for the commander’s initial intent statement or planning directive.

A key element of design is the collaboration among commanders and their design teams to determine and frame the problem and visualize potential solutions (as illustrated below). A Red Team or the use of red teaming techniques reinforces the effort to frame the correct problem.

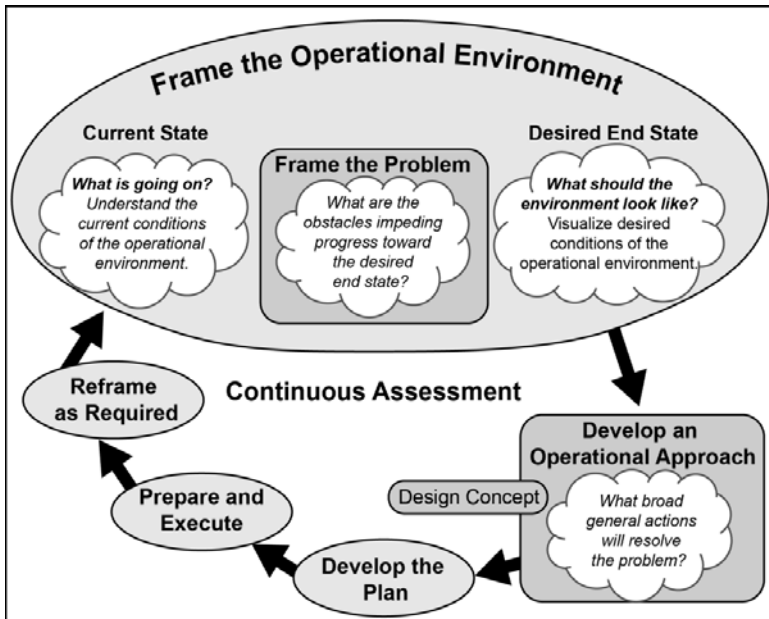


The Red Team’s Role

- The Red Team should be represented in the execution of Army Design Methodology (ADM), either as a core

member or by providing critical reviews of the final product of the design.

- Red Teams are an integral part of a critical and creative thinking process about unique situations.
- Red Teams assist the commander and staff to visualize the problem and describe an approach to solve it.
- Red Teams help the design team to capture all perspectives and provide alternative perspectives about the problem.
- Red Teams propose solutions from various perspectives, to include the adversary, partner, and others in the OE.
- Take a breath, step back and to the side, and see what your frame conditions prevents you from seeing. Use the divergence-convergence model.



Summary

In the process of decision-making, the group's need to rigorously consider alternatives is at tension with the social pressures to conform to group's norms. Hence, avoiding the lure any 'groupthink' is a penultimate chore in the quest for good decisions. The symptoms of groupthink are observable and groupthink can be mitigated.

To mitigate groupthink, apply the techniques referenced in Chapters V and VI of this handbook, like *Brainstorming*, *Dot Voting*, *My 15%*, and *Troika Consulting (Ad Agency)*. These techniques: eliminate attribution, allow every participants to contribute without the fear of being judged by others, and intercede dynamics [tangential to the process] that might detour the group from its best productivity.

A Red Team or the use of red teaming techniques reinforces the effort to reaching a good decision. The Red Team can have a role in: problem framing, operational design methodology, the MDMP, etc. Moreover, there are rules of thumb for planning sessions.

Endnotes

¹ Carl Von Clausewitz and Michael Howard, *On War*, (Princeton, N.J.: Princeton University Press, 1984), 119.

² All quotations in these paragraphs are drawn from Irving, Janis, *Groupthink*, (Boston, MA: Wadsworth Publishing, 1982), 9-10, 13, 174, 262-265 respectively.

³ Army Doctrine Publication 5-0, *The Operations Process*, 9.

⁴ This is an extract of TRADOC Pam 525-5-500, *Commander's Appreciation and Campaign Design*, Version 1.0, 28 Jan 08. We deleted certain passages and questions. We retained the most essential ones.
<http://www.tradoc.army.mil/tpubs/pams/p525-5-500.pdf>.

⁵ Army Doctrine Publication 5-0, *The Operations Process*, (26 September 2011), 9.

CHAPTER VI: Red Teaming TTP

(Tactics, Techniques and Procedures)

1-2-4-Whole Group

This process is a good way to get a rich conversation and more ideas by using small groups. It involves the principle of pre-commitment, critical thinking, and the clear expression of thought.

Method

One: Individual reflection and pre-commitment. Give participants a short amount of time to reflect on a question or issue. You may use a common issue or have each person choose their own issue. Have them write down their thought or position on the issue. To write is to think again. By writing the participants are pre-committing to their ideas without external influence. Encourage the participants to use the framework of State, Elaborate, Exemplify, and if possible, Illustrate (SEEI). For example, “Here’s what I think, here is what I mean by that, let me give an example, and here is a graphic illustration (or analogy).” If you can complete all these steps, you have thought through a problem completely.

Twos: Have the participants find another person and share their ideas. Record any new thoughts or insights.

Small Groups: Invite each of the pairs to join up with another pair to briefly share their issues and any insights gained. Then share observations of the quality of each pair’s examination of their issues. How were the issues framed? What was missing from the explanation? Were there biases detected?

Whole Group: Invite everyone back into the whole group. Ask an open question like “What insights emerged from your conversations? What did you learn? How has your understanding/view of the issue changed?” Lastly, ask “What’s your 15% of the problem?”

Example

“Most people have about 15-percent control over their work situations. The other 85 percent rests in the broader context, shaped by the general structures, systems, events and culture in which they operate. The challenge rests in finding ways of creating transformational change incrementally: By encouraging people to mobilize small but significant “15-percent initiatives” that can snowball in their effects. When guided by a sense of shared vision, the process can tap into the self-organizing capacities of everyone involved.”

- Gareth Morgan, *The Globe and Mail*¹

It doesn't matter if you're a General or an enlisted soldier, a senior executive or a member of the team. You still have only your 15 percent. Where do you have freedom to act? What's in your 15%?

This conversation works very well using the Troika process. Grow from small groups (1 on 1) into larger groups and exchange group representatives. This is a great way to get into a rich conversation with small groups. The steps are:

1. Prepare: Position an issue or problem into one straightforward question.
2. Reflect individually: Give participants two minutes of silence to reflect on the question. They may close their eyes, jot a few notes, etc.
3. Share in pairs: Ask participants to stand, find a partner, and share both ideas in 10 minutes. They may pick the nearest person or move around to mix.
4. Gab in groups: Ask each pair to partner with other pairs in groups of 4-6 for 10 minutes. Suggest that they begin with each sharing items of interest from the previous round and then move to converse as a group.
5. Harvest in whole: Ask everyone back to a 'whole group' for 10 minutes. Open with, “What insights emerged from your conversation?” or “How has your understanding/ view of the issue changed?”

1 on 1, 2 on 2, Exchange Emissaries

In this method members of the team are asked to think about ways to address the problem before the group.

1. They first spend time thinking and writing down their ideas.
2. Next, the members form into pairs and exchange ideas. Two groups of two each form a group of four and exchange the ideas each group developed both individually and as a group of two.
3. Each group of four selects a spokesperson for the group. After each group has had sufficient time to explore their options to address the problem, they send their spokesperson to another group of four that addressed the same problem and in turn welcome the spokesperson from the other group to their group.
4. Each spokesperson (emissary) provides the group they have joined a description of the ideas developed by the group they are representing. After they are finished, the group they have joined tries to add to or improve the ideas brought to them by the emissary. After this exchange, the emissary returns to his/her group.
5. Upon return, the emissary shares the feedback from the group visited. In turn, the emissary's group informs him/her of their exchange with the other group's emissary.
6. This concludes with a group out brief of the issue.

4 Ways of Seeing

Examining the situation using the Four Ways of Seeing may show the challenges you face:

1. How you view yourself, your unit, the mission, etc.
2. How the adversary (or indigenous people) views himself; his cause, unit mission, etc.
3. How you view the adversary (or indigenous people)
4. How the adversary (or people) views you
5. Identify disconnects between steps 1 & 4, 2 & 3. These are critical points that analysis and planning must address

Thorough research should be conducted to complete the analysis of these perceptions. It is more complex than the simple model implies, for several reasons:

- Seldom, if ever, will there be only two actors in the system under study.
- All the actors' perceptions and inter-relationships within the system must be considered in order to provide context for the analysis.
- How each actor perceives and defines the OE, legitimate targets and acceptable weapons must also be considered.
- It must be realized that all actors hold values, beliefs, and perceptions that they view as right and rational.
- Perceptions of the external audience(s) to whom we and our adversaries are playing cannot be discounted.

<i>How X Sees Itself</i>	<i>How X Sees Y</i>
<i>How Y Sees Itself</i>	<i>How Y Sees X</i>

5 Whys

The 5 Whys is a question-asking technique used to explore the cause-and-effect relationships underlying a particular problem. The technique is used to determine the root cause of a defect or problem symptom. However, the process can be used to go deeper to explore questions related to purpose rather than problems.

Method: Pick an issue or pose a question and ask participants to think about it for at least a minute. Pair up or form a small group and choose one person to state their thoughts on the issue. Each participant gets a turn in this role of explaining their thoughts and position on an issue of their choice.

The role of the others in the group is at first to be active listeners. Let the speaker complete their thoughts; do not interrupt for clarification or any other purpose. Once the speaker is done, ask “why?” at least five times, e.g., “Why is that important? Why should my staff section care about that? Why should resources be applied against that effort now?”

You don’t need to stop at 5 whys, several “what” and “who” questions should arise as a result, like “what should do we do now? What are the implications of what is suggested? Who else needs to know?”

It is important to begin with “why” questions. The answers to “why” questions get at causal links behind events and problem symptoms. “What” questions tend toward simple data collection, and are subject to confirmation biases.

5 Will Get You 25

This is a method to tap into the wisdom of the crowd. This is not recommended to make a decision. It is a way to get feedback you might not otherwise get from your staff. *5 Will Get You 25* and *Dot Voting* are two methods of weighted anonymous feedback.

Method

Distribute file cards to everyone. Pose a question: (i.e., *What is the single greatest obstacle to implementation of plan/concept/policy X?*)

Ask the participants to think about it and write their best idea as clearly and in as few words as possible on the card -- a bullet, not an explanation.

When everyone has completed their card, invite the participants to stand up, mill around, and pass the card to someone new. Repeat the process until told to stop, and then each participant reads the card they hold. On the back, rate the idea from 1 to 5; 5 is brilliant, 1, not so much.

Once you grade the card, repeat the process. No one should grade their own card. Emphasize the participants must read the reply without turning the card over and viewing previous scores so they are not influenced.

Repeat the process five times, in five rounds. By round five, each card should have five ratings on the back of the card. Add them up.

Ask "Does anyone have a card with a score of 25...24...23...until you get a "yes." Ask that person to read the card aloud and record the reply on a piece of butcher paper. Continue with the countdown until you get at least the top five replies.

6 Empathetic Questions

Questions [and difficulty] when looking empathetically from another's perspective:

1. It is difficult to appreciate another's problems.
What are the "other's" problems?
2. It is difficult to feel another's pain.
What is the nature of the "other's" pain?
3. It is difficult to understand another's ambitions.
What are the "other's" ambitions?
4. It is difficult to internalize another's experience.
What is the "other's" experience?
5. It is difficult to understand how our own actions appear to others.
How do our own actions appear to "others?"
6. It is difficult to feel how threatened another may feel.
*Why does the other feel threatened?*²

6 Words

Help people get to the core of an idea by writing a short phrase summarizing their thinking into a set number of words.

This idea is based on a complete short story written by Hemingway "For sale, baby shoes – never worn."

These 6 words communicate a huge degree of information and emotional content. This is an exercise in creating pithy bumper stickers that communicate in a visceral way and are memorable.

Alternative Futures Analysis

Systematically explores multiple ways a situation can develop when there is high complexity and uncertainty.

When to Use

This approach is most useful when a situation is viewed as too complex or the outcomes as too uncertain to trust a single outcome assessment. First, the Red Team must recognize that there is high uncertainty surrounding the topic in question. Second, they, and often their customers, recognize that they need to consider a wide range of factors that might bear on the question. And third, they are prepared to explore a range of outcomes and are not wedded to any preconceived result. Depending on how elaborate the futures project, the effort can amount to considerable investment in time, analytic resources, and money.

A team can spend several hours or days organizing, brainstorming, and developing multiple futures; alternatively, a larger-scale effort can require preparing a multi-day workshop that brings together participants (including outside experts). Such an undertaking often demands the special skills of trained scenario-development facilitators and conferencing facilities.

This technique is a sharp contrast to contrarian techniques, which try to challenge the high confidence and relative certitude about an event or trend. Instead, multiple futures development is a divergent thinking technique that tries to use the complexity and uncertainty of a situation to describe multiple outcomes or futures that should be considered, rather than to predict one outcome.

Value Added

This approach is useful in highly ambiguous situations, when analysts confront not only a lot of “known unknowns” but also “unknown unknowns.” What this means is that the Red Team recognizes that there are factors, forces, and dynamics among key actors that are difficult to identify

without the use of some structured technique that can model how they would interact or behave. Given the time and resources involved, scenario analysis is best reserved for situations that could potentially pose grave threats or otherwise have significant consequences.

Past experience has shown that involving policymakers in the alternative futures exercise is the most effective way to communicate the results of this exploration of alternative outcomes and sensitize them to key uncertainties. Most participants find the process of developing such scenarios as useful as any finished product that attempts to capture the results of the exercise. Policymakers and Red Teams can benefit from this technique in several ways:

- It provides an effective means of weighing multiple unknown or unknowable factors and presenting a set of plausible outcomes.
- It can help to bind a problem by identifying plausible combinations of uncertain factors.
- It provides a broader analytic framework for calculating the costs, risks, and opportunities presented to policymakers by different outcomes.
- It helps anticipate otherwise surprising developments by challenging assumptions and considering possible *wild cards* or discontinuous events.
- It generates indicators to monitor for signs that a particular future is becoming more or less likely, so that policies can be reassessed.

The Method

The most common method used in both the public and private sectors involves the following steps:

- Develop the “focal issue” by systematically interviewing experts and officials who are examining the general topic.

- Convene a group of experts (both internal and external) to brainstorm about the forces and factors that could affect the focal issue.
- Select by consensus the two most critical and uncertain forces and convert these into axes or continua with the most relevant endpoints assigned.
- Establish the most relevant endpoints for each factor; (e.g., if economic growth were the most critical, uncertain force, the endpoints could be “fast” and “slow” or “transformative” and “stabilizing” depending on the type of issue addressed.)
- Form a futures matrix by crossing the two chosen axes. The four resulting quadrants provide the basis for characterizing alternative future worlds.
- Generate colorful stories that describe these futures and how they could plausibly come about. Signposts or indicators can then be developed.

Participants can then consider how current decisions or strategies would fare in each of the four worlds and identify alternative policies that might work better either across all the futures or in specific ones. By anticipating alternative outcomes, policymakers have a better chance of either devising strategies flexible enough to accommodate multiple outcomes or of being prepared and agile in the face of change.

Analysis of Competing Hypotheses (ACH)

Identification of alternative explanations (hypotheses) and evaluation of all evidence that will disconfirm rather than confirm hypotheses.

When to Use

This is an effective technique when there is a large amount of data to absorb and evaluate. While a single analyst can use ACH, it is most effective with a small team that can challenge each other's evaluation of the evidence.

Developing a matrix of hypotheses and loading already collected information into the matrix can be accomplished in a day or less. If the data must be reassembled, the initial phases of the ACH process may require additional time.

ACH is particularly appropriate for controversial issues when analysts want to develop a clear record that shows what theories they have considered and how they arrived at their judgments. Developing the ACH matrix allows other analysts (or even policymakers) to review their analysis and identify areas of agreement and disagreement. Evidence can also be examined more systematically, and analysts have found that this makes the technique ideal for considering the possibility of deception and denial.

Value Added

ACH helps analysts overcome three common mistakes that can lead to inaccurate forecasts:

- Red Teams can be susceptible to being unduly influenced by a first impression, based on incomplete data, an existing analytic line, or a single explanation that seems to fit well enough.
- Groups seldom generate a full set of explanations or hypotheses at the outset of a project.
- Groups often rely on evidence to support their preferred hypothesis, but which also is consistent with other explanations.

In essence, ACH helps Red Teams to avoid picking the first solution that seems satisfactory instead of going through all the possibilities to arrive at the very best solution.

The Method

Explicitly identify all the reasonable alternative hypotheses, then array the evidence against each hypothesis—rather than evaluating the plausibility of each hypothesis one at a time. To create a level playing field, the process must:

- Ensure that all the information and argumentation is evaluated and given equal treatment or weight when considering each hypothesis.
- Prevent individuals from premature closure on a particular explanation or hypothesis.
- Protect the individual against innate tendencies to ignore or discount
- Protect information that does not fit comfortably with the preferred explanation at the time.

To accomplish this, the process should follow these steps:

- Brainstorm among analysts with different perspectives to identify all possible hypotheses.
- List all significant evidence and arguments relevant to all the hypotheses.
- Prepare a matrix with hypotheses across the top and each piece of evidence on the side. Determine whether each piece of evidence is consistent, inconsistent, or not applicable to each hypothesis.
- Refine the matrix and reconsider the hypotheses—in some cases, individuals will need to add new hypotheses and re-examine the information available.
- Focus on disproving hypotheses rather than proving one. Tally the pieces of evidence that are

inconsistent and consistent with each hypothesis to see which explanations are the weakest and strongest.

- Analyze how sensitive the ACH results are to a few critical items of evidence; should those pieces prove to be wrong, misleading, or subject to deception, how would it impact an explanation's validity?
- Ask what evidence is not being seen but would be expected for a given hypothesis to be true. Is denial and deception a possibility?
- Report all the conclusions, including the weaker hypotheses that should still be monitored as new information becomes available.
- Establish the relative likelihood for the hypotheses and report all the conclusions, including the weaker hypotheses that should still be monitored as new information becomes available.
- Identify and monitor indicators that would be both consistent and inconsistent with the full set of hypotheses. In the latter case, explore what could account for inconsistent data.

Argument Deconstruction

When to use

Use the argument deconstruction framework when posed with an oral or written argument that requires critical thinking.

Value added

Deconstructing arguments without a framework can lead to insufficient challenging of opinions, value conflicts, statistics, alternative causes and conclusions, and the implications of accepting the argument posed. Critical thinking emphasizes the need to be thorough and systematic, which the argument deconstruction framework facilitates.

The Method

- What is the argument?
 - Argument = Issue (or premise, or thesis) + Reasons + Conclusion
 - Premise: a proposition supporting or helping to support a conclusion; a proposition antecedently supposed or proved; something previously stated or assumed as the basis of further argument; a condition; a supposition.
 - Thesis: a proposition stated or put forward for consideration, esp. one to be discussed and proved or to be maintained against objections; an affirmation, or distinction from a supposition or hypothesis
 - ✓ Is the right problem defined?
 - ✓ Is there any use of vague or ambiguous words?
 - ✓ What is the author's point of view?
- Are there any value conflicts?
- Are there any *prescriptive* assumptions? (Statement by author of the way things *should* be, is it a good assumption?)

- Are there any *descriptive* assumptions? (Statement by author of the way things *are*—is it a good assumption?)
- Are there any fallacies in reasoning?
- Does the author use any heuristics (a simplifying strategy, or “rule of thumb”) to lay out his information/make his case? (The devil is in the details...)
- How good is the evidence? Does the author use or rely on
 - ✓ Intuition?
 - ✓ Personal experience?
 - ✓ Testimonials?
 - ✓ Appeal to authorities?
 - ✓ Personal observation?
 - ✓ Research studies?
 - ✓ Analogies? (Is the analogy apt?)
- Is there a rival cause? Are there other plausible hypotheses (than the author suggested) which might explain what happened? What are they? Some other way to explain the evidence (reasons) and conclusion?
- Are statistics used?
 - Are they deceptive?
 - Use numbers without percentages?
 - Use percentages without numbers?
- Is there any significant information which is omitted? (Where is the dog that *isn't* barking?)
- Is there any other reasonable conclusion you can draw from the evidence?
- What are the implications of *accepting* the argument?

BATNA

“What is your BATNA – your Best Alternative To a Negotiated Agreement? That is the standard by which any proposed agreement should be measured. That is the only standard that can protect you both from accepting terms that are too unfavorable and from rejecting terms it would be in your best interest to accept.

Your BATNA not only is a better measure but also has the advantage of being flexible enough to permit the explorations of imaginative solutions. Instead of ruling out any solution that does not meet your bottom line, you can compare a proposal with your BATNA to see whether it satisfies your interests.³

Develop your BATNA. Vigorous exploration of what you will do if you do not reach agreement can greatly strengthen your hand. Attractive alternatives are not just sitting there waiting for you; you usually have to develop them. Generating possible BATNAs requires three distinct operations: (1) inventing a list of actions you might conceivably take if no agreement is reached; (2) improving some of the more promising ideas and converting them into practical alternatives; and (3) selecting, tentatively, the one alternative that seems best.⁴

Consider the other side’s BATNA. You should also think about the alternatives to a negotiated agreement available to the other side. The more you can learn of their alternatives, the better prepared you are for the negotiation. Knowing their alternatives, you can realistically estimate what you can expect from the negotiation.

Having a good BATNA can help you negotiate on the merits. You can convert such resources as you have into effective negotiating power by developing and improving your BATNA. Apply knowledge, time, money, people, connections, and wits into devising the best solution for you independent of the other side’s assent. The more easily and

happily you can walk away from a negotiation, the greater your capacity to affect its outcome.⁵

Developing your BATNA thus not only enables you to determine what is a minimally acceptable agreement, it will probably raise that minimum. Developing your BATNA is perhaps the most effective course of action you can take in dealing with a seemingly more powerful negotiator.”⁶

Brainstorming

Brainstorming is an unconstrained group process designed to generate new ideas and concepts.

When to Use

A technique for stimulating new thinking and it can be applied to virtually all of the other structured analytic techniques as an aid to thinking. Typically, Red Teams will brainstorm when they begin a project to help generate a range of hypotheses about their issue.

Brainstorming, almost by definition, involves a group meeting to discuss a common challenge; a modest investment of time at the beginning or critical points of a project can take advantage of their different perspectives to help structure a problem. This group process allows others to build on an initial idea suggested by a member of the brainstorming session.

Value Added

This technique can maximize creativity in the thinking process, force Red teams to step outside their normal mind-sets, and suspend their typical “good judgment” about the practicality of ideas or approaches. More generally, brainstorming allows organizations to see a wider range of factors that might bear on the topic than they would otherwise consider. Brainstorming gives permission to think more radically or “outside the box.”

In particular, it can spark new ideas, ensure a comprehensive look at a problem or issues, raise unknowns, and prevent premature consensus around a single hypothesis.

The Method

Paradoxically, brainstorming should be a very structured process to be most productive. An unconstrained, informal discussion might produce some interesting ideas, but usually a more systematic process is the most effective way to break down mind-sets and produce new insights. In particular, the process involves a divergent thinking phase to generate and collect new ideas and insights, followed by a convergent phase in which ideas are grouped and organized around key concepts. Some of the simple rules to be followed include:

- Never censor an idea no matter how unconventional they might sound.
- Rather find out what prompted the thought, as it might contain the seeds of an important connection between the topic and an unstated assumption.
- Give yourself enough time to do brainstorming correctly. It usually takes one hour to set the “rules” of the game, get the group comfortable, and exhaust the conventional wisdom on the topic. Only then will the truly creative ideas begin to emerge.
- Involve at least one “outsider” in the process—that is, someone who does not share the same educational background, culture, technical knowledge or mindset as the core group but has some familiarity with the topic.

A two-phase, twelve-step, structured process is often used to get the most out of the brainstorming sessions

Divergent Thinking Phase:

- Typically, 10-12 people work best.
- Pose the problem in terms of a “focal question.” Display it in one sentence on a large easel or whiteboard.
- Ask the group to write down responses (as many as they can think of) to the question.
- Go sequentially around the room, with each individual giving one idea at a time. Write down the ideas up on the whiteboard. No judgments concerning the ideas are voiced at this time. Continue going around the room until each individual’s ideas are exhausted.
- The individuals conducting the brainstorming exercise then will group similar ideas together, forming similar ideas into categories.

Convergent Thinking Phase:

- The individuals conducting the brainstorming exercise then will group similar ideas together, forming similar ideas into categories
- The group can then check/discuss each idea for feasibility as a solution to the problem.
- Assess what the group has accomplished in terms of new ideas or concepts identified or new areas that need more work or further brainstorming.
- The brainstorming group can then use other techniques, such as Dot-voting, to further narrow the field of ideas.

Challenges to Effective Planning

1. Background: Working in groups, especially in the planning process, is fraught with challenges. From an individual perspective, intuitive reasoning often fails under conditions of uncertainty, time pressures and cognitive bias. From an organizational perspective, group structure and conformity can also lead to suboptimal judgments and decision making. This section describes some of the variables and common challenges found in the planning process and what can be done to prevent, mitigate them and improve planning performance.
 - a. In addition to exploring alternatives in plans, operations and concepts, Red Teams help commanders and staffs identify and understand flawed organizational processes that contribute to potential errors in planning and decision making.
 - b. From an organizational perspective, Red Teams not only provide mitigation and prevention tools but also contribute to improved performance through the use of liberating structures and structured analytical tools. These tools and methods are group combat multipliers that should augment conventional methods such as staff planning meetings and presentations.
2. Factors affecting the planning process: A number of factors can contribute to planning errors, poor decisions and outcomes to include:
 - a. Group cohesion and the pull toward conformity: A cohesive staff is a force multiplier but cohesion can exert pressure for group conformity which can lead to the phenomena of groupthink (see Introduction). Excessive conformity stifles professional dissent because hierarchy and relationships are more valued than critical analysis and decision outcomes. If group activity is structured to mitigate hierarchy and conformity, then members are likely to provide feedback and insights that expose invalid

assumptions, ill-conceived plans or flawed courses of action. Red Teamers are trained to interact with the staff to enable structured discussion that balances cohesion with groupthink mitigation. Simultaneously, Red Teams must support the dynamics of staff interaction and avoid 'paralysis by analysis.'

- b. Strong directive leadership: Strong leaders under time pressure may direct a course of action thereby limiting options for staff consideration. Doctrine cautions leaders to avoid directing a course of action early in planning process that prevents the staff in identifying other appropriate alternative courses of action.
- c. Cognitive biases and heuristics: Research conducted over the past three decades indicate that people are prone to systemic errors in judgment and decision making in predictable ways.⁷ These errors are associated with heuristics and biases of our cognitive processes in the context of judgment and decision making. Cognitive biases result in suboptimal actions and beliefs and are generally related with intuitive thinking.⁸ Manifestations of these biases in intuitive thinking, are found in heuristics formally defined as, "...a simple procedure that helps find adequate, though often imperfect answers to difficult questions."⁹ In high risk, uncertain and complex environments, these imperfections are costly and warrant prevention and mitigation.
- d. Relationship and task conflict: Conflict between group members is bound to occur due to difference in leadership styles, personalities, interests and personal agendas. However, not all conflict is bad. Research indicates that "moderate amounts of task conflict (i.e. differences of opinion about the task and how it should be completed) are necessary and valuable for group decision making processes in preventing groupthink. However, relationship conflict in which personal

differences are attacked can distract the group from its purpose and objectives.¹⁰ (see Chapter II)

- e. Time constraints and lack of preparation: No matter how cohesive the group, inadequate planning time, inexperience in the operational environment, lead to poor situational understanding and development of flawed plans. Poor preparation and organization for planning further encumber the commander and staff in producing useful and timely plans and orders.
- f. Organization for planning: Factors such as a poorly designed physical space and a lack (or excess) of planning standing operating procedures can stifle productive discussion, increase staff friction and hamper effective staff coordination. Poor Information management (e.g., inaccurate or incomplete displays of visualization and dissemination of information) can contribute to a lack of shared situational understanding and degrade staff interactivity.

3. Planning challenges: Many of the variables above manifest themselves in dysfunctional group behaviors that lead to poor planning and decision making outcomes. Red Teams assist the commander and staff in identifying and mitigating these challenges. If left undetected dysfunctional group behaviors may result in bad decisions, lost opportunities, and increased vulnerabilities for the unit. These challenges include:

- a. Complacency: In planning, this often takes the disguise of “we’ve always done it this way” mentality. In a complex environment, the dilemma is to adapt based on prior experience of what works in one situation to another situation. The challenge is understand when continuity and change are decisive and when to discard principles, tactics and strategies that governed past success. As Major Tim Karcher notes in *Understanding the Victory Disease*, the attitude among some staffs could be:

- (1) “Why change what has worked in the past?” The greatest danger when using established patterns lies in the enemy’s reaction. Setting a pattern is fine as long as the enemy follows with his own patterns and reacts in a predictable fashion. A considerable danger occurs, though, when the enemy deviates from his normal reaction, placing the friendly force at a significant disadvantage and causing the supposed recipe for success to turn into a recipe for failure.” ¹¹
 - (2) Situations in the OE often change after completion of deliberate planning (e.g., MDMP) but the unit continues executing its’ original plan. This behavior is often characterized as “fighting the plan and not the enemy.” The staff may adhere to inadequate plans and orders due to the investment in time, pride in ownership, and time. New evidence disconfirming assumptions and tactics may emerge in the interim where new strategies and tactics provide more appropriate solutions to the mission. Red Teams should assist commanders, staff and planning teams in questioning strategies, tactics and plans that claim to be the only solution to a problem when the situation indicates otherwise.
 - (3) The Red Team’s challenge is to help the staff think about “what’s next” or “what could potentially occur” – balancing realism with imagination. Red Team tools designed to mitigate complacency are *Alternative Futures Analysis* (p. 80), *Analysis of Competing Hypotheses* (p. 83), and *Shifting the Burden* (p. 184).
- b. Mirror Imaging: Richards J. Heuer, who spent 45 years in the CIA working in collection operations, counterintelligence, intelligence analysis, and personnel security, views mirror imaging as “...filling gaps in the analyst’s own knowledge by assuming that

the other side is likely to act in a certain way because that is how [your country or organization] would act under similar circumstances.”¹² Mirror imaging occurs when you apply your attitudes about trends, capabilities, beliefs, culture onto another. Many American policy makers and analysts fell into this trap during the planning for Operation Iraqi Freedom (OIF). As noted in the report on the miscalculation of Iraqi WMD capabilities, it noted:

- (1) “Analysis of Iraq’s weapons programs took little account of Iraq’s political and social context. While such a consideration would probably not have changed the Community’s judgments about Iraq’s WMD, the failure even to consider whether Saddam Hussein had elected to abandon his banned weapons programs precluded that possibility.
- (2) It seems unlikely to us that weapons experts used to combing reports for tidbits on technical programs would ever have asked: “Is Saddam bluffing?” or “Could he have decided to suspend his weapons programs until sanctions are lifted?” But an analyst steeped in Iraq’s politics and culture at least might have asked those questions, and, of course, those turn out to be the questions that could have led the Intelligence Community closer to the truth.”
- (3) The culture and objectives of others nations and other transnational groups differ from ours. Our assumptions, assessments, and estimates of adversary courses of action need to account for these differences.
- (4) While working to avoid mirror imaging American intentions, motivations, thought processes, and capabilities to the enemy. It is just as important

not to apply mirror imaging to partners and others within the operational environment.

- (5) Using *4 Ways of Seeing* (p. 76) and *Stakeholder Mapping* (p. 186) are ways to mitigate and prevent mirror imaging.
- c. Ethnocentrism: Unlike mirror imaging, this error recognizes the existence of adversary and partner cultural differences but perceives these differences with contempt, disdain and in many cases out of context. Ethnocentrism is "...using the practices of your own 'people' as a yardstick to measure how well the customs of other, different peoples measure up."¹³ A common tendency of most individuals is to view one's culture and customs as inherently superior to others. This can lead to a condescending attitude toward other cultures that breeds arrogance. Contempt and arrogance contribute to overconfidence by underestimating the capabilities and motivations of others. One historical example:
- (1) "At the tactical level, the 7th Cavalry displayed remarkable overconfidence, clearly demonstrated by how Custer viewed his Indian adversary. During the 1868 Battle of the Washita, when a subordinate speculated they might find more Indians than they could handle, Custer reportedly said, "There are not enough Indians in the country to whip the Seventh Cavalry."¹⁴ Custer's conceit seems to have trickled down to his subordinates, causing them to also believe in their indestructibility."¹⁵
 - (2) The challenge for the commander and staff is to understand the culture of the adversary, as well as our partners and others. Then staffs must apply this understanding to the assumptions made and the assessments created.

- (3) See Chapter III for a discussion of interpreting, understanding and analyzing cultures and mitigating the effects of ethnocentrism.
- d. Mindsets / Patterns of Expectation: Perception is not a passive process that allows us to objectively view the world 'as it is'. Richards J. Heuer notes that, "...experiments have been conducted to show the extraordinary extent to which the information obtained by an observer depends upon the observer's own assumptions and preconceptions." The human brain is designed to 'fill in the blanks' based upon our individual, cultural and social experience. Heuer states, "We tend to perceive what we expect to perceive." In other words, our mission; organizational climate; culture; self-interest; assumptions; prejudices; doctrine; and attitudes influence our thinking. A mindset is a "summation or consolidation of all of our biases about a particular subject."¹⁶
- (1) As individuals receive new information and data, they perceive them in existing images governed by these factors. Continually asking, "What does this mean?" and, "How else can I perceive it?" can offer critical insights.
 - (2) The challenge is to understand when changes in the operational environment negate the usefulness of past patterns and trends for projecting future developments. Military history contains numerous examples of countries refuting past trends to field new dominating technology or concepts (e.g., development of carrier aviation and the concept of Blitzkrieg to defeat French stationary defenses).
 - (3) David C. Gompert and Richard L. Kugler note a classic case study of this failure to perceive change. They analyzed Lee's decision to order (on July 3, 1863, the 3rd day of the Battle of

Gettysburg), a frontal assault across a mile of open field against the strong center of the defending Union forces. The authors argue that Lee depended too much on his experience from previous battles such as at Chancellorsville. That when pressed, Union forces would collapse. Lee ignored the fact that the Union forces learned lessons from these battles. Lee underestimated their training and commanders. He ignored the latest information that a significant Union force was entrenched with significant reserves available.

- (4) Another challenge of 'patterns of expectation' is when planners believe that "the future will be a linear continuation of the present."¹⁷ This 'planning pitfall' is likely when planners believe their plan can dictate the future. A method for combating this tendency is to use the Premortem technique (p. 165)
- e. Oversimplifying or Failure to Think and Decide 'Complexly': In problem solving simulations, cognitive researcher and author, Dietrich Doerner observed that "People court failure in predictable ways" based upon habits of thought that "set failure in motion from the beginning"¹⁸ and an inability to think and decide more 'complexly.' Doerner contends that
 - Failure develops gradually according to its own logic.
 - When we fail to solve a problem, it is often due to several small mistakes. Small mistakes add up.
 - Complicated situations elicit habits of thought that may not measure up to the demands of the system that is generating the problem.
 - Apprehensions of failure encourage methods of decision making that may exacerbate the problem
- (1) Doerner observed that 'bad' participants:
 - (a) Acted without prior analysis of the situation.

- (b) Failed to anticipate side effects and long term repercussions.
 - (c) Assumed that the absence of immediately obvious negative effects meant that correct measures had been taken.
 - (d) Let over involvement in *projects* blind them to emerging needs and changes in the situation.
 - (e) Were prone to cynical reactions
- (2) Good participants:
- (a) Made more decisions per task and goal.
 - (b) Considered of not just the primary goal of any given measure but also its potential effects on other sectors of the system.
 - (c) Acted more 'complexly' – their decisions took different aspects of the entire system into account, not just one aspect.
 - (d) Recognized early where [the situation's] real problems lay and attacked them first.
 - (e) Tested their hypotheses - asked more 'why' than 'what' questions.
 - (f) Dug deeper in their analysis.
 - (g) Were interested in causal links behind events and the causal network.
 - (h) Did not lapse into 'ad hoc-ism.'
 - (i) Focused on right fields of endeavor and continued to focus on those fields over time.
 - (j) Were self-critical/ reflective and structured in thinking.
- (3) The challenge for any staff is accounting for the myriad variables in a complex problem without oversimplifying the situation. This is even more difficult when planning under time constraints and when a staff lacks organization and integration, (e.g., staff elements and planning teams that “working in their own functional perspective and lanes”).

- (4) Red Teams can help staffs think more ‘complexly’ by employing Red teaming tools such as *1-2-4-Whole Group* (p. 73), *Shifting the Burden* (p. 184), and *Troika Consulting* (p. 209). Specifically, *Shifting the Burden* fosters close examination of underlying problem(s) and perspective(s) rather than dealing with symptoms manifesting themselves throughout a system.
- f. Flawed (historical) or False Analogies: Webster defines analogy as “a form of logical inference, or an instance of it, based on the assumption that if two things are known to be alike in some respects, then they must be alike in other respects.” As one author noted, “When confronted with a novel challenge, the human mind reasons by analogy. We then become prone to reading the world in ways that reaffirm the choice we have made.”¹⁹
- (1) When used successfully, analogies help make sense of a new situation, reduce complexity, and aid in the dialogue with others. However, analogies should be used with caution. Secretary of Defense Robert Gates, quoted American historian Gordon Wood that, “History does not teach lots of little lessons. Insofar as it teaches any lessons, it teaches one big one: that nothing ever works out quite the way its managers intended or expected.”²⁰
 - (2) Decision makers often use history and historical analogies. In Richard Neustadt and Ernest R. May’s, *Thinking in Time: The Uses of History for Decision Maker*, the authors highlight the challenge and potential errors of using history and historical analogy in decision making without understanding the details and context of events and the differences between the current and past situations (Determining the suitability of an Analogy, p143).

- g. Hubris and Overconfidence. Flawed planning takes place when staffs are overconfident in their ability to predict the future, anticipating the actions of adversaries or the consequence of the effects of operations and tactical actions. Some scholars such as Nicholas Taleb contend that it is impractical to predict the future or understand the complexity of the situation. Taleb argues that the only real solution is to have planning systems in place that can react quickly to changes and events.²¹
- (1) Overconfidence also stems from faulty reasoning in terms of “attaching high probabilities to low-frequency events” or base rate neglect.²² Political scientist Philip Tetlock notes that political analysts often base probabilities on “...case-specific hunches about causality that make some scenarios more “imaginable” than others.”²³ Tetlock follows that “A plausible story of how a government might suddenly collapse counts for far more than how often similar outcomes have occurred in the past.”²⁴
- (2) The connection between faulty intuition and confidence in improbable but plausible arguments is emphasized in Taleb’s notion of the “narrative fallacy.” Taleb believes that people are “[vulnerable] to over interpretation and predilection for compact stories over raw truths. It severely distorts our mental representation of the world; it is particularly acute when it comes to the rare event.”²⁵

Summary: Effective planning in unique, novel, and uncertain situations is difficult. Red Teams help the commander, staff, and planning teams when their reasoning is flawed or when organizational processes impede sound planning. This chapter offers ways to prevent and mitigate challenges in planning and decision making processes. Red Teams must balance *intellectual distance* to observe and highlight potential errors in reasoning against being embedded in the organization as a contributor to the planning process.

Circle of Voices

Circle of Voices is a simple facilitation practice designed to equalize participation and teach students that listening, appreciating, and synthesizing are just as crucial to good discussion as is making brilliant original contributions.

Participants form small groups of five to six seated in a circle. They are given a minute or so in silence to think about what they have to say about an assigned topic. The discussion opens with one person having a period of uninterrupted “airtime” of no more than one minute. During this time the speaker may say whatever they wish about the topic at hand. While the person is speaking no interruptions are allowed. People take their turn to speak by going around the circle in order. This eliminates the stress of other participants having to decide when or whether to jump in, or for the speaker to worry about interruption before they can finish their thoughts.

After the initial *circle of voices* is complete, discussion opens for anyone to speak. The only restriction on this period of discussion is that participants are only allowed to discuss other person’s ideas that have already been expressed. Participants may not expand on their own ideas, only about their reaction to something already said. This prevents a tendency toward *grandstanding*.

Facilitation principles:

- Pre-commitment
- Everyone speaks once before anyone speaks twice.
- Active listening.
- Respectful engagement.

Circular Response

This is a great way to facilitate discussion participation, promote continuity of conversation, and to give people some experience in the effort required for respectful listening.

Participants form groups of six to eight, seated in a circle. They are given a minute or so in silence to think about their response to a discussion topic or question. The conversation begins with one person having a period of uninterrupted “airtime” of no more than one minute. During this time the speaker may say whatever they wish about the topic at hand. While the person is speaking no interruptions are allowed.

After the minute is up, first speaker yields the floor to the person on their left, and that person speaks for a minute. The second speaker is not free, however, to say anything they want. They must incorporate into their remarks some reference to the preceding speaker’s message, and then use this as a springboard for their own comments. This does not have to be an agreement; it may be an expression of dissent from the previous opinion.

After a minute, the second speaker stops talking, and the person on their left becomes the third discussant, following the same ground rules. Following this pattern the discussion moves around the circle. Once everyone has had the opportunity to speak, the floor is opened for unconstrained conversation.

The interesting thing about this facilitation technique is that the last person has no advantage over the second speaker. This is due to the last speaker not having the luxury of mentally rehearsing the perfect contribution because they have no idea what the person immediately before them is going to say until they speak.

Facilitation principles:

- Pre-commitment
- Everyone speaks once before anyone speaks twice.
- Active listening.
- Respectful engagement

Cognitive Biases

Cognitive biases are unconscious beliefs that condition, govern and compel our behavior. Examples include the following:

- **Anchoring:** Oftentimes, humans are unable to compute an item's true value. Instead, they resort to an overreliance upon an initial "anchor" value provided by someone else, and thereafter bias all subsequent value decisions relative to that initial "anchor."
- **Status Quo Bias:** Many humans find the status quo comfortable, and avoid changing it.
- **Confirmation Bias:** A trap that humans often fall into — we tend to look for evidence that supports the conclusion we've made prematurely, not realizing that evidence can often support *several* hypotheses. "No matter what we humans think about, we tend to pay more attention to stuff that fits in with our beliefs than stuff that might challenge them..."²⁶ In the process, inclined to "see what we expect to see," we actively dismiss evidence that contradicts our conclusion. It is this phenomenon that lends importance to the active search for *disconfirming* evidence: evidence that would disprove the conclusion we've formed.
- **Sunk-Cost Bias (aka "Loss Aversion"):** A bias in which humans increasingly persist in deciding and acting illogically, based upon decisions they made *previously*. This occurs despite the fact that the *present* context dictates deciding otherwise. Sunk-cost bias occurs because it relieves one of the necessity to admit that preceding decisions might have been made in error. It also may avoid incurring a permanent loss, at least in the short term. It is a *failure to cut bait*, to use a fishing metaphor.

- Framing Trap: The way we frame an issue affects the way we perceive it, and hence, affects a solution's potential options.
- Halo Effect: We tend to select that which we see as more attractive, regardless of actual capabilities or qualities. The opposite of the halo effect is the Pitchfork Effect: we tend to disregard (or put at the bottom of a list) that which we find *unappealing*.
- Narrative Fallacy: The human compulsion to turn a series of connected or disconnected facts into story or pattern; *inventing reality*. This is a human tendency to construe meaning in a completely random situation, where no meaning actually exists.²⁷
- Self-Fulfilling Prophecy Bias: A term coined by Robert Merton in 1948. "The self-fulfilling prophecy is, in the beginning, a *false* definition of the situation evoking a new behavior which makes the originally false conception come *true*... the prophet will cite the actual course of events as proof that he was right from the beginning..."²⁸

Common Logic Fallacies

Appeal to Emotions, or to Fear. The use of emotionally charged language to distract readers and listeners from relevant reasons and evidence.

Appeal to Popularity, or to the Masses. Occurs when an assertion is made that if something is good for everyone else, it must be good for you too. Marketing and advertisements usually make this claim.

Glittering Generality. The use of vague, emotionally appealing virtue words that dispose us to approve something without closely examining the reasons.

Appeal to Questionable Authority. Occurs when the authority we use to support the premises is actually the wrong authority for the issue at hand. It's akin to "hiding behind" someone/something famous, in the hopes that that alone will sell the argument.

Slippery Slope. Occurs when the conclusion of an argument rests upon an alleged chain reaction and there isn't sufficient reason to conclude that the chain reaction will actually take place.

Red Herring. Occurs when the author diverts the reader's attention with distracting information that is flashy, eye-catching, and generally not relevant to the topic at hand.

Straw man. Stacking the deck by distorting an opponent's point of view so that it is easy to attack; thus we attack a point of view that is weak, irrelevant, or does not truly exist.

False Dichotomy. Occurs when someone presents a complex situation in black and white terms (i.e., they only present two alternatives where many exist). The logic fault here is that there is much more to the argument than the watered-down version presented. Rather than allow watered-down arguments, critical thinkers must think divergently to determine the best possible set of options.

Ad Hominem. Occurs when someone tries to attack a person, and not a position or argument.

Begging the Question. An argument in which the conclusion is sneaked into the premises. “Accept this as true: the premise from which it comes is true!” A fallacy of deductive reasoning.

Hasty Generalization Fallacy. A person drawing a conclusion about a large group based on experiences with only a few members of the group. A fallacy of inductive reasoning.

Faulty or Weak Analogy. Occurs when an author uses an analogy to communicate a concept, but the analogy used is not strong enough to support the conclusion being drawn.

Causal Oversimplification. Explaining an event by relying on causal factors that are insufficient to account for the event, or by overemphasizing the role of one or more of these factors.

Neglect of a Common Cause. Failure to recognize that two events may be related because of the effects of a common third factor.

Post Hoc Ergo Propter Hoc. Occurs when someone argues that because two events occurred, and one followed the other closely in time, then the first event caused the second. It’s an appeal to believe a cause-and-effect relationship that does not actually exist.

Confusion of Cause and Effect. Confusing the cause with the effect of an event or failing to recognize that the two events may be influencing each other.

The False Cause. The presumption that a real or perceived relationship between things means that one is the cause of the other.

Explaining by Naming. Falsely assuming that because you have provided a name for some event or behavior, that you have also adequately explained the event.

Critical MDMP Questions

We discussed the *MDMP* and *Mitigating Groupthink During the MDMP* in Chapter V, p62. This is a consolidated list of considerations from those discussions. Upon receipt of a mission, a planning directive, or commander's guidance, the Red Team Leader must determine the following, often in collaboration with the Commander/Chief of Staff:

- When should the Red Team engage in the planning process? (Most Red Teams will primarily work with Plans.)
- How should the Red Team engage? What are the expected deliverables or outcomes? Are their reporting requirements to the Commander or Chief of Staff?
- What linkage should the Red Team have within the staff? For example, does the chief of staff expect the Red Team to observe or participate in the war gaming process? Does he expect the Red Team to develop alternatives on their own for presentation to the Commander?
- What information does the Red Team need and is it available inside or external to the unit? Are their restrictions on the dissemination of information? What reach-back capability does the team require?
- What is the relationship between other specialized groups on the staff (e.g., Commander's Initiative Group)?

Red Teams face a number of challenges to “provide commanders an independent capability to fully explore alternatives to plans, operations, concepts, organizations, and capabilities in the context of the OE and from the perspectives of our partners, adversaries, and others.”

Challenge 1: Remaining *independent* but *accountable*. While independent of the staff as a special staff element, Red Teams rely on the primary and other coordinating staffs to provide them information and must work with

staff members to resolve issues, insights, and observations.

Challenge 2: Inherent tension with the staff. There are inherent tensions with the staff who may view the Red Team's efforts with suspicion. The Commander must endorse the Red Team's effort. Conversely, the Red Team must carefully weigh which items require elevation to the Commander. The Red Team is not a "shadow staff" nor does it replace any of the inherent functions performed by the staff. Success can be judged by quality of the Red Team inputs which provides insights, perspectives, identification of vulnerabilities and unseen opportunities, as well as the team's effort to foster dialogue and communication among staffs.

Challenge 3: "Groupthink versus Pros from Dover." While the Red Team is an independent staff entity, it lives and works within the unit. The team must balance its abilities to be part of the team—cooperatively working to accomplish the mission, while remaining immune to "groupthink." Conversely, the team cannot be aloof or viewed as the "Pros from Dover."

Challenge 4: Cookie-cutter TTP approach. While the deliberate planning system describes a linear thinking process (e.g., Mission Analysis consists of 17 steps), no single red teaming TTP can fit all problems. For example, a red teaming approach to planning consideration for a humanitarian operation will differ from that of planning an offensive operation against a conventional force.

Critical Review Steps

A critical review is an intellectual exercise using various investigative and analytical techniques. The process described here is only a start point for Red Team leaders to formulate their own plan and serves only as baseline to spur thought on how the Red Team will approach a specific critical review.

While the process described here appears as a linear process, in reality many of the steps may overlap. Except for the first and last step, the other steps should be conducted simultaneously or amended based on time, resources, and the initiating authority's guidance.

By definition, a critical review assumes the existence of a concept plan or other document in need of review. If the initiating authority is dissatisfied with the existing courses and desires the Red Team to examine a problem to determine alternative solutions, the Red Team should use the Problem Solving Method rather than the Critical Review.

1. Identification of the Requirement – Receipt of Mission
2. Critical Review Mission Analysis
3. Restatement of the Requirement or Red Team Task to the Initiating Authority
4. Key Issue/Problem Identification and Assessment
5. Initial Research – Formulate Data Collection Plan
6. Conduct Research
7. Determine Critical Review Criteria
8. Contrast and Comparison - Key Questions + Alternative Perspectives
9. Finalize the preliminary assessment and initial report
10. Crosswalk the initial report with requirement
11. Complete report and briefings

Critical Thinking Traits

[Note—this is by no means an “all-inclusive list!”]

Critical thinking is:

- Awareness.
- a process.
- quality of thinking.
- imposing intellectual standards.
- challenging assumptions and exploring alternatives.
- searching for hidden assumptions.
- questioning and arguing logically.
- developing an ever better worldview.
- meta-cognition—thinking about the process of thinking.

Critical thinkers...

- are *active* listeners.
- adopt a skeptical state of mind.
- are open-minded—they never shout down an idea, and they reconsider and revise views where honest reflection suggests that change is warranted.
- abhor absolutes—they realize there is often more than one way.
- think contextually—they gather, assess and interpret *relevant* information, and disregard irrelevant information.
- are dialectical thinkers—they can handle contradictions and opposing ideas.
- identify and question their own assumptions.
- consider points of view, the quality of information, interpretation and inference, assumptions, and implications and consequences.
- are “reflectively skeptical.”
- regard problems as exciting, not a hassle.
- understand the constraining role of personal world views.

- demonstrate the intellectual courage required to challenge conventional wisdom.
- search for what s/he doesn't know, rather than being complacent with what s/he does know.
- ask "Why?" "How Do?" "So What," and "What *should* we be doing?"
- are exceedingly curious and inquisitive; driven to determine a more refined version of a given perception.
- are detached emotionally—"reason prevails."
- are disinclined to board the Bus to Abilene—"intellectually independent."
- seek to understand the opinions of others.
- detect attempts to turn concepts into actual entities.
- frame a problem in several ways to consider alternative perspectives.
- evaluate the consequences of various alternatives.
- understand how framing can be used by others to mislead, in order to bias the reader/listener.
- attempt to identify the interconnected variables of a complex situation, and the variables' interrelationships/relative strength of those interrelationships.
- generate hypotheses for given situations, and then test those hypotheses.
- seek disconfirming evidence.
- discern inferences drawn, and looks for faulty inferences.
- distinguish between *causation* and *correlation*.
- recognize the bias in hindsight analysis.
- understand the effects of memory on decision making.
- know of/recognize cognitive biases present in decision making.

- know of/recognize the effects of social conformity/social psychology (including groupthink) present in group decision making.
- discriminate between inductive and deductive reasoning.
- use metaphors and analogies appropriately.
- produce and uses graphics to enhance comprehension.
- judge the credibility of an information source.
- identify premises and conclusions.
- challenge explicit assumptions.
- actively look for implicit assumptions, and challenge them.
- challenge “facts”: not all facts are created equal.
- recognize and defend against inappropriate use of emotional/loading language.
- identify/recognize underlying theories and/or philosophies inherent in an argument.
- detect misuse/abuse of word definitions.
- understand, recognize and avoid common logic fallacies.
- remember to ask “What’s missing from the argument?”
- check for adequate sampling size and possible bias in sampling when a generalization is made.
- review statistics used in arguments, and challenge them.
- ask “Are there rival causes that we have overlooked?”
- ask “What are the implications of accepting this argument as-is?”

Finally:

- are systematic and thorough in applying precepts of critical thinking to various situations.
- *defer judgment* to avoid jumping to conclusions or believing false claims.

Critical Variables (CVs)

1. The *Physical Environment* defines the physical circumstances and conditions that surround and influence air, land, sea, and space operations. The defining factors are terrain, weather, topography, hydrology, and environmental conditions. The physical environment has always been a key factor in military operations. History demonstrated that forces able to take advantage of the physical environment have a much higher probability of success. Our opponents understand that less complex and open environments favor the U.S. This is due to our standoff technology, precision guided munitions (PGM), and sophisticated surveillance and reconnaissance capabilities. For this reason, adversaries will seek to use complex terrain, unfavorable weather, and less trafficked sea lanes when confronting U.S. forces.
2. *Nature and Stability of Critical Actors* refers to the internal cohesiveness of actors. It evaluates the population, economic infrastructures, political processes and authority, military forces, goals, and agendas. It also refers to an actor's strength or weakness. It is important to determine where the real strength of the organization lies. It may be in the political leadership, the military, the police, or some other element of the population. Understanding this variable allows US forces to better visualize the nature of the military campaign and the true aims of a threat's campaign. An entity that must commit significant resources to maintain internal control may represent less of a conventional threat and more of a stability and support threat.
3. *Sociological Demographics* concern the characteristics of a human population or part of it. Demographics measure the size, growth, density, and distribution of populations. Demographics also measure statistics regarding birth, marriage, disease, and death. Demographics are a significant factor contributing to likelihood of conflict.

Perceived inequities among sectors of a population can breed envy and resentment. This often results in conflict. Overpopulation and an uneducated, unemployed “youth bulge” can aggravate economic, ethnic, religious, and other rivalries.

4. *Culture* is a system of shared beliefs, values, customs, behaviors, and artifacts that the members of society use to cope with their world and with one another. Understanding a culture requires examining multiple elements, including its core values, history, myths, traditions, and other factors. A culture can change over time. Cultures transmit their shared values and beliefs from generation to generation through learning and social interaction. Finally, a culture in and of itself does not cause a conflict. The friction that comes from the interaction between two different cultures creates the potential for conflict.
5. Nation-states or non-state actors often enter into *Regional and Global Relationships* that can be local, regional, or global. These relationships include political, economic, military, or cultural mergers and partnerships. Membership or allegiance to such a relationship can determine an actor’s actions. This can be in terms of support, motivation, and alliance construct. When actors create alliances, they can add to their collective capability and broaden the scale of operations and actions. Regional and global relationships of opponents or allies shape the scale, intensity, and perseverance of antagonists in military operations. In the age of globalization, regional activities will undoubtedly draw global interest and potential involvement. Effects created in one part of the world at the operational or tactical level could have global, cascading outcomes at the strategic level.
6. Existing *Military Capabilities* are the most critical variable for military operations, political aspirations, resolve, and will. It was once easy to define military capabilities.

However, this variable is rapidly becoming one of the most complex. A commander must be able to visualize all military capabilities of the threat. Red Teams must emphasize that our enemies can be flexible and adaptive. They could have the knowledge and ability to use a combination of conventional and unconventional capabilities. The commander must have information on conventional and unconventional capabilities, his ability to use modern technology, and his economic and political ability to affect the mission. Capabilities include equipment, manpower, training levels, resource constraints, and leadership issues. Niche technologies will be increasingly the norm for the near-term. Hybridization, rapid technological advancement, and asymmetric concepts generate constantly changing requirements and needs. In addition, paramilitary organizations, Special Forces, or enhanced police organizations take on greater significance as their capabilities and roles expand.

7. *Information* involves civil and military access, use, manipulation, distribution, and reliance on information technology systems by an entity. Information technology is the systems or mechanisms for preserving or transmitting information. Various actors seek to use perception management to control how the public sees things. The threat will exploit U.S. mistakes. They will also use propaganda to sway the local population to support their cause. Media and other information means can make combat operations visible to the world. The media can influence U.S. political decision making, internal opinion, or the sensitivities of coalition members. The expansion of information technology will greatly assist commanders. Complicated networks provide a vast web of communications capabilities. Redundant communications systems allow for the constant flow of information. Developing countries may have little in the way of communications infrastructure. Information may flow by less sophisticated means—couriers, graffiti,

rumors, gossiping, and local print media. Understanding existing communication infrastructure is important because it ultimately controls the flow of information to the population and the threat.

8. *Technology* reflects the equipment and technological sophistication that an entity could bring to the OE. Technology includes what nations or actors can develop, produce, or import. Global access to technological advances is slowly eroding the U.S.'s advantage. Understanding this variable can determine whether the threat has the technological ability to achieve equality or overmatch in selected areas. The presence of sophisticated technology can indicate where opponents expect to achieve the greatest advantage or perceive the greatest threat.
9. The U.S. military could find a variety of *External Organizations* in a conflict or failed state. These include non-government organizations (NGOs), international humanitarian organizations, multinational corporations, transnational organizations, and other civilian organizations. The organizations can have stated and hidden interests that assist or hinder U.S. mission accomplishment. Each organizational or individual participant pursues its interests in concert or competition with other entities. These actors may have economic, political, religious, cultural, or private motivations that differ from their public organizational mission statements. Defining these variables should inform the commander of the impact external organizations have on mission accomplishment.
10. *National Will and Will of Critical Actor* encompasses a unification of values, morals, and effort between the population, the leadership or government, and the military. Through this unity, all parties are willing to sacrifice individually for the achievement of the unified goal. The interaction of military actions and political judgments, conditioned by national will, further defines

and limits the achievable objectives of a conflict. This determines the duration and conditions of termination of a conflict. The willingness of the people to support threat military, paramilitary, terrorists, or insurgencies can be a significant characteristic of the battlefield. It will influence the type and intensity of resistance the people will pose to U.S. military operations. Most countries view the U.S. national will as a U.S. strategic center of gravity.²⁹ The degree to which one group can attack its opponent's will and still preserve its own represents its ability to set the conditions for achieving favorable conflict resolution. In a world of transparent military operations, attack on (and defense of) national will has tactical, operational, and strategic implications. A perceived attack on a group's cultural identity will usually serve to bolster its will to fight. This potentially increases both the intensity and duration of a conflict.

11. *Time* is a critical factor and a tool to manipulate tactical, operational, and strategic advantages. It drives the conduct of operations and campaigns. Time is one of the most significant planning factors driving decision-making. How much time is available and how long events might take will affect every aspect of military planning. This includes force package development, force flow rate, quality of intelligence preparation of the AO, need for forward-deployed forces and logistics, etc. Planners need to consider time in the context of the culture that the force is operating. Every culture views time differently. An opponent's view of time might be radically different from ours. This different view of time causes disjointedness in operational tempo.
12. The *Economic* variable establishes the boundaries between the "haves" and the "have-nots." This gap of economic differences among nation-states and other actors can cause conflict. Differences may be significant among nation-states, organizations, or groups regarding how they produce, distribute, and consume goods and

services. Control and access to natural or strategic resources can cause conflict. The ability to affect another actor through economic, vice military means, may become the key to regional hegemonic status or dominance. Economic deprivation is also a major cause of conflict. One actor may have economic superiority over another for many reasons, including access to natural resources or power.

Economic power and the ability to mobilize it represent a nation or actor's ability to rapidly procure, mobilize, and conduct sustained operations. It also reveals external relationships that could result in political or military assistance. For example, potential adversaries understand that the U.S. economy is a center of gravity that is very sensitive to perturbation. American economics and the power that flows from it will be inviting targets. Any disruption of the flow of oil products would have a significant negative impact on our economy. Many of our economic institutions may appear vulnerable to cyber-attack. Economic superiority rather than military superiority may be the key to power or dominance within a region. Analysis identifies those elements of economic power that may be a significant characteristic of the battlefield. In a globalized economy, the threat may leverage its economic power in a manner that affects friendly operations.

13. *Religion* is a variable that affects each of the preceding variables. Religion in itself "is a world view in which people personify cosmic forces and devise ways to deal with them that resemble the ways they deal with powerful human beings in their society. Religion provides man with a way to deal with uncertainty that they otherwise cannot control.³⁰ Religion is interwoven with a nation's culture. It can be a cornerstone that affects every aspect of culture. It also provides the individual a more worldly connection to other co-religionist outside the boundaries of a particular state. Our understanding of the religion

practiced in a state that U.S. forces operate is crucial to our success. This understanding will shape the way the Army should conduct operations (i.e., belief system of our opponent, key sites, organization of society, interpersonal relationships between our forces and the population).

What Critical Variables inform PMESII+PT		
<p style="text-align: center;"><u>Politics</u></p> <ul style="list-style-type: none"> • Culture • Religion • Nature & Stability of State • Regional & Global Relationships • Sociological Demographics • External Organizations 	<p style="text-align: center;"><u>Military</u></p> <ul style="list-style-type: none"> • Culture • Religion • Military Capabilities • Nature & Stability of State • Regional & Global Relationships • Technology • National Will 	<p style="text-align: center;"><u>Economics</u></p> <ul style="list-style-type: none"> • Culture • Religion • External Organizations • Technology • Nature & Stability of State • National Will
<p style="text-align: center;"><u>Social</u></p> <ul style="list-style-type: none"> • Culture • Religion • Sociological Demographics • Technology • External Organizations • Nature & Stability of State • National Will 	<p style="text-align: center;"><u>Information</u></p> <ul style="list-style-type: none"> • Culture • Religion • External Organizations • Information • National Will 	<p style="text-align: center;"><u>Infrastructure</u></p> <ul style="list-style-type: none"> • Sociological Demographics • Technology • Regional & global Relationships • Culture • Religion • Nature & Stability of State • Technology
<p style="text-align: center;"><u>Physical Environment</u></p> <ul style="list-style-type: none"> • Culture • Religion • Regional & global Relationships • Physical Environment 		<p style="text-align: center;"><u>Time</u></p> <ul style="list-style-type: none"> • Time • Culture • Religion • National Will

Critical Variables are relevant to PMESII+PT and METT-TC.

Cultural Perception Framework

When to use

The Cultural Perception Framework is used to assist Red Team members in apperceiving another culture. It complements the 9-Step Cultural Methodology by posing questions of much greater detail. In order to avoid mirror-imaging, its steps lead red teamers through a process of discovering another culture based on its underlying tendencies, habits, values and beliefs. It provides red teams an ability to consider the *kinds* of questions that must be asked of Subject Matter Experts, in order to provide alternative perspectives about that culture.

Value added

Thorough use of the Cultural Perception Framework will ensure an enhanced understanding of a particular culture, by forcing the Red Team members to consider aspects of that culture they might not otherwise have discerned.

The Method

Step 1 – Establish a baseline of understanding by using the 4-Ways of Seeing

- How X views itself
- How Y views itself
- How X views Y
- How Y views X

Step 2 – What does the physical environment offer to the culture? (Water, Land, Food, Climate, Fuel/Power, Natural Resources)

Water

- What is the symbolic significance of water?
- Are there cultural rules about water's use?

- What is the relationship between water use and ritual?
- Who customarily exercises specific functions with respect to water? What are these functions?
- Who, in the culture, has customarily controlled access to water, and how have they used that for power, influence, etc.?
- What roles are expected of U.S. military personnel with respect to water use and provision?

Land

- Has the geography facilitated security, or invite invasion by another culture? How has the security outlook of the people evolved with respect to its geography?
- Who owns the land? Is access open to everyone, or restricted? What are the local conventions of private, communal, and state ownership/use of land? How is the ownership of land related to the power structure of the region?
- Is there sufficient land for agricultural use? Does this land allow for completely feeding the population? Does it provide for agricultural export?
- What land in the area is/is not appropriate for certain groups of people to use? Why?
- Who, locally, has legitimate ability to determine outsiders' access to land?
- Are there symbolic meanings for certain sub-districts in the region, and do groups within the area view this symbolism similarly, or differently? Why?
- What is the relationship between the political national/regional boundaries, and how people living in the nation/region view those boundaries, in terms of politics, economics, genealogy, and security?

- What are the geographic area's principles of division, and is there a relationship between these dividing lines and access to both tangible and symbolic resources?
- Are there particular land formations that are visually striking, with local significance?

Food

- What are the local staples, and what is the required labor to grow, prepare, and serve them?
- What foods are served by whom, to indicate the status of server or guest?
- How do U.S. Military operations or logistics impact the ability of local people to obtain essential foodstuffs?
- What foods have which kinds of ritual significance?
- What are the time- or calendar-related roles of various foods?
- Which foods are strategic commodities, inasmuch as controlling access to them influences one's coercive or political power?
- What, in local terms, is considered food sufficiency, food scarcity, and the proper role of external forces in providing food?
- What kinds of locally-accepted foods are considered strange, dangerous, or not even food (by the U.S. Military)? What foods raise concerns about health or sanitation?

Climate and Seasons

- How does the climate influence local attitudes to—and capabilities for—work, business, and combat?
- What, in local terms, passes for good weather, bad weather, etc?

Fuel and Power

- What are the locally-found, or locally-produced sources of power and fuel?
- What is the relationship between local elites and access to/provision of fuel and power?
- How does the larger government authority provide, or control, access to power?
- What do local people expect of outside forces in terms of power/fuel provision and protection?
- How does the population deal with shortages of power and fuel, and how do U.S. Military operations impact them?

Natural Resources

- What natural resources can be found inside the recognized borders of the nation/region?
- Are these natural resources accessible? Are they nearing depletion? Who controls access to these natural resources?
- Which natural resources are required by the culture, but not available internal to their borders? Where are these locally unavailable resources procured? Who is in the controlling seat for procuring them, and who provides them? What sources of power emanate from this relationship?

Step 3 – How is the economy structured? How do the people make use of what the physical environment offers? (Formal, Informal, As a Means of Exchange, Effect on Social Structure)

The Formal Economy

- What comprises the formal economy?
- On what commodities/services does the formal economy focus?

- What categories of people work in the formal economy?
- How will U.S. Military operations impact the formal economy, and people in it?

The Informal Economy

- How big is the informal economy, as compared to the formal economy? If it is large—why?
- What categories of people work in the informal economy?
- On what commodities/services does the informal economy focus?
- What is the relationship between the informal economy, on the one hand, and unregulated movement of people, crime, and violence, on the other?
- How does the formal economy rely upon the informal economy? Does this cause abuse to the area's population?
- What economic opportunities exist for the population?
- What are formal/informal economic actors' expectations of the state or over-arching political-military authority, with respect to involvement in or disregard for economic activity?
- What is considered an "illegal" good or service in the area, and on what basis? Is what would be termed in the West as "bribery" and "corruption" endemic? If so, what do locals consider corrupt?
- What goods/services are legal, but culturally frowned upon? Who deals in these goods/services?
- What percent of the formal and informal economy is under "foreign" control?
- How will U.S. Military expenditure in the local informal economy, or employment of local informal economic

actors, influence the socio-economic balance of power in the area?

Economy as a Network of Exchange

- How are important physical resources (food, clothing, shelter, cars etc.) obtained by local peoples?
- How do people gain access to critical services such as medical care, transportation, or education?
- Would a specific operational plan improve or block access to critical goods and services?
- What is the degree of (in)equity in the distribution of goods and services among the population?
- Who seems to control the distribution of goods and services, and how? Would a planned operation change this distribution pattern?
- Along with or instead of money, what do local peoples rely on to obtain and exchange goods in the region?
- If money is not the primary economic system, can the U.S. Military effectively use the local method of economic exchange?

Economy as a Way of Structuring Social Relationships

- What are the main economic systems in place in the region (pastoralism, agriculture, industrial production—all three may be present simultaneously)?
- What are the economic rhythms of the community (migration seasons, planting and harvesting, market day, work hours)?
- What are the important features of the environment that determine the economy of the area?
- Who has/controls most of the wealth? What percent of the population lives in poverty, as locally defined?

- How is wealth distributed? Does wealth seem to be concentrated in the hands of certain individuals or groups? On what basis? What power is conferred from such a concentration?
- Does the economy rely on general, balanced, or negative reciprocity?
- Do the elites own wealth, or do they possess power that generates wealth?
- How do local economic structures reflect the relationship of the group to the larger political and state system?

Step 4 – How is the social organization structured? How do the people organize, given the gifts of their physical environment, and their economic choices? (Age, Gender, Kinship, Class, Ethnicity)

Age

- What are the population's demographics? What do they suggest?
- At what age is someone considered a child or adult?
- What specific ceremonies mark the transition to adulthood? Which new social privileges are granted to men and women when they pass these manhood or womanhood rituals?
- What are locally accepted or expected economic roles for what U.S. society considers children?
- How should the U.S. Military prepare to respond to children that act as soldiers in militaries or insurgencies, or participate in violent activities against U.S. forces?
- What special status or roles are accorded to the elderly?

- Is there an age grading system that stratifies people according to their age and stage in the life cycle? And if so, what rights, roles, and duties do people have at each stage?

Gender

- What are the common child rearing practices, and how do they differ by gender and class?
- What are the roles assigned to men? What are the roles assigned to women?
- What work, activities, and spaces are assigned predominantly to men and women?
- Who undertakes which tasks and where?
- How must operational plans change to account for different work, roles, and spaces assigned to men and women?
- What roles do women play in local militaries and insurgencies? Do they engage in armed combat?
- If women are not visibly observable, what roles and tasks do they undertake “behind the scenes?”
- How can operational plans and assignment of manpower include gender to maximize effectiveness of the unit?

Kinship and Tribal Membership

- Does some form of “tribe”- or “clan”-related social structure exist, and play a role in society? To what degree?
- From which side of the family does descent originate? Is the society a matriarchal or patriarchal one? Do members of a family identify with the father’s side/relatives, the mother’s side/relatives, or both?
- What is the nature of marriage in society: who decides, what are the power relationships internal to, and

external to the married couple? Does the society practice monogamy or polygamy?

- To what degree does the society believe in collective unity, vice individualism? What degree of egalitarianism is prevalent in society?
- What are the reasons underlying social unity? What is it that holds the society together? What provides “meaning” to this society?
- Does the society rely upon “fictive” kinship? What is the essence of this fiction—which segments of society does it uphold, and which segments does it suppress?
- Does the society rely upon extended family units, or nuclear families? Why?
- How are land, water, or access to certain goods and resources concentrated in the hands of specific kin groups or tribes?
- How will our operations in the region support certain kin groups and enhance their power; or conversely undermine these groups?
- What are the possible outcomes of an operation that will challenge the power or control of resources by certain kin groups in the region (war, insurgency, increased stability, greater/lesser access to important goods and services)?
- How does a U.S. Military’s choice of local points of contact interact with or disturb local kin relationships, thus influencing the degree of success of U.S. Military initiatives?

Class

- Does class play a role in society? To what degree?
- How is class defined in the area: on the basis of wealth, education, region of origin, inheritance, or other factors?

- Is status acquired through birth, or achieved through action?
- What are the privileges (economic, political, social, and religious) of members of the upper class?
- What are the key institutions in the social structure, and how did the leaders of those institutions acquire their roles?
- How is access to essential resources for survival (food, shelter, clothing, water) determined by class?
- How does the concentration of wealth (through corruption, graft, or legitimate means) in the hands of an elite upper class relate to resource or power access?
- If creating a plan to support lower class groups, will funds and resources have to pass through the hands of the upper class first (and consequently disappear)?
- What is the reality of upward mobility in the area's class system, and what do local people consider to be their potential for in-system upward mobility?
- How will U.S. Military measures that influence different groups' social mobility be viewed by those groups, or by other, competing groups?

Ethnicity

- Does ethnicity play a role in society? To what degree?
- What is the relationship between particular ethnic groups and control of professions or positions of power?
- How do groups that are barred from these positions of power challenge the system (breeding grounds for insurgents, theft and bribery, civil war)?

- What are local assumptions about U.S. and western biases and partisanship with respect to ethnic group struggles?
- How will a US Military alliance or dealings with a particular ethnic group affect those in power? What are possible reactions of those groups that are ignored?
- In this area, what kinds of processes have historically activated which ethnic identities and feelings of group membership?

Step 5 – What defines the political structure? Who makes the decisions concerning power distribution and resource usage? (leadership, conflicts over power)

Leadership

- What types of leaders does the society support? Charismatic? Violent? Legally elected?
- Who are the central players in the leadership? What are their histories, and what are their ideologies and beliefs? What networks do they belong to?
- Do the members of the leadership “live for politics,” or make a living “off of politics?” What are their motives in doing so?
- How is decision-making organized, and who makes decisions?
- What particular social and political ideologies are prevalent? What narratives is the leadership using?
- What are the principles and processes governing policy deliberations and decision-making?
- Whom do leaders have to consult; to whom must they answer?

- How is leadership obtained and passed on (by election, inheritance, demonstration of skill, and membership in a certain age or social group, by force)?
- Who are the official formal leaders and what symbols indicate their status?
- To whom do people turn to actually get something done?
- What is the relationship between the formal and informal leader?
- Which institutions wield power? Particular social structures (tribes, clans, etc.)? Religious entities? Labor unions? Political parties? Courts? Criminal organizations?

Conflicts over Power

- What motivates the society? This may be political in nature, as well as economic, or even based on desires for social change. What tensions are inherent in the society?
- How does the society handle the inequity of power? Do members of society revile others who exert power upon them? Or are members of society inclined to accept this inequitable power structure submissively? Are members who accept inequitable power relationships submissively inclined to “wait until told what to do?” In other words, are they overly dependent on what the boss says—as opposed to a society in which the people feel inclined toward a high degree of interdependence, and use initiative?
- To what degree are the members of society comfortable with uncertainty (exhibited in low stress and low anxiety—what is different is curious)? To what degree do they attempt to avoid uncertainty (exhibited in high stress and high anxiety—what is different is dangerous)?

- Is this a society that relies on harsh power, or rule of law?
- What are the most important cultural characteristics that determine one's position and power in the community (age, class, gender, tribal identity, ethnicity, religion)?
- What is the degree of polarization in the region with respect to religious/ethnic/tribal identities?
- What is the amount of flexibility and interaction between religious/ethnic/tribal groups?
- Which groups hold power, and to what degree of concentration?
- Which groups are excluded, and along which axes?
- What is their degree of consciousness of exclusion?
- What is the nature of the bureaucracy? Is it efficient, and easy for the society to navigate? Or do the members of the bureaucracy exact tribute from society as a way of conducting business, or exercising power? To what degree is it necessary to find someone who can deal with this inefficient bureaucracy (someone who has "wasta") quickly?
- What is the role of patronage, and what characterizes a "patron?"
- Are politics used for religious purposes, or is religion used for political purposes?
- How do state bureaucracies relate to other elements of the social structure?
- Do these groups' leaders think it is possible to challenge the system?
- How do marginalized and losing groups gain access to valued goods, resources, and opportunities (black market, theft, raids, and insurgency)?

- How will allying with one group affect U.S. Military relationships with the other groups?

Step 6 – What are the belief systems? (History, Folklore, Rituals, Norms, Imagined Memory, Icons, Symbols and Communication, Taboos, and Religion)

History, Imagined Memory, Folklore

- What are the critical narratives of the cultural history? What are the pivotal historical stories that all people in the community share?
- What do people believe about themselves, and where they came from? What are the stories taught in school?
- How do the people learn in school? Via rote memory? Socratic dialogue? Other? Are they taught to challenge authority and conventional wisdom, or follow the party line?
- What are the daily sayings and folktales that everyone refers to in common conversation?
- How are these (remembered histories, folktales, and sayings) used to emphasize or teach important values and ideals?
- How do different groups in the area give different significance to the same historical stories?
- How does the society perceive current and past events?
- What are the key myths associated with social control?
- Does this society defer to ethnocentric beliefs, or does it display cultural relativity in its views of outsiders?
- Are there any myths explaining the essence of the “nation?” To what degree do the people identify with a “national” myth? How does this national myth conflict

with other social structure bases—ethnicity conflicts, tribal conflicts, etc.?

- Are there any significant emotional events in the life of the people? How recent/how far back in time are these events? To what degree has myth embraced these events, and what are the myths? Which leadership groups within the area support these myths to their own ends?
- Has the area been historically invaded or isolated? What is the significance of this?
- How are these histories, folktales, and sayings used to support propaganda for or against U.S. Military and U.S. activities in the region?
- How has the society accommodated cultural change in the past? Is it a society that relies upon pluralism? Syncretism? Or Assimilation?

Icons

- Who are the local heroes? What important qualities do these heroes embody?
- Who are the local villains? Why are they villainous (what makes them evil)?
- Are the heroes or villains compared to the U.S. Military or Americans?
- What do the comparisons illustrate about local attitudes towards the U.S. and the military?

Symbols and Communication

- What physical symbols (clothing, headdress, insignia, and scarification) indicate membership or status in the ethnic, religious, and social groups of the region?
- What physical and written symbols (graffiti, fences, signs, and spiritual markers) are important to be able to

recognize in order to navigate and understand what is happening in the region?

- What is the nature of routine greetings and farewells? What do they mean?
- What are the hand signals and predominant body language actions that members of the population use? What do they mean?
- How do the people communicate? Word of mouth? Gossip and rumor? In written form? Via television? Via texting and cell phone? Via Internet?
- What are the society's proverbs? For those which translate only with difficulty—what do they mean?
- What words or phrases are essential for basic communication with local people?
- What non-verbal behaviors may be misinterpreted by local people? Which non-verbal behaviors are important to understand in meetings and negotiations?

Rituals

- What are the rites of passage? Rites of enhancement?
- What behaviors and actions are important in the ritual or ceremony, and what does this reveal about cultural ideals and values?
- Who participates in the ritual, and what roles do the participants play?
- What does presence of participants, or the nature of their participation, say about their membership and status in the group?
- What does the public performance of the ritual communicate to outsiders?
- How is this performance potentially a politically charged statement about the group's status and rights within the larger society?

- What activities, not related to the ritual or ceremony itself, occur at ceremonial gatherings, due to the social status of the participants?

Norms, Mores, and Taboos

- What does the society value? Are its values predicated on dualism (e.g., absolutes, “evil versus good”), or on relativism (right versus wrong depends upon context)?
- How does society sanction its members? Does it allow for criticism and alienation?
- What is the role of emotional outburst—is it restrained? Accepted? Gender specific?
- To what degree do the members of society value human life? For what reasons would people in the society kill someone else? Why—as a measure on behalf of the state? To restore personal or family honor? To appropriate vengeance?
- What underlying allegiances or codes of honor could influence the success of an operation?
- What activities in the area are considered serious violations of social mores and could carry serious punishments, including death?
- What food and behavioral taboos exist in the region?
- What norms should the U.S. Military observe, even if they are foreign to the area?
- What beliefs or assumptions exist locally about American practices as regards local norms, mores, and taboos?
- What might the local people think (or have been propagandized to think) that the U.S. Military is likely to disregard in terms of local norms, mores, and taboos?

Religious Beliefs

- What are the predominant religions in the area?

- What are the key religious narratives? What do they signify, and whom do they support?
- Are the practiced religions focused on the social welfare of the people, in the hereafter, or both?
- What are the actual (versus theoretical/textual) religious practices in the specific area where the U.S. Military operates? Are these religions affected by local culture?
- How do local practices of a religion the U.S. Military has encountered elsewhere differ from what the U.S. Military thinks the religion is “supposed” to look like?
- Who is the actual leader of the local religious community?
- How do religious leaders relate to the educated elite vs. popular groups, etc?
- What is the basis of authority for a “religious” leader in the area: book learning, lineage, charisma, etc.?
- What power and role, if any, does the formal religious system play in local peoples’ daily lives?
- What conflicts or disagreements exist between the formal religious system and the local religious practices of the area?
- How prominent is “religion” as an explanatory factor for people in current events, and in reference to history, or historical trajectories?
- What is “the way the world is supposed to be” according to locally-held religious beliefs, and how does the U.S. Military presence impact that?

Religious Membership

- How do people define and express their religious membership in the region?
- What roles and status do the various religious groups or sects hold in the larger society?

- What is the meaning of geography for religious groups in the area?
- What effects would a planned U.S. Military operation in the region have upon the power, status, and access to critical resources of the various religious groups or sects?
- How will the U.S. Military operations influence indigenous peoples' views of U.S. Military or U.S. biases towards different religious groups of the social structure?

Step 7 –

- A. Conduct an analysis, based on the results of all information acquired. What particular deductions can you come to, based on the aggregate of the collected information?
- B. Synthesize the results. Given the particular reason/motive for conducting the analysis, what is the “so what?” How does the information provide insight as to how another culture might react to U.S. Military presence? In what ways does the information illuminate “how they might think” about various issues?

Deception Detection

Systematic use of checklists to determine when deception actually may be present and how to avoid being deceived.

When to Use

In reality, analysts too seldom check for the possibility of deception, even when there is a well-known history of its use. The search for clues that deception is being conducted is often time consuming and requires extensive fact checking and hypothesis testing. Nonetheless, it can be critical in cases where the stakes are high. Analysts should be concerned about the use of deception when the deceiver would have a lot to gain through his efforts and has strong capabilities to deny or manipulate U.S. intelligence collection assets.

Value Added

Deception Detection can add rigor to analysis and reinforce the effectiveness of other analytic techniques covered in this primer. There may be times when analysts will place too much confidence in the effectiveness of other techniques covered in this primer, if they have not considered the possibility that deception may be present as well. For example, a well-developed set of indicators might actively mislead analysts, if they were partly developed from information purposely designed or fabricated by an adversary to mislead its opponents. While most analysts know they cannot assume every piece of collected intelligence is valid, few know how to adapt their daily work habits to adjust for the possibility of deception. Posing the hypothesis of deception places a considerable cognitive burden on analysts. Once accepting this possibility, it places in question all the evidence and makes it difficult to draw any inferences from the evidence with high confidence. A checklist of questions to detect possible deception can prevent the analyst from becoming paralyzed.

The Method

Analysts should routinely consider that their information base is susceptible to deception. If there is any possibility that deception could be present, a small group of analysts should assess key reporting based on four sets of criteria:

- Does a foreign actor have the motive, opportunity, and means (MOM) to deceive?
- Would this potential deception be consistent with past opposition practices (POP)?
- Do we have cause for concern regarding the manipulability of sources (MOSES)?
- What can be learned from the evaluation of evidence (EVE)?

In addition to using this deception detection technique, analysts can also employ the technique of analysis of competing hypotheses (ACH). In this case, analysts would explicitly pose deception as one of the multiple explanations for the presence or absence of information. In the counterintelligence field, the use of ACH as well as Deception Detection techniques has proven very useful.

Determining the Suitability of an Analogy

An analogy is a comparison, used to improve our ability to comprehend one situation by comparing it to a previous situation about which we know something. It is a form of inductive reasoning, in which we proceed from one general premise to another. Like all inductive thinking, however, there is no certainty whether the analogical conclusion is warranted—at best the conclusion could be probable.

The manner to determine an analogy's suitability is to compare the ways in which both situations are *similar* to each other, and the ways in which both situations are *dissimilar*. For example, given the analogy "Going into Iraq will be our next Vietnam," the person making the statement presumes that one will be like the other. In some ways, perhaps it might. In others, however, there may be significant differences.

As such—given the analogy stated above, first determine the criteria around which you make the "similar/dissimilar" assessment. List the broadest and most expansive set of criteria you can possibly think of; the assessment of an analogy's suitability rests in large measure on the number of different criteria you can possibly site. Just a few of the criteria for our scenario could be as follows:

- Nature of the enemy
- Nature of the environment in which we will operate
- Nature of the regional allies or antagonists which may help/hinder either side
- Size and composition of enemy forces we will fight against
- Size and composition of our own enemy forces
- Whether or not the population will tend to rally around one side or the other
- Duration of the conflict
- Professional state of the enemy forces
- Professional state of the U.S. forces

Next, carefully consider our situation in Vietnam for each criterion. Make a list.

Thereafter, carefully consider our situation in Iraq for each criterion. Make a list.

Now compare the two lists, criteria-by-criteria. Are those two lists more similar or dissimilar? If they are mostly similar, perhaps you have a *strong* analogy/inductive argument. However, if they are mostly dissimilar, you have a *weak* analogy/inductive argument, and whomever uttered the statement most likely didn't think through the ramifications of his/her remarks. Instead, they were likely focused on a narrow subset of the criteria you have considered, in a way that frames their conclusion.

Devil's Advocacy

Challenging a single, strongly held view or consensus by building the best possible case for an alternative explanation.

When to Use

Devil's Advocacy is used to consider whether stated beliefs or assertions have been formed prematurely, without first considering alternative perspectives. It is a technique designed to help expose *implicit* assumptions and faulty reasoning.

The logic behind Devil's Advocacy stems from the cognitive challenges of decision making discussed by Richards Heuer (*The Psychology of Intelligence Analysis*) and Morgan D. Jones (*The Thinkers Toolkit*):

- We commonly solve problems by first forming a conclusion, and *then* using available evidence to support it. “[We tend to] favor a particular outcome or solution early on in the analytic process...long before we can objectively analyze the evidence and reach a conclusion.” (This is the cognitive bias known as confirmation bias.)
- We tend to perceive what we *expect* to perceive
- We tend to value information that is *consistent* with our views, and reject or overlook information *that is not*
- We can easily become wedded to a pre-existing plan, person's reputation, etc., which precludes us from continuing to think critically about that plan, person, etc.

Value Added

Devil's Advocacy helps red teamers expose faulty reasoning, especially when the beliefs or assertions in question are the result of “conclusions jumped to.” The tool will help establish additional evidence which should have originally been considered; it helps illuminate evidence which was either intentionally or unintentionally disregarded or ignored.

The Method

Conducting Devil's Advocacy is fairly straightforward: for a stated belief or assertion, *prove its opposite*. Do this by 1) considering the same evidence, some of which may have been disregarded or ignored, and by 2) finding new and disconfirming evidence originally unavailable.

Example. Given a stated position: "The U.S. Federal Government should *not directly* fund private schools"

- State and prove the position in its opposite form: "The U.S. Government *should* directly fund private schools, because..."
 - Enumerate reasons why this should be so. Consider all evidence originally available, especially that which was disregarded or ignored. Oftentimes, evidence can support several hypotheses, based upon its interpretation.
 - *Actively search* for new evidence which proves this opposite assertion.
- Disprove the *original* belief or assertion:
 - Reasons in the "stated position" which are *faulty*
 - Reasons in the "stated position" which were *ignored/overlooked*
 - Reasons *which are missing* from the "stated position"
 - Consider any implicit assumptions upon which the "stated position" rests

Divergence - Convergence

Think - Write - Share - This is the single most important idea to enable critical thinking. Before tackling any issue, we should think independently and reflectively first, then write down our thoughts—which helps us to shape and refine them, and finally share them in a disciplined fashion. Divergence-convergence is a form of ‘think-write-share’ – method:

- Everyone writes down as many ideas as they can about the problem or issue – they do not self-censor.
 - Facilitator goes around the room taking only one idea from each member of the group. Everyone speaks once before anyone speaks twice. Ideas are collected without commentary or criticism. If someone else offers something on your list, then scratch it out and offer something not yet raised.
- This goes on until all lists are exhausted.
- Once everyone’s list is exhausted and captured on the board, the group, aided by the facilitator, bins the ideas into a set of unique and distinguishable approaches so ideas bleed over on each other to the minimum extent possible. This sets the table for ‘dot voting’.

Dot Voting

Frequently, planning teams must prioritize their efforts as there is simply not enough time to address all legitimate issues. Dot voting is a method designed to anonymously collect the groups' perspective about the most urgent issues needing to be addressed. *Dot Voting* and *5 Will Get You 25* are two methods of weighted anonymous feedback.

- Identify the largest possible universe of issues using divergent thinking and collect them in a macro list
- Group the input in the broadest possible way so that no two topics remaining on the list overlap with each other (i.e., each topic is distinguishable from each other)
- Number the remaining distinguishable issues (for the sake of this illustration let's assume there are 12 different and legitimate issues worthy of the groups energy and attention)
- Each member writes a list of the numbers 1-12 in a column on a 3x5 card
- Each member then 'dot votes' 7 times (place a dot next to the number of the topic that s/he wants to vote for. All 7 votes can be given to a single topic, 7 topics one vote each, or divided 3 and 4, 1 and 6, 2 and 5, etc.
- Collect the 5x8 cards and total the number of votes for each idea or issue

The value of this approach is as follows:

- forces each person to prioritize by having a little more than 50% votes of the total number of issues (7 of 12) but also gives them the opportunity to vote for more than one compelling issue
- gives some indication of the weight of each idea with respect to each other (a group score of 40 is significantly higher than a group score of 20 even though 20 may be the second highest score). This can

be used to develop what the weighted/ priority factors for a COA should be

Note - for this to work properly it is absolutely critical that ideas don't compete against each other during dot voting so creating distinguishable issues is a key part of the process.

Fishbowl

“Fishbowl” is a liberating structure aimed at developing active reflection, listening, and fresh perspectives.

Create a circle of chairs in the center of a larger circle. Five-six is a good number. If you have a very large group, there may be multiple outer circles.

Invite a small group of people that have direct experience with the challenge into the small circle of chairs at the center. Ask this group to talk about the challenge together, sharing stories of their direct experience and insights as they might do if they were sitting in a coffee shop or at dinner together. They talk to each other, NOT the audience.

Invite the audience to ask questions and share their insights about the conversation while those in the center circle just listen. Gather all the questions. You might want to use file cards or have someone capture all the questions on chart paper.

Then invite the group to dialogue with each other between the two circles.

Some good questions for the debrief:

- What did you hear that surprised you?
- How has your perspective on the issue changed?
- What questions are still open for you?

Frame Audit

Use the Frame Audit to help uncover less than successful frames and faulty logic, as well as potentially reframe an issue in more helpful ways. Given a situation and frame, do the following:

- Ask yourself: what matters most to whomever uses this frame? What do they tend to talk about the most? Why?
- Also ask: given the frame we are using, how do others tend to see/frame the same issue? What is it they consider that we don't consider?
- For the frame you are using, consider further:
 - What issue(s) does the frame address most? Why?
 - What boundaries do we put on the question? (Boundaries are what we include within the frame, versus what we leave out.)
 - What yardsticks (how we measure the question) and reference points (key measurement benchmarks) do we use to measure success?
 - What metaphors do we use in thinking about this issue? Why?
 - Why do we think about this question this way? What training or experience frames the way we view the world?
 - What does the frame emphasize? Minimize? Why?
 - Do other people in our profession think about this question differently? How? Why? Are their frames successful?
- Finally, ask whether your frame is effective:
 - Does the frame prompt you to ask the right questions most of the time?

- Have you tested or challenged the frame, or have others tried to do so?
- Is your frame decisive in the sense of helping you resolve tough issues?
- Is your frame easily communicated to and understood by others?
- Do key stakeholders accept your frame as a guide to joint action?
- Does your frame achieve sufficient simplicity without being too simple?
- Is your frame adaptive and up-to-date with respect to changing times?
- Does your frame generate solutions that achieve desired results?
- What are some notable failures of the frame? Where has it led you astray?
- What are some of the deeper assumptions which underlie your frame?
- What are some of the origins of the assumptions in your past experience?³¹

High-Impact/ Low-Probability Analysis

Highlights a seemingly unlikely event that would have major policy consequences if it happened.

When to Use

A contrarian technique that sensitizes analysts to the potential impact of seemingly low probability events that would have major repercussions on U.S. interests. Using this technique is advisable when policymakers are convinced that an event is unlikely but have not given much thought to the consequences of its occurrence. In essence, this can be a warning that the intelligence and policy communities must be alert to an unexpected but not impossible event.

Value Added

Mapping out the course of an unlikely, yet plausible, event can uncover hidden relationships between key factors and assumptions; it also can alert analysts to oversights in the mainstream analytic line. In addition, an examination of the “unthinkable” allows analysts to develop signposts that may provide early warning of a shift in the situation. By periodically reviewing these indicators a Red Team is more likely to counter any prevailing mind-set that such a development is highly unlikely.

The Method

If there is a strongly held view that an event is unlikely, then postulating precisely the opposite should not be difficult.

- Define the high-impact outcome clearly. This process is what will justify examining what most analysts believe to be a very unlikely development.
- Devise one or more plausible explanations for or “pathways” to the low probability outcome. This should be as precise as possible, as it can help identify possible indicators for later monitoring.
- Insert possible triggers or changes in momentum if appropriate. These can be natural disasters, sudden

health problems of key leaders, or new economic or political shocks that might have occurred historically or in other parts of the world.

- Brainstorm with individuals having a broad set of experiences to aid the development of plausible but unpredictable triggers of sudden change.
- Identify for each pathway a set of indicators or “observables” that would help you anticipate that events were beginning to play out this way.
- Identify factors that would deflect a bad outcome or encourage a positive outcome.

Indicators or Signposts of Change

Periodically review a list of observable events or trends to track events, monitor targets, spot emerging trends, and warn of unanticipated change.

When to Use

An analyst or team can create an indicators or signposts list of observable events that one would expect to see if a postulated situation is developing; (e.g., economic reform, military modernization, political instability, or democratization). Constructing the list might require only a few hours or as much as several days to identify the critical variables associated with the targeted issue. The technique can be used whenever a Red Team needs to track an event over time to monitor and evaluate changes. In those instances, a Red Team would be watching for mounting evidence to support a particular hypothesis, low probability event, or scenario.

When there are sharply divided views on an issue, an indicators or signposts list can also “depersonalize” the argument by shifting analytic attention to a more objective set of criteria. Using an indicators list can clarify substantive disagreements, once all sides agree on the set of objective criteria used to measure the topic under study.

Value Added

By providing an objective baseline for tracking events or targets, indicators instill rigor into the analytic process and enhance the credibility of analytic judgments. An indicators list included in a finished product also allows the policymaker to track developments and builds a more concrete case for the analytic judgments. By laying out a list of critical variables, analysts also will be generating hypotheses regarding why they expect to see the presence of such factors. In so doing, the Red Team can make the analytic line much more transparent and available for scrutiny by others.

The Method

Whether used alone, or in combination with other structured analysis, the process is the same:

- Identify a set of competing hypotheses or scenarios
- Create separate lists of potential activities, statements, or events expected for each hypothesis or scenario
- Regularly review and update the indicators lists to see which are changing
- Identify the most likely or most correct hypotheses or scenarios, based on the number of changed indicators that are observed

Developing two lists of indicators for each hypothesis or scenario may prove useful to distinguish between indicators that a development is or is not emerging. This is particularly useful in a “What If?” Analysis, when it is important to make a case that a certain event is unlikely to happen. Checklist of questions to detect possible deception can prevent the analyst from becoming paralyzed.

Key Assumption Check

List and review the key working assumptions on which fundamental judgments rest.

When to Use

Most useful at the beginning of an analytic project. An individual analyst or a team can spend an hour or two articulating and reviewing the key assumptions. Rechecking assumptions also can be valuable at any time prior to finalizing judgments, to ensure that the assessment does not rest on flawed premises. Identifying hidden assumptions can be one of the most difficult challenges an analyst faces, as they are ideas held—often unconsciously—to be true and, therefore, are seldom examined and almost never challenged.

Value Added

Explicitly identifying working assumptions during an analytic project helps:

- Explain the logic of the analytic argument and expose faulty logic.
- Understand the key factors that shape an issue.
- Stimulate thinking about an issue.
- Uncover hidden relationships and links between key factors.
- Identify developments that would cause you to abandon an assumption.
- Prepare analysts for changed circumstances that could surprise them.

The Method

Consider how their analysis depends on the validity of certain premises, which they do not routinely question or believe to be in doubt. A four step process will help analysts:

1. Review what the current analytic line on this issue appears to be; write it down for all to see.
2. Articulate all the premises, both stated and unstated in finished intelligence, which are accepted as true for this analytic line to be valid.
3. Challenge each assumption, asking why it “must” be true and whether it remains valid under all conditions.
4. Refine the list of key assumptions to contain only those that “must be true” to sustain your analytic line; consider under what conditions or in the face of what information these assumptions might not hold.

Questions to Ask During this Process Include:

- How much confidence exists that this assumption is correct?
- What explains the degree of confidence in the assumption?
- What circumstances or information might undermine this assumption?
- Is a key assumption more likely a key uncertainty or key factor?
- Could the assumption have been true in the past but less so now?
- If the assumption proves to be wrong, would it significantly alter the analytic line? How?
- Has this process identified new factors that need further analysis?

Liberating Structures

A liberating structure (LS) is any approach/technique/effort that liberates good ideas from group constraints. Liberating structures intercede factors [tangential to the process, i.e., group dynamics] that otherwise detour the group from their best productivity. Liberating structures release a group in deliberation [i.e. problem-solving or decision-making] from constraints unrelated to the problem itself.

Useful techniques are detailed throughout this chapter and at <http://www.liberatingstructures.com>.

Liberating structures can:

- Buy time.
- Suspend rank.
- Afford anonymous input.
- Vocalize opportunity costs.
- Enjoy life, suspend stressors.
- Lead a person out of logical habits.
- Take people out of their comfort-zone.
- Test prevalent wisdom as though it were wrong.
- Summons diversity; contributions with differing expertise, backgrounds, perspectives, etc.
- Invites dichotomy; from those closest to the problem to farthest from the bias or a view on the other side.

Mitigating Groupthink

- The leader should refrain from stating up front any preferences or expectations.
- Establish an *expectation of conflict* in deliberation—but focused on the issues, not between personalities. Conflict can foster creativity and learning.
- Prior to beginning, have all individual “pre-commit” by writing down their initial answers to the issue being discussed—this helps establish ideas prior to deliberation and mitigate a pull toward conformity. Demand several options from each member.
- Each member of a decision-making group should have the *responsibility* to air objections and doubts, and be reinforced by the leader’s acceptance of criticism from the group at large.
- *Leverage anonymity of ideas and responses* where possible.
- The group should consciously construct alternative perspectives of the situation. Alternative perspectives force the group to form options in the case they occur.
- The group should set up several independent sub-groups to work on the same issues. *Seek diversity in assembling these groups.*
- The group should assign individuals to act as a devil’s advocate vis-à-vis options, policies, etc., that the group is assembling.
- The group’s individuals should seek outside expertise and input on the question(s) at hand.
- The group should bring in expertise to challenge the views being developed by the group itself.
- Once the group has reached a conclusion on the best option, a “second chance” meeting should be held at which

every member restates any and all reservations he/she may have concerning the chosen option.

My 15%

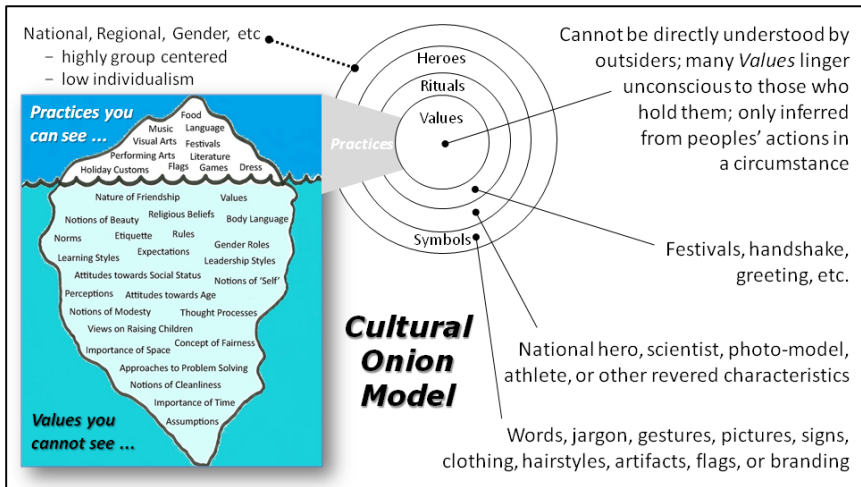
Most people have about 15 percent control over their work situations. The other 85 percent rests in the broader context, shaped by the general structures, systems, events and culture in which they operate. The challenge rests in finding ways of creating transformational change incrementally: By encouraging people to mobilize small but significant "15 percent initiatives" that can snowball in their effects. When guided by a sense of shared vision, the process can tap into the self-organizing capacities of everyone involved.

It doesn't matter if you're a General Officer or an enlisted soldier, a Senior Executive or a member of the team. You still have only your 15 percent.

Where do you have freedom to act? What's in your 15%?

Onion Model

Hofstede's "Onion" Model: Manifestations of Culture at Different Levels of Depth (p. 30). In Hofstede's model we find *Values* at the core, wrapped by *Rituals*, *Heroes*, and *Symbols*. Each layer is influenced by the core and subsumed under the term *Practices*. As with most red teaming tools, the "onion model" should be used to prompt better questions, create a more comprehensive perspective, and expose ignorance. Notionally, it is possible to learn about, train on, or emulate each layer through concentrated practice; but not the core. Core values are learned culture, and deeply contextual. This is what Connerley and Pederson meant when they said "Culture may be learned, but it cannot be taught."³²



When to Use

Like *4-Ways of Seeing*, use this tool early in any cultural review. Many people belong to several different groups at the same time, unavoidably carrying within them layers of mental programming that corresponds to different levels of culture. Refer to Chapter III for additional insight.

Value Added

This model helps to surface manifestations, similarities, and differences among or within the culture of a country, region, or group.

The Method

Interview and observe subjects. Postulate values and layers within the group(s). Populate the layers. Compare and contrast against the other selected groups, as needed.

For example:

- a *National* level according to one's country (or countries for those who migrated during their lifetime)
- a *Regional* and/or *Ethnic* and/or *Religious* and/or *Linguistic Affiliation* level; most nations are composed of culturally differing groups: regions, ethnicities, religions, and language
- a *Gender* level, according to whether a person was born as a girl or as a boy
- a *Generation* level, according to whether a person is a grandparent, parent, or child
- a *Social Class* level, according to opportunities linked with educational, occupational, or social standings
- an *Organizational* or *Corporate* level, according to how employees are/were socialized in their workplace

Outside-In Thinking

Used to identify the full range of basic forces, factors, and trends that would indirectly shape an issue.

When to Use

At the conceptualization of an analytic project, when the goal is to identify all the critical, external factors that could influence how a particular situation will develop. It would work well for a group of analysts responsible for a range of functional and/or regional issues. When assembling a large database that must identify a number of information categories or database fields, this technique can aid in visualizing the entire set of categories that might be needed in a research effort. Often analysts realize only too late that some additional information categories will be needed and then must go back and review all previous files and recode the data. With a modest amount of effort, “Outside-in Thinking” can reduce the risk of missing important variables early in the analytic process.

Value Added

Most analysts spend their time concentrating on familiar factors within their field or analytic issue. That is, they think from the “inside”—namely, what they control—out to the broader world. Conversely, “thinking from the outside-in” begins by considering the external changes that might, over time, profoundly affect the analysts’ own field or issue. This technique encourages analysts to get away from their immediate analytic tasks (the so-called “inbox”) and think about their issues in a wider conceptual and contextual framework. By recasting the problem in much broader and fundamental terms, analysts are more likely to uncover additional factors, an important dynamic, or a relevant alternative hypothesis.

The Method

Develop a generic description of the problem or the phenomenon under study. Then:

- List all the key forces (social, technological, economic, environmental, and political) that could have an impact on the topic, but over which one can exert little influence (e.g., globalization, social stress, the Internet, or the global economy).
- Focus next on key factors over which an actor or policymaker can exert some influence. In the business world this might be the market size, customers, the competition, suppliers or partners; in the government domain it might include the policy actions or the behavior of allies or adversaries.
- Assess how each of these forces could affect the analytic problem.
- Determine whether these forces actually do have an impact on the particular issue based on the available evidence.

Premortem Analysis

This is a method for helping decision makers anticipate problems. The purpose of a Premortem is to find key vulnerabilities in a plan. In contrast to risk analysis, the Premortem begins with the assumption that the plan *has failed*. The pull of groupthink, consensus, and a false sense of security is punctured, and is replaced by an active search aimed at preventing trouble later on. The premise for the Premortem exercise is that people may feel too confident once they have arrived at a plan. Premortem analysis empowers the participants to question the premise of a proposed course of action, its assumptions, and tasks. It breaks ownership of a course of action through a divergent process that encourages objectivity and skepticism.

Dr. Gary Klein developed the concept of the Premortem analysis.³³ This is a powerful red teaming tool as it is 1] simple to use, 2] simple to understand, 3] and when used during the decision-making process will empower the red team and members of the larger plans team to question the premise of a proposed course of action, assumptions, or specified tasks.

When to Use

The ideal time to use a Premortem analysis is just before the war gaming step in the decision making process, either the war game that analyzes proposed COAs or the war game that refines the selected COA into the concept of the operation.

Value Added

The use of a Premortem analysis will break the ownership of a particular course of action by a thorough, if rapid, session of answering the question, what would cause this course of action to fail if it is the basis for the operations plan?

The Method

Premortem analysis is an application of mental simulation. The premise for Premortem analysis is that people may feel too confident once they have arrived at a plan, especially if they are not highly experienced. The Premortem analysis requires one person to act as the scribe and must be limited in duration to no more than 30 minutes, ideally 20.

Step 1 Preparation. All members should be familiar with the base plan, at a minimum.

Step 2 Imagine a fiasco. Imagine that the plan failed. Ask, why did this happen? What could have caused this? Specifically, what are the *reasons*?

Step 3 Generate the reasons for failure. Participants individually spend several minutes writing down all the possible reasons for failure. It is important to do this individually first, so that the insights and experience of each participant are brought to bear.

Step 4 Consolidate the lists. Go around the room in round-robin fashion and solicit input from the participants, one at a time. Record the ideas on a whiteboard or poster paper. Continue until all ideas are exhausted. This is a divergent process in which four rules must be followed:

Rule 1: The more ideas, the better

Rule 2: Build one idea upon another. In other words, if someone else's idea prompts a new one from you, write it down.

Rule 3: Wacky ideas are okay. This rule bothers most people. Conventional wisdom dictates that "new" ideas must be sensible, reasonable, constructive, and practical. Wacky, silly, and foolish are subjective modifiers that people tend to apply to any idea that does not conform narrowly to a risk-free standard of sensible, reasonable,

constructive, or practical. Although wacky ideas may seem foolish, they can generate serious thought.

Rule 4: Don't evaluate ideas, neither yours nor someone else's. This includes body language, eye rolls, nods or groans. This rule liberates people from their self-imposed restraints in generating ideas, and eliminates fear of criticism and ridicule.

Step 5 Revisit the plan. Based on the list of concerns, revisit the plan and determine what to mitigate. Determine "ownership" and develop concepts for modifications to the plan.

Step 6 Keep and periodically review the list. This helps keep the possibility of different types of failure fresh in everyone's mind as the plan develops or is implemented.³⁴

Problem Restatement

When to use

Problem Restatement is a process ideally conducted during the early stages of the problem solving process (Defining the Problem). Too often, humans uncritically accept a problem statement as given, without critically reflecting on whether the problem has been adequately framed. This happens because we are usually too eager to jump in and solve the problem as stated—believing that “the authorities know what they want”—rather than first considering various ways the problem could be framed. Several examples of poorly framed problems include those that:

- Are too *vague or broad* in definition
- Are too *narrow* in definition
- Contain inherent assumptions
- Contain a presumed solution

Since the manner in which we frame a problem directly affects its solution, poor problem framing leads to solutions which don't solve the real problem at hand.

Value added

Problem Restatement tool allows red teamers a way to ensure that the commander and staff have adequately considered how to best frame their problems, before solving those problems.

The Method

Problem Restatement consists of conducting several tasks related to the “proposed problem statement” in a *divergent* thinking mode, before settling on the best frame of the problem. Do each of the following; any or all of these may lead to alternative perspective in improving the framing of the problem:

- Paraphrase the problem statement—restate it using different words without losing the original meaning.

“Trying to say the same thing with different words puts a slightly different spin on the meaning, which triggers new perspectives and informative insights.”

- Turn the problem on its head—by stating it in an opposite manner. (This is similar to Devil’s Advocacy: stating the given problem in the opposite manner. This provides a different perspective in which to consider the problem.)
- Broaden the focus—restate the problem in a larger context. This may reveal a narrowly-defined problem statement.
- Redirect the focus—boldly, consciously change the focus of the problem. If the original focus concerned boosting sales, consider framing the problem instead in terms of cutting costs. This task involves looking for unexamined variables affecting the problem frame.
- Ask “Why?” Formulate a “why” to the initial question, then answer it, then do it again, etc. Conducting this task may reveal insights obscured in the original framing of the problem statement, as well as murky, unclear thinking.

Quality of Information Check

Evaluate completeness and soundness of available information sources.

When to Use

Weighing the validity of sources is a key feature of any critical thinking. Moreover, establishing how much confidence one puts in analytic judgments should ultimately rest on how accurate and reliable the information base is. Hence, checking the quality of information used in intelligence analysis is an ongoing, continuous process. Having multiple sources on an issue is not a substitute for having good information that has been thoroughly examined. Analysts should perform periodic checks of the information base for their analytic judgments. Otherwise, important analytic judgments can become anchored to weak information, and any “caveats” attached to those judgments in the past can be forgotten or ignored over time.

Value Added

A thorough review of information sources provides analysts with an accurate assessment of “what we know” and “what we do not know.” It is also an opportunity to confirm that sources have been cited accurately. In the case of HUMINT, this will require extensive review of the sources’ background information and access as well as his or her motivation for providing the information. Similarly, reviewing technical sourcing can sometimes reveal inadvertent errors in processing, translation, or interpretation that otherwise might have gone unnoticed. In addition, a quality of information check can be valuable to both collectors and policymakers:

- It can help to detect possible deception and denial strategies by an adversary.
- It can identify key intelligence gaps and new requirements for collectors.
- It can assist policymakers in understanding how much confidence analysts are placing on analytic judgments.

The Method

An analyst or a team might begin a quality of information check by developing a database in which information is stored according to source type and date, with additional notations indicating strengths or weaknesses in those sources. Ideally, analysts would have retrieval and search capability on the database, so that periodic reviews are less labor intensive and result in a more complete review of all sources used in past analysis. For the information review to be fully effective, analysts will need as much background information on sources as is feasible. Knowing the circumstances in which reporting was obtained is often critical to understanding its validity. With the data in hand, analysts can then:

- Review systematically all sources for accuracy.
- Identify information sources that appear most critical or compelling.
- Check for sufficient and strong corroboration of critical reporting.
- Reexamine previously dismissed information in light of new facts or circumstances that cast it in a different light.
- Ensure that any recalled reporting is identified and properly flagged for other analysts; analysis based on recalled reporting should also be reviewed to determine if the reporting was essential to the judgments made.
- Consider whether ambiguous information has been interpreted and caveated properly.
- Indicate a level of confidence that analysts can place in sources, which are likely to figure in future analytic assessments.

Red Team Analysis

Models the behavior of an individual or group by trying to replicate how an adversary would think about an issue; UFMCS also refers to this method as the *Initiatives Group*.

When to Use

Frequently, analysts face the challenge of forecasting how a foreign leader or decision-making group may behave when it is clear that there is a risk of falling into a “mirror-image” problem. That is, analysts can sometimes impute to a foreign actor the same motives, values, or understanding of an issue that they hold. Traditional analysis sometimes assumes that foreign leaders or groups will behave “rationally” and act as the analysts would if faced with the same threats or opportunities. History has shown that foreign leaders often respond differently to events because of different cultural, organizational, or personal experiences. Red teaming analysis tries to consciously place analysts in the same cultural, organizational, and personal setting (“putting them in their shoes”) in which the target individual or group operates. Whereas analysts normally work from the position of the “blue” (friendly forces), a “red” team of analysts attempts to work in the environment of the hostile forces.

Value Added

Like Devil’s Advocacy and Team A/Team B techniques, red teaming analysis is aimed at freeing the analyst from the prison of a well-developed mind-set; in this case, the analyst’s own sense of rationality, cultural norms, and personal values. Whereas analysts usually operate as “observers” of a foreign adversary, the red teaming technique transforms the analyst into an “actor” operating within the adversary’s culture and political milieu. This form of “role playing” is useful when trying to replicate the mind-set of authoritarian leaders, terrorist cells, or other non-Western groups that operate under very different codes of behavior or motivations. Often this technique can introduce new or different stimuli that might not have been factored

into traditional analysis—such as the target’s familial ties or the international political, economic, and military pressures felt by the individual. For example, Red Team participants might ask themselves: “What would my peers, family, or tribe expect me to do? Alternatively, a Red Team analyst might pose the question to his colleagues: “How do we perceive the external threats and opportunities?” Finally, the red teaming technique can factor into its analysis the way in which personal power and status might influence a target’s behavior.

The Method

Build a team of experts with in-depth knowledge of the operating environment, the target’s personality, and the style of thinking used. The team should be populated not just with those who understand the language, but also with people, who might have experienced the culture, share the ethnic background, or have worked in a similar operational environment. Once established and separated from traditional analysis, the team members should:

- Put themselves in the adversary’s circumstances and react to foreign stimuli as the target would.
- Develop a set of “first-person” questions that the adversary would ask, such as: “How would I perceive incoming information; what would be my personal concerns; or to whom would I look for an opinion?”
- Draft a set of policy papers in which the leader or group makes specific decisions, proposes recommendations, or lays out courses of actions. The more these papers reflect the cultural and personal norms of the target, the more they can offer a different perspective on the analytic problem.

Red teaming analysis is not easy to conduct. It requires significant time to develop a team of qualified experts who can think like the adversary. The team has to distance itself from the normal analysis and work as though living in the

target's world. Without a sophisticated understanding of the culture, operational environment, and personal histories of the foreign group, analysts will not be able to behave or think like the enemy. Analysts can never truly escape their own experiences and mindsets, but this technique can at least prevent them from falling into "mirror-imaging" unconsciously.

The most novel feature of red teaming analysis is its presentation.

- The analysis is often in a "first person" format—that is, drafted as memos to or from a leader or group.
- Red teaming analysis avoids the use of caveats or qualifications and assumes that the recipient understands that the paper is aimed more at provoking thought or challenging the conventional understanding of how an adversary thinks.
- Such papers are rarely coordinated among other experts and do not purport to represent the consensus view on an issue.

Red teaming papers do not plot out all possible courses of action but seek to give a prediction based on the target's special personal, organizational, or cultural experiences.

Red Teaming – Assessment Questions

- Are the proposed measurements of effectiveness clearly linked to the strategy, mission, or end state?
- Does the measurement have a clear start point (baseline) in which to measure progress?
- Does the measurement system incorporate higher headquarters metrics? Are the unit's tasks developed to local conditions?
- What is the level of coalition or interagency agreement to the assessment measures? If no agreement, what are the implications?
- Who has primary responsibility for assessment? Has the task (who, what, when, where) been established?
- Has key assessment measures been included in the unit's CCIR?
- Do the metrics reflect a cultural sensitivity, whereby important things are measured? From the civilian population perspective, does the U.S. MOE matter (e.g., Maslow Theory - electricity vice elections)? What are the expectations of the people in terms of patience for process?
- From the enemy's perspective, what are their measures of effectiveness? Does our MOE's measure what is important to him?

Red Teaming – Assumption Questions

When to Use

An individual analyst or a team can spend an hour or two articulating and reviewing the key assumptions. Rechecking assumptions also can be valuable at any time prior to finalizing judgments, to ensure that the assessment does not rest on flawed premises. Identifying hidden assumptions can be one of the most difficult challenges an analyst faces, as they are ideas held—often unconsciously—to be true and, therefore, are seldom examined and almost never challenged.

Value Added

Explicitly identifying working assumptions during an analytic project helps:

- Explain the logic of the analytic argument and expose faulty logic
- Understand the key factors that shape an issue.
- Stimulate thinking about an issue
- Uncover hidden relationships and links between key factors
- Identify developments that would cause you to abandon an assumption
- Prepare analysts for changed circumstances that could surprise them

The Method

Consider how their analysis depends on the validity of certain premises, which they do not routinely question or believe to be in doubt. A four step process will help analysts:

- Review what the current analytic line on this issue appears to be; write it down for all to see.

- Articulate all the premises, both stated and unstated in finished intelligence, which are accepted as true for this analytic line to be valid.
- Challenge each assumption, asking why it “must” be true and whether it remains valid under all conditions.
- Refine the list of key assumptions to contain only those that “must be true” to sustain your analytic line; consider under what conditions or in the face of what information these assumptions might not hold.

The List

- Does the assumption meet the standards for an assumption; fact or opinion?
- Is the assumption based on preconception, bias, or historical analogy; are they relevant and/or accurate?
- Is the assumption logical, given what is known about the enemy (equipment, doctrine, and TTP), weather, and terrain; does the assumption reflect reality found in the OE?
- Does the staff use a defined procedure throughout the planning and preparation (and potentially portions of the execution phase) that continually examines whether assumptions are valid?
- Is the assumption appropriate to the level of planning?
- Are there assumptions made implicitly during planning but not stated or assumptions made by the staff but not included in the plan?
- How is the staff addressing assumptions included in higher headquarters plans?
- How many assumptions are acceptable?

Red Teaming – Key Questions

Red Teams continually and constructively challenge the staff's thinking processes during planning and operations:

Question

- What if....?
- What are the objectives of....?
- What about....?
- What are we missing?
- What happens next?
- What should we assess?
- How can we assess...?
- How do we know success?
- What worked and why?
- What didn't work and why?

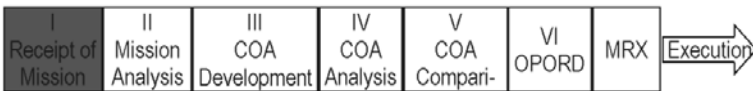
Result in

- Alternative analysis
- Consideration of enemy, partner, and others on the battlefield
- Identification of gaps, seams, vulnerabilities
- Identification of gaps, seams, vulnerabilities
- Identification of branches and sequels
- Identification of measures of effectiveness
- Description of the assessment
- Description of a desired end-state
- Enables a learning organization
- Avoid patterns of operation

Red Teaming – MDMP Actions

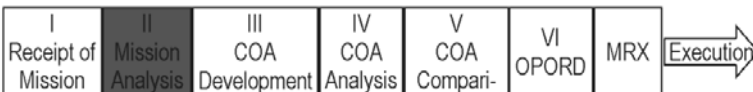
The military decision making process (MDMP) combines the conceptual and detailed aspects of planning and integrates the activities of the players throughout the planning process. The MDMP begins with *Receipt of the Mission* and ends with *Execution*. Staff actions are outlined in doctrine and the following are recommendations for the Red Team.

Receipt of the Mission



1. Based on the mission brief, construct a simple matrix using the *S-W-O-T* (p. 204) formula identified in the briefing which are found in the operational environment from the US, adversary, and other perspectives. From this matrix, what are glaring omissions/gaps in the briefings/products provided?
2. What are the timelines associated with the plan?
3. Did the mission brief provide sufficient details to support the planning for all phases of the operation?
4. Were higher headquarters assumptions identified?

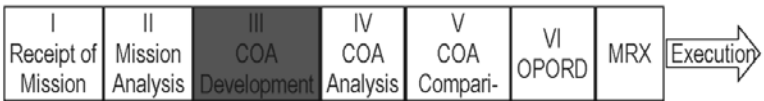
Mission Analysis



5. Assist the staff in the identification of specified, implied, and essential tasks.
6. Identify higher headquarters assumptions and challenge assumptions used by the staff.
7. Attend mission analysis brief.
8. Identify the enemy and US/coalition centers of gravity from their perspectives.

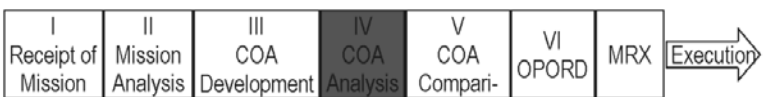
9. Identify potential end state definitions for adversaries, coalition, and other major stakeholders.
10. Continue OE/cultural analysis for use in COA Development.
11. Red Teaming Tools/Questions include:
 - Was the U.S./coalition end states clearly stated? Are there differences between the partners? Did we identify the enemy end state?
 - Does the information about the OE provide sufficient detail and linkages among the variables?
 - Has the higher headquarters provided any “assessment” measures that would affect formulation of the unit’s assessment system

COA Development



- Is there sufficient focus and identification of requirement for all phases of the operations (e.g., stability and support)
- Does the COA account for all variables found in the OE (e.g., PMESII-PT)?
- Are the assessment tasks sufficiently identified?
- Continually examine assumptions for validity. Is there a plan to confirm/deny them? What consequences or branches are required? Did we consider key assumptions as potential CCIR? ISR Implications?
- Conduct a *Premortem Analysis* (p. 165) of the COAs.

COA Analysis



- Assist staff by serving as the unbiased “umpire” for the war game to arbitrate disputes.
- Help staff determine if adequate measures are in place to measure success and how/who will provide input to the measurement.
- Monitor the war game to help insure accuracy, for:
 - Realistic friendly and enemy capabilities.
 - Appropriate actions and results.
- Review the war game procedures and questions.
- Does the war game account for the involvement, reaction, or counteraction by significant stakeholders? (4 *Ways of Seeing* p. 76, *Stakeholder Mapping* p. 186)

(DOD) Wargaming is a conscious attempt to visualize the flow of an operation, given own strengths and weaknesses and dispositions, enemy assets and possible COAs. It attempts to foresee the action, reaction, and counteraction dynamics of an operation. 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. **(JP 5-00.2)**

War games succeed or fail due for a variety of reasons. Red Teams can help the staff review the following with them:

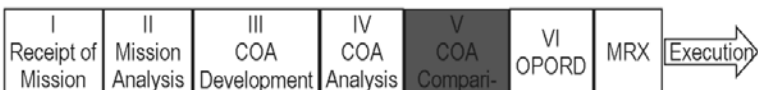
12. What are the standing operating procedures for the war game?
13. Who’s in charge? XO or Chief of Staff according to doctrine – Is this reality?
14. What is the role of the G5/G3 Planner – who has ownership of the plan?
15. Who’s the umpire? Who decides and arbitrates disputes?
16. Is there sufficient time available for war gaming?

Does the war game account for the most difficult phase or aspect of the planned operation? (e.g., for a conventional fight – river crossing/passage of lines are considered among the most difficult).

Who fights the enemy? G2? Is there significant seniority/expertise of the enemy team?

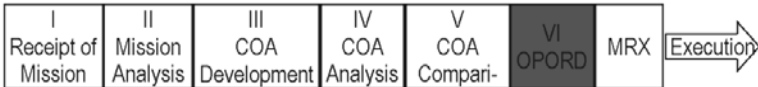
- Is the enemy’s “aim and concept” placed within a larger context to see the “big picture”?
- Is the range of alternatives available broad enough for consideration (e.g., prevent deployment of US forces)?
- Are enemy capabilities wished away through the application of joint capabilities (e.g., airpower)?
- Does the enemy fight realistically? What doctrine/TTP?
- What is the cultural mindset and how does it influence the ECOA?
- Based on lessons from the war games, which intelligence estimates require changes?
- What assumptions are used? What unstated assumptions are used?
- What procedures or “plays” are used based on SOP? TTP from experience? How is the OE for the current operation different from previous experience?
- Who role plays the others on the battlefield? Civilian factions, militias, NGOs, corporations?
- Who role plays the coalition or interagency partners?

COA Comparison



- Monitor development of COA comparison and subsequent briefings to ensure the COA accounts for critical items to include:
 - the OE variables
 - assumptions
 - perspectives of coalition partners and others

OPLAN/OPORD Production & Briefing



17. If directed, conduct order's crosswalk to identify gaps, disconnects, or vulnerabilities to the plan based on critical review of the prepared order and staff annexes and appendices.
18. Review the assessment plan to insure adequacy and it reflects the cultural implications associated with assessing progress.
19. Review timelines for release of the order/plan for a review whether sufficient planning time is available for subordinate units.

Key Points

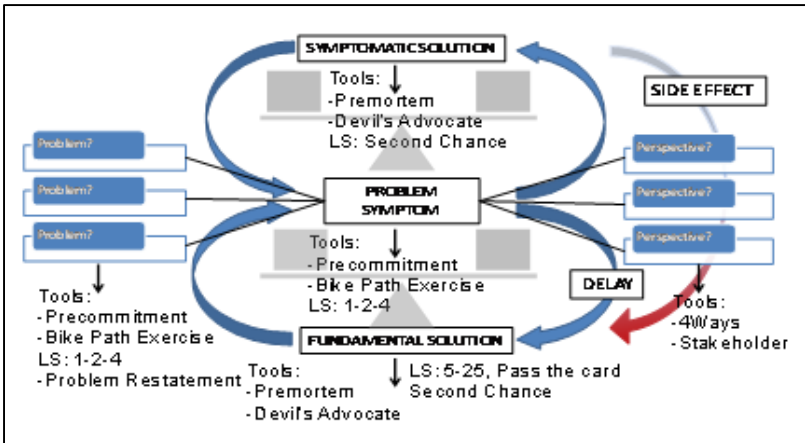
- Red Teams do not normally produce a separate staff product for inclusion in the order or plan.
- The best measure of Red Teams value is the staff producing a better staff product and identification of alternatives to the Commander.
- Red Teams depend on the Commander's or Chief of Staff's guidance, the negotiations/communication skills of the Red Team, and the culture of the unit.

Shifting the Burden

The “Shifting the Burden” model structure as Peter Senge calls it is composed of two balancing (stabilizing) processes. Both balancing loops try to correct the same problem symptom, but one addresses symptoms while the other addresses the underlying problem(s). Efforts directed only at symptomatic solutions which appear beneficial at first only serve to exacerbate the problem over time, often with debilitating side effects.

While Senge addresses the underlying problem indirectly in “Understanding and Using the Model” on page 105 of *The Fifth Discipline*, (revised 2006 edition), the problem is not part of the model, only the problem symptom. He talks about a problem again in “How to Create Your Own Shifting the Burden Model” on page 111, but does not address how to determine what the problem is or how it is perceived.

Senge’s approach is symptom/solution centric. The addition of problem and perspective elements to the structure along with Red Team tools and Liberating Structures to diagnose them, make Senge’s structure a richer framework for Red Teamers to develop alternative perspectives and options. To start with identifying the problem symptom as Senge suggests is a good place to begin, but rather than proceeding from there to identifying the fundamental solution (convergent thought process), this model recommends a close examination of the underlying problem(s) and perspective(s) before moving on to the solution(s). Sometimes restating a problem shows there is more than one problem. Several tool recommendations are included in the illustration on the next page.



Operating Assumption is an alternate term for Perspective. JJ O'Boyle explains operating assumptions and cultural logic in *The Culture of Decision Making*; http://www.winstonbrill.com/bril001/html/article_index/articles/251-300/article251_body.html.

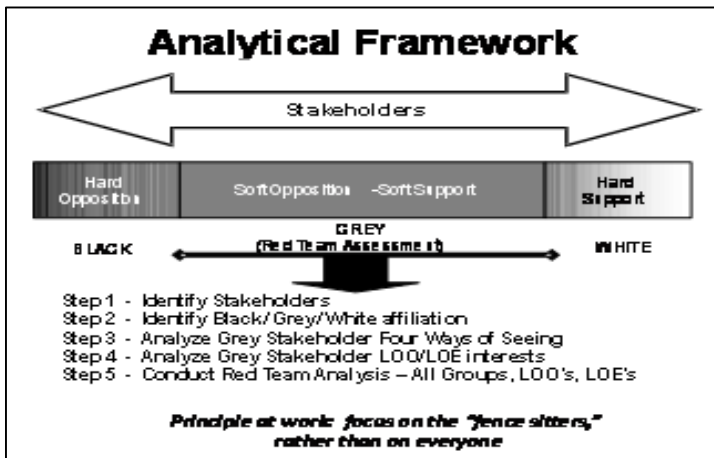
Stakeholder Mapping

When to Use

Stakeholder Mapping is a diagnostic tool for use in analysis, influence, negotiation, and decision support. It should be used when the Red Team needs to demonstrate the breadth of effects a planned operation can have within an operating area. Using intelligence and information available, the Red Team can develop a perspective on operations that will enhance the appreciation of the staff on potential unintended consequences of operations. The Red Team can also suggest methods of improving the impact of an operation on groups that are “on the fence” regarding their support for US/coalition/host nation operations.

Value Added

Stakeholder Mapping's greatest value is in the campaign design phase of decision making, specifically in framing the problem. In developing the commander's appreciation for the mission and operating area that precedes mission analysis Stakeholder Mapping provides understanding and viewing the operational environment from a systemic perspective. The analysis that occurs in the Stakeholder Mapping provides commander and planners insights into how the stakeholders view operations in the battle space.

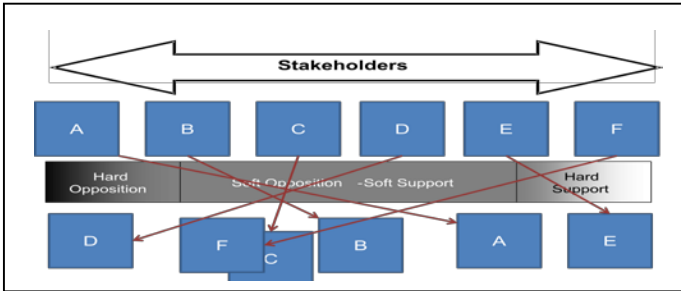


The Method

Step 1: Identify Stakeholders. They can be:

- Internal or external
- Individual, organization, or entity
- Strategic, Operational, or Tactical
- Senior or subordinate, or horizontal levels

Step 2: Identify Stakeholder Black/White/Grey Affiliation



Step 3: Analyze Grey Stakeholder *4-Ways of Seeing*

Conduct thorough research to complete the analysis of these perceptions as it is more complex than the simple model implies, for several reasons:

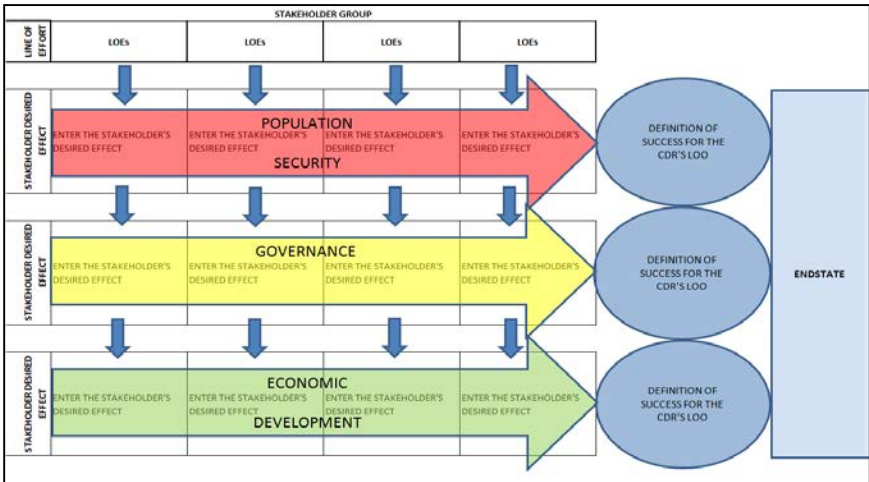
- Seldom, if ever, will there be only two actors in the system under study.
- All the actors' perceptions and inter-relationships within the system must be considered in order to provide context for the analysis.
- How each actor perceives and defines the organizational or Operational Environment, strategic goals, and plans must be considered.
- It must be realized that actors and organizations may hold perceptions, both accurate and inaccurate.

- Perceptions of the external audience(s) to whom we and our allies are playing cannot be discounted.

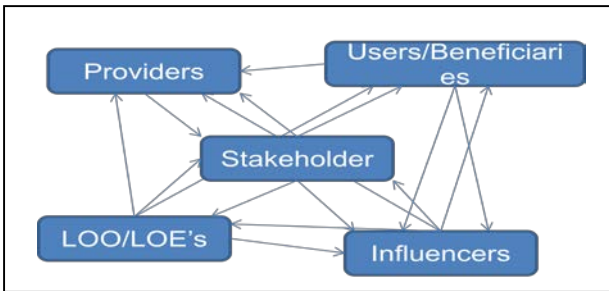
	A	B	C	D	E	F
A	A-A	B-A	C-A	D-A	E-A	F-A
B	A-B	B-B	C-B	D-B	E-B	F-B
C	A-C	B-C	C-C	D-C	E-C	F-C
D	A-D	B-D	C-D	D-D	E-D	F-D
E	A-E	B-E	C-E	D-E	E-E	F-E
F	A-F	B-F	C-F	D-F	E-F	F-F

Step 4: Analyze Stakeholders Lines of Effort (LOE) Interests.

- After a thorough assessment of the Stakeholder, the Red Team defines the Stakeholder’s LOEs. Begin with the “fence sitters.”
- Determine what the Stakeholder’s Desired effect is within each LOE.
- Next, the Stakeholder’s desired effect in the Lines of Effort (LOE) is assessed within the Commander’s LOOs.



Step 5: Red Team Analysis: Organizational Mind Mapping.
 There is no one way to conduct Red Team analysis. Mind Mapping may be useful in organizational analysis: after identification of stakeholders, categorization is required. This is done by using a whiteboard or flip chart.

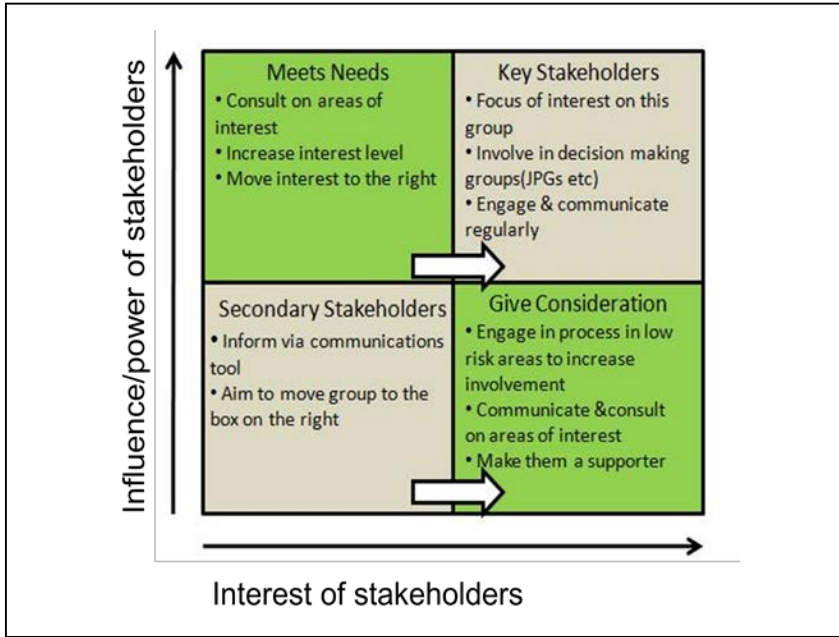


The arrows are representative of potential links between stakeholders, e.g., command relationships, habitual collaboration, common interests, etc.

Step 6: Another method for Analysis

- Once stakeholder interests have been mapped, they must be prioritized. A common approach is to map the interest and influence of each stakeholder group based on a chart like this one:

- Once the stakeholders have been mapped, focus of effort can be placed on the highest priority groups while providing sufficient information to keep the less influential groups happy.



Strategies for Structured Analysis

These structured analytic techniques can be used in a variety of ways when analysts begin a new assessment. Some can be used equally effectively at multiple points in the process and can promote an analyst's ability to keep an open mind, to consider multiple—including highly unlikely—hypotheses, to challenge conventional wisdom, and to assess the impact of important information gaps or deception on analytic judgments and confidence levels. The Timeline for Using Analytic Techniques provides some thoughts on when to use one or more of them during the course of an analyst's research and writing.

Starting Out

At the beginning of an analytic project, analysts are always wise to consider brainstorming and assumptions checks to ensure that important factors are not being missed or taken for granted. Similarly, outside-in-thinking can sometimes put an analytic project into a broader international context, in which factors outside the lead analyst's area of responsibility might impact on his or her analytic judgments. For instance, economic assumptions about the price of oil might be key to a regional political analyst's understanding the prospects for political stability in an oil-exporting country or an underdeveloped country entirely dependent on expensive energy imports. A High Impact/Low Probability assessment can also sensitize analysts early on to the significance of dramatic events that might affect their analytic lines.

Some techniques like Indicators and Signposts or Analysis of Competing Hypotheses (ACH) can be useful throughout a project and revisited periodically as new information is absorbed and analyzed. ACH, in particular, is a good tool to use throughout a project to prevent premature closure and to highlight evidence that is most "discriminating" in making an analytic argument. Alternative Futures analysis is similarly useful at the beginning of a project, but can amount to the structure for the entire project.

Hypothesis Testing

As an analytic project takes shape, and hypotheses are being formed about the key intelligence question, it can be appropriate to use one or another contrarian technique to challenge the conventional analytic line that is being developed. If the assessment contains strong judgments about an adversary's behavior, then challenging this view with a "Red Team" effort might be a good corrective to too much of a rational actor approach. In addition, a review of intelligence gaps at this juncture can also help give the analysts a better degree of confidence in the information base and judgments reached in the assessment.

A Final Check

As the assessment is being finalized, it can still be useful to review key assumptions as a sanity check on the underlying logic of the analysis. A brainstorming session also may be helpful to ensure that no plausible hypothesis has been dismissed or left unaddressed. If a firm consensus has formed around an analytic line and has not been seriously questioned in some time, then a Devil's Advocacy exercise could be useful. Analysts might also use a final review to decide if they have identified a list of key indicators for future developments. This can be an important guide to include in the assessment as a way to track future developments and monitor whether the analytic judgments reached are being realized or in need of revision.

String of Pearls

The Army Directed Studies Office developed the Task Concept Analysis technique, often called the “string of pearls” as a technique to link a rigorous analysis of assumptions with consideration of unintended consequences. This is a time consuming analysis best suited to a structured planning process. Use of the tool provides a way to visualize the cumulative effects that result from “wishful thinking” and failure to consider the many possible outcomes in a friendly plan or order. This analysis will show if the plan is vulnerable to faulty assumptions; dependencies that may not remain in place when the plan is executed; or the effects of unmitigated, unintended consequences (cascade or 2nd & 3rd order effects).

Identifying critical vulnerabilities in the plan allows planners to reinforce or mitigate these critical vulnerabilities. At a minimum, it informs the commander that there is a risk associated with a particular area in the plan. There are an infinite number of unintended consequences for any action. This technique will help identify those that are most likely to occur and most likely to generate results which may need to be mitigated by branch and sequel planning.

This analysis of the plan can stand alone or be used in a comparison with an emulative analysis of an enemy plan in order to see where differing strategies match up. The staff may identify an enemy strategy that is “unanswered” by a friendly course of action.

When to Use

String of Pearls is a time consuming process. It is best used when the Red team is asked to do an independent assessment of an existing plan. Red Teams can also use the method in a focused manner for analyzing and challenging assumptions associated with a plan, as well as showing the cumulative effect of failed assumptions on the entire plan.

Value Added

The methodology is a rigorous process of analyzing the plan:

- help prevent “assuming away the problem”
- identify weaknesses in a plan
- force consideration of unintended consequences
- highlight the need for focused branch &/or sequel plans

The Method

There are four basic steps to conducting a concept analysis.

Step one is to identify all the major tasks.

Step two is to identify three elements of each major task:

- Identify challengeable stated and implied assumptions
- Identify key dependencies in each task
- Identify the potential unintended consequences (cascade and 2nd & 3rd order effects) for each task

Step three is to depict how the combined assumptions, key dependencies, and possible unintended consequences for each task accumulate across the entire plan.

Step four is to analyze how the cumulative effect [depicted above] might indicate any gaps or weaknesses in the plan.

Steps to Concept Analysis

1. Identify major tasks (specified and implied)
2. Identify challengeable stated and implied assumptions
3. Identify key dependencies
4. Identify possible consequences (cascade/2nd and 3rd order effects)
5. For each task, build a “spider-web” chart
6. build a “string of pearls”
7. Analyze cumulative effect of the above
8. Identify possible gaps or weaknesses



The key to this *concept analysis* is the graphics rendered in *PowerPoint*, e.g., the source of the phrase *String of Pearls*. It is this representation which allows the decision maker to

“see” and understand the cumulative effects which are often hidden when considered separately.

Assumptions & Dependencies

Appropriate assumptions have two characteristics:

- They are valid, that is, they are likely to be true, and
- They are necessary, that is, they are essential to continuing the problem solving process.

The staff is most concerned about the validity of each assumption. If planners are considering assumptions that are valid but not necessary, they are creating extra work for themselves. If they are creating a roadblock in the planning process for themselves by identifying an assumption that is not necessary but can't be shown to be valid, that is a concern and should be pointed out. It is important to distinguish between assumptions and dependencies.

- Assumptions replace unknown facts in order to enable continued planning.
- If an assumption is invalid, the task associated with it may fail or may be at risk of failure.
- A dependency is a critical condition or precursor action necessary for successful execution of the task.
- Another task can be a dependency.

Let's talk about the difference between an assumption and a dependency. By re-wording a dependency, you can turn it into an assumption but that defeats the purpose of this analysis. For example, you could say either that execution of a task is dependent on fuel being available or that a planning assumption is that fuel will be available.

The difference is temporal, (i.e. whether or not you actually know the answer “at the time” of the analysis). An assumption is a fact that you don't know, but must “assume” in order to continue planning a specific course of action. If the staff assumes fuel will be available, then the staff can plan a road movement or helicopter assault.

A dependency is necessary to execute the task successfully and is a fact at the time of planning. For example the staff may know that fuel is available for a planned helicopter assault and plans accordingly, but if the fuel is destroyed or diverted to other uses, then the task cannot be executed.

Remember, a task can also be a dependency. Relationships between tasks can create dependency; the start or end date of the 2nd task (successor) is constrained by the start or end date of the 1st (predecessor). Differentiate the assumption from the dependency by asking, "Where is it listed during mission analysis, under 'facts' or 'assumptions'?"

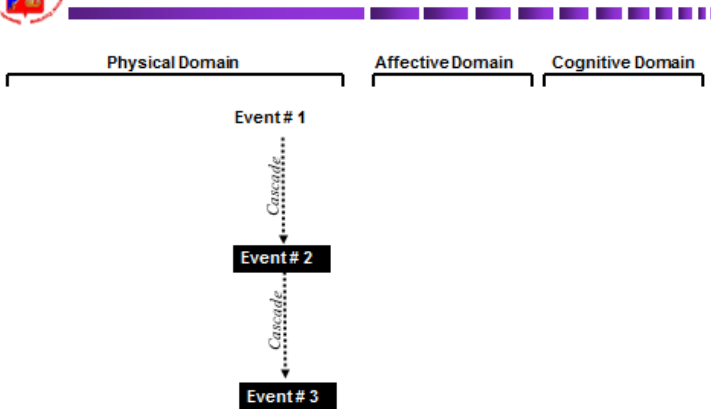
Unintended Consequences

An understanding of unintended consequences must begin with a discussion of an adaptation of Bloom's Taxonomy.³⁵ Bloom postulated that learning occurs in three Domains and for our purposes, so do effects. So, what are domains?

Domains are a particular sphere of influence, concern, or activity.³⁶ Bloom offers three domains. The cognitive domain reflects *knowledge*. In this domain, the mind completes levels of understanding a concept; building to next higher *level of understanding*. The affective domain reflects *emotion*: attitude, awareness, and integration; one feels *levels of feeling* about recognizing and synthesizing the information. The psychomotor [physical] domain reflects the *body*; one connects mind to body events in a way that generates particular *muscle memory for an action*.

Events or actions are sometimes called 1st order effects as they actually *occur* in the physical domain. 2nd order effects represent how individuals *feel* about the event; emotions in the affective domain. 3rd order effects represent *thoughts* about the event; thinking in the cognitive domain.

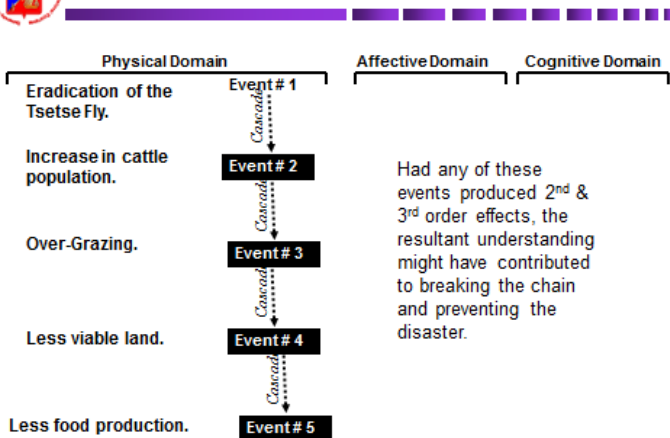
On the other hand, cascading effects follow a chain of actual causality (*If-then* or *Cause-in-fact*) as they occur exclusively in the physical domain. Cascade effects are mechanical, as one event *precipitates* the next.



Consider the unintended disaster in southern Africa which resulted from a project to combat hunger in the Okavango delta.³⁷ A simple plan to repress the Tsetse Fly and increase cattle production resulted in over-grazing which after several years turned originally habitable land into barren desert, ultimately resulting in more starvation than in the beginning.



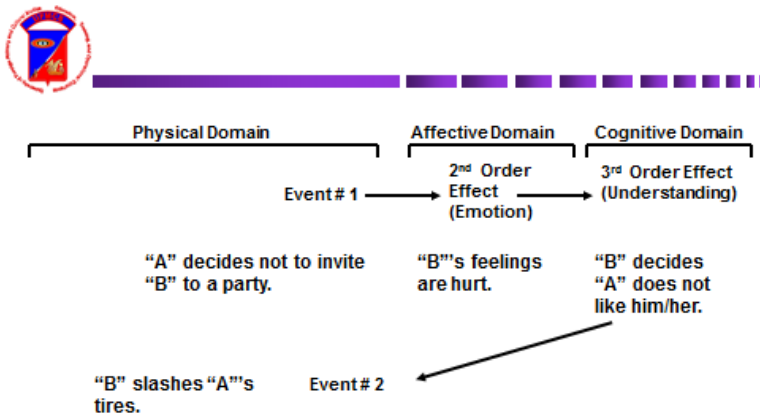
For Example



Theoretically, in this scenario, one could call *starvation* a “6th Order Effect”, however such an analysis renders the terms meaningless since an infinite number of events could result.

Contrast this against the causality associated with 2nd & 3rd order effects and its concept of “free will” (remember the distinction between *complicated* and *complex*). 2nd & 3rd order effects result in what is commonly called *but for* causation. For example, in the scenario, individual “A” decides not to invite individual “B” to a party. B decides A dislike him and gets angry, slashing the tires on A’s car.

We could say that *but for* A’s decision, his tires would not have been damaged, but one should not accuse A of *causing* the damage to his own tires.

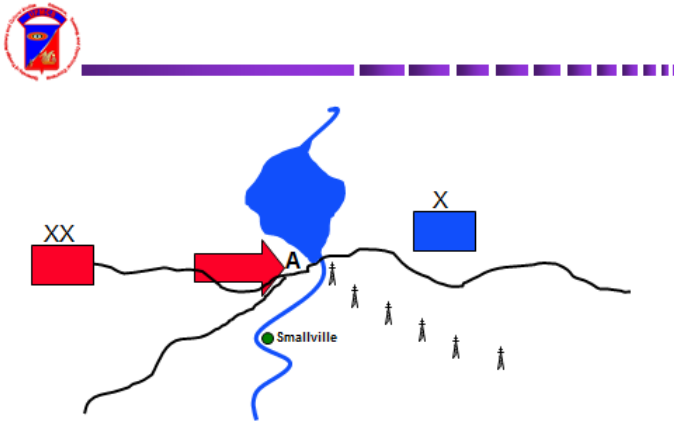


Event # 2 was not “caused” by event # 1, i.e. A did not cause his own tires to be slashed, but it was an unintended consequence of A’s decision not to invite B. Whether or not A could have anticipated it would depend upon A’s knowledge of B.

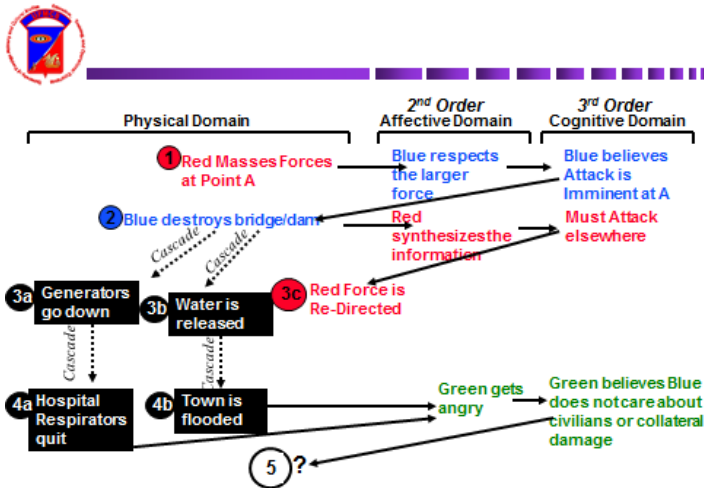
Events subsequent to 2nd & 3rd order effects which precede them are often “*unintended*” consequences of the first event or decision, but they are not caused by the original event. 3rd order effects do NOT produce 4th order effects, they merely introduce the element of choice into the equation. They become the catalyst for the new event.

2nd & 3rd Order Effects are a “term of art”, used to focus the planner’s attention on the OE (especially Culture) and the way in which it affects how people (friendly, enemy, or others) may “feel” and “think” about the results of the plan.

Considering unintended consequences, both cascade and 2nd & 3rd order effects, will minimize the likelihood that one or the other will be overlooked in the analysis. For example:



In image, a smaller Blue Force, observes a larger Red Force massing at Point “A”. The movement occurs in the physical domain, but Blue’s thoughts (i.e. is attack imminent, is this a feint or ruse?) influence Blue’s action. For example, if Blue decides an attack is imminent and decides to destroy the Bridge/Dam in order to prevent Red from crossing, the unintended consequences might be illustrated like this:



To identify *cascade effects* requires a knowledge of physics, a *hard science* question. To identify 2nd & 3rd order effects and predict their consequences requires an understanding of culture, history, and sociology among other social, or “soft” sciences. The Red Teamer must be adept at both of these skills or enlist the aid of “ad hoc” members to do so. Ask:

- Will the plan you are contemplating produce a cascade of other events and if so, what could they be?
- What message or “information” is being conveyed by the plan and to whom is it being conveyed? (See also Stakeholder Analysis).
- How will it be “interpreted” by your adversary, friends, partners or others?

Build the “String of Pearls”

This image is key to understanding (or demonstrating) the final analysis. Group the tasks by objective, phases, layers, or any other way the planners related them. At the end, the grouping will surface tasks that need a closer look and show the cumulative effect on each objective, phase, or layer. To build the graphic, take the following steps:

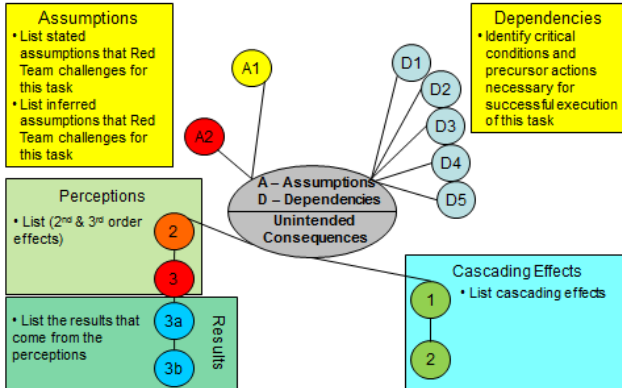
Examine the assumptions (specified & implied) in the plan.

- Determine whether they are valid.
- Associate each assumption that you do not consider valid with a specific task or tasks that you have previously identified.
- For each task, determine whether a dependency should be implied as necessary in order for that task to be executed.
- Decide whether these are “risky” dependencies.
- List these assumptions & dependencies for inclusion in the spider chart you will build for each task.
- Characterize each based upon whether it places the plan at “risk” or if invalid will cause the plan to “fail”.

Consider the potential for unintended consequences associated with each task.

- Determine if there are likely to be cascading effects.
- Consider what message is being sent to each of the major stakeholders and how they may feel about it.
- Determine the spectrum of beliefs that may be engendered by the message (i.e. their perceptions).
- Consider what actions they may take as a result.

Build a “Spider-Chart” For Each Task



Next, build a spreadsheet to help determine how frequently each assumption, dependency, or unintended consequence appears, i.e. how many other tasks may not be completed as a result of a particular assumption or action. The more tasks that may not get completed, the greater risk of failure.

Build a Spreadsheet

- Spreadsheet lists assumptions, dependencies, and consequences (effects) for each task.
- Fill in the spreadsheet with the same information which you compile for the spider charts as you complete them. This will help you identify the frequency with which they occur throughout the plan or order.
- Use exactly the same language for similar ideas
 - Example: “The enemy changes tactics” is similar to “The enemy adjusts his tactics” but will be counted as two separate ideas by excel
- This spreadsheet will help count the frequency of events

	A	B	C	D	E
	Task	Assumption	Dependencies	CONSEQUENCE	CONSEQUENCE
1	Displace Command Post	Trucks available (ground movement)	Jump CP is operational	Fuel will be consumed	Fuel depot will need to be replenished
2		Helicopters available (air movement)			
3					

From the spreadsheet or a manual count:

- Count how many times each assumption occurs throughout the entire plan or order.
- Count how many times each dependency occurs throughout the entire plan or order.
- Count how many times each unintended consequence occurs throughout the entire plan or order.

A thorough analysis of the data will reveal that some events occur repeatedly across multiple tasks—this should be of concern to the commander.

For Example:

If the same dependency is necessary for 15 of 20 tasks, it is significant for this analysis. If the same unintended consequence might occur as a result of only 7 of 20 tasks, it may not be significant for this analysis.

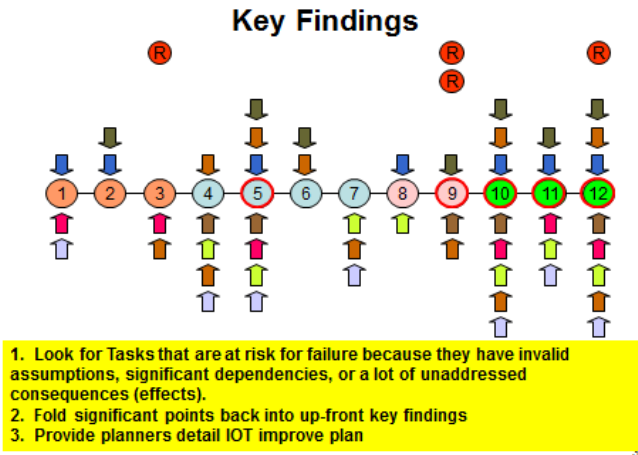
Now Build The PowerPoint Images.

The aggregate effect of the identification of possibly invalid assumptions, dependencies, and unintended consequences for each task can be viewed in a graphic representation. This representation indicates which tasks are most sensitive to other events and helps planners determine and prioritize which tasks should be revisited or what branch plans should be written to mitigate unintended consequences.

- Step 1: Draw “failure” and “risk” assumptions over the tasks on the “string of pearls”
- Step 2: Draw dependencies over the tasks on the “string of pearls”
- Step 3: Draw 2nd & 3rd order effects under the tasks on the “string of pearls”
- Step 4: Draw cascade effects under the tasks on the “string of pearls”.
- Step 5: Combine all elements in one slide, except for “at risk” assumptions

Analysis/Key Findings

- Note which tasks are most sensitive to the aggregate effect of the different elements you have identified
- Recommend that planners revisit these tasks or write branch plans to mitigate the consequences of the attempted or successful execution of the tasks
- In the chart below tasks 5 and 9-12 were identified as especially sensitive tasks given the number of dependencies and unintended consequences. Each staff group should then provide its analysis and guidance back to the plans staff section (G5/S5) for its final efforts in writing the operations plan. The steps of this process, much like the steps of the decision making process, can be adapted to the time available.



LIMITATIONS

Remember, the different elements that are identified are not weighted. For example:

- An unintended consequence might be *igniting a civil war*. This is more important than another identified unintended consequence like *running out of fuel*.
- However, both effects would get one arrow in this analysis; identify in both the analysis and the brief.

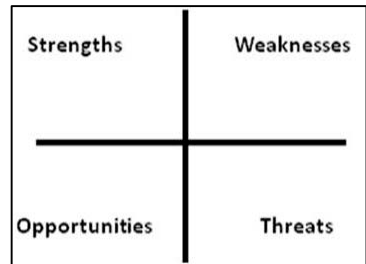
S-W-O-T Analysis

When to use

SWOT (Strengths, Weaknesses, Opportunities and Threats) is a red teaming framework designed to view a situation from four different perspectives. While SWOT can be used at any time, it is especially beneficial when used early in the red team's analysis of a problem, in conjunction with the 4 Ways of Seeing. Doing so helps the red team step away from its personal and cultural biases early-on, in order to attain alternative perspective. Combining S-W-O-T Analysis with 4-Ways of Seeing can become a powerful process to help stimulate the red team's effort.

Value added

SWOT is a framework that adds value by essentially forcing the red team to think through the various perspectives of a given situation.



The Method

Red teams using SWOT should establish a four-quadrant diagram, and label each quadrant as “Strengths,” “Weaknesses,” “Opportunities,” and “Threats.”

Thereafter, the team brainstorms to identify entries for each of the four quadrants, based upon the situation being red teamed. For example a red team could conduct a SWOT analysis on the potential implications of actively affecting the economic situation in a given region. When using SWOT in a situation of various actors (e.g., Division red team recognizing and dealing with various political leaders within its area, or a theater-strategic red team considering the interaction between the various entities within the theater), conducting multiple SWOT analyses (one for each actor that views the other actors) would help the red team “see” the situation in a more holistic light. Finally, when SWOT used in conjunction with the 4 Ways of Seeing, some consideration should be given to which of the two tools is used first, and which follows.

Team A / Team B Analysis

Use of separate analytic teams that contrast two (or more) strongly held views or competing hypotheses.

When to Use

If there are at least two competing views within a Red Team or perhaps competing opinions within the policymaking community on a key issue, then Team A/Team B analysis can be the appropriate technique to use. Developing a full-blown Team A/Team B exercise requires a significant commitment of time and resources, so it is worthwhile considering if the issue merits this kind of attention. A longstanding policy issue, a critical decision that has far-reaching implications or a dispute within a community that has obstructed effective cross-agency cooperation would be grounds for using Team A/Team B. If those circumstances exist, then the Red team will need to review all of the data to develop alternative papers/briefing that can capture the essential differences between the two viewpoints.

Value Added

For the policymaker, this technique helps to surface and explain important analytic differences within the expert community. Often senior officials can learn more by weighing well-argued conflicting views than from reading an assessment that masks substantive differences or drives analysis to the lowest common denominator. By making the key assumptions and information used for each argument more transparent, a policymaker can judge the merits of each case, pose questions, and reach an independent judgment on which argument is the strongest. Moreover, highlighting alternative views puts individuals on notice that they need to be searching for new information that can confirm or disconfirm a range of hypotheses.

If opposing positions are well established, it can be useful to place individuals on teams that will advocate positions they normally do not support; forcing Red Teamers to argue “the other side” can surface an awareness to their own mind-set.

The Method

Analysis Phase: A Team A/Team B exercise can be conducted on an important issue to:

- Identify the two (or more) competing hypotheses or points of view.
- Form teams or designate individuals to develop the best case that can be made for each hypothesis.
- Review all pertinent information that supports their respective positions.
- Identify missing information that would buttress their hypotheses.
- Structure each argument with an explicit presentation of key assumptions, key pieces of evidence, and careful articulation of the logic behind the argument.

Debate Phase: An oral presentation of the alternative arguments and rebuttals in parallel fashion can then be organized for the benefit of other analysts:

- Set aside time for an oral presentation of the alternative team findings; this can be an informal brainstorming session or a more formal “debate.”
- Have an independent “jury of peers” listen to the oral presentation and be prepared to question the teams regarding their assumptions, evidence, or logic.
- Allow each team to present their case, challenge the other team’s arguments, and rebut the opponent’s critique of its case.
- Let the jury consider the strength of each presentation and recommend possible next steps for further research and collection efforts.

Telling Stories

The most conservative estimates of linguists and anthropologists put the evolution of oral language a minimum of 175,000 years prior to the development of written languages. As a consequence humans are wired to learn things through the use of storytelling.

When remembering or telling a personal story humans are more connected to the information being described. There is a difference in the quality of discussions and learning when stories are personal. An illustration follows:

Recently the author was asked to facilitate a discussion of desirable leadership qualities with a group of Majors at CGSC. Rather than ask them to regurgitate a list of established desirable qualities of leaders they were asked to remember the best leaders they had ever worked for and write down the qualities that made them such good leaders. The group then collected a comprehensive list, the number of qualities collected was staggering (group of 11 in 5 minutes of this exercise named 80 independent leadership qualities) and very personal. While well accepted qualities such as 'setting the example', treating others with respect, etc., were on the list so were much less noted qualities such as 'being respectful of their subordinates time', 'a sense of humor', 'empathy,' etc.

Telling stories is a powerful way to generate conversation and have people learn and remember.

TRIZ

TRIZ is "a problem-solving, analysis and forecasting tool derived from the study of patterns of invention. It was developed by the Soviet inventor and science fiction author Genrich Altshuller and his colleagues in the 1940s. In English it is typically translated as "the Theory of Inventive Problem Solving." It is sometimes used in Six Sigma processes, in project management and risk management systems, and in organizational innovation initiatives. The full TRIZ process includes many problem-solving strategies. For our purposes we're only going to use one piece of the TRIZ approach.

Ponder a difficult and complex problem you need to solve by walking through.

Describe the key elements of the desired result, and be specific.

Design a complete system that makes it impossible to achieve that result.

Then ask:

- What policies, practices, and ways of operating could eliminate any possibility of any requisite events occurring?
- What does this system have in common with the current state of affairs?

What will eliminate similarities between the current system and the new design?

Troika Consulting (Ad Agency)

This is a great process to help participants get started thinking about applications and action planning.

Invite participants to find two partners and sit down in a group of three (or four, but no more than four). Suggest that one member of the group be a time keeper to keep the group on track and to ensure everyone gets equal time. Give everyone time to reflect individually on a gnarly question. It may be very useful for them to take some notes.

Think about a challenge you are facing in your staff section.

- What's the question you most need to answer in order to move forward?
How can you get that question answered?
- What's the biggest obstacle to making the changes you want to make?
What must be done to move beyond that obstacle?

In each round of 10 minutes, one participant will share their challenge and ideas for next steps.

The role of the partners is first to ask questions to help them hone and improve their ideas.

Next, the partners engage with each other and, finally, with the participant about how they might handle the challenge and what possibilities might contribute to moving forward.

Switch roles so that each member of the Troika has a turn. After each member of the Troika has had their turn, the group can spend some time in conversation about insights and patterns they noticed across the three rounds.

This is a method to tap into the wisdom of the crowd. This is not recommended to make a decision. It is a way to get feedback you might not otherwise get from your staff.

Validating Assumptions

How many times have we encountered situations in which completely plausible premises, based on solid expertise, have been used to construct a logically valid forecast—with virtually unanimous agreement—that turned out to be dead wrong? In how many of these instances have we determined, with hindsight, that the problem was not in the logic but in the fact that one of the premises—however plausible it seemed at the time—was incorrect?

In how many of these instances have we been forced to admit that the erroneous premise was not empirically based but rather a conclusion developed from its own model (sometimes called an assumption)?

And in how many cases was it determined after the fact that information had been available which should have provided a basis for questioning one or more premises, and that a change of the relevant premise(s) would have changed the analytic model and pointed to a different outcome?³⁸

-- Douglas MacEachin

Former CIA Deputy Director of Intelligence

No plan of operations extends with certainty beyond the first encounter with the enemy's main strength.³⁹

-- Helmuth von Moltke

Chief of the Prussian General Staff, 1857-1887

1. What is an assumption? An assumption is an implicit or explicit belief about a past, current or future situation, issue or state of affairs. Planning and problem solving rely on assumptions because commanders, staffs and planning teams often lack relevant information about a situation and habitually rely on their beliefs to interpret a situation. Assumptions also help simplify and interpret factors related to 'what ought to be done' or 'how the world works'. From a cognitive perspective, humans are persistently on "cognitive autopilot" enabling us to accomplish routine tasks efficiently but unreflectively (without costly mental effort) (See Chapter III). Hence, it is often the case that assumptions are overlooked or

accepted uncritically, even when matters are complex and entail high risk under conditions of uncertainty.

- a. Assumptions are often hidden from view. In solving or managing problems we often act based upon intuition and if questioned, rationalize our actions after the fact. If there is a degree of risk associated with taking action it is prudent to understand the assumptions underlying that decision. In matters involving high risk, it is essential to understand assumptions behind that decision. The latter is important in anticipating the consequences of those actions.
 - b. Assumptions can also constrain us as we attempt to deal with an issue. If we critically assess assumptions we might be able to gain additional insight and generate options that would not otherwise be apparent. Identifying and assessing assumptions, when working in groups, is also useful in preventing misunderstanding, aligning interests and reducing conflict within the group.⁴⁰
2. Assumptions and Red Teaming: Red teaming tools and techniques provide a critical capability for checking, challenging and validating assumptions in planning, problems solving and decision making. Specifically, Red Teams assist Commanders, staffs and planning teams in checking, challenging and validating assumptions by:
- a. Helping the staff identify invalid and unneeded assumptions.
 - b. Identifying needed assumptions to further the planning process.
 - c. Identifying when the staff has defaulted to an unstated assumption – during design, mission analysis and course of action development and analysis.
 - d. Offering alternatives and insights to assumptions about the operational environment, adversaries and other actors in the operational environment.

- e. Identifying when the staff needs to develop a branch plan in case a key assumption proves invalid.
3. Assumptions in military planning: Joint Publication (JP) 5-0, *Joint Operation Planning* defines an assumption as "...a supposition about the current situation or future course of events, assumed to be true in the absence of facts...[or] a presupposition on the future course of events, either or both assumed to be true in the absence of positive proof, necessary to enable the commander in the process of planning to complete an estimate of the situation and make a decision on the course of action."^{41, 42}
- a. Commanders, staffs and planning teams employ assumptions to "...address gaps in knowledge critical for the planning process to continue."⁴³
 - b. Commanders and staffs and planning teams "...must either validate the assumptions (turn them into facts) or invalidate the assumptions (alter the plan accordingly) as quickly as possible." Rules of thumb are "...never assume away adversary capabilities or assume that unrealistic friendly capabilities would be available."⁴⁴
4. Assumptions in the context of oral and written statements and arguments: Authors M. Neil Browne and Stuart M. Keeley define an assumption as "...an unstated belief that supports...explicit reasoning."⁴⁵ The authors emphasize the importance of identifying implicit assumptions because, "hidden or unstated beliefs may be at least as significant in understanding [an] argument."⁴⁶ (See assumptions in arguments)
- a. Browne and Keeley further define assumptions into two categories: value and descriptive assumptions.
 - (1) A value assumption "is an implicit preference for one value over another in a particular context."⁴⁷

These are prescriptive in nature and imply how the world 'ought to be.'

- (2) A descriptive assumption "is an unstated belief about how the world was, is, or will become."⁴⁸
- b. Browne and Keeley believe that questioning assumptions not only benefits individual reasoning but contributes to the quality of group reasoning and decision outcomes. Underlying this is their observation that assumptions are often, "hidden or unstated; taken for granted; influential in determining the conclusion; and potentially deceptive."⁴⁹

5. Sources of Assumptions:

- a. Mental models, mindsets, values, beliefs and world views: These are ideas that help us frame and interpret how the world works. These are similar to heuristics which help us navigate and engage our environment. As guiding patterns, these are valuable from an efficiency perspective but often hinder us when the environment changes or when the world does not conform to our expected pattern (See Chapter III).
- b. For military operations, assumptions often relate to:
 - (1) Policy and strategic aims that direct the use of military action.
 - (2) Narratives describing the nature of the operation.
 - (3) Characteristics of the OE — the composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander.
 - (4) Descriptions of adversary capabilities and will, critical links, key nodes, high value targets (HVTs) and centers of gravity (COG).
 - (5) Adversary probable intentions and likely courses of action (COA).⁵⁰
 - (6) Weather.

- (7) Specific terrain considerations that significantly affect the feasibility of the course of action.
 - (8) Deployment time, assets, availability, and access to airfields and ports.
 - (9) Risk.
 - (10) Date and level of mobilization for reserve and National Guard forces.
 - (11) Cultural implications (e.g., how the population views US/coalition involvement).
 - (12) Post conflict conditions.
- c. For problem solving, assumptions often deal with resources, support, and relationships.
 - d. In concept development, specifically in the force development arena, assumptions often address conditions anticipated to be prevalent in the future, 5 to 15 years.⁵¹
6. Checking, Challenging and Validating Assumptions: Commanders, staffs and planning teams should question whether their assumptions are valid throughout planning and the operations process. Assumptions must be continually reviewed to ensure validity.⁵²
- a. Challenging assumptions helps identify stakeholder perspectives and their implications to the planning process.
 - b. JP 2-0, Joint Intelligence states, “Red teams assist joint operation planning by validating assumptions about the adversary, participating in the war-gaming of friendly and adversary COAs, and providing a check on the natural tendency of friendly forces to “mirror image” the adversary (i.e., to ascribe to an adversary the same motives, intent, and procedures that guide friendly forces).”⁵³
 - c. In conceptual planning or Army Design Methodology (ADM), planning teams develop assumptions in the lack of factual evidence as they frame an OE and

problems. Planning teams record their assumption and challenge them while planning.

- d. A structured analytical technique for identifying assumptions is listing and reviewing key working assumptions on which fundamental judgments rest, *Red Teaming – Assumption Questions* (p. 176).
- (1) Broad assumptions without an understanding of their sub-level components may lead to faulty assumptions.
 - (2) For example, given sufficient preparation, load, and travel time, a staff can only assume a Brigade Combat Team (BCT) will be available to a theater commander in 30 days. Airfields and ports must have favorable weather unfettered by the enemy. The staff should continually question whether their assumptions are valid using the variables found in the OE or a similar construct.
 - (3) Past operations illustrate the challenges inherent to any operation when planning assumptions prove false. It appears that most senior civilian and military leaders failed to review the historical records of military occupations and of Middle Eastern or Iraqi history, and also failed to listen and evaluate outside views about potential weaknesses with their planning assumptions. Even the most senior staffs can fall into this trap, noted in ON POINT II:

"In the case of OIF, the postwar situation in Iraq was severely out of line with the suppositions made at nearly every level before the war. The V Corps commander, Lieutenant General Wallace, asserted that the assumptions made by planners about the Iraqi infrastructure and society after the conflict were particularly damaging to the PH IV plan:

I believe the things that we assumed would be in place on the ground that make Phase IV operations extraordinarily easy if they are there or extraordinarily hard if they are not had most to do with Iraqi institutions and infrastructure. We made the

assumption that some of those institutions and some of that infrastructure would be in place upon our arrival, regardless of the presence of the regime or not. The criticality of those assumptions was such that when the regime ceased to exist or ceased to dominate the areas in which we were operating, then all of those institutions and all of that infrastructure ceased to operate at the same time.

Wallace succinctly concluded, “We had the wrong assumptions and therefore we had the wrong plan to put into play.”

-- ON POINT II⁵⁴

Another example, assumed access by a friendly nation to ports and airfield to support closure into a region – requires continual checks to insure the assumption isn’t wishful thinking but is grounded in reality. Throughout the lengthy planning effort for Operation Allied Force in 1998-99, allied leaders and planners widely adhered to a significant assumption. When the order arrived to execute the operation – on the very eve of hostilities – that assumption continued to prevail. But as the days of the aerospace campaign stretched into weeks and then months, the allies recognized their assumption for the fallacy it was – namely, that President Slobodan Milosevic of Yugoslavia would capitulate after a “modest set of punitive air strikes...”

-- COL Malone, USAF

OPERATION ALLIED FORCE⁵⁵

- (4) Are the assumptions logical, realistic, and considered likely to be true?
- (5) Are there too many assumptions? How many assumptions are acceptable? There is no rule that defines the correct number of assumptions but an excessive amount of assumptions may correlate with higher risk and an increased probability of a faulty plan. General (ret) Anthony Zinni USMC offers, “I would always challenge assumptions very vigorously as the commander in chief (CINC). We have too many (assumptions). Many are pointless and some assume away problems.”⁵⁶

- (6) Are there branches and sequels to execute if one or more key assumptions prove false?
- (7) Why must this assumption “be true”?
- (8) How much confidence exist that this assumption is true?
- (9) What is the explanation for the degree of confidence for this assumption to be true?
- (10) Could the assumption have been true in the past but less so now?
- (11) If the assumption proves to be wrong, would it alter the line of thinking?
- (12) Has checking assumptions identified new factors that need future analysis?
- (13) What circumstance or information might underline this assumption?

e. Planning team and planning process considerations in challenging assumptions: A system must be in place that enables continual examination of the accuracy of the assumptions. Planners must also establish branch plans in case key assumptions prove invalid. The planning team works on these questions as a group, assigns a sub-team to work on these questions, or solicits support from the unit’s red team to help with challenging assumptions.

- (1) Is there a procedure that is used throughout the planning and preparation (and potentially portions of the execution phase) that continually examines whether assumptions are valid? A technique is to establish validation points throughout the planning process to insure:
 - (a) Assumptions remain valid
 - (b) Assumptions proven as facts are deleted
 - (c) Assumptions proven invalid are discarded - requiring re-examination of the feasibility of the plan or development of branches.
- (2) Is the assumption appropriate to the level of planning?

- (3) Are there assumptions made implicitly during planning but not stated or assumptions made by the staff but not included in the plan? Unstated assumptions (explicit or implicit) can fault a plan from the beginning and do a disservice to the commander and the planning process.
 - (4) How are assumptions in higher headquarters plans addressed? Joint planning doctrine states, “For planning purposes, subordinate commanders can treat assumptions made by higher headquarters as true in the absence of proof to the contrary. However, they should challenge those assumptions if they appear unrealistic.”⁵⁷
 - (5) In deliberate planning there likely assumptions that cannot be verified until a crisis develops. In Crisis Action Planning (CAP), “...assumptions should be replaced with facts as soon as possible.”⁵⁸
 - (a) The staff accomplishes this by identifying the information needed to convert assumptions to facts and submitting an information request to an appropriate agency as an information requirement.
 - (b) If the commander needs the information to make a key decision, the information requirement can be designated a commander’s critical information requirement (CCIR). Although there may be exceptions, the staff should strive to resolve all assumptions before issuing the Operations Order (OPORD).
- f. **Argument Deconstruction:** For evaluating assumptions in statements and oral arguments, we can employ critical questioning to expose hidden assumptions. For example questions see *Challenging Assumptions* below. Authors M. Neil Browne and Stuart M. Keeley refer to critical thinking as:

- (1) Awareness of a set of interrelated critical questions;
 - (2) Ability to ask and answer critical questions at appropriate times; and the
 - (3) Desire to actively use the critical questions.⁵⁹
- g. 5 Whys is important to begin with “why” questions. The answers to “why” questions get at causal links behind events and problem symptoms. “What” questions tend toward simple data collection, and are subject to confirmation biases. The 5 Whys is a question-asking technique used to explore the cause-and-effect relationships underlying a particular problem. The technique is used to determine the root cause of a defect or problem symptom. However, the process can be used to go deeper to explore questions related to purpose rather than problems.
- h. Four Ways of Seeing is a flexible tool; a technique available to planning teams to develop and compare how other actors within an OE view a situation or problem. The planning team can compare the friendly force with an enemy force or other actors or compare multiple actors with each other.
- (1) To develop a richer understanding of an OE and problems, it is helpful for the planning team to examine the situation from the perspectives of other actors within the OE in order to appreciate their respective assumptions. For example:
 - (2) How does an enemy view the causes of conflict?
 - (3) What are the goals of the enemy force within an area?
 - (4) How does the enemy force perceive the goals of coalition forces in the area.
- i. Premortem is another means of identifying and challenging assumptions is to apply the Premortem Analysis to a plan or COA. Premortem Analysis is a form of mental simulation in which you imagine an

outcome that results in failure. The premise for the Premortem exercise is that people may feel too confident once they have arrived at a plan.

Premortem analysis empowers the participants to question the premises of a plan or proposed course of action, its assumptions, and tasks. The pull of groupthink, consensus, and a false sense of security is punctured, and is replaced by an active search aimed at preventing trouble later on. It breaks ownership of a plan or COA through a divergent process that encourages objectivity and skepticism.

- j. Frame Analysis Audit: The frame audit is useful for uncovering built in biases and blind spots in mental models, beliefs or worldviews.⁶⁰

7. Intelligence and Assumptions: Intelligence analysts often have to fill in gaps in knowledge with assumptions about adversary will, capabilities, probable intentions and visualization of the OE (e.g., PMESII-PT). The intelligence estimate supporting the operation should clearly identify these assumptions. The intelligence staff should identify and tap into any ongoing or existing information collection activities or joint intelligence, surveillance, and reconnaissance (ISR) collection that may offer relevant information to fill gaps.⁶¹ The challenges for the intelligence professional are threefold:

- a. Avoid confusing assumptions as facts.
- b. Keep assumptions to a minimum, challenge them continually, and assumptions must reflect the culture, doctrine, TTP, and realistic adversary capabilities.
- c. The Information Collection or intelligence, surveillance, and reconnaissance (ISR) plan must reflect the requirements to confirm or deny these assumptions using available ISR assets.⁶²

8. Key Points:

- a. An assumption is an implicit or explicit belief about a past, current or future situation, issue or state of affairs. Assumptions help simplify and interpret factors related to 'what ought to be done' or 'how the world works'
- b. It is often the case that assumptions are overlooked or accepted uncritically, even when matters are complex and high risk under conditions of uncertainty.
- c. Assumptions are often hidden or unstated; taken for granted; influential in determining the conclusion; and potentially deceptive.
- d. Assumptions must be continually reviewed to ensure validity. Commanders, staffs and planning teams should question whether their assumptions are valid throughout planning and the operations process.
- e. In joint planning, a valid assumption has three characteristics: logical, realistic, and essential for the planning to continue.
- f. An excessive amount of assumptions may correlate with higher risk and an increased probability of a faulty plan.
- g. The use of assumptions requires the staff and planning teams to develop branches and sequels if the assumptions prove invalid.
- h. Often an unstated assumption may be more dangerous than stated assumptions proven wrong.

What if? Analysis

Assumes that an event has occurred with potential (negative or positive) impact and explains how it might come about.

When to Use

A technique for challenging a strong mindset that an event will not happen or that a confidently made forecast may not be entirely justified. It is similar to a High- Impact/Low- Probability analysis, but it does not dwell on the consequences of the event as much as it accepts the significance and moves directly to explaining how it might come about.

Value Added

By shifting the focus from whether an event could occur to how it may happen, analysts allow themselves to suspend judgment about the likelihood of the event and focus more on what developments—even unlikely ones—might enable such an outcome. An individual or team might employ this technique and repeat the exercise whenever a critical analytic judgment is made.

Using this technique is particularly important when a judgment rests on limited information or unproven assumptions. Moreover, it can free analysts from arguing about the probability of an event to considering its consequences and developing some indicators or signposts for its possible emergence. It will help analysts address the impact of an event, the factors that could cause—or alter—it, and likely signposts that an event is imminent.

A *What If? Analysis* can complement a difficult judgment reached and provide the policymaker a thoughtful caution to accepting the conventional wisdom without considering the costs and risks of being wrong. This can help decision makers consider ways to hedge their bets, even if they accept the analytic judgment that an event remains unlikely.

The Method

What If? Analysis must begin by stating clearly the conventional analytic line and then stepping back to consider what alternative outcomes are too important to dismiss, even if unlikely. Brainstorming (p. 223) over a few days or weeks can develop one or more plausible scenarios by which the unlikely event occurs:

- Assume the event has happened.
- Select some triggering events that permitted the scenario to unfold to help make the “what if” more plausible; for example, analysts might postulate the death of a leader, a natural disaster, or some economic event that would start a chain of other events.
- Develop a chain of argumentation based as much on logic as evidence to explain how this outcome could have come about.
- “Think backwards” from the event in concrete ways—that is, specifying what must actually occur at each stage of the scenario is often very useful.
- Identify one or more plausible pathways or scenarios to the unlikely event; very often more than one will appear possible.
- Generate a list of indicators or “observables” for each scenario that would help to detect the beginnings of the event.
- Consider the scope of the positive and negative consequences of each scenario and their relative impacts.
- Monitor the indicators developed on a periodic basis.

Why Assess?

“Nothing is more wasteful than doing with great efficiency, that which is totally unnecessary!”⁶³

Assessment is a process that measures progress toward accomplishing a task, creating an effect, or achieving an objective.

Assessment Considerations:

- Effective assessment systems focus on the end state and objectives.
- Measures of effectiveness are usually more important than measures of performance.
- Assessment’s applicability transcends the spectrum of conflict and all phases of an operation.
- Effective assessment planning is not an afterthought, but built up front in planning.
- Assessment processes and metrics should be nested with the higher headquarters but designed and tailored to assess the specific objective of the unit.
- A good assessment system enables commanders to make timely shifts in resources to reinforce efforts.
- Assessment measures can be either quantitative or qualitative.
- Objectives, effects, and measures of effectiveness are interrelated.
- Assign responsibility for assessment.
- Understand other stakeholder’s interests in an assessment system (coalition, interagency, enemy).

Assessment measures must be:

- **Relevant:** Assessment measures should directly relate to the envisioned operational end-state, objective, or mission. The less precise an end state the more difficult it is to define assessment measures.
- **Appropriate:** Should reflect the OE; be realistic and appropriate for the echelon.

- **Measurable:** Assessment measures can be qualitative or quantitative. To be measurable, a baseline must be established which accurately states the current situation in order to determine progress. Objective, quantitative criteria (metrics) are less subjective to error than qualitative or subjective criteria (metrics).
- **Timely:** Good assessment systems provide commanders timely feedback. Timeliness not only determines success or failure of efforts, but it also helps to reprioritize and reallocate resources as needed. Good assessment systems should be reasonable in the time required to input and use the system.
- **Numerically Reasonable:** Keep measures to a minimum to maintain focus on the most important and to enable recognition of success or failure to reallocate resources.
- **Resourced:** For any effective assessment system, planners must establish:
 - Who will observe?
 - When will we observe
 - How often will we observe?
- **Nested** (when appropriate) with Higher Headquarters Assessment Measures.
- **Systemically** (and graphically when appropriate) Displayed and Reviewed.
- **Account** for the “culture and expectations” found in the OE.

It should be emphasized that both MOE and MOP must be “measurable.” If you can’t Measure it, it can’t be an MOE or an MOP. This means it must be stated in terms of “numbers.” It should also be emphasized that while MOE are usually more important, if we don’t look at MOP and we are not achieving the desired effect, we won’t know if it’s because we aren’t doing the right thing or if it’s because we’re not doing things right. MOP must be looked at to rule out execution if the tasks aren’t achieving the desired effect.

Measures of Performance (MOP)

- Criteria used to evaluate accomplishment of our actions.
- Should answer “Are we doing things right?”
- The criterion to assess friendly actions that is tied to measuring task accomplishment?
- Sometimes called a Measure of “EFFORT”

Example

Desired Effect: Reduction in popular support to criminal elements

Task: Influence populace to report crime & criminals

MOP: Number of face-to-face engagements with local leaders

Number of advertisements for tip-line numbers

Common Measures of Performance (MOP)

- Quantity
- Cost
- Schedule
- Productivity

Measures of Effectiveness (MOE)

- The criteria used to evaluate how actions have affected (changed) system behavior or capabilities.
- Should answer “Are we doing the right thing?”

Example

Desired Effect: Reduction in popular support to criminal elements

Task: Influence populace to report crime & criminals

MOE: Number of valid citizen reports of criminal elements

Number of valid citizen reports of criminal activities

Endnotes

- ¹ Gareth Morgan, "The 15-% solution," The Change Page of the *Globe and Mail* (Toronto, ON: Philip Crawley, 1994).
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- ³ Fisher, R., Ury, W. and Patton, B. (1991). *Getting to Yes: Negotiating Agreement Without Giving In*. Second Edition. New York: Penguin Books.102.
- ⁴ Fisher, R., Ury, W. and Patton, B. (1991). *Getting to Yes: Negotiating Agreement Without Giving In*. Second Edition. New York: Penguin Books. 105.
- ⁵ Fisher, R., Ury, W. and Patton, B. (1991). *Getting to Yes: Negotiating Agreement Without Giving In*. Second Edition. New York: Penguin Books. 107.
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- ⁷ Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), 4.
- ⁸ *Thinking, Fast and Slow*, 8.
- ⁹ *Ibid.*, 98.
- ¹⁰ J. Edward Russo and Paul J. H. Schoemaker, *Winning Decisions: Getting It Right the First Time* (New York: Currency, 2002), 165.
- ¹¹ Timothy Karcher, *Understanding the "victory Disease" from the Little Bighorn to Mogadishu and beyond* (Fort Leavenworth, Kan.: Combat Studies Institute Press, 2004), 2.
- ¹² Richards J. Heuer, *Psychology of Intelligence Analysis*. 2nd ed. (Washington, D.C.: Center for the Study of Intelligence, Central Intelligence Agency, 1999), 70.
- ¹³ Robert H. Lavenda and Emily A. Schultz, *Core Concepts in Cultural Anthropology*. 3rd ed. (Boston: McGraw-Hill, 2007), 21.
- ¹⁴ Robert M. Utley, *Cavalier in Buckskin: George Armstrong Custer and the Western Military Frontier* (Norman: University of Oklahoma Press, 1988), 65 cited in Karcher, *Understanding the "Victory Disease," From the Little Bighorn to Mogadishu and Beyond*, 40.
- ¹⁵ Walter, Mason Camp and Kenneth M. Hammer, *Custer in '76: Walter Camp's Notes on the Custer Fight* (Provo, Utah: Brigham Young University Press, 1976), 107 cited in *Understanding the "Victory Disease," From the Little Bighorn to Mogadishu and Beyond*, 40.
- ¹⁶ Heuer, *Psychology of Intelligence Analysis*, 7-8.
- ¹⁷ Army Doctrine Reference Publication (ADRP) 5-0, *The Operations Process*, (17 May 2012), 2-24.
- ¹⁸ Dietrich Doerner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations* (New York: Basic Books, 1996), 10.

¹⁹ Evan Thomas in his book, *Sea of Thunder*, describes the naval actions in the Pacific during World War II between US commanders and their Japanese counterparts culminating in the Battle of Leyte Gulf. In particular the narrative describes how an experienced American commander was wedded to a preconception shaped by U.S. military culture, past experience fighting the Japanese, and a failure to consider other possibilities. Evan Thomas, *Sea of Thunder: Four Commanders and the Last Great Naval Campaign 1941-1945* (New York: Simon and Schuster, 2006).

²⁰ Jim Garamone, "Gates Urges Restraint, Resolve for NATO," American Forces Press Service, 19 September 2008. Available at <http://www.defense.gov/news/newsarticle.aspx?id=51250> (Accessed 29 August 2014). In his speech to the Oxford Analytica in Blenheim Place, England, Secretary of Defense Gates juxtaposed lessons of miscalculations, nationalism and hubris which led to WW I and the Munich 'appeasement.' He concluded "For much of the past century, Western psychology, rhetoric and policy-making on matters of war and peace has been framed by, and often lurched between, these two poles – between excessive pressures to take military action and excessive restraint, between a too eager embrace of the use of military force and an extreme aversion to it." Thus he concludes that the "lessons of history" may be over learned.

²¹ Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).

²² J. Koehler, "The Base-Rate Neglect Fallacy Reconsidered: Descriptive, Normative, and Methodological Challenges," *Behavioral and Brain Sciences* 19 (1996): 1-53 cited in Philip E. Tetlock, *Expert Political Judgment: How Good is It? How Can We Know?* (Princeton, NJ: Princeton University Press, 2005), 40.

²³ Philip E. Tetlock, *Expert Political Judgment How Good Is It? How Can We Know?* (Princeton, N.J.: Princeton University Press, 2005), 40.

²⁴ Ibid.

²⁵ Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable*, 2d Ed. (New York: Random House, 2010), Kindle Edition location 1653.

²⁶ Gary F. Marcus, *Kluge: The Haphazard Construction of the Human Mind* (Boston: Houghton Mifflin, 2008), 53.

²⁷ Taleb, *The Black Swan*, Chapter 6.

²⁸ Scott Plous, *The Psychology of Judgment and Decision Making* (Philadelphia: Temple University Press, 1993), 234-235.

²⁹ Wayne Michael Hall, *Stray Voltage: War in the Information Age*. (Annapolis, MD: Naval Institute Press, 2003). Mr. Hall defines will as "the resolution, sacrifice, and perseverance of individuals and groups of people to win in a competitive struggle."

³⁰ Drawn from Robert H. Lavenda and Emily A. Schultz, *Core Concepts in Cultural Anthropology* (Boston, Mass: McGraw Hill, 2007).

³¹ The information from the Framing Audit Tool is derived from pages 30-31 and 45 of *Winning Decisions*, by J. Edward Russo and Paul J.H. Schoemaker.

- ³² Mary L. Connerley and Paul Pedersen, *Leadership in a Diverse and Multicultural Environment: Developing Awareness, Knowledge, and Skills* (Thousand Oaks, Calif.: Sage Publications, 2005), xii.
- ³³ Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge, Mass.: The MIT Press, 1998), 71.
- ³⁴ Ibid.
- ³⁵ Benjamin S. Bloom, *Taxonomy of Educational Objectives; the Classification of Educational Goals* (New York: Longmans, Green, 1956).
- ³⁶ Bloom.
- ³⁷ Doerner, *Logic of Failure*.
- ³⁸ Douglas MacEachin, Forward to *Psychology of Intelligence Analysis* (Washington, DC: CSI Publications, 1999). Available at <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/psychology-of-intelligence-analysis/index.html>
- ³⁹ Helmuth von Moltke, *Militarische Werke*, vol. 2, part 2, pp. 33-40, translated and cited in Daniel J. Hughes (ed.), *Moltke on the Art of War: Selected Writings* (New York: Presidio Press, 1993), 45. Compare to the often quoted paraphrase, "No plan survives first contact with the enemy."
- ⁴⁰ Adapted from Lieutenant Colonel Richard King, *Thinking Skills Resources*. Unpublished draft, 2009, 69.
- ⁴¹ Ibid., GL-5.
- ⁴² Joint Publication (JP) 5-0, *Joint Operation Planning*, 11 August 2011, IV-7. See also the JP 5-0, GL-5. Available online from the Joint Electronic Library at http://www.dtic.mil/doctrine/new_pubs/jp5_0.pdf
- ⁴³ Ibid.
- ⁴⁴ Ibid., IV-8.
- ⁴⁵ M. Neil Browne and Stuart M. Keeley, *Asking the Right Questions: A Guide to Critical Thinking* (Upper Saddle River, NJ: Pearson Prentice Hall, 2007), 55.
- ⁴⁶ Ibid., 53.
- ⁴⁷ Ibid., 59.
- ⁴⁸ Ibid., 73.
- ⁴⁹ Ibid., 54-55.
- ⁵⁰ JP 2-0, I-26.
- ⁵¹ A good example of how an analyst critically questioned a concept based upon its assumptions is found in, Antulio J. Echevarria II, *Rapid Decisive Operations – An Assumptions-Based Critique* (Carlisle: Strategic Studies Institute, 2001). Available at <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=218>, accessed 8 August 2014.
- ⁵² JP 5-0, IV-8.

⁵³ JP 2-0, I-26.

⁵⁴ Donald P. Wright, Timothy R. Reese with the Contemporary Operations Study Team, *ON POINT II: Transition to the New Campaign: The United States Army in Operation IRAQI FREEDOM May 2003–January 2005*, Fort Leavenworth, KS: Combat Studies Institute, 2008, pages 79 – 80.

⁵⁵ Timothy G. Malone, “The Red Team” Forging a Well-Conceived Contingency Plan, *Aerospace Power Journal*, Summer 2002, page 22.

⁵⁶ Peter D. Woodmansee, Timothy L. Faulkner and Wayne C. Blanchette, “The Need to Validate Planning Assumptions,” *Military Review*. January – February 2005, pgs 58 - 62.

⁵⁷ JP 5-0, pgs IV-7 to IV-8.

⁵⁸ *Ibid.*, pg IV-8.

⁵⁹ *Asking the Right Questions*, pg 2.

⁶⁰ J. Edward Russo and Paul J.H. Schoemaker, *Winning Decisions: Getting it Right the First Time* (New York: Doubleday, 2002), 21-33.

⁶¹ Field Manual (FM) 3-55, *Information Collection*, 23 April 2012, pg 3-2.

⁶² Information collection is... the Army's replacement [term] for intelligence, surveillance, and reconnaissance (ISR). ISR is a joint term, for which the Army revised to meet Army needs. FM 3-55, iii.

⁶³ Will Kaydos, *Measuring, Managing, and Maximizing Performance* (Cambridge, Mass.: Productivity Press, 1991), 17.

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Abbreviations

Abbreviations

ACH	Analysis of Competing Hypothesis
ADM	Army Design Methodology
ADP	Army Doctrine Publication
ADRP	Army Doctrine Reference Publication
AO	Area of Operations
BCT	Brigade Combat Team
CAP	Crisis Action Planning
CCIR	Commander's Critical Information Requirement
CGSC	Command & General Staff College
CINC	Commander In Chief
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
COA	Course of Action
COG	Centers of Gravity
CVs	Critical Variables
DOD	Department of Defense
EOA	Enemy Course of Action
ESP	Extrasensory Perception
EVE	Evaluation of Evidence
HUMINT	Human Intelligence
HVT	High Value Targets
ISR	Intelligence, Surveillance, and Reconnaissance
JIIM	Joint Interagency, Intergovernmental, and Multinational
JP	Joint Publication
LOE	Lines of Effort
LOO	Lines of Operation
LREC	Language Regional Expertise and Culture
MDMP	Military Decision Making Process
MOE	Measures of Effectiveness
MOM	Motive, Opportunity and Means

MOP	Measures of Performance
MOSES	Manipulability of Sources
MRX	Mission Rehearsal Exercise
OE	Operational Environment
OEF	Operation Enduring Freedom
OEL	Operational Environment Laboratory
OIF	Operation Iraqi Freedom
OPLAN	Operations/Operational Plan
OPORD	Operations Order
OPT	Operational Planning Team
PGM	Precision guided munitions
PMESII	Political, Military, Economic Social, Infrastructure, Information
PT	Physical Environment and Time (US Army)
POP	Past Opposition Practices
REC	Regional Expertise and Culture
RT	Red Team or Red Teaming
RTHB	Red Team Handbook
SEEI	State, Elaborate, Exemplify, Illustrate
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SWOT	Strengthens, Weakness, Opportunities & Threats
TRADOC	United States Army Training and Doctrine Command
TTP	Tactics, Techniques and Procedures
UFMCS	University of Foreign Military and Cultural Studies
USAFAS	United States Army Field Artillery School
WMD	Weapons of Mass Destruction
XO	Executive Officer

Index

- 2nd & 3rd order 193, 198
alternative futures 80
analysis 113
apperception 32, 38
assessment 143
assumption.. 112, 114, 151
assumptions check 156
Bloom..... 196, 229, 231
Booth 41, 227, 231
brainstorming 89
Browne... 45, 56, 212, 213,
218, 229, 231
center of gravity .. 119, 186
Clausewitz..... 57, 231
critical actors 115
culture 116
deductive. 52, 53, 108, 114
demographics 115
devil's advocacy 145
Doerner ... 54, 99, 227, 232
Douglas..... 210, 229
economics..... 119
empathy 28, 36, 207
external organizations. 118
Hall..... 228
Hofstede.. 29, 42, 161, 233
hypotheses, competing. 83
hypothesis testing 192
indicators or signposts 154
inductive 53, 108, 114, 143
information 117
initiatives group 172
Janis ... 57, 58, 59, 72, 233
Jung9, 20, 21, 231, 233
Klein165
Lavenda.....228
listening17
Malone.....230
mental simulation166
military capabilities116
national will.....118
personality ...6, 10, 19, 173
physical environment...115
PMESII27, 34, 180, 220
receipt of mission111
Reese230
relationships116
religion.....120
Russo50, 56, 227, 229,
230, 235
Schoomaker1, 8
Schultz.....228
self, core.....20
Senge.....54, 184, 235
stakeholder mapping ...186
strategic questioning16
system32, 54, 76, 100,
208, 224
System6
team A/team B.....205
technology118
Thomas6, 228, 235
time119
what if? analysis ..222, 223
Zinni22, 216, 235

