

Joint Doctrine Note 1-16



Command Red Team



16 May 2016



Unclassified

PREFACE

1. Scope

This joint doctrine note (JDN) provides guidance for the employment of a command red team on joint planning, analysis, and decision making, and on how to optimize the integration of red teams into joint functions and operations.

2. Purpose

A JDN is intended to facilitate information-sharing on problems and potential solutions as a supporting effort of formal joint doctrine development and revision. It adds value to current joint doctrine that aims to improve the efficiency and effectiveness of the joint force. The Joint Doctrine Development Community authorized the development of a JDN about red teams at the June 2015 Joint Doctrine Planning Conference. This JDN endeavors to supplement current joint doctrine and provide context for the employment of red teams during the joint planning process and in support of activities across the range of military operations. This document was developed using current joint doctrine, extant procedures, and other red team guidance and publications (e.g., The 9/11 Commission Report, University of Foreign Military and Cultural Studies Applied Critical Thinking Handbook). This JDN does not necessarily describe a position of consensus across the joint force, but it does present red team related information and procedures in a non-authoritative document that commanders and staffs can use, as appropriate.

3. Application

The guidance in this JDN is not authoritative. If conflicts arise between the contents of this JDN and the contents of a joint publication (JP), the JP will take precedence for the activities of joint forces, unless the Chairman of the Joint Chiefs of Staff provides more current and specific guidance.



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EXECUTIVE SUMMARY COMMANDER'S OVERVIEW

- **Provides an Introduction to Command Red Team**
 - **Explains Command Red Team Organization**
 - **Describes Red Team Challenges**
 - **Addresses Red Team Activities**
 - **Covers the Red Team's Role in Joint Planning**
 - **Discusses the Relationship between Red Team and Joint Intelligence**
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Introduction to Command Red Team

The command red team is a decision support element that provides an independent capability to fully explore alternatives in plans, operations, and intelligence analysis.

Command red teams help commanders and staffs think critically and creatively; challenge assumptions; mitigate groupthink; reduce risks by serving as a check against complacency and surprise; and increase opportunities by helping the staff see situations, problems, and potential solutions from alternative perspectives.

The Command Red Team and Complementary Analytical Efforts

The distinguishing feature of a command red team from alternative analysis produced by subject matter experts within the intelligence directorate of a joint staff is its relative independence, which isolates it from the organizational influences that can unintentionally shape intelligence analysis, such as the human tendency for analysts to maintain amicable relations with colleagues and supervisors, and the potential for regular coordination processes to normalize divergent assessments. Commanders can seek the perspectives of trusted advisors regarding any issue of concern. A command red team may also address similar issues, but unlike most commander's advisory/action groups, it supports the commander's staff throughout the design, planning, execution, and assessment of operations, and during routine problem-solving initiatives throughout the headquarters. Red teams and tiger teams may be ad hoc and address

a variety of issues. In many cases, the only difference between the two may be the participation of a red team member who can advise the group in the use of structured techniques. Alternate modes employ red teaming as a temporary or additional duty or as an ad hoc operation, with teams assembled as needed to address specific issues.

Command Red Team Organization

Organizational Models

Command red teams may employ structured or ad hoc organizational models. Structured red teams include standing red teams, cadre red teams, and matrixed red teams.

Command Red Team Integration

Red teams cannot succeed without command support. Command support enables the team to challenge convention and the staff to appropriately weigh the team's inputs.

Although red teams need to maintain a degree of intellectual and organizational independence, they must also be integrated into the staff's regular processes. To facilitate operations, teams should be identified as a distinct entity on organizational charts, telephone listings, and command websites. In addition, the team should be included as a core member of those planning teams that address the command's most pressing problem sets.

Command Red Team Education and Training

The educational preparation of red team members assumes the process of stimulating or facilitating critical and creative thought is a distinct skill that can be taught.

Red Team Challenges

Two Environments

The red team not only needs to understand the problem the staff is considering, but it also needs to understand two environments: the individual's cognitive environment and the organizational culture of the staff. Understanding these two environments is a necessary prerequisite to the red team's task of stimulating critical and creative thought and countering the influence of organizational constraints that might sway, constrain, or prejudice the staff's thinking.

Individual Factors

Helping counter the effects of individual analytical error is a core red team function. Generally, individuals with a significant

investment in a specific point of view will have trouble reassessing their assumptions and adopting new paradigms. Accordingly, the red team should strive to use its outside vantage point to see issues that might escape others. In addition, the red team can focus on helping individuals consider the possibility that their expertise on a problem set might cause them to discount or misinterpret new information. Some individual factors include logical fallacies, confirmation bias, status quo bias, fighting the plan, paradox of experience, mirror imaging, ethnocentrism, policy bias, information overload, oversimplification and tunnel vision, hidden assumptions, assuming away the problem, overconfidence or over-pessimism, failure to make the call, and elegance vice insight.

Organizational Factors

Cohesive teams may unconsciously stifle dissent and subtly discourage alternative thinking. Helping counter the effects of these institutional influences, while simultaneously presenting alternative perspectives, requires a cautious, balanced approach by the red team. Common forms of institutional bias and influence include group think, tribal think, no think, boss think, silent think, false consensus, death by coordination, institutional inertia, hubris, and conflict of interest.

Multinational Considerations

Some of the organizations that employ red teams may have multinational components, either as an integrated or parallel command structure, or in the form of national liaison officers. Such red team interactions with foreign officers have many advantages, but like all interactions with foreign officers, they can also pose unique cultural issues and potential security challenges.

Red Team Activities

Red teams are general purpose decision support assets that can enhance problem-solving efforts in all functional areas, in all organizations, and at all echelons.

Red teams employ a variety of tools to frame problems, challenge assumptions, analyze conditions, explore solutions, and support decision making. While red teams can support decision making in all functional areas, they can be especially useful in those areas where complex

variables must be considered, where precedents may not be applicable, and where the selected course of action (COA) is likely to impact multiple aspects of the situation.

Decision Support

Decision support may consist of providing observations to key individuals at pivotal moments, participating in group discussions and brainstorming sessions, or delivering formal presentations or written products. Some red team techniques for decision support include devil's advocacy, problem framing, quality of information check, stakeholder mapping, cultural expertise, accounting for chaos, and liberating structures.

Critical Review

Red teams can also conduct independent critical reviews of concepts, organizational designs, wargames and exercises, experiments, and processes to identify potential weaknesses and vulnerabilities. A critical review may focus on the information that was used to support a decision (the "input"), the thinking used to understand and act on the information (the "process"), or the resulting decision or COA (the "output").

Adversary Emulation

Adversary emulation involves simulating the behavioral responses of an adversary, actor, or stakeholder during an exercise, wargaming event, or an analytical effort, thus helping the staff understand the unique perceptions and mindset of the actor, and helping the staff understand the actor's potential range of actions and likely subjective responses to specific stimuli or situations. The primary red team role is to reduce risk by helping the staff understand how the other actor might perceive and respond to friendly actions.

Vulnerability Testing

The red team can be used to help identify physical and nonphysical weaknesses of physical systems, proposed operational concepts or new weapon systems, or tactics, procedures, and policies. Vulnerability testing helps identify threats, risks, and vulnerabilities, and explores how systems

fail, how they can adapt to change, and how risks can be mitigated.

The Red Team and Joint Planning

Support to joint operation planning is a core red team function.

Organizations that plan and execute operations should employ red teams to help them think critically and creatively, and see planning issues and proposed COAs from alternative perspectives.

Joint Operation Planning

Red team Adaptive Planning and Execution (APEX) responsibilities include supporting the development of their command's strategic estimates, strategy, theater/functional campaign plans, contingency plans, and APEX orders. Red teams support these activities by seeking unseen opportunities and threats, which may generate new planning requirements, and by providing alternative assessments of the environment and situation, which can alert commanders to evolving threats or operational conditions that might generate phase change requirements.

Operational Art

Red team decision support processes should be employed to help commanders and their staffs evaluate ends, ways, means, and risks from different perspectives, thus broadening the range of options that may be considered. The red team should also suggest potential intended and unintended consequences and likely second and third order effects related to the ends and ways under consideration.

Operational Design

Operational design promotes the development of innovative, adaptive solutions to complex problems. Ideally, before detailed planning proceeds, the red team should be engaged early during these assessments to help frame the problem, ensure all relevant features of the environment are considered, identify risks and opportunities, and challenge hidden assumptions and standing assessments.

Joint Operational Planning Activities, Functions, and Products

The red team should not produce duplicative or competing planning materials, but should instead seek to incorporate its inputs into the planning

team's final products. The red team should review key sections of the plan and offer recommendations while those sections are still in the draft stage.

Joint Planning During Execution Planning continues throughout execution in three venues, each focused on distinct but overlapping timeframes: future plans, future operations, and current operations. The red team plays distinct roles in each of these, but should normally concentrate its efforts in future plans.

The Red Team and Joint Intelligence

Despite similarities, red teams have different objectives than the intelligence staff and should not be used as a substitute for sound intelligence analysis.

Red teams should be organizationally, physically, and intellectually separate from the intelligence function in order to ensure that products are not shaped by the same institutional factors that influence the output of the intelligence analysts. Even when the red team and the intelligence staff examine the same problem set, their products should be reviewed and approved through different product approval chains.

Distinctions between Red Team and Intelligence Functions

The intelligence staff seeks to produce accurate assessments and estimates backed by reliable multi-source information and sound reasoning. Red team intelligence-related objectives could include the following:

- Constructively challenging assumptions and assessments.
- Inviting consideration of a broader range of interpretations and conclusions.
- Suggesting new issues for study or issues that need additional study.
- Identifying hidden assumptions, potential wildcards, and likely effects.
- Questioning whether the right problems are being considered.

Red Team Contributions to Intelligence

Red team contributions to intelligence include critical review, production support, complementary analysis, devil's advocacy, deception and counterdeception, and collaboration.

***Support to Intelligence
Production***

Red teams develop independent assessments of a situation or an adversary's capabilities to support intelligence products. These assessments are developed using a variety of techniques that counter organizational and analytical factors that can lead to surprise.

***Red Team Support to Intelligence
Planning***

During production of plans-related intelligence assessments and estimates, the red team should independently assess the adversary's center of gravity; critical capabilities, requirements, and vulnerabilities; and most likely and most dangerous COAs.

Conclusion

This joint doctrine note (JDN) provides guidance for the employment of a command red team on joint planning, analysis, and decision making, and on how to optimize the integration of red teams into joint functions and operations. The guidance in this JDN is not authoritative. If conflicts arise between the contents of this JDN and the contents of a joint publication (JP), the JP will take precedence for the activities of joint forces, unless the Chairman of the Joint Chiefs of Staff provides more current and specific guidance.

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CHAPTER I

INTRODUCTION TO THE COMMAND RED TEAM

1. Background

a. After studying factors that contributed to a series of strategic miscalculations and intelligence failures before and after 11 September 2001, Congressionally-directed commissions (e.g., 1998 Jeremiah Panel, 1998 Rumsfeld Commission, 2004 9/11 Commission, and 2005 Weapons of Mass Destruction [WMD] Commission) and other advisory boards (e.g., RAND Corporation, Defense Science Board, and Institute for Defense Analysis) urged the adoption of red teams in an effort to reduce risk, avoid surprise, spot opportunities, increase operational flexibility, broaden analysis, and enhance decision making. Throughout this same period, professional journals explored how red teams could help organizations adapt to change and improve military planning and intelligence analysis by stimulating critical and creative thought. In December 2004, the Director of National Intelligence was required by law to establish, within elements of the intelligence community (IC), a process and responsibility for conducting alternative analysis (commonly referred to as “red team analysis”) of the information and conclusions in intelligence products (The Intelligence Reform and Terrorism Prevention Act of 2004, Section 1017).

b. In 2006, the Joint Staff directed establishment of the Joint Intelligence Operations Center (JIOC) and the routine employment of red teams (“Joint Chiefs of Staff Joint Intelligence Operations Center [JIOC] Execute Order,” 031640Z April 2006). However, no guidance on how to organize and integrate red teams within the joint force was provided. Subsequent field experience indicates that consistent guidance is needed to ensure the teams and the staffs they support share a common understanding of red team objectives, concepts, and requirements.

2. The Command Red Team Overview

a. The command red team is a decision support element that provides an independent capability to fully explore alternatives in plans, operations, and intelligence analysis. **Command red teams help commanders and staffs think critically and creatively; challenge assumptions; mitigate groupthink; reduce risks by serving as a check against complacency and surprise; and increase opportunities by helping the staff see situations, problems, and potential solutions from alternative perspectives.** Implicit tasks are to counter the influence of institutional and individual bias and errors; provide insight into the mindsets, perspectives, and cultural traits of adversaries and other relevant actors; and help explore unintended consequences, follow-on effects, and unseen opportunities and threats. Red teams reduce risk by helping organizations hedge against uncertainty and anticipate, understand, prepare for, and adapt to change.

b. The command red team is distinguished from a non-command red team by its place within an organization and by its scope. A command red team is positioned to assist in all aspects of the command’s processes and activities equally, without falling

under the control or influence of any single directorate. A command red team is a cross-functional red team, intended to support plans, operations, intelligence, and other functions of a command. A non-command red team, on the other hand, is a specific implementation of red teaming, typically falling under the purview of a particular office, such as the JIOC, or function, such as plans. A non-command red team supports its office or function as a primary duty. Any cross-functional activities of a non-command red team are incidental and by exception. This JDN addresses how a command red team, and by extension all red teams, can support the command in planning, operations, and intelligence.

Key Term

Command Red Team. A cross-functional organizational element comprised of trained members that provides the commander with an independent capability to fully explore alternatives in plans and operations and supporting intelligence, and to enhance staff decision making through the simulation of critical and creative thought.

c. The command red team can be a force multiplier that helps maximize operational efficiency and effectiveness. They can be used at all levels of warfare, across the range of military operations, and during all phases of operations. They use intellectual and organizational independence and contrarian techniques to help ensure that all aspects of a problem and the fullest range of options are considered.

d. All joint forces and other organizations, particularly combatant commands (CCMDs), joint task forces (JTFs), components, combat support agencies (CSAs), service intelligence centers, and system acquisition agencies, should employ red teams to guard against cognitive vulnerabilities and to independently address their most pressing planning, operational, informational, and intelligence issues from an alternative perspective. A command red team can help frame problems, challenge assumptions, counter institutional biases, stimulate thought, and support decision making in every organization.

e. The command red team is distinguished by organizational independence, which helps it view problems from more analytically independent perspectives; by its specialized training, which helps it counter biases and stimulate critical and creative thought; and by its purposeful out-of-the-box approach, which helps it consider issues with fewer concessions to convention, policy, established community positions, and functional specialization.

f. The command red team is a specially-trained, general-purpose, decision-support staff asset that can be employed throughout the joint force. The command red team can complement all staff problem-solving and analytical efforts by serving as a devil's advocate and generalized contrarian but is normally focused on supporting plans, operations, and intelligence.

(1) **Plans and Operations.** The command red team supports crisis action planning (CAP), deliberate planning, and operations assessment by helping identify vulnerabilities, opportunities, and faulty or unstated assumptions; helping ensure all aspects of the operational environment (OE) are fully understood; and critically reviewing strategies, operational concepts, estimates, plans, and orders. Red team products can also include wild card or low probability/high impact analysis to anticipate surprise and to mitigate risk.

(2) **Intelligence.** The command red team complements intelligence efforts by offering independent, alternative assessments, and differing interpretations of information. This includes critical reviews of intelligence products, considering problem sets from alternative or adversarial perspectives, and helping contribute informed speculation when reliable information is lacking.

g. In practice, command red team operations are categorized into four broad overlapping and mutually supporting areas of effort. When addressing a particular problem, red teams will usually pursue multiple areas of effort simultaneously. Directly or indirectly, all command red teams provide decision support, regardless of their primary focus.

(1) **Decision support** promotes consideration of alternatives; challenges assumptions; stimulates critical and creative thinking; helps minimize biases, organizational influences, and analytical error; and provides alternative and cultural perspectives.

(2) **Critical review** provides independent, alternative assessments of problem sets; critically reviews estimates, assessments, and interpretations; explores unseen threats and opportunities; and estimates the effects of potential wild card events. These effects can be categorized as unintended and intended and analyzed to determine varying degrees of those effects, such as second, third, or fourth order.

Key Terms

Second and Third Order Effects. A cascading series of multiple effects, anticipated and unanticipated, intended and unintended, with potentially significant positive and/or negative impacts on the operational environment, that result from an action. These effects then become the causes of new effects.

Wildcard Events. Unanticipated circumstances, not necessarily related to planned actions or occurring within the operations area, that complicate execution of the plan.

Critical Review. An independent examination of a product by a disinterested party with the object of uncovering logical fallacies, biases, and evidential shortfalls, or evaluating a wider range of potential conclusions.

(3) **Adversary emulation** emulates the behavioral responses of an adversary, partner, or other actor; provides insight into an actor's intentions, perceptions, and decision-making processes; and explores the range of alternative actions and subjective responses of an actor to given stimuli or in specific situations.

Key Term

Adversary Emulation. The activity of role-playing the probable subjective, behavioral responses of specific actors based on their known or inferred objectives, perspectives, mindsets, decision-making processes, and likely responses to specified situations and stimuli.

(4) **Vulnerability testing** identifies physical and nonphysical weaknesses of a system, or system-of-systems (not just the system under test). Explores potential countermeasures and counter-countermeasures, tests system integrity, and estimates potential cascading effects when a system is subjected to stress. The information security community employs white-hat hackers, also historically designated as red cells, to explore physical and procedural weaknesses in command, control, and communications systems. They also apply red team techniques to uncover unseen threats and vulnerabilities and to explore potential cascading effects of adversary action on a system. These cyberspace aggressors can be considered specialized, highly-focused red teams.

h. Ideally, command red teams should have the following core competencies. These core competencies in isolation cannot provide a genuine red team capability unless the team is also enabled by specific authorities and institutional foundations that provide organizational and intellectual independence and that promote an environment that is receptive to critical thinking. These core competencies are described in Chapter II, "Command Red Team Organization."

- (1) Critical thinking.
- (2) Organizational and human dynamics.
- (3) Subject matter expertise.
- (4) Alternative analysis.
- (5) Situational dynamics.
- (6) Cultural intelligence.
- (7) Adversary emulation.

i. Red teams, like the organizations they support, generally follow a set of proven precepts. These precepts conform to the recommendations advanced by the boards and commissions that recommended the adoption of red teams, and they establish the

authorities, relationships, environments, and other conditions required for effective command red team operations.

(1) **The command red team supports the commander.** The red team is focused on improving decision making at all levels. The red team supports mission success by helping the commander's staff counter organizational and human influences that can hinder, constrain, and bias effective analysis, planning, and assessment.

(2) **Every problem set can benefit from command red team support.** Individuals and organizations can unintentionally fall victim to subtle dynamics and influences that can constrain thinking. The red team helps counter these constraints by promoting critical and creative thought.

(3) **The command red team should be integrated into the commander's staff.** The red team should understand the staff's formal and informal structures and processes. It should also be able to recognize and counter the institutional and individual factors and organizational dynamics that might constrain or compromise decision making by pointing out these factors to the commander and staff.

(4) **The command red team is an integral but independent part of the staff.** Red teams require organizational and intellectual independence to minimize the influence of factors that might otherwise normalize their efforts. The red team cannot be fully effective unless the staff is receptive to critical input and alternative perspectives and supportive of insights the red team may provide.

(5) **The red team is independent but needs the support of commander and staff.** Red team inputs, however contrarian or critical, should constructively contribute to the organization's ability to achieve its objectives. The red team cannot be effective unless it earns and sustains the support of the commander and staff.

(6) **Command red teams provide contrarian, alternative input that enhances operational effectiveness.** The demands of military operations can reinforce groupthink and other cognitive errors. A dedicated devil's advocate can help sharpen thinking and counter complacency or unwarranted overconfidence.

Key Terms

Devil's advocate—the role of constructively challenging convention and enhancing analysis through the stimulation of critical and creative thought.

Groupthink—a pattern of thought characterized by self-deception, forced manufacture of consent, and conformity to group values and ethics.

(7) **Command red teams contribute to mission success during all stages of conflict and phases of operations.** Red teams help develop insights or solutions that can

help anticipate, avoid, or prepare for conflict and can contribute to conflict termination and stability operations.

(8) Red team support should be synchronized with normal staff operations.

Optimum red team support requires thorough integration with the supported staff. Red team perspectives should be offered and considered at the right times and in the right venues to influence the relevant assessments and decisions.

(9) The OE includes the mindsets and perspectives of all relevant actors.

When assessing the OE, the mindsets and perceptions of all relevant actors should be considered. The doctrines, goals, motivations, and views of key actors can shape how they view tangible, quantifiable factors such as geography, orders-of-battle, and logistics, and how they respond to subjective factors, such as messaging efforts. Friendly, adversary, and others' vulnerabilities and courses of action (COAs) should be assessed from the perspective of the all actors.

(10) Red teams should be prepared in advance of any employment.

Prior to employment, command red teams should develop subject matter and operational understanding of the traits and perspectives of potential adversaries, and build working relationships with the staff.

(11) Staffs who are most in need of red team support are often least likely to recognize their need for such support. Complacency, unquestioned consensus, overconfidence, and a sense of urgency can often blind organizations to the value of reconsidering assumptions and exploring alternatives.

(12) Red team products should be clearly marked as red team products.

When a red team decides to produce a stand-alone product, care should be used to ensure red team assessments and other materials are not mistaken for conventional estimates or authoritative policy. The product should include a caveat that the contents do not constitute official organization policy, position, estimate, or assessment but rather red team insights and recommendations for organizational consideration.

Key Terms

“Red team” and “red cell” are not synonymous and should not be used interchangeably.

A red cell plays the role of an adversary, the red force, through emulation in wargaming. Red cells role play not just mindset and decisions, but also capabilities, force structure, doctrine, and rules of engagement. Red teams assist joint operation planning by validating assumptions about the adversary, as well as participating in the wargaming of friendly and adversary courses of action, but not as the role of the red force. Red teams use a technique called adversary emulation to role play the mindset and decisions of an adversary, but they do not role play the full range of adversary actions as a red cell does.

(13) **Collaboration with subject matter experts (SMEs) should not encourage conformity with community positions.** Red teams should consult with SMEs as required to ensure that factual information is properly leveraged. The command red team is not obligated to obtain SME concurrence with any conclusions the team develops based on the SME's input.

3. The Command Red Team and Complementary Analytical Efforts

a. Many core red team concepts parallel sound staff officer practices, but the red team's application of these concepts is qualitatively different. For example, while regular staff work strives for consensus, the red team may advocate for a temporary unraveling of consensus in order to challenge the staff to more fully explore its assumptions. Main-line analysis depends on validated information, authoritative sources, recognized SMEs, IC coordination, and a degree of consensus, but red teams may instead incorporate nontraditional sources or unverified information in order to explore potential alternative assessments. Even when a staff agency seeks to employ red team techniques, that staff's mindset and perspectives may be subtly constrained by organizational influences that ideally should have less effect on a more independent command red team.

b. The command red team differs from, yet complements, other analytic efforts such as the threat emulation red cell, intelligence directorate of a joint staff (J-2) alternative analysis efforts, and commander's advisory groups.

(1) **How red teams can augment red cells.** A command red team can emulate the subjective responses of relevant actors for the purposes of exploring the motivations, perceptions, or subjective responses of such actors. The red team can also augment wargaming red and blue cells by providing insight into the cultures, perspectives, and mindsets of stakeholders, and by proposing alternative wild card and low probability/high impact responses for both friendly forces and adversaries. More critically, a command red team can offer an independent point of view that can help identify organizational influences and human factors that may bias wargame results.

Key Term

Red Cell. An element that simulates the strategic and tactical responses, including force employment and other objective factors, of a defined adversary.

(2) **J-2 Alternative Analysis Efforts.** Intelligence organizations often develop alternative assessments using red teaming techniques. The distinguishing feature of a command red team from alternative analysis produced by SMEs within the J-2 is its relative independence, which isolates it from the organizational influences that can unintentionally shape intelligence analysis, such as the human tendency for analysts to maintain amicable relations with colleagues and supervisors, and the potential for regular coordination processes to normalize divergent assessments. A command red team may also draw upon non-traditional sources and consider a wider range of issues beyond those normally addressed by conventional intelligence analysis.

(3) **Commander's Advisory/Action Group (CAG).** Commanders can seek the perspectives of trusted advisors regarding any issue of concern. A command red team may also address similar issues, but unlike most CAGs, it supports the commander's staff throughout the design, planning, execution, and assessment of operations, and during routine problem-solving initiatives throughout the headquarters (HQ). Unlike a CAG, a properly-prepared command red team will be specially trained in red team techniques specifically applicable to that command's OE. An independent red team can also serve as a check against any unintended, unconscious tendency of advisors to shape their views to conform to those of the commander.

(4) **Tiger Teams.** Red teams and tiger teams may be ad hoc and address a variety of issues. In many cases, the only difference between the two may be the participation of a red team member who can advise the group in the use of structured techniques. Tiger teams are typically formed to examine a specific problem set on behalf of a specific customer and then disbanded. In contrast, red teams are a general-purpose, decision-support asset that can be routinely applied to a succession of routine and exceptional problems throughout the command.

CHAPTER II COMMAND RED TEAM ORGANIZATION

“Despite its many advantages, red teaming is not a silver bullet, its credibility hinges on the quality and experience of the team; approach and toolset; and support of the leadership. An uninformed, overconfident or biased red team is unlikely to add value, and may be detrimental to the project. Furthermore, the product of a successful red team will be of no benefit if it is rejected or not considered by the end user.”

**“Red Teaming Guide” 2nd Edition (January 2013)
United Kingdom Ministry of Defence
Development, Concepts and Doctrine Centre**

1. Overview

a. The two most critical factors in determining the effectiveness of a command red team are command support and careful selection of the team’s leader. The commander invests the resources to establish a red team capability and sets the institutional tone that fosters prudent consideration of contrarian and critical input. The red team leader facilitates the smooth integration into the staff, ensures its efforts are focused on the mission, and is prepared to address the problems presented to it.

b. Organizational structure and team member selection are also critical to the team’s success. Even the most capable red team can fail if it is poorly situated within its command’s organizational structure. **Placing a command red team within a single, specific staff, such as the J-2, can create the perception that the team is limited to issues particular to that directorate, as well as generate subtle pressure for the team to support, rather than challenge, that directorate’s positions on key questions.** A red team subordinated to a specific staff can facilitate a small, high-demand team’s scarce resources and insight to focus on a specific portfolio for maximum effectiveness. However, such a red team subordinated to a specific staff should not be considered a command red team, since they are not adequately positioned to address command-wide and cross-staff issues.

c. If a red team reports through an office or officer who would lose position, influence, or resources if the team’s assertions are proven correct (or incorrect), a conflict of interest exists and should be avoided. The team reporting chain should exclude parties with an “interest” in its outcome.

2. Organizational Models

a. **Special Staff.** When CCMD red teams were initially established in accordance with the April 2006 Chairman of the Joint Chiefs of Staff (CJCS) JIOC Execute Order, the IC resources largely drove red team composition (populated by defense intelligence personnel) and assignment within CCMD JIOCs. Subsequent CCMD experience has shown that composition, location in command structure, allocated resources, and support

from command leadership are critically important. The location of the team within the staff's organizational structure often determines whether it is perceived as relevant to the organization's mission; whether it enjoys ready access to the staff elements it is intended to support; whether its inputs avoid the institutional influences, biases, and constraints that the team is intended to counter; and whether the team is positioned to use the organization's informal structure to enhance its effectiveness. Regardless of the organizational model adopted, the position of the team leader is usually seen by the staff as the location of the team as a whole. To facilitate the command red team's perceived importance by the staff and to maintain its independent role, the command red team leader should report to the chief of staff (COS) in most organizations. However, in some organizations a different subordination may be more effective, depending on that organization's specific situation.

b. **Organizational Characteristics.** The most effective red team organizations tend to share a set of common organizational characteristics. These include:

(1) **Minimum organizational separation between the team and the decision makers.** The team and the decision makers should be familiar with each other's traits. The team should be able to anticipate and understand the decision maker's concerns while decision makers should understand their team's roles, capabilities, and concept of operations (CONOPS). This is best achieved by minimizing the organizational separation between the red team and the decision makers.

(2) **Intellectual detachment from command elements that consider the same or similar problem sets.** Organizational independence and physical separation within the command help the team avoid subtle pressures to conform to community positions and support the views of colleagues. Close association with other command elements who are considering the same problems can constrain searches for alternative perspectives. The team should be positioned within the command structure in a way that preserves its intellectual independence.

(3) **Tailored product coordination and approval.** Staffing procedures should be independent of the organizational processes that shape the content of regular products. An SME should not have the authority to tone down red team positions and reinforce conformity to community positions.

(4) **Broad, cross-functional perspectives.** The red team should not be associated with any single functional area, which can foster perceptions that its scope of concerns and expertise are confined to a particular range of problems, and that its activities should be stovepiped within a single functional area. The red team should occupy an organizational niche that allows multiple functions to be viewed from detached vantage points but should possess sufficient subject matter expertise to allow for informed inquiry.

c. **Organizational Models.** Command red teams may employ structured or ad hoc organizational models.

(1) **Structured Red Teams.** Within the CCMDs, service components, and JTFs, red teams are normally established as standing elements that consult SMEs as required, as core groups of trained cadres augmented with SMEs as circumstances warrant, or as matrixed networks of designated SMEs distributed throughout the staff. Provided other organizational prerequisites are met, all of these organizational models have been equally successful. All structured red teams should have a permanent, trained red team leader (see Section 5 of this chapter). Ideally, team members should also be trained as well.

(a) **Standing Red Teams (see Figure II-1).** When the red team is established as a permanent, standing element, each individual member should be able to apply core red team processes as required. SMEs (both internal and external to the command) should be consulted as required to compensate for knowledge gaps. Standing teams can often allocate individual members to different problem sets, allowing the team to support multiple planning and analytical efforts simultaneously. Over time, standing teams may operate more efficiently than other models. However, they should do continuing education to stay current in red team practices. Disadvantages of standing teams include the potential for individual members to stagnate or for members who continuously advance contrarian views to eventually get tuned out by the staff. Similar to other red teams, the standing red team member is also at risk of unconsciously advancing personal biases or perspectives.

(b) **Cadre Red Teams.** A cadre red team consists of a core group of experts specifically trained on red teaming techniques and augmented as required by SMEs with expertise in the specific problems at hand. Unlike the standard red team, which only consults with SMEs, a cadre red team temporarily inducts SMEs into the red team. A cadre red team combines the features of a standard red team with a matrixed red team. This organizational model places a greater burden on cadre members to be able to lead groups in the application of red team techniques. This model may require more effort to prepare SME augmentees each time they are assembled to address a problem. Other disadvantages include the potential for individual SMEs to use the red team to unconsciously advance favorite, but not necessarily alternative, views. Additionally, cadre red teamers could be at risk of feeling pressured to come to consensus quickly so they can return to their regular job or could be co-opted to conform to institutional thinking to protect their regular positions. Advantages include the potential for intense synergistic interaction between multiple SMEs.

(c) **Matrixed Red Teams (see Figure II-2).** Matrixed red team networks typically consist of a relatively large number of identified internal SMEs, distributed throughout the staff and serving in their normal positions, who have also been trained to perform on a red team as an additional duty and occasionally external SMEs. Tailored groups of matrixed members are temporarily assembled as required to address a specific problem. Matrixed teams may provide a more robust and flexible capability in many circumstances. However, as staff officers rotate to new assignments, maintaining matrixed teams may constitute a more complex training burden than the other models. Other disadvantages of matrixed teams include less frequent networking and

collaboration with external SMEs and the potential for internal SMEs to subconsciously align their views with those of their parent elements. Less proficient internal and external SME collaboration may, over time, cause the red team to fall victim to groupthink and other communities of interest influences. Additionally, personnel selected for the command red team are normally some of the strongest performers within the command, and as such, may hold crucial positions in their respective staff sections and determined to be more critical for the command to remain in their primary positions.

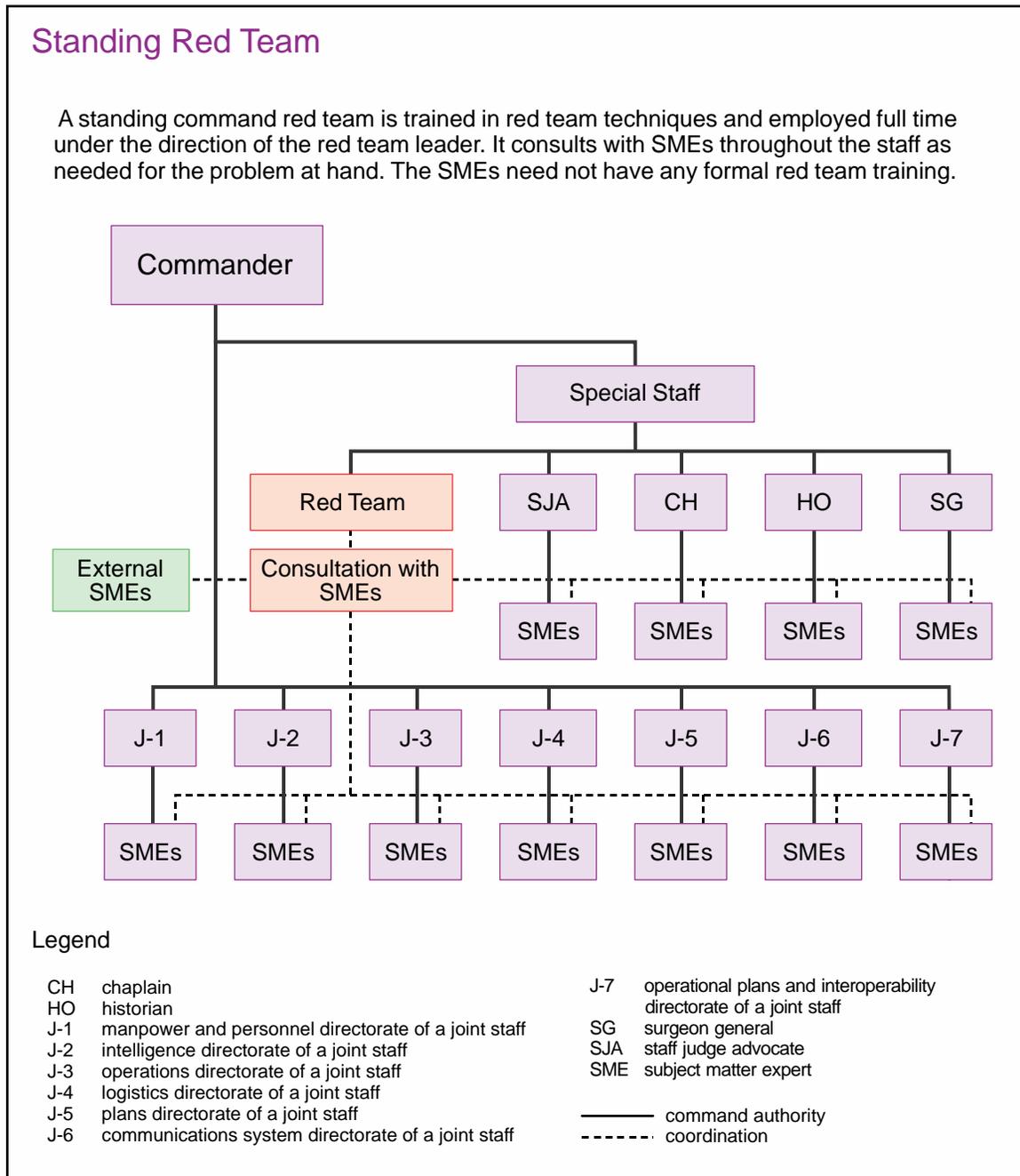


Figure II-1. Standing Red Team

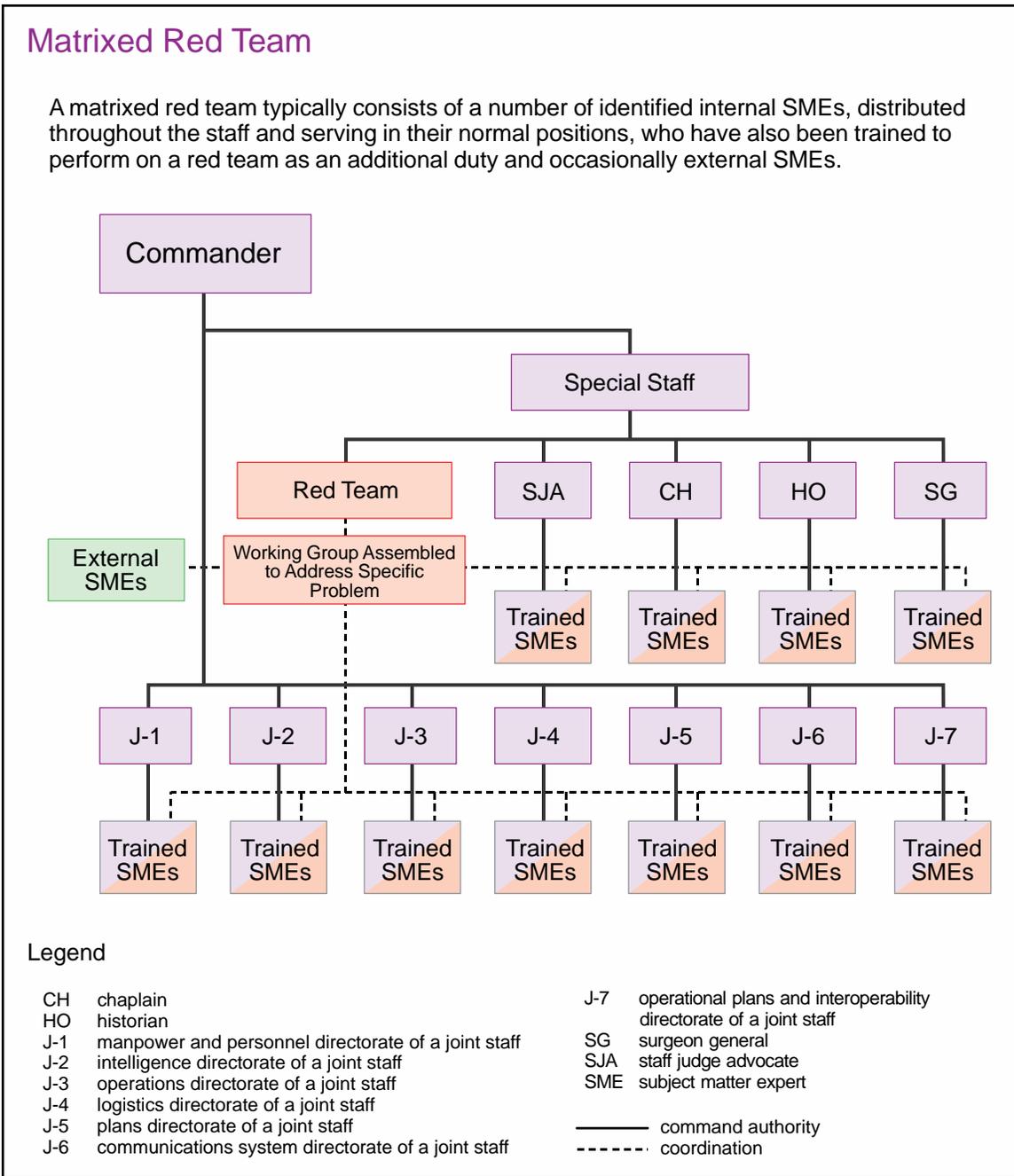


Figure II-2. Matrixed Red Team

(2) **Ad Hoc Red Teams.** In some organizations, red teams may be established using less formal arrangements. These unstructured, alternate modes employ red teaming as a temporary or additional duty or as an ad hoc operation, with teams assembled as needed to address specific issues. Although such efforts may not have all the advantages of a dedicated red team (e.g., external vantage point and specialized training), they can significantly enhance the quality of any group’s output. The effectiveness of such efforts can be improved by setting time aside for the group’s exclusive pursuit of red team processes, by familiarizing the group with red team principles, by establishing

expectations in advance, and by setting an environment in which critical thought, contrarian views, and alternative perspectives are encouraged and exploited. The effectiveness of ad hoc red teams can be further enhanced by the participation of a full-time, fully-trained red team leader or member who can serve as a facilitator.

3. Command Red Team Integration

“A viable red teaming process needs to be more than an ad hoc activity. It needs to be a structured process that is executed by skilled and effective team members and that has the strong support of senior leadership. Effective red teams have several key characteristics. The team members must be well educated, analytical, and steeped in the culture of the target, issue, and environment. The red team must be independent of influence from the bureaucracies involved but enjoy the support and attention of senior leadership. And the process [must be regularly] used during operational and/or development efforts.”

**Defense Science Board Report,
“Capability Surprise, Volume II, Supporting Papers,” 2010**

Although red teams need to maintain a degree of intellectual and–organizational independence, they must also be integrated into the staff’s regular processes.

a. **Command Support.** Red teams cannot succeed without command support. The commander invests resources to establish a command red team capability and sets the tone that fosters prudent consideration of contrarian views and critical reviews. Commanders ensure the team’s physical and organizational placement facilitates necessary staff interactions while maintaining the team’s relative independence. The commander provides guidance and feedback to focus the team’s attention their most pressing problem sets. Command support enables the team to challenge convention and the staff to appropriately weigh the team’s inputs. Command support also helps ensure team members will not suffer negative career consequences for their red team work.

b. **Identification.** To facilitate operations, teams should be identified as a distinct entity on organizational charts, telephone listings, and command websites.

c. **Support to Subordinated Units.** Some HQ have several subordinate elements that could benefit from red team support but do not have the resources to organize them. In such situations, the HQ may temporarily allocate its red team to different units as needed.

d. **Clearances and Access.** Commanders should ensure their red teams are aware of evolving problem sets. In addition, the team should be included as a core member of those planning teams that address the command’s most pressing problem sets. Select team members should also be granted sufficient access to ensure they can understand the issues facing the command and can meaningfully contribute to the resolution of those

issues. During mission execution, the team should also be represented on or within appropriate boards, centers, cells, or working groups.

e. **Performance Standards.** Many aspects of red teaming do not readily lend themselves to simple quantification. The output of a well-integrated team may be seamlessly incorporated into the staff's final product or published as a stand-alone product; however, the results may not be readily quantifiable. The red team's ultimate measures of success are not the number of independent products published, or whether its assessments are accurate, or whether its suggestions are adopted, or whether its projected wildcards or unintended consequences actually occur. The team should instead be rated on the quality of its reasoning, the depth and scope of its insight, the professionalism of its products and staff interactions, and the quality and scale of its actual, though often intangible, contributions to the staff's work.

4. Command Red Team Membership Considerations

a. **Selection Criteria.** Unique life experiences, unconventional educations, and distinct personality traits can often contribute to the development of a keen strategist, an insightful analyst, or a thoughtful advisor. Red team member selection should likewise consider factors beyond traditional career development paths, professional military education, and technical training. Regardless of natural talents, red team members should receive formal red team training.

b. **Diversity.** A team composed of members drawn from different functional areas or analytic backgrounds is more likely to frame problems using a wider range of alternative perspectives, to recognize a more varied set of weak assumptions, and to see a more complex mix of threats and opportunities. In addition, teams drawn from a variety of career fields and experiences tend to have more credibility across the staff and may be able to provide meaningful support more quickly than a team with less varied backgrounds. A team drawn solely from a single functional area can, over time, come to be seen as a competitor by members of that functional area or only relevant to that functional area.

c. **Turnover.** The periodic influx of new talent can enhance the team's credibility and promote new thinking. New team members can also help avoid a stagnating team that unknowingly begins to perpetuate its own hidden assumptions and biases or that unconsciously begins to conform to the staff's positions. In addition, the stress of constantly advocating unorthodox positions and combating organizational influences can over time cause some individuals to censor themselves, avoid engagement, or lose morale.

5. Command Red Team Leader

a. **Responsibilities.** Next to the commander and COS, the red team leader has the greatest impact on the ability of the team to support the staff. The team leader represents the team to the commander and the staff, and the team's success will depend on the

leader's ability to maintain smooth working relationships. The red team leader must be an effective leader, manager, and instructor, especially when leading cadre or matrixed teams or ad hoc efforts. The red team leader should also have sufficient stature and grade to promote the credibility of the team across all staff agencies.

b. **Education.** As soon as practical after selection, CCMD team leaders should attend the University of Foreign Military and Cultural Studies' (UFMCS) red team leader course. If applicable, red team leaders should also complete Joint Professional Military Education (JPME) Phase II prior to assumption of the position.

c. **Cautions.** The red team leader is responsible for the quality of the team's work. As such, the red team leader must be thoroughly familiar with the potential effects of organizational influence and human biases and be ready to counter these effects within their own team. For example, the leader should be aware of their own biases and potential to normalize, or even make more controversial, the team's products during editing and approval.

6. Command Red Team Education and Training

The educational preparation of red team members assumes the process of stimulating or facilitating critical and creative thought is a distinct skill that can be taught. In addition, a team member's ability to stimulate thought in others is often more important than that team member's own creative talents.

a. **Army Lead Agent.** The United States Army Training and Doctrine Command's UFMCS serves as the executive agent for red team training within the Army and is frequently used for red team training across the Department of Defense (DOD). As such, UFMCS coordinates red team-related curricula and courseware in Service and JPME venues.

b. **Red Team Core Competencies.** Command red team internal training should ensure members of red teams understand all relevant aspects of their command's OE, the specific processes used by their organizations, and their command's plans and intelligence assessments. Command red team members should have the following skillsets:

(1) **Critical Thinking.** Red team members should be skilled in logic, game theory, argument deconstruction, problem framing, structured analysis, assumption identification, critical reasoning, and other critical thinking techniques. They should be familiar with methods to identify logical fallacies and other sources of institutional and individual error.

(2) **Organizational and Human Dynamics.** Red team members should be familiar with formal and informal decision-making processes, and identification and remediation of potential sources of analytical error and bias associated with military organizations, social groups, and individuals.

(3) **Staff Support.** Red teams should know how to integrate red team processes with regular planning, operations, intelligence support, assessment, and other staff functions, including the joint operation planning process (JOPP) and joint intelligence preparation of the operational environment (JIPOE) processes.

(4) **Alternative Analysis.** Red team members should be familiar with techniques to stimulate the production and exploitation of new, original, independent, and unconventional perspectives, concepts, assessments, and COAs. In addition, members of the command red team should be familiar with existing assessments and prevailing wisdom, and the rationale behind them, so that they can develop alternative perspectives.

(5) **Situational Dynamics.** Red teams should know how to explore potential second and third order effects, unintended and collateral effects, high impact/low probability events, unseen threats and opportunities, chaos, and the interplay of multi-variable dynamics. In addition, members of the command red team should understand the specific factors and dynamics that apply to their particular area of responsibility (AOR) and problem sets.

(6) **Sociocultural Analysis.** Red teams should have a solid understanding of the adversary and other relevant actor mindsets, cultural traits, world views, historical narratives and grievances, and operational perspectives applicable to their assigned AOR and area of interest, as well as area-specific sociocultural, human factors, and anthropological expertise. Red teams should be able to interpret information and assess situations from the perspective of adversaries, partners, and other relevant actors. Command red teams should be proficient in methods to forecast the probable behavioral responses of specific actors based on their known or inferred perspectives, mindsets, interests, doctrines, and decision-making processes.

(7) **Adversary Emulation.** Red teams should be able to interpret information and assess situations from the perspective of adversaries, partners, and other relevant actors. Red teams should be proficient in methods to forecast the probable behavioral responses of specific actors based on their known or inferred perspectives, mindsets, interests, doctrines, and decision-making processes. Adversary emulation is not role-playing all aspects of the enemy (a role reserved for the red cell) such as capabilities, force structure, doctrine, and rules of engagement.

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CHAPTER III RED TEAM CHALLENGES

“[An] Important reason to consider alternatives involves the fact that analysts do not process information entirely ‘objectively’ because of biases in human perception and judgment.”

**“Making Sense of Transnational Threats”
by Warren Fishbein and Gregory Treverton
The Sherman Kent Center for Intelligence Analysis Occasional Papers
Volume 3, Number 1, October 2004**

1. Overview

a. The red team must understand not only the external OE but also the organizational culture of its parent command.

b. Most of the internal issues that concern the red team derive from the fact that staff officers are human and staffs are social groups. Many of the subjective cognitive processes that can hinder analysis and decision making by individual staff officers can also be manifested by groups of individuals or staffs.

2. Two Environments

a. Commanders, planners, operators, and intelligence analysts consider the OE when assessing situations and developing military options. The red team assesses the same political, military, economic, social, information, infrastructure, physical, and time factors as the rest of the staff, but with the specific objective of developing alternative perspectives and interpretations or ones that challenge their assumptions regarding the environment.

b. The red team not only needs to understand the problem the staff is considering, but it also needs to understand two environments: the individual’s cognitive environment and the organizational culture of the staff. Understanding these two environments is a necessary prerequisite to the red team’s task of stimulating critical and creative thought and countering the influence of organizational constraints that might sway, constrain, or prejudice the staff’s thinking.

c. The internal issues that the red team addresses are inherent to all organizations. They are the natural, unavoidable consequences of the fact that staff officers are human, staff agencies are human social groups, and problem solving involves cognitive human processes. Conscientious staff officers will take affirmative steps to minimize the potential for these factors to constrain thinking and inhibit analysis. However, even the most diligent officers can be too close to a problem to see their own hidden assumptions and biases. As a primary task, the red team is expected to use its independent perspective and special training to help the staff counter these hidden assumptions and biases.

d. The red team itself is not immune from the hidden assumptions and biases of human factors. The team's perceptions and thinking will be shaped by its own internal conditions, but the red team's internal conditions will differ from those of the staff at large, thus enhancing the team's ability to see issues differently than the rest of the staff. Rather than an unbiased observer, the red team is actually a differently-biased participant.

"No amount of forewarning about the confirmation bias (belief preservation), the rationality bias (mirror imaging), and other powerful but perilous shortcuts for processing inconclusive evidence that flow from the hardwiring of the brain can prevent even veteran analysts from succumbing to analytic errors."

**Jack Davis, *Why Bad Things Happen to Good Analysts*.
Analyzing Intelligence, Origins, Obstacles, and Innovations.**

3. Individual Factors

a. Helping counter the effects of individual analytical error is a core red team function. It is also one of the most difficult red team tasks, requiring judgment and tact to affect positive outcomes. Analysts seldom welcome suggestions that their work might have been compromised by analytical error. The potential for a negative response is reduced when the red team joins or consults with an analytical effort early in the process, as the red team is more likely to be seen as sharing ownership in a common task.

b. The issue of analyst expertise deserves special attention. Generally, individuals with a significant investment in a specific point of view will have trouble reassessing their assumptions and adopting new paradigms. The more experienced and confident an analyst or staff officer might be, the more they may doubt the ability of the red team to make a meaningful contribution to their efforts. Red teams do not necessarily contain the same expertise of the staff officers they support, but they can offer additional benefits. Accordingly, the red team should strive to use its outside vantage point to see issues that might escape others. In addition, the red team can focus on helping individuals consider the possibility that their expertise on a problem set might cause them to discount or misinterpret new information.

c. The following factors may be manifested by individuals or by cohesive groups of individuals. Most of these factors are closely related, with similar underlying causes and dynamics. In many cases, the primary red team contribution will be the development of an independent, alternative assessment. Potential red team remedies are addressed in Chapter IV, "The Red Team Operations."

(1) **Logical Fallacies.** There is a well-developed body of academic material describing the various types of logical fallacies. Red teams should be familiar with all categories of logical fallacies and be ready to discretely point them out when they might undermine the quality of the staff's final product. A summary of common logical fallacies can be found in Appendix A, "Common Logical Fallacies."

(2) **Confirmation Bias.** There is a natural human tendency for analysts to see what they expect to see; to actively, but selectively, search for information that confirms their beliefs; to interpret new information in ways that reinforce their hidden assumptions and existing paradigms; and to overlook, discount, or misinterpret information that might contradict their preconceived notions. Analysis can be compromised when analysts see what they expect to see, and the impact of analytical products can be degraded when consumers hear what they expect to hear. One red team role is to propose tests to validate or invalidate such hidden assumptions. Encouraging analysts and decision makers to re-evaluate their biases is one of the more difficult red team tasks, requiring tact and patience.

(3) **Status Quo Bias.** Analysts, staff officers, and decision makers often unconsciously assume that the future must resemble the past, that current trends will continue indefinitely without change, or that conditions may slowly evolve at a convenient, manageable pace. The potential for fundamental, revolutionary change may be dismissed without a rigorous examination of visible indicators of change. The red team may help counter this “status quo bias” by promoting analysis of competing hypotheses (ACH), “what if?” analysis (also known as “backcasting”), exploration of signposts of change, or similar techniques.

(4) **Fighting the Plan.** After an individual or group has worked to produce an assessment or plan, there is a natural resistance to seeing and accepting reasons to revise the completed product. The conditions or situation that the original product was based on may have changed, but the authors may be predisposed to dismiss evidence that their work needs to be re-accomplished. This sunk cost bias could devolve into efforts to promote work that has been overcome by events or to execute plans regardless of new conditions and requirements. Critical reviews may help highlight mismatches between existing products and the actual environment.

(5) **Paradox of Expertise.** The more an individual or organization is invested in a particular conceptual framework that has worked for them in the past, the more difficult it will be for them to accept new evidence that does not fit into that framework. This can leave the individual or staff vulnerable to missing early indications of radical change or misinterpreting the current situation. Key assumptions checks may help uncover inconsistencies in a conceptual framework, but it will often take time and patience to persuade an experienced staff officer to abandon familiar assumptions that have been successful in the past.

“We tend to perceive what we expect to perceive.”

Richards J. Heuer
“Psychology of Intelligence Analysis,” 1999

(6) **Mirror Imaging.** A common error is to unconsciously assume that the thinking and actions of an adversary or other actor are based on the same values, cultural imperatives, doctrines, perceptions, operational requirements, and limiting factors that guide friendly decisions. A psychological drive for coherence often causes individuals to

fill any gaps in information with what they believe makes sense, thus unintentionally and unknowingly setting the stage for flawed plans, assessments, and decisions. The red team can counter tendencies to mirror image by leading in-depth reassessments of the OE, with particular attention to the adversary's mindset, perceptions, sociocultural factors, and doctrines, and by emulating the adversary to demonstrate the adversary's likely interpretation of the situation and probable responses.

(7) **Ethnocentrism.** Military planners or intelligence analysts may be familiar, or mistakenly believe they are familiar, with a partner's or an adversary's social or military culture, and make unfounded, value-driven assessments of the worth of that culture and by implication, the quality of that culture's decision making and military capabilities. The red team can help counter this by leading a focused reassessment of the culture, its doctrines, and its asymmetrical capabilities. It is not necessary that the red team have SMEs on the culture in question for its members to detect cultural contempt and lead others in a reassessment of their prejudices. Proper use of red team techniques such as adversary emulation can also be used to demonstrate the validity of the adversary's mindset, given their unique circumstances.

(8) **Policy Bias.** Leaders may request assessments to support policy development, and conscientious analysts will take care to avoid shaping their assessments to support any preferred position. However, even when an analyst is committed to developing an objective assessment, the fact that the leadership is interested in a particular issue can divert analytical efforts away from other questions that may be more relevant to the broader issues. In such situations, the red team can help frame the problem and ensure the issue presented to the staff does not incorporate the fallacy of *petitio principii*, or "begging the question," or other fallacies that could prejudice the conclusions.

(9) **Information Overload.** When the amount of information on hand exceeds the ability of an individual or working group to process it, staff officers may fall back to using familiar assumptions and paradigms and discarding information that does not fit into these frameworks. This could lead them to overlook or misinterpret information that might otherwise prompt them to reassess assumptions or recognize signposts of impending change. It can also lead individuals, out of expediency, to adopt previously-approved community positions without rigorously considering alternatives. The red team can independently explore other perspectives as the rest of the staff continues to process the information at hand.

(10) **Oversimplification and Tunnel Vision.** Driven by time constraints or information overload, some staff officers or planning teams may narrow their focus to concentrate on quickly-understood information that neatly fits within functional-area specializations or that can be quickly organized using simplistic, non-controversial paradigms. This can facilitate efficient staff work that meets most operational needs. However, oversimplification may result in the exclusion of critical information and interpretations from consideration. The red team can detect signs of tunnel vision by watching what staff officers and staffs do not address. The red team also has the option

of stepping away and holistically assessing the problem and independently developing its own set of evidence, assumptions, and conclusions.

(11) **Hidden Assumptions.** All analysts and planners base their thinking on hidden assumptions, historical analogies, and paradigms that exist below the level of conscious thought. In many cases, these cognitive foundations are never tested for validity or relevance. Hidden assumptions can introduce unintended bias into analytical efforts. In addition, individuals who are unaware of their hidden assumptions may overlook or deny new information that should prompt a reassessment of their analytical foundations. The red team's outside vantage point can help it identify implicit assumptions that others may not be aware of and suggest they be made explicit and systematically examined.

(12) **Assuming Away the Problem.** When evaluating some problem sets, planners and analysts may adopt assumptions, or problem framing, that make the problem "solvable." One red team role is to remind staff that some assumptions, however convenient, may actually be invalid, and some problem sets actually may not be solved without first changing conditions and allocating additional assets.

(13) **Overly Confident or Overly Pessimistic.** Some problem-solving efforts may begin with the presumption that success, or failure, is the preordained outcome. Previous experience with the problem at hand can condition analysts, planners, and decision makers to anticipate one outcome or the other, and to interpret information and assessments in this light. The red team can counter such mindsets by suggesting historical analogies and using actual historical examples to broaden thinking and challenge the use of false analogies through alternative analysis and historical precedent.

(14) **Failure to Make the Call.** Understanding the OE is often more dependent on the quality of analysis than the volume of information on hand. Past a certain point, additional information may improve confidence in an assessment without actually improving the accuracy of the assessment. When analysts and decision-makers hesitate to draw definitive conclusions based on available information, the red team may circulate its own independent assessment, based on informed speculation, to re-energize the analytical effort. By attacking the red team's speculative strawman, the staff essentially uses the information it has on hand to test hypotheses and draw conclusions.

(15) **Elegance vice Insight.** Persuasive arguments and repetition of conventional wisdom can, in some venues, be more convincing than reasoned analysis. An eloquent or dominating individual may be able to use persuasive rhetorical arguments or force of personality as a substitute for reasoned analysis, swaying others to bypass regular processes and adopt the individual's position. Red teams should be prepared to use contrarian techniques to counter the human tendency to assume well-expressed conclusions are based on strong analysis.

4. Organizational Factors

a. A trained, cohesive staff can be a force multiplier. However, the speed, efficiency, unity, and expertise of a well-functioning staff can, in some cases, unintentionally generate a number of systemic issues that can subtly compromise the quality of its work and inhibit its ability to adapt to change. Cohesive teams may unconsciously stifle dissent and subtly discourage alternative thinking. Such dynamics are a direct consequence of the normal social dynamics and hierarchical structure of military organizations. Helping counter the effects of these institutional influences, while simultaneously presenting alternative perspectives, requires a cautious, balanced approach by the red team. The team must operate within the staff's existing social network and organizational structures and conform to its formal and informal business practices without disrupting its functions, diverting effort away from its primary task, or hindering its ability to meet critical deadlines.

b. Optimally, red teams should join working groups as they are formed, so they are included in the group's initial team-building processes and are integrated into the team's informal social structure. A red team that participates in a working group that has already formed itself into a cohesive unit will, for a time, operate at a disadvantage. Until it establishes its credibility with the other team members, its efforts to provide alternative and contrarian inputs will meet more resistance and potentially be seen as disruptive. When participating in working groups, red teams should, whenever possible, submit inputs, such as contrarian views or alternatives, to the group to incorporate into the group's own output, rather than produce a separate, stand-alone output. Groups are less likely to view dissent, alternatives, or critique as a threat when they ultimately own the view.

c. Participating in a working group early allows the team to participate in key discussions and decisions that are typically addressed only during the initial stages of the group's deliberation, such as identifying the correct problems to address. For example, the red team can have its greatest impact on the Adaptive Planning and Execution (APEX) system and joint planning by providing input in the early stages of operational design and mission analysis. In addition, due to its involvement with these foundational issues, the red team itself will be much better prepared to participate in later stages of the planning processes. The red team's credibility and its familiarity with the issues, gained during its early work with the team, optimize its ability to support the efforts of an operational planning team (OPT). In turn, the OPT's understanding of the red team's role and the OPT's willingness to consider red team inputs are also greatly improved through its early and continuous interaction with the red team. These considerations apply to all other forms of problem solving and decision support that the red team may be involved in.

d. All planning teams, analytical cells, and problem-solving groups are vulnerable to similar influences. Conditions that promote these influences are inherent in all organizations, but can be exacerbated in stovepiped, specialized agencies nested within hierarchical bureaucracies. These institutional influences are not necessarily counterproductive. Individuals within efficient decision-making organizations will generally share common world views, operate on the basis of mutual but unstated

assumptions, and efficiently focus their efforts on assigned tasks while excluding seemingly-irrelevant issues. These traits usually indicate that a working group has a common understanding of its goals and the methods it intends to use to achieve them. However, efficient decision-making processes may not always deal well with unusual problems or novel conditions, where a working group's unstated assumptions do not correspond to the situation at hand.

e. Common forms of institutional bias and influence are summarized as follows. The red team must be integrated into the working groups and simultaneously maintain sufficient intellectual and institutional independence to be able to see and help counter these common forms of institutional bias and influence.

(1) **Groupthink** (see Figure III-1). Cohesive working groups composed of like-minded individuals may promote solidarity, consensus, and professionalism, but they may achieve these benefits at the expense of not fully examining assumptions or considering alternatives. Such organizations can make decisions quickly and efficiently, but their conclusions and solutions may not always be optimal, especially in novel situations or when dealing with paradigm shifts. Individuals who try to get the group to reexamine its stance on an issue may be marginalized, especially if they are seen as outside interlopers who have not earned membership in the group. The red team can help counter groupthink by joining the group early and sensitizing the group to its role, and by contributing to the group as it acquires its sense of identity. Red teams can support people who raise contentious issues and minority views that would otherwise be marginalized or ignored by the group. This will slow down the process, allowing more time to better think through and evaluate the problem, rather than reaching a premature consensus. The group will be more likely to accept input from an accepted group member, and any red team input will more likely be considered if the group has been attuned to the team's role.

CHARACTERISTICS OF GROUPTHINK

- Illusion of unanimity.
- Self-appointed "mindguards" who protect the group from conflicting information.
- Perception of infallibility, promoting excessive optimism and risk taking.
- Unquestioned belief in need for group to continue, despite changing conditions; tendency to rationalize away contrary information.
- Stereotyped views of the adversary and other relevant actors.
- Pressure for conformity regarding the group's assumptions, decisions, and processes.
- Self-censorship of deviations from consensus.

Figure III-1. Characteristics of Groupthink

(2) **Tribal Think**. Some working groups include action officers whose primary task is to protect or advance their directorate's position during the group's deliberations. This can help improve the group's work by ensuring the approved positions of all

interested agencies are incorporated into the final product. However, if not carefully managed, tribal think can also result in a “lowest common denominator” product that is acceptable to all stakeholders but may not address exceptional circumstances, revolutionary change, or previously unseen threats or opportunities. The red team can help counter this trend through tactful contrarian techniques that point out mismatches between the various positions advanced within the group and the actual problem being addressed. In exceptional circumstances, the red team may produce and disseminate an alternative, less conservative product to challenge the group’s product and stimulate more aggressive thinking.

(3) **No Think.** For a variety of reasons, a working group may conduct a superficial, pro forma analysis of the problem at hand and then apply a standardized, off-the-shelf solution. Such approaches may be used when the group sees the problem as a routine, straightforward requirement that does not require new analysis or original solutions, as an urgent requirement that does not allow time for extended study, as an effort whose options are limited by established policy, or as an assignment that includes a directed solution. The red team in such situations makes an independent determination regarding the need for new thinking. If the red team believes the problem may require more extensive analysis, it should share its concerns with the tasking authority, the working group’s leader, or the group at large. The red team should also be prepared to use the full range of techniques at its disposal to encourage critical and creative thought.

(4) **Boss Think.** Occasionally, a working group knows—or thinks it knows—what the leadership wants, and focuses its efforts on reaching a predetermined conclusion. The red team’s role is not to second-guess the leadership, but to help commanders ensure that all aspects of a problem are considered before decisions are made. If the red team believes the leadership has not considered all relevant perspectives, then it should tactfully address it with the leaders. If the red team believes the working group is incorrectly assuming the leadership expects a certain conclusion, regardless of the situation, then the red team should talk with the leaders and the senior members of the working group. If necessary, the red team may produce an independent product that addresses its concerns for review by the appropriate leaders and members of the working group.

(5) **Silent Think.** Some members of a working group may have useful perspectives or ideas to contribute, but refrain from sharing them with the group. They may hold back due to negative feedback in earlier situations, deference to authority or expertise, a perception that trying to change the course of events would be futile, or simply because they prefer to fully formulate their thoughts before commenting. In such circumstances, the red team has two tasks. One task is to solicit ideas from those who are not speaking up and encourage them to voice their thoughts, or, if necessary, to convey that individual’s ideas to the group. The other task is to encourage the group to be more open to a free exchange of wider views.

(6) **False Consensus.** In any group, there are likely to be persuasive individuals who are able to sway others to their position regardless of the merits of their

case, closed-minded individuals who refuse to consider any alternatives, and uncompromising individuals who strictly adhere to preconceived notions or community positions. Such individuals can serve a positive role by ensuring that more views are presented, but they may also frustrate efforts to fully examine other alternatives, and they may cause the group to adopt the position of its most vocal or immovable member in order to move on to other tasks. In such cases, the red team may have to use its own powers of persuasion to broaden the scope of deliberations, taking care to avoid approaches that could generate resistance. In addition, the red team itself needs to ensure it does not adopt an approach that might unduly sway the group or constrain deliberations.

(7) **Death by Coordination.** With or without red team support, a working group may consider all aspects of a problem, explore the full range of potential solutions, and develop a well-crafted draft product. During subsequent coordination, well-meaning staff officers and section chiefs might make incremental modifications to the draft and tone down one contentious point after another, successively moderating the draft's language, stripping away its key judgments, and watering down its impact. In such situations, the red team may be able to circulate its own separate product, one that incorporates all the working group's key points, but that is reviewed and approved through the red team's separate staffing channels. Essentially, the red team can act as the staff's backchannel surrogate, bypassing roadblocks in order to present less diluted assessments, recommendations, unconventional findings, or to propose unorthodox solutions to key decision makers.

(8) **Institutional Inertia.** Working groups may decide that existing assessments are adequate for the purpose at hand, assuming that the OE has not changed enough to require a new look, or presuming that published community positions already incorporate all perspectives to the relevant problem. Since a decision to revise standing plans or products could result in considerable new work by specific members of the group and would delay progress by the entire group, there is strong pressure to accept previously published assessments as they are. If the production of the original assessment was especially difficult or contentious, the pressure against revising it will be even stronger. Operationally, the group could expend more energy in a futile effort to execute the plan as written, regardless of circumstances, than would be required to adapt the plan to meet new requirements or exploit new conditions. The red team mission is to encourage the group to critically re-examine existing plans and assessments to verify their validity, and when necessary, point out sections that may no longer apply, and to offer alternative perspectives that the standing assessments may not address.

(9) **Hubris.** Overconfidence and complacency can blind a staff to changing conditions and adversary adaptations. Staffs may assume their analysis is flawless and any alternative assessments must be inherently invalid or that their plans have anticipated all contingencies and will be executed exactly as planned, with no unintended consequences or negative second and third order effects. Red teams were specifically created to help overconfident staffs avoid such potentially-fatal errors, especially staffs that tend to deny their need for red team support. Staffs operating under the illusion that

they are infallible present red teams with their most difficult problems. Such staffs tend to quash critical and creative thought and contrarian exercises that question the staff's processes or conclusions. Complacent staffs make the most extreme demands on the red team's interpersonal skills.

(10) **Conflict of Interest.** The natural human tendency to further one's own beliefs or agenda can cause even well-meaning officers to downplay, water down, or simply eliminate valid red team output if that output conflicts with their own resources, reputation, or practices.

5. Multinational Considerations

a. **Multinational operations may have multinational red teams.** Some of the organizations that employ red teams may have multinational components, either as an integrated or parallel command structure, or in the form of national liaison officers. In some of these cases, the US commander may assign members of the foreign forces to serve on the US red team or to regularly collaborate with it. Such red team interactions with foreign officers have many advantages, but like all interactions with foreign officers, they can also pose unique cultural issues and potential security challenges.

b. **Foreign officers can improve the red team's cultural perspectives.** Foreign officers, whether assigned to the team or informally collaborating with it, can help the red team understand the informational and cultural aspects of the OE. In addition, they can be especially useful when developing alternative views of the OE or situation. [b1]The red team, nevertheless, should be aware that some foreign officers, however well-intentioned, may have their own unconscious biases and hidden agendas, and their inputs should be used judiciously.

c. **Foreign officers may have foreign agendas.** Foreign officers are subject to their own national chains of command. Input they provide to the red team may need to be pre-approved by their leadership. Their participation may also be contingent on their leaders having the option to approve any resultant red team final product. The red team should be aware that foreign officers may use their membership on the team to advance foreign policy priorities.

d. **Disclosure and releasability may be a concern.** Releasability and disclosure are major considerations, and these may vary depending on whether the foreign representatives are exchange officers, who typically sign nondisclosure agreements, or liaison officers, who usually do not. Red team interactions with foreign officers and distribution of red team products must conform to existing intelligence sharing agreements and disclosure authorities. Since red teams often address multiple issues simultaneously, care must be exercised to ensure foreign participation in red team deliberations is strictly confined to approved subjects. In general, security issues may be less of a concern when operating as part of a long-standing alliance, such as the North Atlantic Treaty Organization, or when the conditions of a multinational operation, and subsequent red team deliberations, are limited to narrowly defined missions.

e. **Foreign members can facilitate understanding of allied and partner perceptions.** The OE not only includes the perceptions and mindsets of our adversaries but also those of our partners. A red team with foreign members can excel at providing these perceptions and may be able to provide unique insights that a US-only red team may overlook. The red team can assist the US staff in understanding the cultural traits that influence a multinational partner's constraints, capabilities, and political will, thus facilitating the development and maintenance of important military relationships.

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CHAPTER IV RED TEAM ACTIVITIES

“One thing a person cannot do, no matter how rigorous his analysis or heroic his imagination, is to draw up a list of things that would never occur to him.”

**Thomas Schelling
Nobel Prize Winner, 2005
“Impossibility Theorem”**

1. Overview

a. Red teams are general purpose decision support assets that can enhance problem-solving efforts in all functional areas, in all organizations, and at all echelons.

b. Red teams employ a variety of tools to frame problems, challenge assumptions, analyze conditions, explore solutions, and support decision making. The most appropriate tools are listed in this chapter according to the area of effort they most frequently support, but these tools should be freely adapted to support any area of effort. To assist red teams, a full range of current tools, techniques, and best practices, is located on the UFMCS website at <http://usacac.army.mil/organizations/ufmcs-red-teaming/schedules-and-handbooks>. The areas of effort are: decision support, critical review, role play, and vulnerability testing.

c. While red teams can support decision making in all functional areas, they can be especially useful in those areas where complex variables must be considered, where precedents may not be applicable, and where the selected COA is likely to impact multiple aspects of the situation. Red teaming should be considered when addressing problem sets in the following functional areas:

- (1) Doctrine and tactics development.
- (2) Operational, campaign, contingency, and interagency planning.
- (3) Operational design and commander’s vision of the problem.
- (4) Exercise development and evaluation.
- (5) Force structure organization and development.
- (6) Assessments of systems and processes.
- (7) System test, evaluation, and acquisition.
- (8) Intelligence collection and analysis.

- (9) Basic research, experimentation, and technology assessment.
- (10) Strategic communication, themes, and messages.
- (11) Mitigation of information outside government control.

d. Red team support should be considered when planning any complex operation, especially those difficult problem sets where the mindsets and perspectives of the adversaries and third parties are major planning factors. Such complex operations include, but are not limited to, stability operations, counterinsurgency, counterterrorism, military information support to operations, military deception (MILDEC), countering WMD, foreign internal defense noncombatant evacuation operations, civil-military operations, and humanitarian relief operations.

“Red Teaming is an intellectual process. There is no simple formula or checklist that guarantees the insights promised by the red teaming concept.”

**University of Foreign Military and Cultural Studies
Red Team Handbook, April 2012**

2. Decision Support

a. All red team activities support decision making, even when the primary focus is on other area of effort. Decision support may consist of providing observations to key individuals at pivotal moments, participating in group discussions and brainstorming sessions, or delivering formal presentations or written products.

b. It is a common fallacy to regard the red team, while providing decision support to a planning team or problem-solving initiative, as a representative of any office the individual red team members reside in. The red team should preclude such misunderstandings by ensuring the staff understands its actual role and by deferring questions related to the team member’s home office to the official representative of that office.

c. The following red team techniques, along with those described elsewhere in this chapter, have proven effective when providing decision support.

(1) **Devil’s Advocacy.** Devil’s advocacy is more than reflexively countering any propositions advanced by others on the staff. Devil’s advocacy, Socratic questioning, and other contrarian approaches should focus on constructively challenging the assumptions, assessments, and interpretations that shape judgments about the OE, the situation, and the problem. The devil’s advocate’s goal is to temporarily dismantle consensus, set aside preconceptions, and establish conditions that invite the staff to consider whether the problem is correctly framed, to consider taking a fresh look at key information, to consider alternative interpretations of available information, to consider new assumptions and hypotheses, to consider a wider range of CONOPS and COAs, and

to consider whether the staff is assessing the right measurements. Extreme tact may be necessary to encourage the consideration of alternatives when the staff is facing deadlines, its thinking is constrained by long-standing, hidden and unquestioned assumptions, or it does not recognize or accept signposts of change. Effective adversary emulation can also support devil's advocacy. Overall, the goal of a devil's advocate is to encourage others to open themselves up to new information and interpretations. The purpose of the technique is not to prove a particular point or present a better solution, but to challenge the staff to reexamine assumptions and consider alternatives. Devil's advocacy and contrarian approaches are appropriate whenever decision making appears to be based on strong consensus or established mind-sets. See Appendix B, "Devil's Advocacy," for suggested devil's advocacy techniques.

(2) **Problem Framing.** Framing the right problem is critical to establish the trajectory for all subsequent problem-solving efforts. If the problem is not correctly framed, then the resultant assumptions, mission statement, CONOPS, and definition of the OE will be incorrect. Helping develop the conceptual models and operating hypotheses that frame the problem is often the red team's first contribution to a problem-solving effort. The team's detached vantage point, focus on alternatives, and promotion of critical thinking can help the staff visualize all relevant variables and ensure a more rigorous search for root causes and critical variables. In many cases, the context of a problem and the basis for its solution cannot be fully understood unless relevant cultural and perceptual factors are also understood. Defining the desired end state is as important as framing the problem and involves many of the same red team processes.

(3) **Key Assumptions Check.** Many strategic errors in US history can be traced in part to the unquestioned adoption of assumptions that ultimately proved to be wrong. Subjecting key assumptions to heightened scrutiny is an important early step in any project, and periodic reexaminations can help ensure decisions are based on sound premises. Challenging assumptions can uncover hidden relationships and links between key factors, identify developments that may bring other aspects of the problem into question, identify opinions and clichés masquerading as facts and assumptions, identify future conditions that could undermine current assumptions, and prepare the staff for new or evolving conditions that might otherwise result in surprise. Challenging existing assumptions can also provide an opportunity to propose alternatives that may carry less risk. Finally, challenging assumptions can help ensure that the staff does not assume away critical aspects of the problem.

(4) **Quality of Information Check.** Understanding the nature of the information used to arrive at a decision is an important part of understanding the risks associated with that decision. Checking the integrity and reliability of the information used in analysis and decision making should be a continuous process. The red team may be an ideal asset for performing quality of information checks due to its relative independence, critical approach, and freedom to judge information without assuming responsibility for the task of correcting the information. Quality of information checks can reveal inadvertent errors in processing, translation, or interpretation; can check for

corroboration of critical reports; and can reexamine previously dismissed information in light of new facts or changed circumstances.

(5) **Stakeholder Mapping.** Using contrarian or adversary emulation techniques, plus alternative perspectives and cultural expertise, red teams can assist in the identification of the individuals, groups, cultures, organizations, factions, movements, parties, nations, and states that are part of the problem and its solution. These can include formal and informal groups, groups with clear borders and groups with indistinct boundaries, groups that impact the problem directly and those that have less tangible effects, and poorly defined groups that have not yet earned a formal designation. Such groups may impact the problem and facilitate or hinder a solution through action or inaction. This same process can be used to help define the limits of the OE.

(6) **Cultural Expertise.** The most critical aspects of the OE may be subjective factors, such as the mindsets, perceptions, and ambitions of key personalities; national/ethnic/sectarian divisions and aspirations; historical and contemporary grievances; ideological, theological or cultural imperatives and doctrines; perceptions regarding the legitimacy of national and cultural institutions; emotional reactions to recent events and changing conditions; perceived credibility of media sources; the effects of information manipulation; philosophical and military doctrines; and other intangible factors that influence how people see, feel, think, and act. One key red team role is to highlight the relevance of these factors and estimate their effects. These are often presented in role-played first-person narratives from the adversary's perspective. There may be some overlap in the contributions of the red team and that of the intelligence staff's sociocultural analysts. The red team, however, is chartered to engage in informed speculation, while sociocultural analysts are more generally limited to estimates based on validated intelligence reporting.

(7) **Accounting for Chaos.** The red team is sensitive to the potential for unexpected events and multi-variable dynamics to disrupt carefully developed linear plans. Low probability/high impact, wildcard, and paradigm-changing events can all severely complicate the execution of a plan, but if these potential events are identified in advance, then plans can be adjusted to reduce the potential impact of disruptions. The red team can also explore the potential for unintended consequences, second and third order effects, third party actions, and counter- and counter-countermeasures that could complicate efforts to attain the desired end state. These red team efforts may look like the team is denigrating the plan by focusing on hypothetical roadblocks to its successful execution. However, the red team is helping anticipate and avoid problems in advance, before they appear as catastrophic surprises.

(8) **Liberating Structures.** Red teams can use liberating structures techniques to elicit good ideas in brainstorming groups when cognitive biases and organizational culture prompt individuals to self-censor ideas or not fully think through ideas. Liberating structures help to release a group in deliberation from constraints unrelated to the problem itself.

3. Critical Review

a. Red teams can also conduct independent critical reviews of concepts, organizational designs, wargames and exercises, experiments, and processes to identify potential weaknesses and vulnerabilities. Overall, critical reviews increase operational effectiveness and reduce risk by stimulating critical and creative thought, by expanding the scope of analysis to consider a wider range of perspectives and potential solutions, and by uncovering flaws and weaknesses before decisions are finalized and missions are executed.

b. A critical review may focus on the information that was used to support a decision (the “input”), the thinking used to understand and act on the information (the “process”), or the resulting decision or COA (the “output”). Some critical reviews may focus on helping the staff understand a problem, while others may focus on helping the staff see more potential solutions to a problem. If successful, a critical review can improve understanding of complex issues where information is incomplete, ambiguous, or deliberately distorted. An effective review may prompt the staff to consider new COAs, plan against new contingencies, increase collection and analysis in new directions, or take some other affirmative action to improve understanding, sharpen thinking, and reduce risk. In some cases, a critical review may affirm the staff’s thinking and increase confidence in its original assessments and decisions.

c. Critical reviews draw on all the red team’s core competencies, especially critical thinking, alternative analysis, and situational dynamics. Critical reviews place the red team in the role of devil’s advocate and staff contrarian, constructively helping the staff see more perspectives, consider more interpretations, visualize more factors, and explore more alternatives, while simultaneously avoiding analytical errors and minimizing institutional constraints. A red team drawn from diverse backgrounds is better prepared to conduct critical reviews.

d. When conducting a critical review, the red team must first understand the customer’s objectives. For example, a commander may request a review of a plan or the plan’s supporting intelligence estimates in preparation for a plan revision. The commander should specify whether they wish to review the finished red team product personally, or whether they want it presented directly to a planning team. Any special instructions, such as a desired focus on the plan’s information operations (IO) aspects, asymmetric aspects of the adversary’s doctrine, or emerging technological advances, or directions to assume that certain regional states will adopt particular stances, should be clarified and understood by the red team. Finally, the format of the final product (e.g., briefing, staff paper, or participation on a planning team) should be specified.

e. Subject to the commander’s direction, the red team may initiate a critical review of existing assessments, warning problems, contingency plans, operational concepts, staff proposals, technological initiatives, exercise or experiment design, or any other issue that may benefit from a critical, independent second look. Due to the individual and institutional factors discussed in Chapter III, “Command Red Team Challenges,” the

need for such reviews may not be apparent to other members of the staff, or the staff may not have the resources to re-evaluate already completed work. A red team's independent point of view provides unique opportunities for it to observe and address key issues.

f. Because the release of an unexpected or poorly timed critical review can disrupt regular staff processes, the red team leader should consider and weigh timing for dissemination of self-initiated reviews and consult with senior leadership for guidance, when necessary. In many cases, and subject to caveat markings and approval authority permission for external distribution, self-initiated critical reviews can be broadcast widely, via online forums or through mass e-mailings, as though pieces to stimulate new thinking throughout an organization or community. In other cases, leaders may wish to limit distribution to a few key staff officers or planning team members, who may use the products to support narrowly-focused or exceptionally sensitive initiatives. A critical review of a particular problem should usually be coordinated with the staff directorate responsible for that problem. Care must be used to ensure that such coordination does not inadvertently slant the critical review's conclusions or minimize its ability to actually influence thinking within the organization. Instead, coordination should be used to ensure that the red team's work is delivered to the right people, at the right times, to complement and enhance the work of the regular staff.

g. When conducting a critical review, it is imperative that the problem be properly framed. Since a poorly framed problem can bias the final results or divert attention away from more critical issues, the team should be especially sensitive to any unstated or hidden assumptions that may be inherent in the tasking. In some cases, it may be necessary to confer with the customer and recommend revisions to the tasking. Alternatively, if resources permit, the red team may address the questions that were asked plus those that the team leader believes were not asked but should have been.

h. Critical reviews often have to overcome individual and organizational hurdles. Critical reviews are conducted within social structures subject to human frailties. Mutually reinforcing biases within an organization can generate resistance to a critical review, which may be seen by individuals and staff agencies as unjustified critiques of their work. Analysts and analytical groups who have successfully supported their command in the past by relying on commonly held assumptions and community positions, uncontroversial analytical paradigms, and proven sources, will tend to resist reviews that seem to question the foundation of their work. A red team focus on intangible cultural factors and adversarial mindsets can run counter to conventional Western modes of thought, which tend to emphasize technology and quantifiable physical forces. If it is known that an adversary is conducting a successful deception operation, a critical review will have to overcome even more hurdles. Accordingly, critical reviews should be tactfully crafted with the objective gaining a fair hearing for contrarian perspectives, rather than simply generating controversy. Critical reviews should emphasize that they are not intended to resolve controversies in favor of one position or the other, but that they are instead intended to suggest new areas for consideration.

i. The following red team techniques, along with those described elsewhere in this chapter, have proven effective in the production of critical reviews.

(1) **ACH.** ACH seeks to identify alternative explanations (hypotheses) and evaluate all evidence that will disprove, rather than confirm, existing hypotheses. ACH can help overcome cognitive limitations, especially the tendency for new information to be interpreted in ways that reinforce hidden assumptions and existing paradigms and to overlook, discount, or misinterpret new information that might contradict preconceived notions. This technique compares different hypotheses against the supporting evidence for each. The objective is to evaluate the strength and consistency of the evidence for each theory in order to judge the strength of each hypothesis. A structured matrix can be used to simplify a review of the analysis. This systematic examination of the evidence makes the technique especially useful for deception detection. It can also show when observed evidence is actually consistent with multiple hypotheses, thus highlighting areas for future analysis. If ACH suggests that current hypotheses are inconsistent with available evidence, then the red team should explore the implications of the other hypotheses that seem more consistent with the facts.

(2) **Indicators.** The red team should periodically review events and trends within the OE to identify early signs of fundamental change and provide warning. These signs may consist of new factors that alter or negate existing paradigms and operating assumptions, or that alter the relative strengths or relationships between existing factors within the OE. Indicators may be found in evolving diplomatic or economic conditions, new governmental or non-governmental organizations, changing social or political dynamics, rising charismatic leaders, military or paramilitary modernization, new technologies, etc. The red team may also create lists of observable events or “tipping points” that may set conditions for or precede a radical change in the situation or OE. Such lists can be used to sensitize analysts to subtle, incremental, seemingly-unrelated incidents that could presage dramatic change in the OE. Overall, identifying signposts of change can reduce the risk of surprise by guarding against “boiling the frog,” the paradox of expertise, and other biases that can inhibit the ability of an analyst or organization to recognize impending revolutionary change.

(3) **High Impact/Low Probability Analysis.** Analysis is used to assess how rare, random, or unlikely events may have dramatic effects on the OE, and to estimate the potential scope of such effects. The same analysis can also be used to assess the impact of localized events or tactical operations on the strategic environment (e.g., videos of unprofessional behavior by individual Service members that lead to global outrage and loss of support for US policy). Red teams may assist planners by estimating future high impact/low probability events that could complicate the execution of a plan or otherwise have major consequences for future operations. Analysis can help counter complacency and overconfidence, which may lead staffs and policymakers to unconsciously assume their plans will be executed exactly as planned, without any interference by the OE, the adversary, or other relevant actors. High impact/low probability analysis reminds analysts and planners that there is no guarantee that the adversary will select the plan’s

estimated most likely COA and that the adversary's actions may not be the dominant factor in the future OE.

(4) **“What If?” Analysis.** “What if” analysis is used to challenge the mindset that a particular event could not occur. First imagining that the event does occur, analysts then look for hypothetical causes of the event to explain how such an unlikely event could have plausibly come about. It is similar to high impact/low probability analysis, but rather than focus on the potential consequences of a certain event, it instead seeks to understand the conditions that could cause the event to come about. This technique is useful for challenging mindsets that discount the possibility that a specific contingency, or category of contingencies, is possible, or that there are no feasible alternative futures that could result from standing estimates. It can also be useful when evaluating potential adversary COAs or when attempting to visualize the factors that might be relevant to a particular warning problem. “What if” analysis is also sometimes referred to as “backcasting.”

(5) **Alternative Futures Analysis.** This form of analysis explores how an event, situation, or OE might evolve, and it attempts to make useful estimates of the operational implications of projected future conditions. It is especially useful when the problem set under study includes a high degree of complexity and uncertainty. Alternative futures analysis takes the current situation as a starting point, and then applies divergent thinking and informed speculation to explore potential alternative outcomes that could result if various aspects of the OE evolve in one direction or another. Rather than make specific, detailed estimates about the future, alternative futures analysis seeks to define the range of conditions that analysts, planners, and policymakers should consider. In contrast to intelligence assessments, which should be founded on reliable reporting, alternative futures analysis may include extensive speculation of the environmental factors that could emerge as the current situation evolves, or if wildcard events occur, and the likely dynamics within such future OEs. Overall, the objective of alternative futures analysis is to open the aperture of the conceptual lens used to visualize possible future conditions, and to stimulate the production of a broader range of answers to the question, “given certain conditions, what might come next?”

(6) **Alternative Data Analysis.** This technique employs the same analytical processes as conventional intelligence analysis, but instead of using validated intelligence reports as a basis for analysis, alternative data analysis intentionally uses information sources that conventional intelligence analysts tend to avoid. This includes information whose validity cannot be verified and material that has already been dismissed by intelligence analysts, plus a wide range of open source material and academic studies. The red team objective is to see what conclusions can be drawn through the use of such materials, and to check whether there are any valid blind spots in conventional estimates. If the red team's conclusions differ significantly from those of the conventional analysis, leaders may request focused collection and analysis to confirm or discount the alternative analysis. If the use of alternative sources leads to conclusions that substantially parallel those of the conventional analysts, then the leaders can have more confidence in the original assessments. This technique can be useful when adversary use of deception is

suspected, when there are concerns that the culture and mindset of the adversary or other actors are being overlooked, or when intelligence analysts have a low confidence in a particular assessment.

(7) **Intelligence Gap Compensation.** In the absence of reliable intelligence, the red team may develop operating hypotheses based on its understanding of the mindsets and perspectives of relevant stakeholders, historical trends and precedents, the potential impact of wildcard events, and assumptions that seemingly unreliable information may actually be valid. The red team should also consider the implications if community positions proven to be incorrect, and the potential second and third order effects of wildcards, low probability/high impact events, and worst-case scenarios. The red team can operate with less burden of proof and need for consensus than traditional analysts. Such red team speculation should be identified as such to avoid misinterpretation.

(8) **Outside-In Analysis.** This technique is useful for understanding how the OE can impact specific problem sets. Conditions within the external environment are defined, without regard for their apparent relevance to the problem at hand. After a consistent picture of the broad environment is formed, logical deductions are made regarding the specific effects the overarching factors might have on narrower aspects of the OE. Successive reiterations are used until specific conclusions can be drawn about the problem set at hand. Differences between these conclusions and the facts or assumptions that are being used in the problem-solving effort can then be examined. This examination may point to facts, assumptions, or operating hypotheses that should be reevaluated.

(9) **Denial and Deception (D&D) Detection.** When the staff is fully engaged in planning and execution, it may have little time to search for signs that it is being deceived, even when it is facing an adversary with a proven record of deception. An independent, skeptical red team is ideally suited to the task of searching for signs of D&D. Several of the techniques outlined above, especially ACH and alternative data analysis, can play useful roles in detecting an adversary's D&D efforts. These techniques can be supplemented by the systematic use of carefully-crafted checklists that list observable events that should be consistent when the adversary is not employing D&D. However, a successfully executed D&D effort may defeat such a checklist. Overall, the most valuable tools a red team has in detecting D&D are its routine use of contrarian techniques, its devil's advocacy, and its alternative perspectives. In situations where the potential consequences of deception are great, where the adversary has strong motivation to employ deception, or where consensus, groupthink, or complacency have set conditions for deception to flourish, the red team should assume that the adversary is employing D&D, and then work within this construct using counter-deception analysis.

(10) **Premortem.** This is a method for helping decision makers anticipate problems. The premortem technique finds key vulnerabilities in a plan. In contrast to risk analysis, the premortem technique begins with the assumption that the plan has failed. 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 COA, its assumptions, and tasks. It breaks ownership of a COA through a divergent process that encourages objectivity and skepticism. The ideal time to use a premortem analysis is just before the wargaming step in the decision-making process, either the wargame that analyzes proposed COAs or the wargame that refines the selected COA into the CONOPS.

4. Adversary Emulation

a. Adversary emulation involves simulating the behavioral responses of an adversary, actor, or stakeholder during an exercise, wargaming event, or an analytical effort, thus helping the staff understand the unique perceptions and mindset of the actor, and helping the staff understand the actor's potential range of actions and likely subjective responses to specific stimuli or situations. The primary red team role is to reduce risk by helping the staff understand how the other actor might perceive and respond to friendly actions.

b. **A red team engaged in adversary emulation is not a substitute for a red cell, simulated red force commander, or opposition force (OPFOR).** These wargaming elements include SMEs on the adversary's force structures, dispositions, and capabilities. They also simulate the doctrine, tactics, techniques, and procedures, and maneuver of the adversary's forces, and they help planners and decision makers model and understand the objective aspects of the adversary's likely responses. A red team engaged in adversary emulation, on the other hand, focuses on an adversary's subjective state of mind, motivations, and other intangible factors.

c. When a wargaming event or analytical effort does not require a detailed simulation of the adversary's maneuvers or manipulation of databases, adversary emulation can often provide a sufficient simulation of the adversary's thinking and responses to specific conditions and situations, including the likely political, diplomatic, economic, and information responses, and insight into the directions and orders that the adversary may issue to their military forces. In addition, adversary emulation can often contribute to wargaming efforts by simulating the perceptual responses and actions of third parties.

d. In addition to simulating the thinking of a relevant actor, the red team can also suggest alternative red COAs that can help the joint force counter an adaptive adversary. For example, the red team could suggest the consideration of less predictable or more stressful COAs; point out previously unseen wildcards, threats, or opportunities that could generate new branch planning requirements; or watch for unintended consequences. In addition, it is always appropriate for the red team to emphasize the potential impact of red, blue, green (allied), and grey (neutral) factors that have been unintentionally excluded from consideration.

e. The following red team techniques, along with those described elsewhere in this chapter, have proven effective in role play.

(1) **Cultural Prism.** This technique seeks to replicate how an adversary (or third party) would think and act in a given situation. It requires that the red team mentally adopt the mindset, motivations, perspectives, values, aspirations, grievances, doctrines, and ideology of the adversary in order to better visualize the problem set from the adversary's standpoint. Ideally, the red team will "personify" the adversary's responses (e.g., instead of saying, "country X will do this," the role-player should say, "I, the leader of country X, will do this"). This technique helps avoid mirror-imaging, ethnocentrism, and other forms of bias, and it reminds all wargame participants that specific, actual people, rather than countries, have mindsets and world views. The resulting role-playing may appear to violate standards of objectivity, as the red team member will stress the subjective world views of the adversary and, when appropriate, mimic likely emotional responses. The overall objective is to help ensure role players faithfully simulate the adversary's thinking, thus improving the quality of the wargaming exercise and helping planners gain a better understanding of the adversary's likely responses. Preparation can include the production and distribution of position papers and staff proposals, written from the adversary's point of view, examining friction points between red and blue interests.

(2) **Four Ways of Seeing.** This structured technique is useful for understanding how the perceptions and mindsets of the adversary (or another actor) differ from those of US analysts and planners, for understanding how those perceptual differences can impact plans and operations, and for visualizing how these differences might be manifested in particular circumstances. It can help establish a baseline for the use of a cultural prism, or it can be employed at key points in a wargame to clarify issues. In its simplest form, this technique creates a 2x2 grid that outlines, in the context of the problem under consideration, how the US sees itself and its interests, how the adversary sees itself and its interests, how the US sees the adversary and the adversary's interests, and how the adversary sees the US and its interests. Checking for differences between what the various actors believe about themselves and their adversaries can reveal potential friction points, areas where IO can have the greatest effect, and potential factors that the players might consider when assessing how the adversary might see both red and blue strengths, vulnerabilities, centers of gravity, and COAs. One variation of this technique involves adding more rows or columns to the grid to compare how the other relevant actors view specific aspects of the situation, in order to clarify how the perceptions of partners and other stakeholders can vary from our own. However, each additional actor added to the matrix exponentially increases the workload for completing this technique. Such insight is especially useful for countering mirror-imaging and other biases.

5. Vulnerability Testing

"Red teaming can be a powerful tool for an adaptive learning organization. When done right, it will help anticipate initiatives and responses by adversary groups and thus complement evidentiary-based intelligence."

**Defense Science Board Task Force
Report on Force Protection
in Urban and Unconventional Environments, 2006**

a. The red team can be used to help identify physical and nonphysical weaknesses of physical systems, proposed operational concepts or new weapon systems, or tactics, procedures, and policies. Vulnerability testing helps identify threats, risks, and vulnerabilities, and explores how systems fail, how they can adapt to change, and how risks can be mitigated.

b. The following red team techniques, along with those described earlier in this chapter, have proven effective in vulnerability testing.

(1) **Opposing Systems Analysis.** This technique is useful for uncovering previously-unseen vulnerabilities in a plan or system before they are exploited by the adversary. It can also help discover new offensive opportunities. In its simplest form, it tabulates all the capabilities, vulnerabilities, dependencies, and enablers associated with the friendly plan or system, and then compares them against the adversary's capabilities, including those that are known, suspected, or possible. The team identifies specific features of the friendly systems that are vulnerable to, or unprotected from, action by the adversary's actual or hypothetical capabilities. Assuming the adversary attacks these vulnerabilities and their defenses fail, analysts systematically explore the potential first, second, and third order effects, documenting how the friendly system might be degraded by these cascading effects and how the friendly system or forces might counter or recover from these cumulative effects. A similar analysis can also be performed from the adversary's standpoint, examining how the adversary's system might respond to friendly action.

Key Term

Confirmation Bias. A tendency to interpret new information in ways that reinforce existing beliefs, perceptions, assumptions or assessments.

(2) **“And Then?” Speculation.** This technique attempts to push analysis beyond familiar conceptual bounds and into new conceptual territory. Taking a conventional estimate or assessment as a starting point, the red team asks “and then what?” to press other analysts or members of a brainstorming team to consider the wider implications of the original starting point. After the implications of the initial starting point have been fully mapped, the red team again asks, “and then?”, ultimately going through at least five iterations of the process. In each step, analysts must provide a definitive answer, even when there is little hard information or precedents to rely on. This forced speculation can be used to explore potential unintended consequences and cascading effects across the current OE or into the future. It can also be used to stress existing assumptions and conceptual models by divorcing them from confirmation bias and other sources of error, thus helping identify situations when such models, and the systems developed from them, may unexpectedly fail.

“We argue that red teaming is especially important now for the DOD [Department of Defense]. Current adversaries are tougher targets for intelligence than was the United States’ major cold war foe. Red teaming deepens understanding of options available to adaptive adversaries and both complements and informs intelligence collection and analysis. Aggressive red teams are needed to challenge emerging operational concepts in order to discover weaknesses before real adversaries do. In addition, in the wake of recent military operations, use of red teams can temper the complacency that often follows success.”

**Defense Science Board Task Force
on the Role and Status of DOD Red Teaming Activities**

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CHAPTER V THE RED TEAM AND JOINT PLANNING

“The pursuit and attainment of the US national strategic objectives in today’s environment requires critical and creative thinking about the challenges facing the Joint Force.”

**Joint Publication 5-0,
Joint Operation Planning**

1. Overview

a. **Support to joint operation planning is a core red team function.** Organizations that plan and execute operations should employ red teams to help them think critically and creatively, and see planning issues and proposed COAs from alternative perspectives. The red team also helps the staff avoid common sources of error.

b. The red team provides an independent capability to review and enhance the work of the planning staff. To maximize its effectiveness, it is imperative that the red team understand and integrate itself into established joint planning processes. These processes are described in Joint Publication (JP) 5-0, *Joint Operation Planning*. Planning staffs, in turn, must understand the red team role in these processes and, as appropriate, consider the team’s inputs.

c. In theory, the red team could be used to support virtually all aspects of the joint planning process. In practice, however, the team’s capacity will seldom match the scale of requirements. Accordingly, this chapter focuses on those functions where red teams can have the greatest impact on planning. **Participation in JOPP, Step 2 (mission analysis) is normally the most effective use of the team in joint planning.**

d. Red team support to joint planning is usually provided via active participation in planning groups and the production of tailored papers and briefings that support the planning effort. When addressing key issues that may have wide-ranging effects on planning, it may be prudent to circulate comprehensive stand-alone red team products for the staff’s review. While the red team may suggest alternatives for consideration, these inputs should be weighed and either incorporated or set aside as appropriate before planning products are finalized. Critical red team observations may be, at the planners’ discretion, developed into branch plans.

e. During multinational planning efforts, red teams should ensure that foreign staff officers understand the red team’s role as a devil’s advocate, so that they understand the purpose of the team’s contrarian perspective. It should also be noted that some foreign services may have their own style of red teaming, and they can make valuable contributions to the overall planning efforts once their red teaming efforts are integrated with those of their US counterparts.

DURING PLANNING, RED TEAMS ASSIST THE COMMANDER AND STAFF BY:

-**Challenging assumptions**—helping the staff to identify invalid and unneeded assumptions, and assess the accuracy and reliability of stated assumptions.

-Assisting in **identifying needed assumptions** to further the planning process.

-Identifying implicit or unstated assumptions.

-**Identifying** when the staff needs to develop a branch to the plan in case key assumptions prove invalid.

-Offering **alternatives and insights to assumptions** about the adversary and others in the operational environment.

-Exploring alternative futures and high impact, low probability events and their subsequent impacts.

-Conduct a premortem to identify undetected weakness in the plan.

-Provide a contrarian view, through the devil's advocate, to ensure the broader purpose—the why—is clear, understood, feasible, acceptable, and suitable.

**University of Foreign Military and Cultural Studies
The Applied Critical Thinking Handbook, January 2015**

2. Joint Operation Planning

a. JP 5-0, *Joint Operation Planning*, describes the Joint Strategic Planning System (JSPS) and the APEX system. The joint planning and execution community uses JSPS and APEX to facilitate plan development and collaboration between the CCMDs, their subordinate and supporting components, the Joint Staff, Services, CSAs, and JTFs. The red team should participate in the development of their command's input to JSPS materials and in the drafting of the command's APEX products.

“Red Teams must understand when and to whom they should provide their observations and insights. Red Teams do not replace the staff. Often the Red Team will observe staff planning, and offer quiet input to the staff members. Unless directed by the commander, Red Teams should remain in the background. However, if the staff dismisses an observation critical to mission accomplishment, the Red Team needs to inform the staff member that resolution is required with the Commander.”

**University of Foreign Military and Cultural Studies
Red Team Handbook, April 2012**

b. Red team APEX responsibilities include supporting the development of their command's strategic estimates, strategy, theater/functional campaign plans, contingency plans, and APEX orders. Red teams support these activities by seeking unseen opportunities and threats, which may generate new planning requirements, and by providing alternative assessments of the environment and situation, which can alert commanders to evolving threats or operational conditions that might generate phase change requirements.

c. The strategic estimate is used to develop campaign plans. It encompasses all aspects of the commander's OE and is the basis for the development of the CCMD's strategy. It addresses a number of core issues which can benefit from red team scrutiny, such as an analysis of all states, groups, or organizations in the OE; a review of relevant geopolitical, economic, and cultural factors; an assessment of strategic and operational challenges facing the CCMD; an analysis of known or anticipated opportunities; and an assessment of risks inherent in the OE. Accordingly, the draft strategic estimate should be carefully reviewed by the red team.

RED TEAM CONTRIBUTIONS TO PLANNING, EXECUTION, AND ASSESSMENT

- Broaden the staff's understanding of the OE.**
- Assist the commander and staff in framing problems and defining end state conditions.**
- Challenge assumptions.**
- Consider the perspectives of the adversary and other relevant actors.**
- Help identify friendly and adversary vulnerabilities and opportunities.**
- Assist in the identification of areas for assessment and associated assessment metrics.**
- Anticipate the cultural perceptions of partners, adversaries, and others.**
- Conduct independent critical reviews.**

3. Operational Art

Red team decision support processes (see Chapter IV, "Red Team Activities") should be employed to help commanders and their staffs evaluate ends, ways, means, and risks from different perspectives, thus broadening the range of options that may be considered. The red team should also suggest potential intended and unintended consequences and likely second and third order effects related to the ends and ways under consideration. In addition, the red team should explore the impact of relevant cultural

views and mindsets on each of these issues. Finally, the red team should help assess risk through an independent exploration of unseen threats and opportunities and potential unintended consequences that may be associated with the ends, ways, and means.

“Among the many capabilities of a red team, its members must be able to challenge assumptions during planning, simulate enemy capabilities at a high level of fidelity, create branches and sequels that will stress planning to a point of failure, and then mentor/coach friendly forces from enemy or competitor perspectives. When conducted correctly, red team efforts should diminish the possibility of surprise; increase the flexibility of thought, planning, and execution on the part of the blue force players; accurately evaluate blue force capabilities; and ensure/upgrade the validity of assumptions.”

**Defense Science Board Task Force Report
“Capability Surprise, Volume II, Supporting Papers,” 2010**

4. Operational Design

Operational design promotes the development of innovative, adaptive solutions to complex problems. It requires continuous assessment of the problem and the potential impact of proposed friendly actions. Gathering and analyzing information—along with discerning the perceptions of motivations of adversaries, partners, and others—is a necessary prerequisite to correctly framing the problem and providing a solid foundation for operational design. Ideally, before detailed planning proceeds, the red team should be engaged early during these assessments to help frame the problem, ensure all relevant features of the environment are considered, identify risks and opportunities, and challenge hidden assumptions and standing assessments.

5. Joint Operational Planning Activities, Functions, and Products

a. Joint operation planning is accomplished through the APEX system. APEX facilitates dialogue among senior leaders, concurrent and parallel plan development, and collaboration across multiple planning levels. Planning may be based on situations that require a military response or to implement strategic guidance and direction, prescribed in the Guidance for Employment of the Force and elaborated in the Joint Strategic Capabilities Plan.

b. Planning requirements are ultimately driven by intelligence assessments of current or projected situations and threats. It is generally not practical or advisable for the red team to offer independent, alternative assessments for each intelligence estimate, but within its capability, the red team should judiciously review key assessments and estimates, and, when appropriate, suggest alternative assessments to alert the staff to previously unseen threats and opportunities that may require new planning initiatives.

c. The red team should not produce duplicative or competing planning materials, but should instead seek to incorporate its inputs into the planning team’s final products. In

some cases, however, it may be useful to circulate comprehensive stand-alone think pieces to help the staff consider specific issues, but these should not be cast as criticisms of the planning team's products.

d. Planning is facilitated by periodic in-progress reviews (IPRs) that provide up- and down-channel feedback, shaping and refining the plan as it is developed. Ideally, prior to an IPR, the red team should review their organizations' draft IPR briefings and papers and offer suggestions as appropriate. The red team's most critical contributions to any new plan will usually come before IPR Concept Development, although preparations for later IPRs may actually involve more of the team's time and resources.

e. Joint planning results in campaign plans, contingency plans, and operation orders, all produced in accordance with JOPP. The red team should be fully integrated into these processes and assist in the initial development and revision of JOPP products. When the red team is unable to support all aspects of a specific planning effort, the commander or plans directorate of a joint staff (J-5) should establish priorities for red team support. In most cases, the red team will have the greatest impact on planning during JOPP Step 2 (mission analysis), and Step 4 (COA analysis and wargaming).

f. CAP is similar to deliberate planning, but normally is conducted in response to emerging events or new conditions. CAP may use plans that were developed during deliberate planning for a similar contingency, or may develop new plans or orders to respond to unanticipated situations. CAP activities may be performed sequentially or in parallel. Red team CAP functions parallel those associated with deliberate planning.

“Red Teaming is best done early. While Red Teaming can be done at any time, it is best done early in planning or concept development in order to save time and effort of the staff.”

**University of Foreign Military and Cultural Studies
Red Team Handbook, April 2012**

g. Potential red team roles in deliberate planning are:

(1) Step 1 (planning initiation). Commanders typically provide initial planning guidance to their planning teams. The red team typically provides input to commander's guidance by participating in the planning team's review of that guidance and recommending refinements back to the commander.

(2) Step 2 (mission analysis).

(a) One key input to mission analysis is the JIPOE process. If the red team has not participated in the JIPOE process, then it should conduct an independent, alternative assessment of the adversary's center of gravity (COG), critical capabilities, and critical vulnerabilities. The red team should then offer its alternative assessments for consideration by both the intelligence staff and the planners.

(b) One primary red team task during mission analysis is to help the planners frame the problem, define desired end states, and assess known facts and key assumptions. The red team should challenge weak assumptions or suspect facts, and, as the situation evolves, consider whether the assumptions remain valid.

(c) If possible, the red team should help determine operational limitations, termination criteria, military end state, military objectives, and mission success criteria, providing alternative perspectives and exploring how political will and cultural viewpoints might constrain operations and limit options. In addition, the team may also participate in the development of the mission statement; specified, implied, and essential tasks; the commander's critical information requirements (CCIR); and risk assessments. If possible, the red team should participate in the drafting of the mission analysis brief and the commander's refined planning guidance.

(3) Step 3 (COA development). The red team can often make useful contributions to COA development by helping the planners expand the range of COAs under consideration.

"Gentlemen, I notice that there are always three courses [of action] open to an enemy, and that he usually takes the fourth."

**Field Marshal Helmuth Graf von Moltke the Elder
Chief of the German General Staff (1857-1888)**

(4) Step 4 (COA analysis and wargaming).

(a) During COA analysis, the red team should advise planners of the potential cultural implications associated with each COA, and should help explore the potential unintended consequences and likely second and third order effects associated with each COA.

(b) During COA wargaming, the red team should help both the simulated friendly force and the OPFOR or red cell consider the widest range of options during their respective moves. The red team should also advise both sides regarding how their moves might be perceived by relevant actors or impacted by wildcard events.

(5) Step 5 (COA comparison). COA comparison is often seen as an objective measurement of the relative merits of the COAs developed and analyzed in earlier steps. The red team should participate in the development of the COA comparison criteria, and highlight those areas in which subjective and cultural issues might outweigh more tangible, more easily quantified factors.

(6) Step 6 (COA approval). Planners should consider including a summary of wild cards, actors, actions and events and the intended and unintended consequences in the COA decision briefing to the commander.

(7) Step 7 (plan or order development).

(a) If the decision is to develop an order and the red team has been sufficiently engaged to this point, then order development may continue without additional red team input. Future revisions should be supported by the red team. If the red team has not been involved in planning prior to this point, then the team should review assumptions and evaluate the potential impact of cultural factors. In addition, the team should explore likely unintended consequences, second and third order effects, and wildcards. Revising the order at this point can be extremely disruptive. Accordingly, if the red team's review suggests serious shortcomings, the senior planner should be advised.

(b) If the decision is to develop a plan, then continuing red team support will be required. The team should participate in the development of IO appendices, ensuring themes, messages, and media are compatible with the mindsets of relevant actors, and potential unintended consequences are explored. The team should also participate in the development of assessment measures, using its understanding of the OE to help ensure the relevance of the measurements.

(c) The OE and situation may evolve as the plan is drafted, and the red team should remain sensitive to developing threats and opportunities, wildcards, and other issues. In addition, plans typically address more issues, and in more detail, than were addressed during the working groups, and the staffs that develop these plans can usually benefit from red team support.

(d) The red team should review key sections of the plan and offer recommendations while those sections are still in the draft stage. If the red team has not been involved in the planning effort before the decision brief, a red team review of these draft sections is critical. Sections that should be reviewed include, as a minimum:

1. Situation.
2. Facts and assumptions.
3. CONOPS.
4. Deterrent options.
5. Risk.
6. Adversary and friendly centers of gravity.
7. Adversary and friendly critical factors.
8. Adversary and friendly COAs.
9. Adversary forces/capabilities.

10. CCIR.
11. IO annex.
12. MILDEC.
13. Assessment.

(e) During plan development, it may be useful for the red team, through the COS, to circulate a document that consolidates observations and concerns. This document should provide complete, fully reasoned descriptions of issues that planners should consider. Issues could include potential wildcards and low probability/high impact events, likely unintended consequences and second and third order effects, unseen threats and opportunities, and other considerations. In some cases, and at the COS's discretion, it may be prudent to include this document in the final plan as a reference for mission execution or to support future plan revisions, but in all cases, it must be understood that the primary purpose of the document is to support the development of the plan rather than serve as an after-the-fact critique.

(f) Completed plans are frequently refined or adjusted over time, and refinement continues even after execution. During refinement, the red team helps assess the situation, develop new guidance, and support new planning efforts.

6. Joint Planning During Execution

a. Red team support during mission rehearsal generally parallels that of wargaming. During rehearsal, the primary objective is to test the plan's CONOPS and COAs. As the plan is rehearsed, the red team should focus on helping the staff uncover previously-unseen weaknesses, opportunities, and unintended effects. During rehearsal, the red team should be attuned to potential alternative COAs and assessments, which it may propose after rehearsal, when the staff may be actively seeking improvements or alternatives to the plan.

b. A crisis action team (CAT) or crisis management team is often stood up during the initial stages of a crisis. The red team may support the CAT by providing alternative interpretations of dynamic, uncertain situations, by helping frame problems, and by broadening the search for potential responses through the intelligence fusion cell or OPT. A CAT normally uses streamlined decision-making procedures, and the primary red team mode of support will often consist of active participation in work groups rather than formal written products.

c. Planning continues throughout execution in three venues, each focused on distinct but overlapping timeframes: future plans, future operations, and current operations. The red team plays distinct roles in each of these, but should normally concentrate its efforts in future plans.

(1) Future plans addresses the next phase of operations or sequels to the current operation. It is usually conducted by the J-5, by a joint planning group (JPG), or, in some commands, by a long range planning element (LRPE). Future planners look for opportunities or challenges that might require a revision to the current mission or a different operational approach. Red team support to future plans will generally follow that provided during JOPP Step 2 (mission analysis), but in an abbreviated form.

(2) Future operations addresses branches to current, on-going operations. It is normally addressed by the operations directorate of a joint staff, or, in some commands, an operation planning element (OPE). Red team support to future operations will often resemble that of future plans, but with a more truncated time horizon and more streamlined processes.

(3) Current operations addresses immediate or very near-term issues associated with ongoing operations. Current operations are usually addressed by the organization's joint operations center. Due to the compressed decision cycle, opportunities for the red team to influence the staff's thinking may be limited to providing alternative assessments of selected aspects of the on-going situation.

d. In some commands, a number of working groups are used to manage the flow of information to decision makers and to coordinate recurring decisions within the HQs' battle rhythm. The red team should support the following groups (or their equivalents), if formed:

- (1) JPG.
- (2) LRPE.
- (3) OPE.
- (4) IO working group.
- (5) Joint assessment board.

e. Assessment entails two distinct tasks: monitoring the situation and the progress of the operations and evaluating operations against established measures of effectiveness and measures of performance to determine progress relative to established objectives. Dynamic interactions between friendly forces, adaptable adversaries, and populations can complicate assessment. Commanders must be attuned to changes in the OE, including the political environment in the operational area and surrounding areas.

f. During assessment, the red team should analyze the situation from the perspective of the adversary and other stakeholders. The most important measure of success may be how the adversary assesses the situation, rather than whether friendly forces are maximizing measures of performance and effectiveness scores. Battle damage assessment (BDA) assessments, including phase III assessments, should be weighed

against the adversary's perspective of the adversary's own conditions, objectives, and unique mindset and world view. Even if all objective measurements and assessments portray the adversary as defeated, he may not believe he is beaten. For example, an adversary that has suffered extreme attrition, but can still conduct sporadic offensive operations, may see himself as heroic and undefeated, even when objective measures suggest otherwise. Overall, the red team should have access to the same information as the assessment elements, and whenever the red team's assessment of the adversary's mindset portrays a significantly different picture than that implied by BDA, the red team input should be presented as a supplement to the BDA.

g. As assessments and observations are translated into lessons learned, the red team's external vantage point can be invaluable. The team's relative independence will often help it see issues and potential solutions that might not be apparent to those closer to the problem. The team may also be less inhibited in highlighting issues and proposing corrective measures than staff elements that might bear some responsibility for the problem or that might be obligated to implement solutions.

CHAPTER VI THE RED TEAM AND JOINT INTELLIGENCE

“A red teamer is different from an intelligence analyst in several important ways. First, the red team is not bounded by the construct/plan developed by the staff or by the need for evidence and corroboration; next, the red teamer is more like a historian (whose job is to ask big, broad questions) than an intelligence analyst (whose job is often to answer very specific, narrow questions); and finally, the red team’s job goes beyond understanding the environment to include understanding how we can shape it.”

**Reflections from a Red Team Leader, Susan Craig,
Military Review, March-April 2007**

1. Overview

a. Despite similarities, red teams have different objectives than the intelligence staff and should not be used as a substitute for sound intelligence analysis.

b. Red teams should be organizationally, physically, and intellectually separate from the intelligence function in order to ensure that products are not shaped by the same institutional factors that influence the output of the intelligence analysts. Even when the red team and the intelligence staff examine the same problem set, their products should be reviewed and approved through different product approval chains.

2. Distinctions between Red Team and Intelligence Functions

a. **The red team and the intelligence function have different objectives.** The intelligence staff seeks to produce accurate assessments and estimates backed by reliable multi-source information and sound reasoning. In contrast, red team objectives relative to intelligence are more diverse and often less tangible. Red team intelligence-related objectives could include the following:

- (1) Constructively challenging assumptions and assessments.
- (2) Inviting consideration of a broader range of interpretations and conclusions.
- (3) Suggesting new issues for study or issues that need additional study.
- (4) Identifying hidden assumptions, potential wildcards, and likely effects.
- (5) Questioning whether the right problems are being considered.

b. **The red team utilizes different processes and sources.** If the red team relied on the same information sources and analytical processes as conventional intelligence analysts, it would logically reach similar conclusions and thus make no useful contribution to the work at hand. Instead, the red team attempts to look at intelligence

problems through different conceptual lenses in order to develop assessments that are qualitatively different from those developed by the intelligence staff. The red team may use many of the same sources as the intelligence staff, but it is not limited to those approved and vetted sources alone. To see problems from different perspectives, the red team may use sources that intelligence analysts might dismiss as unreliable. Some red team processes may be identical to those employed by the IC, such as ACH or a quality of information check, but red teams apply these processes in an environment isolated from the organizational and intellectual influences that shape the views of the intelligence analysis. The red team will employ techniques that are purposely designed to yield different perspectives—but not necessarily different conclusions—than traditional intelligence analysis processes.

3. Red Team Contributions to Intelligence

a. **Critical Review.** Critical reviews serve as quality controls against common forms of error, and they provide useful “second opinions” to help study an issue in depth. Critical reviews may be conducted prior to final approval of a draft product, in preparation for the revision of an existing product, or as directed to explore alternatives to standing estimates. They can also be used to help investigate the causes of a perceived intelligence failure.

b. **Production Support.** A red team may participate in intelligence production by helping stimulate the development of alternative interpretations of available information, encouraging re-evaluation of assumptions, ensuring that the mindsets and perspectives of the adversary and others are appropriately factored into analysis, and helping counter the effects of institutional and social influences and biases.

c. **Complementary Analysis.** The red team analysis often complements sociocultural analysis and portrays the subjective mindsets and cultural traits of key personalities and other relevant actors and groups. While the red team’s cultural focus is related to sociocultural analysis, it is less concerned with the quantifiable demographics of a population and more focused on the mindsets and perspectives of the groups and actors.

(1) **Cultural focus** seeks to understand the cultural perspectives and mindsets of an actor or set of actors and to determine the operational implications of these factors. These may be shaped by a number of subjective factors, including the mindsets, perceptions, motivations, and ambitions of key personalities; national/ethnic/sectarian divisions and aspirations; historical and contemporary grievances; ideological, theological, or cultural imperatives and doctrines; perceptions regarding the legitimacy of national and cultural institutions; emotional reactions to recent events and changing conditions; perceived credibility of media sources; the effects of information manipulation; philosophical and military doctrines; and other issues that influence how people see, feel, think, and act.

(2) **Situational focus** seeks to understand the dynamics of how conditions and relationships within the OE can change and to determine the likely directions and operational implications of these changes. This focus seeks to predict how various actors and factors might interact with each other and respond to internal or external changes; whether the situation is likely to incrementally evolve or undergo revolutionary change; whether different aspects of the situation may progress in unison or in parallel, divergent, or convergent directions; how changes in the OE can result in unintended–wild cards whose potential impact is significant enough to warrant consideration despite their low probability or unpredictability; and any other features that influence how and in which direction the situation might change and what their effects might be.

d. **Devil’s Advocacy.** The objective of the red team’s devil’s advocacy is not to arbitrarily challenge or contradict the intelligence staff, but to instead help analysts avoid conditions that can contribute to surprise and miscalculation. Contrarian techniques should be used to promote new, sharper, and more expansive thinking by analysts, planners, and decision makers.

e. **Deception and Counterdeception.** The red team plays a key role in countering adversary deception efforts and in developing friendly deception plans. The red team can help provide insight into the adversary’s perspectives and mindset and help explore alternative interpretations of D&D COAs. The red team can also help explore potential unintended consequences of proposed deception COAs.

f. **Corroboration.** The red team, operating independently, may not necessarily arrive at conclusions that differ from those of the intelligence staff. If a red team develops a similar assessment after approaching the problem from different directions, then the commander may have more confidence in the original intelligence assessment.

4. Support to Intelligence Production

a. Intelligence products are generally placed in one of eight production categories: warning, current, general military, target, scientific and technical intelligence (S&TI), counterintelligence, identity intelligence, and estimative intelligence. In theory, red teams can contribute to the development of all categories of intelligence production. However, in practice, it is impractical to involve the team in every product produced by an organization’s intelligence establishment. Commanders and J-2s should therefore establish priorities for red team intelligence support.

b. Red teams develop independent assessments of a situation or an adversary’s capabilities to support intelligence products. These assessments are developed using a variety of techniques that counter organizational and analytical factors that can lead to surprise. In addition, the team helps avoid surprise by highlighting historic parallels, by checking for indications that trends have changed, and by studying the potential impact of wildcard events.

c. Examples of red team support to the intelligence production effort include:

(1) **Warning Intelligence.** Warning assesses foreign developments that could pose a threat to US interests. Warning intelligence is often time-sensitive, thereby putting a premium on a red team's ability to quickly form assessments and rapidly communicate them to relevant parties. In most cases, red team inputs should be provided to the warning intelligence analysts for their consideration.

(2) **Current Intelligence.** Current intelligence integrates time-sensitive, all-source intelligence and information into concise, objective reports on the current situation. The red team contributes to current intelligence by developing and proposing alternative interpretations of events and their implications, by exploring potential second and third order effects of such events, by suggesting how events might be viewed through the lens of the adversary, by encouraging an awareness of an adversary's deception measures, and by serving as a devil's advocate to potentially focus the intelligence analytical effort on a different issue.

(3) **General Military Intelligence (GMI).** The analytical scope and scale of production encompassed within GMI will often exceed the capacity of any red team. Thus, red team involvement should be extremely selective. The red team may be called on to participate in on-going analytical efforts, to critically review GMI products before or after production, or to produce alternative assessments. In most cases, GMI production is a continuous process, allowing the red team to conduct independent research and apply structured methods with fewer time constraints.

(4) **Target Intelligence.** Target intelligence portrays and locates the components of a target or target complex, networks, and support infrastructure and indicates its vulnerability and relative importance to the adversary. When possible, the red team should explore the cultural implications of the overall targeting concepts and key targets. The red team should also support BDA by assessing how the adversary will view the physical damage to his forces and facilities.

(5) **S&TI.** S&TI encompasses technological developments and enhancements to weapon systems. Red teams, augmented by engineers and technical experts, have frequently provided valuable insight into new and novel capabilities, particularly when information is incomplete, not well understood, or masked by effective deception efforts. Aggressive, informed red teaming helps prevent technological surprise by proposing alternative assessments of the direction and status of an adversary's weapons development programs and by helping assess the implications of revolutionary concepts.

(6) **Estimative Intelligence.** Estimates forecast how a situation might develop and the implications of such developments for planning and executing operations. Estimative intelligence tries to forecast the unknown based on an analysis of known facts. Estimates, however, are not free to speculate when faced with significant intelligence gaps. The red team can contribute to the process by providing more speculative views of how a situation might develop, since it has greater license to speculate in the absence of known facts, and to explore long term second and third order effects. The red team may

also examine the potential implications of wild card and high impact/low probability events or analyze likely points of failure.

5. Red Team Support to Intelligence Planning

a. The intelligence component of APEX is the intelligence planning (IP) process and is conducted by the organizations within the DOD component of the IC. IP procedures are fully integrated and synchronized with joint operation planning and apply to deliberate and CAP. The IP process is a methodology for coordinating and integrating available defense intelligence capabilities to meet combatant commander (CCDR) intelligence requirements. It ensures that prioritized intelligence support is aligned with CCDR objectives for each phase of an operation. The DOD portion of the IC develops products (e.g., dynamic threat assessment, theater intelligence assessment, and national intelligence support plan) that are used by the joint force J-2 to provide the joint force commander and staff with situational understanding of the OE. Products developed by the CCMD J-2 during IP include JIPOE and the annex B, (Intelligence).

b. These intelligence products provide an authoritative foundation for intelligence and operational planning, and it is imperative that they be free from analytical error and organizational bias and that all reasonable alternative interpretations have been considered. As such, red teams should be utilized during the drafting of these products.

c. During production of plans-related intelligence assessments and estimates, the red team should independently assess the adversary's COG; critical capabilities, requirements, and vulnerabilities; and most likely and most dangerous COAs. The red team should also review other key intelligence assessments, and when appropriate, propose alternatives. The red team should also critically review draft priority intelligence requirements, essential elements of information, and the CCIR.

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APPENDIX A COMMON LOGICAL FALLACIES

1. **Ad Hominem.** Occurs when someone tries to attack a person and not a position or argument.
2. **Appeal to Emotions, or to Fear.** The use of emotionally charged language to distract readers and listeners from relevant reasons and evidence.
3. **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.
4. **Appeal to Questionable Authority.** Occurs when the authority we use to support the premise is actually the wrong authority for the issue at hand. It is akin to “hiding behind” someone/something famous, hoping that that alone will sell the argument.
5. **Begging the Question.** An argument in which the conclusion is hidden in the premise. A fallacy of deductive reasoning.
6. **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.
7. **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.
8. **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.
9. **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.
10. **Faulty or Weak Analogy.** Occurs when a person uses an analogy to communicate a concept, but the analogy used is not strong enough to support the conclusion being drawn.
11. **Glittering Generality.** The use of vague, emotionally appealing virtue words that dispose us to approve something without closely examining the reasons.
12. **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.

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

14. **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 is an appeal to believe a cause-and-effect relationship that does not actually exist.

15. **Red Herring.** Occurs when the author diverts the reader's attention with distracting information that is flashy, eye catching, and generally irrelevant to the topic at hand.

16. **Slippery Slope.** Occurs when the conclusion of an argument rests upon an alleged chain reaction and there is not sufficient reason to conclude that the chain reaction will actually take place.

17. **Straw Man.** 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.

APPENDIX B DEVIL'S ADVOCACY

1. Devil's advocacy is more than reflexively countering any propositions advanced by others on the staff.

2. Analysts, planners, decision makers, and even red teams may occasionally need to be reminded that:

- a. They may be looking at the wrong problem, or may need to re-frame the problem.
- b. Established assumptions, assessments, and estimates need to be continually reassessed.
- c. Some facts are actually guesses or hidden assumptions. Some assumptions are actually hidden hopes or opinions. Some assessments may actually be slogans or clichés.
- d. Slogans, clichés, hopes, opinions, and guesses are poor substitutes for analysis.
- e. There may be an alternate, more valid interpretation of available information.
- f. If the assumptions prove to be incorrect, then new situations will need to be considered.
- g. Both knee-jerk acceptance and rejection of new information can be dangerous.
- h. The worst possible case may not be merely a more extreme version of the most likely one.
- i. Sometimes the worst possible case is more likely than the most convenient one.
- j. There may be one more COA or contingency that needs to be considered.
- k. Everyone is usually unaware of their own hidden assumptions and biases.
- l. Some information may not be known or may not be correctly understood.
- m. The context of some information may be different than assumed.
- n. Seemingly stable situations may undergo sudden, unexpected revolutionary change.
- o. Adversaries adapt. Situations change. Long-standing estimates may no longer apply.

p. The adversary will do things that make sense to him, rather than things that seem logical to us.

q. Mirror-imaging is only the most obvious form of analytical error.

r. Deception and denial are not the same thing. The adversary may be using both.

s. D&D can also be self-imposed.

t. Worst-case scenarios, low probability events, and wildcards are unlikely, but certainly not impossible.

u. Even a perfectly executed plan may have little effect on the actual situation at hand.

v. Reliance on “conventional wisdom” can be a shortcut to failure or surprise.

w. Before moving on to a new issue, it may be useful to ask, “what haven’t we thought of?”

x. When key bits of information or sources are found to be suspect or wrong, then all assessments derived from them must be re-examined.

y. Subtle, unintended command pressure is often harder to detect and more likely to cause problems than the more blatant and assertive kind of pressure.

z. Analysts and planners should always consider the possibility that they might be wrong.

APPENDIX C REFERENCES

The development of this JDN is based on the following references:

1. Joint Publications

- a. JP 1, *Doctrine for the Armed Forces of the United States*.
- b. JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
- c. JP 2-0, *Joint Intelligence*.
- d. JP 2-01, *Joint and National Intelligence Support to Military Operations*.
- e. JP 2-01.3, *Joint Intelligence Preparation of the Operational Environment*.
- f. JP 3-0, *Joint Operations*.
- g. JP 3-11, *Operations in Chemical, Biological, Radiological, and Nuclear Environments*.
- h. JP 3-31, *Command and Control for Joint Land Operations*.
- i. JP 3-33, *Joint Task Force Headquarters*.
- j. JP 3-60, *Joint Targeting*.
- k. JP 5-0, *Joint Operation Planning*.

2. Service Publications

- a. Army Doctrine Publication (ADP) 3-0, *Unified Land Operations*.
- b. ADP 5-0, *The Operations Process*.
- c. *The Applied Critical Thinking Handbook*.

3. Other Publications

- a. United Kingdom Ministry of Defence, Development, Concepts, and Doctrine Center (DCDC) Guidance Note, “Red Teaming Guide, Second Edition,” 2013.
- b. Multinational Force Standing Operating Procedures (MNF SOP) Planning Handbook, “Military Decision Making Process—Multinational (MDMP-M),” (January 2009).

c. Report to the Director National Reconnaissance Office, “Defining the Future of the NRO for the 21st Century Final Report” (The Jeremiah Panel), 1996.

d. Commission to Assess the Ballistic Missile Threat to the United States (The Rumsfeld Commission), 1998.

e. The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States, 2004.

f. The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction: Report to the President of the United States. Final Report, 2005.

g. Intelligence Reform and Terrorism Prevention Act of 2004, Section 1017.

h. CJCS Message DTG 031640Z April 06, Joint Intelligence Operations Center (JIOC) Execute Order, Mod 3 DTG 040001Z October 11.

i. Office of the Under Secretary of Defense (Intelligence) Memo, “Red Team Capability,” 1 October 2008.

j. Deputy Secretary of Defense Memo, “Wargaming and Innovation,” 9 February 2015.

k. Institute for Defense Analyses Paper, “Red Teaming: A Means to Military Transformation,” 2001.

l. RAND Occasional Paper, “The Next Steps in Reshaping Intelligence,” 2005.

m. Military Review 85, no. 5, “Seeing Red: Creating a Red-Team Capability for the Blue Force,” by Gregory Fontenot, 2005.

n. Marine Corps Gazette July 2012, “Red Teams: Strengthening Through Challenges,” by Lt Col Brendan S. Mulvaney, United States Marine Corps (USMC).

o. Armed Forces Journal 1 Nov 2012, “Don’t Box in the Red Team,” by Lt Col Brendan Mulvaney, USMC.

p. Aerospace Power Journal, “The Red Team: Forging a Well-Conceived Contingency Plan” by Col T. G. Malone and Maj R. E Schaupp, 2002.

q. Defense Science Board Reports.

(1) Defense Science Board Task Force on the Role and Status of DOD Red Teaming Activities (September 2003).

(2) Defense Science Board 2008 Summer Study on Capability Surprise, Volume II Supporting Papers (January 2010).

(3) Defense Science Board Task Force on Force Protection in Urban and Unconventional Environments (March 2006).

r. Academic and Open Source Publications.

(1) Ariely, Dan. 2008. *Predictably Irrational: The Hidden Forces That Shape Our Decisions*. New York: Harper.

(2) Brafman, Ori, and Rom Brafman. 2008. *Sway: The Irresistible Pull of Irrational Behavior*. New York: Doubleday.

(3) Craig, Susan. 2007. "Reflections from a Red Team Leader." *Military Review*.

(4) Davis, Jack. 2008. "Why Bad Things Happen to Good Analysts." *Analyzing Intelligence*. Washington, DC: Georgetown University Press.

(5) Harvey, Jerry B. 1988. *The Abilene Paradox and Other Meditations on Management*. Lexington, Mass.: Lexington Books; University Associates.

(6) Heuer, Richards J., and Center for the Study of Intelligence. 2006. *Psychology of Intelligence Analysis*. New York: Novinka Books.

(7) Janis, Irving L. 1983; 1982. *Groupthink: Psychological Studies of Policy Decisions and Fiascoes*. Boston: Houghton Mifflin.

(8) Taleb, Nassim. 2007. *The Black Swan: The Impact of the Highly Improbable*. New York: Random House.

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GLOSSARY
PART I—ABBREVIATIONS AND ACRONYMS

ACH	analysis of competing hypotheses
ADP	Army Doctrine Publication
AOR	area of responsibility
APEX	Adaptive Planning and Execution
BDA	battle damage assessment
CAG	commander's advisory/action group
CAP	crisis action planning
CAT	crisis action team
CCDR	combatant commander
CCIR	commander's critical information requirements
CCMD	combatant command
CJCS	Chairman of the Joint Chiefs of Staff
COA	course of action
COG	center of gravity
CONOPS	concept of operations
COS	chief of staff
CSA	combat support agency
D&D	denial and deception
DOD	Department of Defense
GMI	general military intelligence
HQ	headquarters
IC	intelligence community
IO	information operations
IP	intelligence planning
IPR	in-progress review
J-2	intelligence directorate of a joint staff
J-5	plans directorate of a joint staff
JIPOE	joint intelligence preparation of the operational environment
JIOC	Joint Intelligence Operations Center
JOPP	joint operation planning process
JP	joint publication
JPG	joint planning group
JPME	joint professional military education
JSPS	Joint Strategic Planning System
JTF	joint task force

LRPE	long range planning element
MILDEC	military deception
OE	operational environment
OPE	operation planning element
OPFOR	opposition force
OPT	operational planning team
S&TI	scientific and technical intelligence
SME	subject matter expert
UFMCS	University of Foreign Military and Cultural Studies
USMC	United States Marine Corps
WMD	weapons of mass destruction

PART II—TERMS AND DEFINITIONS

1. General

Because this is a JDN, terms in paragraph 2.a. are not approved for the addition to JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, and are placed here for the purpose of vetting them should this publication ever be incorporated into a joint publication. As such, they need to comply with the Chairman of the Joint Chiefs of Staff Instruction 5705.01, *Standardization of Military and Associated Terminology*. Paragraph 2.b. contains terms from other documents that are often used in explaining red teams' activities.

2. Terms Commonly Used in This JDN to Discuss Red Team Activities

a. The following terms used in this JDN to discuss red teams that are not found in JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*. **These terms should not be used outside the context of this JDN.**

adversary emulation. The activity of role-playing the probable subjective, behavioral responses of specific actors based on their known or inferred objectives, perspectives, mindsets, decision-making processes, and likely responses to specified situations and stimuli.

confirmation bias. A tendency to interpret new information in ways that reinforce existing beliefs, perceptions, assumptions, or assessments.

critical review. An independent examination of a product by a disinterested party with the object of uncovering logical fallacies, biases, or evidential shortfalls, or evaluating a wider range of potential conclusions.

devil's advocate. The role of constructively challenging convention and enhancing analysis through the stimulation of critical and creative thought to expose it to a thorough examination to prove or disprove its validity, specifically plan or assessment's assumptions, framework, or evidence.

groupthink. The tendency by groups of people, particularly highly cohesive or homogenous groups, to prioritize—consciously or unconsciously—consensus and harmony at the expense of seriously evaluating alternatives or identifying individual objections to the consensus view.

mindset. The beliefs, perceptions, expectations, aspirations, and cultural norms that predispose an individual or group to subjectively process information in distinct, unique manners.

red cell. An element that simulates the strategic and tactical responses, including force employment and other objective factors, of a defined adversary.

second and third order effects. A cascading series of multiple effects, anticipated and unanticipated, intended and unintended, with potentially significant negative impacts on the operational environment, that result from an action.

wildcard events. Unanticipated circumstances, not necessarily related to planned actions or occurring within the area of responsibility or area of interest, that complicate execution of the plan.

b. The following are terms from other documents that are often used in explaining red teams activities. Only the terms from JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, are approved joint terms.

assessment. 1. A continuous process that measures the overall effectiveness of employing joint force capabilities during military operations. 2. Determination of the progress toward accomplishing a task, creating a condition, or achieving an objective. 3. Analysis of the security, effectiveness, and potential of an existing or planned intelligence activity. 4. Judgment of the motives, qualifications, and characteristics of present or prospective employees or “agents.” (JP 1-02. SOURCE: JP 3-0)

assumption. A supposition on the current situation 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. (JP 1-02. SOURCE: JP 5-0)

estimate. 1. An analysis of a foreign situation, development, or trend that identifies its major elements, interprets the significance, and appraises the future possibilities and the prospective results of the various actions that might be taken. 2. An appraisal of the capabilities, vulnerabilities, and potential courses of action of a foreign nation or combination of nations in consequence of a specific national plan, policy, decision, or contemplated course of action. 3. An analysis of an actual or contemplated clandestine operation in relation to the situation in which it is or would be conducted in order to identify and appraise such factors as available as well as needed assets and potential obstacles, accomplishments, and consequences. (JP 1-02. SOURCE: JP 2-01)

intelligence estimate. The appraisal, expressed in writing or orally, of available intelligence relating to a specific situation or condition with a view to determining the courses of action open to the enemy or adversary and the order of probability of their adoption. (JP 1-02. SOURCE: JP 2-0)

red team. An organizational element comprised of trained and educated members that provide an independent capability to fully explore alternatives in plans and operations in the context of the operational environment and from the perspective of adversaries and others. (JP 1-02. SOURCE: JP 2-0)

stakeholder. Individual or group that is directly involved or affected by ongoing operations or the outcome.

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