TC 3-22.69

ADVANCED SITUATIONAL AWARENESS

APRIL 2021

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HEADQUARTERS, DEPARTMENT OF THE ARMY

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Advanced Situational Awareness

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Preface

TC 3-22.69 outlines techniques and requirements for advanced situational awareness (known as ASA) training. Included in the intended audience are Soldiers, particularly those tasked with integrating ASA concepts into training. Uniforms depicted in this publication were drawn without camouflage for clarity of the illustration.

Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable United States, international, and in some cases host-nation laws and regulations. Commanders at all levels ensure that their Soldiers operate in accordance with the law of war and the rules of engagement. (See FM 6-27.)

TC 3-22.69 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which TC 3-22.69 is the proponent publication (the authority) are italicized in the text and are marked with an asterisk (*) in the glossary. Terms and definitions for which TC 3-22.69 is the proponent publication are boldfaced in the text. For other definitions shown in the text, the term is italicized and the number of the proponent publication follows the definition.

TC 3-22.69 applies to the Active Army, the U.S. Army National Guard/Army National Guard of the United States, and the United States Army Reserve unless otherwise stated.

The proponent of this publication is the United States Army Maneuver Center of Excellence. The preparing agency is the United States Army Maneuver Center of Excellence, Directorate of Training and Doctrine, Doctrine and Collective Training Division. Send comments and recommendations on DA Form 2028 (*Recommended Changes to Publications and Blank Forms*) to Commander, U.S. Army Infantry School, 1 Karker Street, Fort Benning, GA 31905 5410; by email to usarmy.benning.mcoe.mbx.3-16-squadron-asa3@mail.mil; or submit an electronic DA Form 2028.

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PART ONE

Advanced Situational Awareness as a Force Multiplier

The world is a complex environment. Soldiers must leverage cross-cultural and regional expertise to operate among populations, promote regional defense, and be interoperable with the allied and partner forces. The challenges and complexity of the world require Soldiers to provide a broad range of capabilities. It is increasingly difficult to anticipate the multiple emerging threats to United States security interests and adjust the Army's organization, materiel resources, and facilities to cope with them. Because the Army cannot quickly optimize these components to meet the wide range of threats, commanders optimize their most agile resource: their people.

Success in combat demands a technological and human edge over future threats. Developing and maintaining a human edge requires a sustained investment in the physical, cognitive, and social aspects of Soldiers and civilians. This investment includes continuous innovation in training, education, leader development, and both talent acquisition and talent management. Advanced situational awareness (known as ASA) skill development optimizes human performance through building the skills necessary to develop agile, resilient, adaptive, and innovative Soldiers who thrive in conditions of uncertainty and chaos.

Chapter 1

Introduction

"Certainly there is no hunting like the hunting of armed men…"
-Ernest Hemingway, *On the Blue Water*, April 1936

In military operations, Soldiers are often hunted by their enemies. Effective hunters study their prey—their environment, habits, and routines—and apply critical thinking skills in order to predict the actions their prey will take. In turn, Soldiers also study their enemies to understand the enemy's environment, habits, and resources to better develop both defensive and offensive courses of action against them. Solders are often put in a primarily defensive role that limits their freedom of action.

DEFINITION

1-1. Situational awareness, as defined in FM 3-0, is the immediate knowledge of the conditions of the operation, constrained geographically and in time. ASA takes this principle one step farther. ASA trains Soldiers to develop judgment and discernment through predictive profiling and observing their surrounding environment in order to engage these audiences effectively and appropriately. These useful skills enable Soldiers to move beyond the reactive concepts often expressed in Army doctrine to become predictive and proactive warfighters who are equally adept at engaging friendly audiences as they are with threats. Practicing ASA can mitigate the need for lethal action through nonlethal engagement and persuasion.

1-2. As Soldiers are exposed to events occurring in their operational environment (OE), they should use the ASA domains to observe for certain indicators. These indicators provide information about the intentions or capabilities of the relevant audiences in the units of operations. Commanders can use this information to inform their decisions. Each Soldier serves as the commander's eyes and ears when performing activities, such as—

- Performing traditional offensive or defensive missions.
- Patrolling in a stability and reconstruction, or civil support operation.
- Staffing a checkpoint, roadblock, or gate.
- Occupying an observation post.
- Passing through areas in convoys.
- Observing and reporting elements of the environment.
- Observing and reporting activities of the populace in the area of operations.

1-3. Commanders receive information from many contacts, but observant Soldiers are one of their best resources. Soldiers can collect information from the following:

- Enemy prisoners of war or detainees, or both.
- Captured documents.
- Observed enemy activity.
- Tactical questioning, observation, and interaction with displaced people, refugees, or evacuees.
- Engagement with the indigenous population.
- Local civilians.
- News channels, social media, websites, and other information presented in public venues.
- Enemy doctrine and publications.

WARNING

Human intelligence (HUMINT) is regulated by U.S. government laws. Soldiers outside of the HUMINT discipline DO NOT conduct HUMINT operations, source operations, or interrogations. Soldiers who are not trained, qualified, and certified in HUMINT operations are not allowed to attempt any source operations or interrogation approach techniques. Conducting source operations or interrogations by untrained personnel is punishable under Title 18 of the United States Code.

Soldiers and leaders may have contacts or conduct tactical questioning for direct questioning as defined later in this manual.

PRINCIPLES

1-4. Situational understanding is the product of applying analysis and judgment to relevant information to determine the relationships within the situation. The flow of this analyzed information enhances shared understanding within and among organizations and facilitates decision-making (see FM 6-0); greater understanding enables better decision-making (see ADP 5-0 for more information). The following system principles form the basis for understanding:

- Observable behaviors indicate mental state, motives, and intentions.
- Human beings leave indicators (also called signs) of their movements, mindset, and intentions in the environment that can be detected, analyzed, and interpreted.
- Baselines are developed by detecting, observing, and analyzing signs, characteristics, events, and interactions.
- Soldiers should determine a baseline to identify anomalies that fall above or below that baseline.
- Identification of an anomaly initiates the decision-making process.
- Experience, training, perception, critical thinking, problem-solving, and decision-making skills can determine the threat's most likely course of action (known as MLCOA) and most dangerous course of action (known as MDCOA).
- Soldiers can detect and deter imminent threat events through understanding.
- Understanding is knowledge that has been synthesized and had judgment applied to it to comprehend the situation's inner relationships. Judgment is based upon experience, expertise, and intuition (FM 6-0).

OBSERVABLE BEHAVIORS—MENTAL STATE, MOTIVES, AND INTENTIONS

1-5. People emit certain conscious and subconscious signals indicating their mental states and intent. Humans tend to follow predictable patterns of behavior. Continued observation of behaviors and the surrounding environment reveals patterns that can be used to derive other information about the person or people being observed. The goal of this observation is to determine the relevance of the information provided to the matter at hand.

1-6. Soldiers can observe indicators based upon an established baseline. Soldiers can identify the enemy among civilians. Baselines are established when the enemy is not present because the lack of enemy presence allows the observer to determine the most complete baseline.

DETERMINE A BASELINE—ENVIRONMENTAL SIGNS, CHARACTERISTICS, EVENTS, AND INTERACTIONS

1-7. Human beings leave indicators (also called signs) of their movements, mindset, and intentions in the environment that can be detected, analyzed, and interpreted

1-8. Nature's baseline, or natural state, is an environment’s natural, undisturbed condition. In a military context, sign indicates an action occurred at a specific time and place. To better understand a threat, a trained Soldier uses the disturbances and signs, or evidence of change from the natural state that is inflicted upon the environment by the passage of man, animal, or machinery. In ASA terms, these disturbances are anomalies in nature's baseline.

> The distinguishing characteristic of the land domain is the presence of humans in large numbers… Humans live on the land and affect almost every aspect of land operations. Soldiers operate among populations, not adjacent to them or above them. They accomplish missions face-to-face with people, in the midst of environmental, societal, religious, and political tumult.
>
> –ADP 1

1-9. Every environment has a baseline, a starting point upon which Soldiers base their observations and compare normal environmental conditions (baseline) to environmental changes (anomalies). Many elements can impact a baseline. Baselines for a given environment can differ based upon the day of the week, time of

day, or weather. Baselines are dynamic and in a constant state of evolution. A baseline is constantly updated to incorporate changes. The first 15 minutes of observing an environment should establish a baseline.

DETERMINE A BASELINE—IDENTIFYING ANOMALIES

1-10. Anomalies are the changes in something that occur above or below an established baseline. Soldiers should be cognizant of anomalies or activities occurring in an environment that are contrary to the norm. Environments are the sum of the people and objects interacting with the surroundings and reacting to external stimuli; therefore, people and objects exhibiting suspicious behaviors or patterns can impact a baseline. These impacts can cause subtle changes, which can also indicate baseline anomalies. Every anomaly must be analyzed.

1-11. If the baseline were represented as a straight line, anomalies would be the events that fall above and below the baseline (see figure 1-1). Indicators that fall above the baseline represent the addition of something new or an excessive amount of something in an environment (for example, a large number of people in an area that usually sees little or no foot traffic). Indicators that fall below the baseline represent a lesser amount or absence of something in an environment (for example, no cars on a street that usually has bumper-to-bumper traffic).

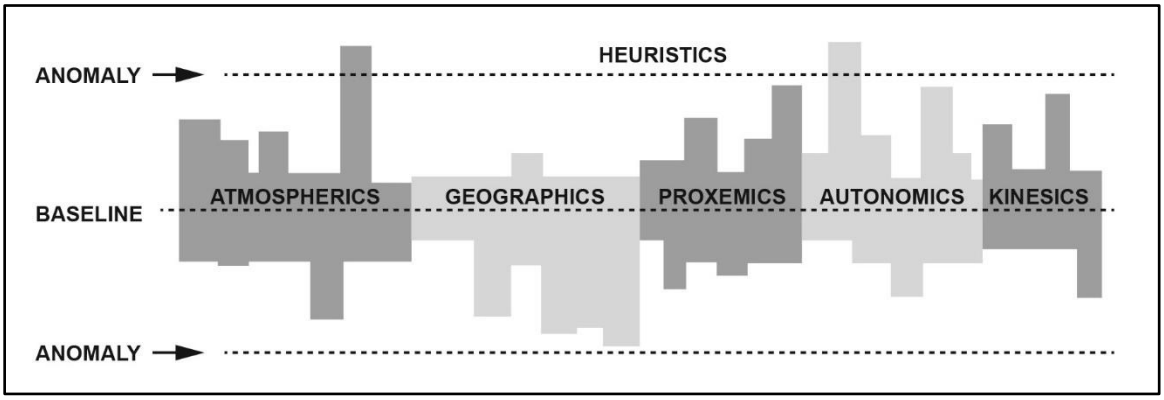

Figure 1-1. Anomalies in the baseline

Situational Analysis

1-12. After a baseline has been determined, Soldiers should actively hunt for and identify anomalies. Once they identify anomalies, they decide on a course of action. This is called the situational analysis.

Baseline + Anomaly → Decision

Rule of Threes

1-13. The rule of threes may come into play when a single anomaly does not provide sufficient evidence to make a decision, unless that anomaly meets the rules of engagement (ROE), escalation of force, or hostile intent. Most often, detecting three or more anomalies is considered to provide sufficient evidence to make a rational decision.

Notes. 1. Certain events (for example, an insurgent reloading a weapon to fire a follow-on shot) produce sufficient evidence to neutralize a threat based solely on one anomaly.

2. The rule of threes does NOT trump issued ROE.

INITIATE DECISION-MAKING PROCESS—ANALYZING ANOMALIES

1-14. Soldiers can use the observe, orient, decide, act (known as OODA) loop, one of many decision-making processes, to make decisions based upon their analysis of the anomaly. Using the OODA loop enables Soldiers to change a situation more rapidly than a threat can comprehend.

Note. See Chapter 4 of this publication for more information about this process.

DETERMINE COURSE OF ACTION

1-15. Enhanced perception, critical thinking, problem solving, and decision-making skills can determine relevant audiences' MLCOA and MDCOA.

1-16. ASA helps Soldiers identify an action or series of actions that their relevant audiences and actors might take, providing no new variables are introduced to the scenario. Anomalies can be analyzed to determine the MLCOA and MDCOA. The MLCOA is an action or series of actions that the enemy is most likely to perform. Based on a reasonable conclusion, this is the most probable outcome of the scenario. The MDCOA is an action or series of actions that audiences or actors might perform that are at odds with or directly conflict with friendly intentions and efforts; in terms of the threat, they are actions or series of actions taken to inflict the greatest amount of injury to friendly or neutral parties or damage to infrastructure. Figure 1-2, page 1-6, depicts the process used specifically to determine threat courses of action.

Note. See ATP 2-01.3 for more information about developing threat courses of action.

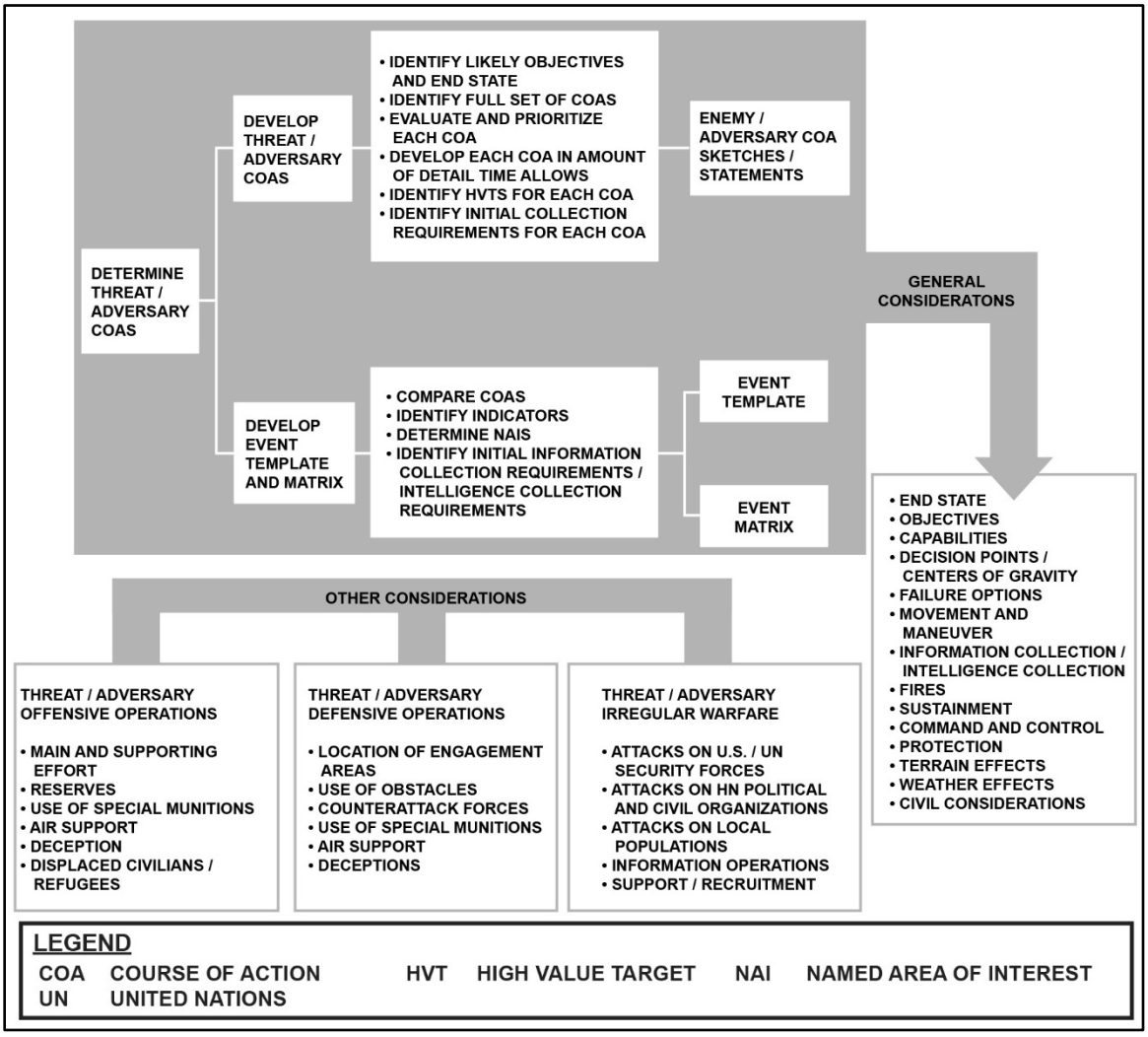

Figure 1-2. Determine threat courses of action

DETECT AND DETER IMMINENT THREAT EVENTS

1-17. ASA trains Soldiers to use advanced critical thinking to sort through their observations, identify the potential for positive opportunities, as well as dangerous incidents, and exploit them in a timely fashion or prevent them before they occur.

1-18. One can imagine a linear timeline (see figure 1-3). As events occur, the timeline moves from the left to the right. Through ASA, Soldiers can shape these events and thereby influence the nature of incidents that may occur and whether they are nonlethal or lethal, benign or explosive. Soldiers can also shape the events post-incident. Regardless if the threat or friendly forces caused the incident, Soldiers can apply appropriate techniques, tactics, and procedures to prevent or mitigate adversary/enemy information activities and effects while reestablishing trust among the locals.

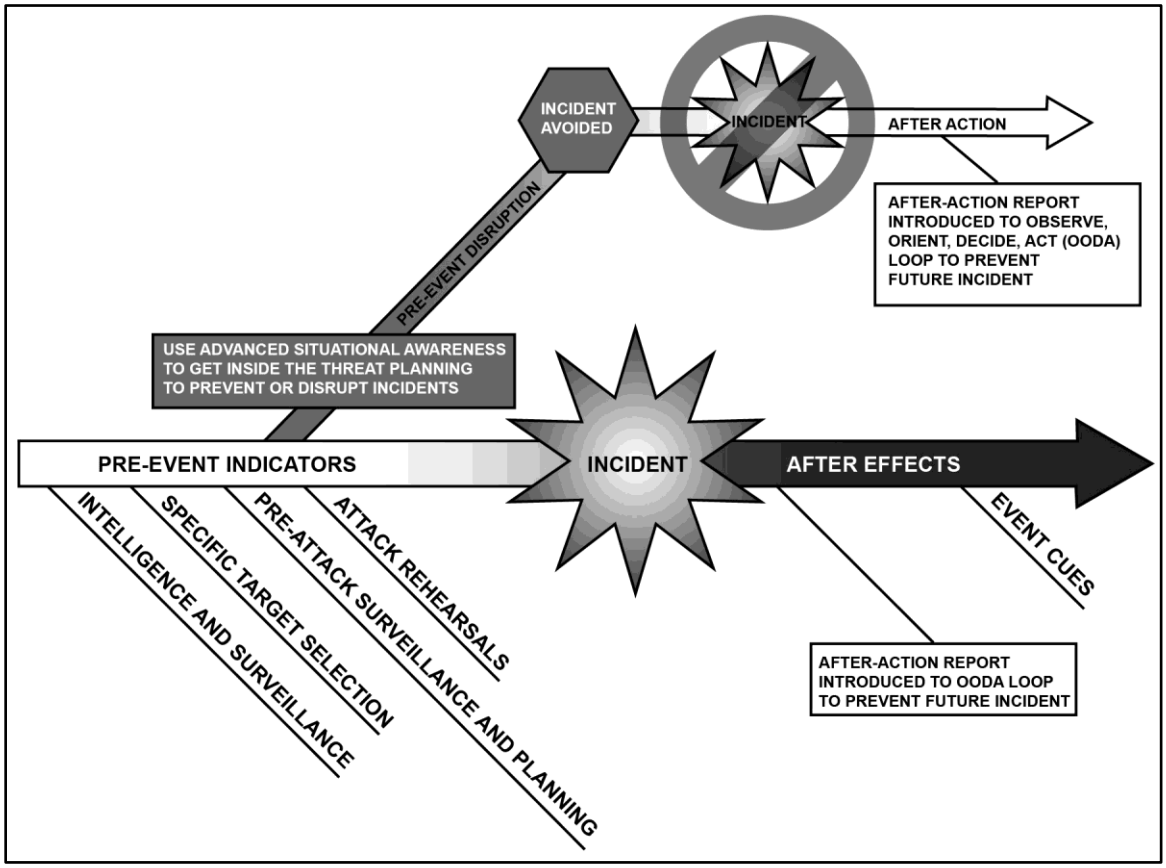

Figure 1-3. Linear timeline of an incident

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Chapter 2

Skill Refinement for Situational Awareness

ASA trains Soldiers to become efficient predictive profilers in their ability to distinguish various relevant audiences and actors from each other, what this manual calls predictive discernment.

PREDICTIVE PROFILING

2-1. Predictive profiling is a method of proactively identifying and analyzing behavior patterns among different audiences and actors. Predictive profiling equips Soldiers with a more thorough understanding of human behavior and the ability to read human signs and cues within an environment.

2-2. Using predictive profiling, Soldiers can make effective decisions more efficiently and influence actions at all levels of command. This not only increases an individual's survivability but also assists the commander in intelligence preparation of the battlefield by providing a more accurate depiction of the environment in which the command operates. Developing and refining this discipline is based upon certain key skills:

- Critical thinking.
- Diligent observation.
- Accurate reporting.
- Communication.
- Cultural awareness.
- Proactive thinking and adaptability.
- Performance enhancement and resilience.
- ASA multipliers.
- Self-analysis and social awareness.
- Interpersonal engagement.

2-3. Sometimes observation is not enough to gain the knowledge necessary to gain understanding, think critically, and act appropriately. In order to develop the situation and one's awareness of the situation, Soldiers must be adept at engaging the local populace. This requires Soldiers to be culturally astute, respectful, and authentic. They employ almost every other skill—diligent observation, accurate reporting, communication, cultural awareness, adaptability, and social awareness—to engage others in order to shape the OE to friendly advantage. In addition to enhancing situational awareness and understanding, interpersonal engagement allows Soldiers to deliver the commander's key messages and advance the commander's narrative, which widens the network of those willing to share information.

Note. For more information about the human dimension, see the United States Army Combined Arms Center's white paper entitled *The Human Dimension White Paper: A Framework for Optimizing Human Performance.*

CRITICAL THINKING AND DILIGENT OBSERVATION

2-4. Critical thinking is the ability to process ambiguous situations through observation and analysis. The goal of critical thinking is the ability to sense-make—to infer, deduce, and compare and contrast observations and perceptions in order to draw reasonable conclusions and determine a course of action using inductive and deductive reasoning. Inductive reasoning is making a broad overall conclusion, hypothesis, or assessment

based on specific limited observations. Deductive reasoning is making a specific limited conclusion, hypothesis, or assessment based on specific observations. During sense-making, a Soldier attempts to understand perceived cues, interpret their relationships, and anticipate the trajectory of a situation. ASA promotes critical thinking.

> *"We cannot create observers by saying 'observe' but by giving them the power and the means for this observation, and these means are procured through education of the senses."*
>
> –Maria Montessori, Italian physician and educator, 1870-1952

2-5. Observation is the objective gathering of evidence through use of all five senses—touch, taste, smell, sight, and sound—with the goal of using the evidence to further understand one's surroundings and the events occurring therein. It is not based upon biases, opinions, emotions, or motives but on the facts and evidence gathered. ASA teaches Soldiers to hone their senses so they can fully receive this evidence and reach a conclusion based solely on the intake of information.

ACCURATE REPORTING

2-6. Every Soldier is also an analyst, every Soldier is a planner, and every Soldier conducts intelligence preparation of the battlefield. The program has served its purpose to educate and inform leaders and Soldiers, but it is not a doctrinal term, principle, tactic, technique, or procedure. Leaders direct the collection of combat information through patrols, surveillance, or reconnaissance missions with specific information collection requirements. Soldiers contribute to answering information requirements and facilitate follow-on operations by reporting relevant combat information quickly and accurately.

COMMUNICATION

2-7. As part of a small unit, every Soldier can provide vital information and serve as an essential component to achieving situational understanding. Ensuring accurate and timely information is critical because the environment in which Soldiers operate is characterized by violence, uncertainty, and complexity. The increased situational awareness that Soldiers develop through personal contact and observation impacts the friendly force's ability to more fully understand the operational environment.

2-8. ASA training reinforces communication between all levels—horizontal and vertical. This training teaches Soldiers to use a common lexicon to convey their observations, so they can accurately describe a given moment in time by capturing all details and transmitting them to team members and leaders alike. The training emphasizes discussion with an understanding that perspectives of the same event can differ for various reasons.

CULTURAL AWARENESS, PROACTIVE THINKING, AND ADAPTABILITY

2-9. Operational environments have social and regional considerations that can affect communications and the conduct of operations. It is important for Soldiers to research the culture of the operational environment and the assigned area of operations to understand cultural behaviors, customs, and courtesies.

> ***Note.*** Chapter 9 of this publication provides more information about the ways culture impacts a person.

2-10. Reactive thinking may occur in response to Soldiers failing to identify cues prior to the incident occurring. In retrospect, they might be able to identify cues. However, if Soldiers identify cues prior to an incident, they are able to use their knowledge to modify their actions, perhaps changing the course of events prior to their occurrence; this is known as proactive thinking.

2-11. Proactive thinking provides the benefit of rapidity of action that can be applied to time and space. In terms of time, a Soldier who has speed has the ability to operate faster and adapt to emerging situations, responding more quickly to an event or preventing the event before it occurs. In terms of space, a Soldier who has speed has the ability to move faster toward or away from a danger. Both forms of speed are genuine sources of combat power.

2-12. Adaptability is the ability to adjust to new or changing conditions. It is important to build adaptability through contingency planning and flexibility in training scenarios. Contingency thinking encourages constant assessment and adjustment as the situation develops. Adaptive Soldier Leader Training and Education (known as ASLTE) is an Army training methodology that provides an outcome-based approach to training. The ASLTE approach "promotes the development of adaptive thinking, individual initiative, collective agility and most importantly, the confidence of participants in all aspects of training and education."

PERFORMANCE ENHANCEMENT AND RESILIENCE

2-13. Performance enhancement involves intentional and deliberate application of self-regulatory skills to consistently perform to one's potential under challenging circumstances. Resilience is the mental, physical, emotional, and behavioral ability to cope with adversity, adapt to change, recover, learn, and grow from setbacks. A resilient and fit person is better able to leverage intellectual and emotional skills and behaviors that promote enhanced performance and optimize long-term health. Table 2-1 on page 2-4 provides additional information about the areas associated with resilience.

2-14. Individual and unit military effectiveness depends on the Soldier's ability to think clearly, accurately, quickly and with initiative, motivation, physical strength, and endurance. Continuous combat exhausts Soldiers and reduces their ability to perform tasks as quickly or effectively as necessary. Stress can be countered using the principles associated with Soldier performance enhancement and resilience.

Note. Appendix A provides more information about performance enhancement and resilience.

Table 2-1. Areas associated with resilience

AREA	*DEFINITION*
Self-awareness	The ability and willingness to— • Identify and analyze thoughts, emotions, and behaviors for origins and patterns. • Remain open and curious. • Analyze thoughts, emotions, and reactions to determine if they are productive or counter-productive to the situation at hand.
Self-regulation	The ability and willingness to— • Manage impulses, emotions, and behaviors in order to achieve goals. • Control one's thoughts, emotions, and reactions to better adapt to the situation. • Express emotions appropriately. • Stop counterproductive thinking.
Optimism	The ability and willingness to— • Maintain energy and motivation during adversity and challenges. • Remain positive and realistic; maintain hope and confidence. • Focus on what is controllable as opposed to what is not controllable; look for areas where the outcome can be changed.
Mental Agility	The ability and willingness to— • Problem-solve and bring about positive outcomes. • Think flexibly and accurately about situations, and adapt to complex situations that are in constant flux. • Take other perspectives. • Try new strategies when current ones are not working.
Strengths of Character	The ability and willingness to— • Know your top character strengths and how to use them to maintain energy and overcome challenges and adversity. • Identify and cultivate character strengths in others, enhancing one's leadership ability.
Connection	The ability and willingness to— • Create an environment in which a person can thrive by creating strong relationships, communicating positively and effectively, and developing empathy. • Give help and to seek help, facilitating the ability to cope with stress.

ADVANCED SITUATIONAL AWARENESS MULTIPLIERS

2-15. Soldiers use ASA multipliers to establish cognitive dominance, the ability to optimize intellectual, physical, and emotional strength in order to achieve an advantage over a situation or adversary and significantly increase their individual effectiveness and the effectiveness of a force without increasing the number of troops or changing the composition of the force. The ASA multipliers are—

- Tactical cunning.
- Tactical patience.
- Interlocking fields of observation, reporting, and fires.
- Guardian angel.
- Good shepherd.

Note. To neutralize technological overmatch, adversaries seek to counter Soldiers' actions using similar multipliers. For example, actors will go to great extents to conceal their actions. Situational awareness and cognitive dominance allows Soldiers to identify these deception techniques. For more information about the adversary mindset, see Chapter 10 of this publication.

TACTICAL CUNNING

2-16. Tactical cunning is the art of shrewdly employing fundamental skills of the profession of arms to out-think and out-adapt the enemy. Some of these methods are perspective-taking and military deception.

2-17. Perspective-taking involves viewing a scenario from another viewpoint. When dealing with a threat, perspective-taking encourages Soldiers to think through a tactical scenario from the threat's perspective, enabling Soldiers to determine the MLCOA and MDCOA. Perspective-taking is also an effective strategy in social and intercultural situations, as it helps Soldiers to describe their positions in a way that might draw understanding and empathy in others, which can increase the potential for reaching agreements and achieving desired outcomes in negotiations.

"Urban terrain is a unique battlespace that provides both attacker and defender with numerous and varied avenues of approach, strongpoints to either attack or defend, and fields of fire…of particular importance when wargaming and analyzing urban areas is the need to focus on the enemy's perspective inside looking out, in addition to the outside looking in friendly perspective."

–Excerpt from 99-16, Urban Combat Operations Newsletter

Military Deception

2-18. *Military deception* is actions executed to deliberately mislead adversary military decision makers as to friendly military capabilities, intentions, and operations, thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission (JP 3-13.4). In other words, deception involves manipulating perception. The goal of deception is to make an enemy more vulnerable to the effects of weapons, maneuvering, and the operations of friendly forces.

OPERATIONS BARCLAY AND MINCEMEAT
1943
Excerpts from Second World War Deception: Lessons Learned for Today's Joint Planner
Operation Barclay

"*Operation Barclay was designed to mask Operation Husky—the Allied invasion of Sicily. Barclay called for sham attacks on southern France and the Balkans, to include Greece and Crete. Barclay was designed to achieve surprise for the Husky invasion force and to cause the Germans to misallocate their resources so they would not strengthen their defenses in Sicily before and after the actual invasion. Furthermore, Barclay was intended to keep the Italian fleet in the Adriatic Sea close to the Balkans and away from Sicily. To do this, the Allies created a sham army in the eastern Mediterranean, called the Twelfth Army, which consisted of 12 fictitious divisions. This deception exploited Hitler's preexisting fears, for he often suspected the Allies would invade Europe through the Balkans. The Allies spread this deception story through the use of double agents, false communications, dummy encampments, recruiting of Greek interpreters, and collection of Greek and French maps and currencies*."

Operation Mincemeat

"*Operation Mincemeat was carried out in conjunction with Barclay. Mincemeat involved the planting of a dead body off the coast of Spain. The corpse appeared to be that of a courier who apparently had fallen from an Allied ship and drowned. More importantly, a briefcase, which was attached to the body, contained documents detailing Allied plans to invade Europe through Greece. Interestingly, and no doubt deliberately, the fake plan to invade Greece was also called Husky. After finding the body, the Spanish authorities forwarded copies of the 'secret' documents to the Germans. According to Ultra, which was intelligence gained from the deciphering of German Enigma radio communications, Hitler and other senior German leaders believed the story and made preparations to defend Greece. Fremde Heere West, the German intelligence department that focused on western threats, called the apparent intelligence coup absolutely convincing. Sir Michael Howard, the renowned British historian, claimed that Mincemeat was 'perhaps the most successful deception operation in the war*."

Results of Barclay and Mincemeat

"*Operations Barclay and its supporting plan Mincemeat were very successful. First, the Allies gained total surprise against both the Germans and the Italians when they invaded Sicily. Second, the Germans misallocated their defenses by bolstering their ground forces in the Balkans from eight to 18 divisions—valuable assets that could have been better used in Sicily and Italy. Third, because of deception efforts, the Oberkommando der Wehrmacht, the German armed forces high command, had overestimated by 100 percent the number of Allied divisions in the eastern Mediterranean. This inaccurate order of battle lent credence to the German assessment that the Allies were going to invade through the Balkans. Of note, the Oberkommando der Wehrmacht believed this exaggerated order of battle through the remainder of the war, simplifying future Allied deception efforts in the Mediterranean*."

Ruse, Feint, Demonstration, and Wargaming

2-19. A *ruse* is, in military deception, a trick of war designed to deceive the adversary, usually involving the deliberate exposure of false information to the adversary's intelligence collection system (JP 3-13.4).

3RD BRIGADE COMBAT TEAM, 4TH INFANTRY DIVISION

Deployment from November 2007 through February 2009

Headquartered at Forward Operating Base War Eagle in Baghdad

Excerpt from NFTF—Information Operations and the Nonlethal Cell

"*A type of nonlethal 'show of force' product was a handbill that was never designed or intended for distribution—a ruse. A patrol conducted a raid to capture a high-value individual (HVI), but were only able to capture his brother—a lesser criminal. In an effort to find the whereabouts of the actual HVI, the patrol disseminated a limited number of handbills that outlined the past criminal activities of the captured individual. When the patrol showed the handbill to the captured individual's mother and threatened to disseminate the remainder to her neighborhood, she disclosed the location of her other son, the HVI. This type of 'outside the box' thinking took another extremist off the street without firing a shot."*

"In another ruse, insurgents were using several locations to launch attacks against coalition forces and Iraqi security forces. The points of origin were cordoned off with engineer tape, and signs were posted alerting residents that those locations were used to launch attacks against coalition forces and Iraqi security forces. The signs also indicated that the locations were under surveillance and that Iraqi security forces and coalition forces would defend against any attacks originating from that area. Of course, the sights were not actually under surveillance, but the attacks stopped. Therefore, with minimal cost and minimal risk, the brigade combat team was able to effectively deny extremists the use of those locations."

2-20. A *feint* is, in military deception, an offensive action involving contact with the adversary conducted for the purpose of deceiving the adversary as to the location and/or time of the actual main offensive action (JP 3-13.4).

2-21. A *demonstration* is, in military deception, a show of force in an area where a decision is not sought that is made to deceive an adversary (JP 3-13.4). A demonstration is similar to a feint, but no actual contact with the adversary is intended.

2-22. Wargaming is a step-by-step process of action, reaction, and counteraction for visualizing the execution of each friendly course of action in relation to enemy courses of action and reactions (see JP 2-01.3). It explores the possible branches and sequels to the primary plan, resulting in a final plan and decision points for critical actions.

TACTICAL PATIENCE

2-23. Tactical patience involves setting the conditions for success so that Soldiers strike at the most advantageous time and place. Setting the conditions include

- Allowing a situation to develop before trying to determine its significance but NOT waiting for something to happen.
- Executing the plan, if the threat is immediate. In the absence of an immediate threat to friendly forces, taking time to develop a better understanding of the situation is an important step.

- Controlling the speed of the battlefield. Soldiers control what and when something happens. This is a complex concept. The enemy has a vote and will work to force action on their timetable. Skills learned here will help Soldiers understand how to maintain the initiative, place stress on the opponent's decision cycle, and control the temp on the battlefield.

2ND ARMORED CAVALRY REGIMENT, TASK FORCE 2-37
22 April 2004

An Najaf, Iraq

Excerpt from 11-05, *Urban Operations Fight*, in the Contemporary Operating Environment Newsletter

"*On 22 April, in a brilliant feint by the 2nd Armored Cavalry Regiment, using the 3rd Armored Cavalry Regiment in a limited attack on the eastern bank of the Euphrates just east of Kufa, Task Force 2-37 moved under the cover of darkness without incident from a distracted enemy, into Forward Operating Bases Hotel, Golf, and Baker to relieve exiting Spanish forces. That evening, the task force moved 29 M1A1 Abrams integrated management tanks, 62 M966/1026-series gun trucks, 33 M1114 up-armored high-mobility, multipurpose wheeled vehicles, two M1117 armored security vehicles, six M109 Paladins, four M1064 120-mm mortar carriers, two towed 120-mm mortars, and various combat support vehicles into the Najaf-Kufa city limits. Before the enemy could react to the infiltration of forces between the two cities, the Iron Dukes had forward positioned the task force in a lodgment that would eventually bring about the defeat of al-Sadr's militia*."

"*When the purpose of the duel is to persuade the opponent to do one's will as a consequence of a physical-centric method, the operational approach is one of armed suasion, which includes compellence and deterrence. Compelling an opponent to stop doing something or to concede to some demand may involve the use of considerable amounts of force, but it is the psychological effect of the threat or actual use of force that is intended to achieve the desired outcome. The show of force and the demonstration of physical prowess are the stock-in-trade of compellence…It is the threat conveyed to the adversary about likely failure (denial) and/or the prospect of losses (punishment) that persuades the opponent to abstain from the undesired behavior*."

–Simon Murden, Ph.D., *Purpose in Mission Design: Understanding the Four Kinds of Operational Approach*, Military Review, May-June 2013

2ND PLATOON, A COMPANY, 1ST BATTALION, 50TH INFANTRY
Dak Po, Vietnam
(MECHANIZED)
21 January 1969

Excerpt from a Memorandum Entitled After-Action Interview Report, Ambush

Dak Po, 21-22 January 1969

"*At approximately 2015 hours, Soldiers heard enemy fire consisting mostly of single shots, with an occasional short burst. At 2020 hours, two North Vietnamese Army soldiers came over the hill. They were laughing and talking, as one ambush member later remarked, 'just like a bunch of GIs going downtown.' Approximately 20 meters behind this point element, the main body came in a staggered file. They were firing one round into each section of the pipeline as they talked loudly. The ambush patrol let the point element pass through the kill zone. The patrol leader waited until the front element of the main body was on the right edge of the killing zone. Then, he detonated his two claymores, signaling the ambush. Immediately, the other ambush members detonated their claymores and threw fragmentation grenades*."

INTERLOCKING FIELDS OF OBSERVATION, REPORTING, AND FIRES

2-24. When operating on the battlefield, Soldiers should use interlocking fields of observation, reporting, and fires, as the enemy can use gaps to their advantage. Instead, Soldiers should seek to maximize seams.

- Seams are spaces where two surfaces meet or overlap, minimizing or eliminating the area that is not covered by observation, reporting, or fire.
- Gaps are large areas that are not covered.

2-25. Soldiers take a combined-arms approach to close the gaps on the battlefield where the enemy could hide. To accomplish this, Soldiers must understand their environment, location, and orientation of friendly units' positions. In addition, they must know the capabilities and limitations of their optics, communications, and weapons systems.

2-26. Interlocking observation is the method that a team uses to observe an area using overlapping arcs of coverage. This usually involves having a fellow Soldier assist in watching an area that one cannot see or cover with fire or an area that is dead space.

- Interlocking fields of fire involves the overlapping of areas in which a weapon or a group of weapons may cover effectively with fire from a given position.
- Field of vision and field of view are both used when accomplishing interlocking fields of observation and fire.

2-27. The field of vision is the total solid angle available to the Soldier from a normal position. The field of view is the total solid angle available to Soldiers when looking through their optics. Soldiers employ different types of optics that are currently available to them to create a more in-depth view.

2-28. Interlocking reporting is the transmission of information between different units (for example, higher, adjacent, or subordinate) to create a common tactical picture of the battlefield for all units. No single individual or unit can see the entire tactical picture. Information should be shared laterally to other units, in addition to the higher and subordinate units in order to promote a common tactical picture and accelerate the decision-making cycle.

GUARDIAN ANGEL

2-29. A guardian angel is an individual or group of individuals located in a position of dominance (often a hidden overwatch position) who are responsible for providing dedicated force protection during missions (for example, for a friendly security post or patrol) and at locations where host nation personnel are present. To accomplish this task, the guardian angel detects a security threat before it attacks and prevents or mitigates the threat using a response appropriate to the level of the threat. Guardian angels also serve as a deterrent by presenting a hard target and reinforcing that an attack will be met with an appropriate response.

Notes. 1. Guardian angels must always have the ability to communicate with those they are protecting in order to provide early warning coordination in the event of hostile activity or action.

2. Guardian angels are part of a layered, comprehensive defense. They complement, but do not replace, other force protection measures. Guardian angels are always employed in conjunction with other sentries, patrols, or security elements. They are not the sentries or security elements themselves.

GOOD SHEPHERD

2-30. The good shepherd is a broad philosophy that guides Soldiers and their actions to demonstrate the good intentions of the friendly forces within an area or element of the population. This philosophy seeks to replicate the golden rule—do unto others, as you would have them do unto you. The goal is for the local populace to reciprocate these actions and to enable Soldiers to build diverse, trusted networks that include local allies, community leaders, local security forces, nongovernmental organizations, other friendly or neutral nonstate actors in the operational area, and the media.

2-31. Once the unit settles into an operational area, it immediately begins building trusted networks. Trusted networks are developed through establishing the perception of legitimacy through word and deed.

2-32. Over time, successful trusted networks grow like roots into the populace. They displace enemy networks, which forces enemies into the open, letting military forces seize the initiative and destroy them. Actions that help build trusted networks support the unit's effort. Actions that undermine trust or disrupt these networks—even those that provide a short-term military advantage—help the enemy.

Note. FM 3-24 provides more information about building trusted networks.

SOCIAL AWARENESS AND SELF ANALYSIS

2-33. Social awareness is the skill of identifying the needs, goals, and demands of others. Social awareness involves evaluating one's own inner perceptions and the outwardly appearance of oneself or others to better understand how the world appears to another person. There are three major areas of social awareness involved when interacting with others:

- Oneself. This area includes one's own goals and values and how one appears to others during the social interaction.
- Other parties in the interaction. This area includes what the other parties expect and want from the interaction and from all other parties in the interaction.
- Situational factors. This area includes an understanding of the interactions dictated by the social setting in which the interactions are occurring.

2-34. Understanding of these areas is critical to effectively adjusting one's behaviors when interacting with others. ASA facilitates analysis of one's self—one's own culture, beliefs, values, behaviors, and norms and how others might perceive them—and enables social awareness so that analysis can be applied to change one's behaviors or to promote resiliency. Individuals who can accurately perceive other's reactions and correctly analyze and evaluate their intent will be able to modify their own behavior to be more effective when attempting to negotiate with or influence others.

PART TWO

The Five Senses to Enhance Advanced Situational Awareness

Using one's senses at the fullest capacity—paying attention to details, focusing, analyzing, reasoning, and remembering—requires many processes within the brain. These skills can be honed through diligence and training. Through understanding and applying elements of observation, Soldiers are more aware of their surroundings, enabling them to become more proactive and stay left of bang.

Chapter 3

Observation

Soldiers train to achieve a better understanding of their organic equipment and system: their capabilities, limitations, and components. A Soldier's sensory system is a valuable piece of equipment. The body cannot respond to a threat until directed by the brain, and the brain does not initiate action until the senses react to some external stimuli. Becoming more adept at performing these actions can be crucial to Soldier survival, as use of the sensory system provides input into a Soldier's decision-making process.

FOUR ELEMENTS OF OBSERVATION

3-1. Observation is a process containing four elements: awareness, understanding, recording, and response. Each of these elements can be considered separate, but simultaneous, processes.

AWARENESS

3-2. An effective observer is always aware of the surroundings and takes nothing for granted. Awareness is the state of being consciously attuned to a specific fact. Certain factors can change a person's perception of the event, causing possible inaccuracies when reporting or recalling facts. These factors include—

- Sensory input.
- Environment.
- Perception.
- Physical, mental, and moral situation.

UNDERSTANDING

3-3. Understanding is derived through education, training, practice, and experience. It enhances observers' knowledge about what should be observed, broadens their ability to view and consider all factors, and aids in their evaluation of the information.

RECORDING

3-4. Recording is the ability to save and recall what was observed. Usually, an observer has mechanical aids (such as writing utensils, logbooks, sketch kits, digital recorders, and cameras) to support the recording of events. If you cannot recall or capture the observation(s), it did not happen. As a result, memory is critical. The ability to record, retain, and recall details depends on the observer's mental capacity, alertness, and ability to recognize essential details. Added factors that affect recording include—

- The amount of training and practice in observation.
- Skill through experience.
- Similarity of previous incidents.
- Time interval between observing and recording.
- The ability to understand or convey messages through verbal or other communication.
- Preconceived perception of the event as to what or how it occurred and who was involved.

RESPONSE

3-5. Response is the observer's action toward information. It may involve recording events in a logbook, sending up a report, or firing a well-aimed shot.

OBSERVATION TECHNIQUES

3-6. Humans gather information about the external world using their senses: sight, sound, touch, smell, and taste. These senses work together to transmit information to the brain so that the person can determine the proper response and act accordingly. Table 3-1, page 3-4, provides examples of indicators each sense can add to that forms a picture of a Soldier's surroundings. This section addresses the sensory system and its capabilities and limitations in receiving information about the environment.

ENHANCED PERCEPTION USING THE SENSE OF SIGHT

3-7. Most of the information a Soldier learns about the world is derived through use of the sense of sight. Observation using the sense of sight is called visual observation. Visual observation requires using techniques that take into account the nature of the human eye.

HOW SIGHT WORKS

3-8. Sight is a complex process that begins with light entering into the eye and ends with information transmitting to the brain. The eye is the organ responsible for sight. The human eye (see figure 3-1) is a complex structure composed of certain parts. These parts control protection of the eye from the elements, function of the eye itself, and transmission of visual information to the brain.

Note. For more information about anatomy and physiology of the visual system, see Chapters 6 and 7 of *Helmet-Mounted Displays: Sensation, Perception and Cognition Issues* by researchers for the United States Army Aeromedical Research Laboratory and the United States Army Research Laboratory.

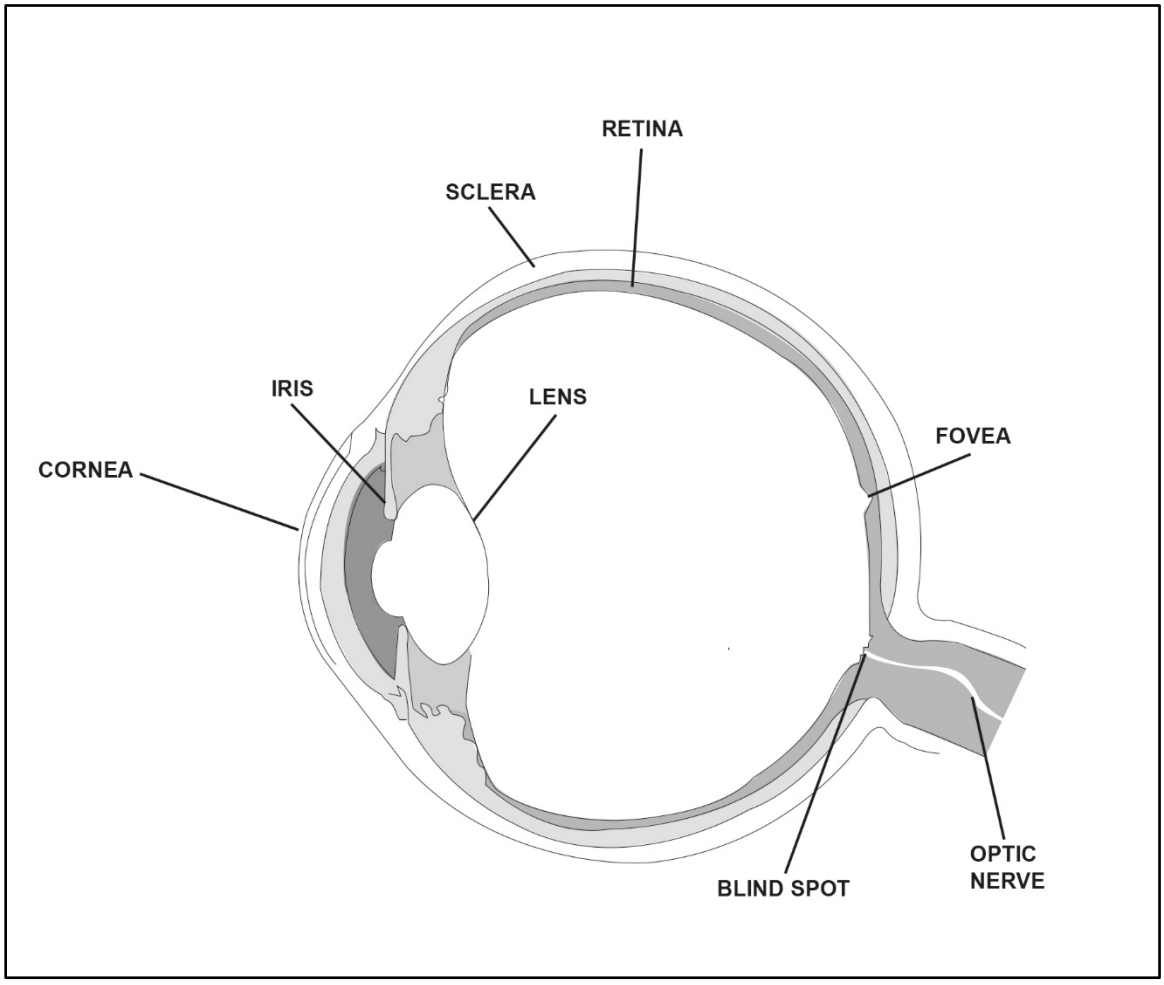

Figure 3-1. Human eye

3-9. The eye contains two types of receptor cells: cones and rods (see figure 3-2, page 3-4). Cones are receptor cells that are used for day vision. Rods are receptor cells that are used for night vision. Table 3-1, page 3-4, provides more information about cones and rods and their purposes.

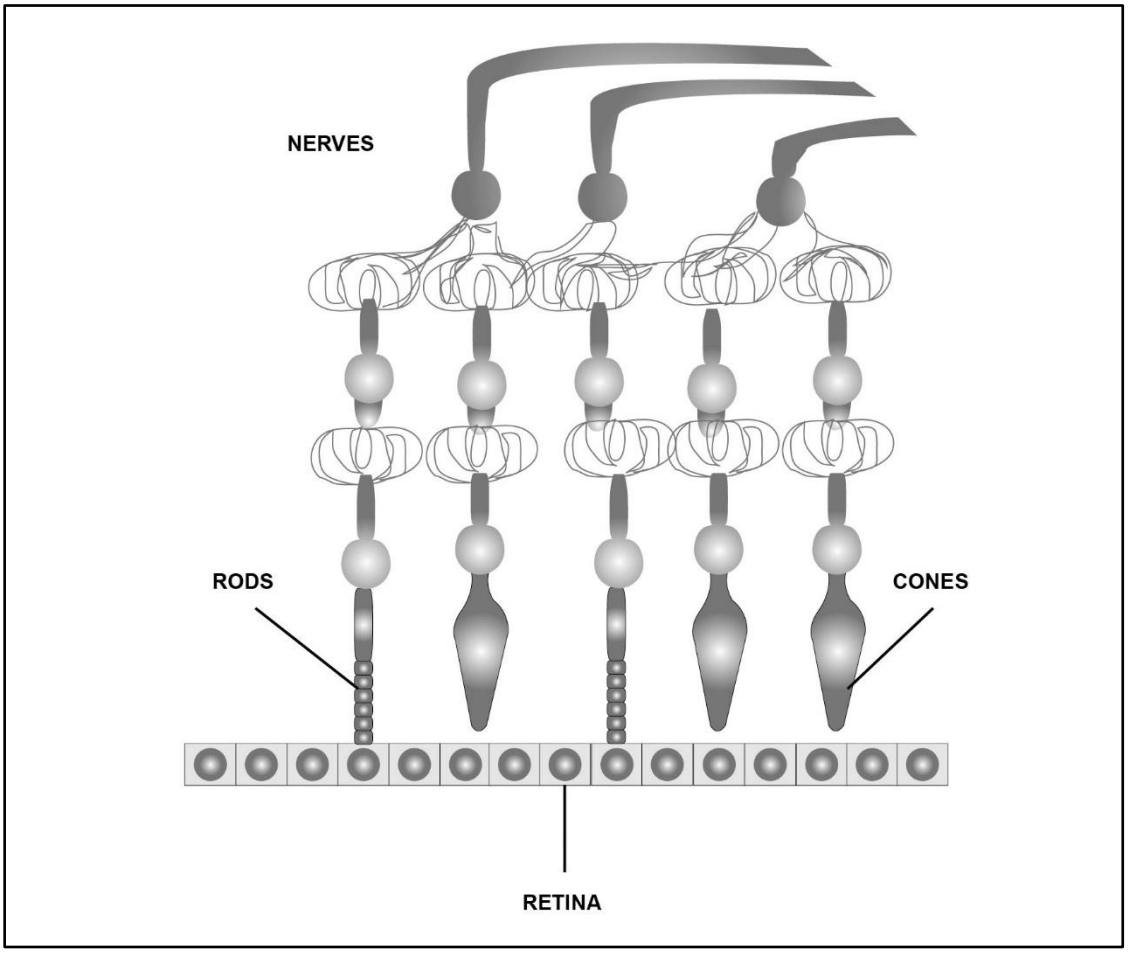

Figure 3-2. Cones and rods

Table 3-1. Types of receptor cells and purposes

TYPE OF RECEPTOR CELL	*USE*
Cones	• Are used for day vision. • Enable a person to distinguish color, shape, and sharp contrast. • Require a great deal of light for activation; are blind during periods of low light. • Produce color vision (sensitive to a range of wavelengths of light from red to violet; most sensitive to wavelengths of light that correspond to yellow and green).
Rods	• See mainly in black and white. • Are excellent at detecting movement. • Enable peripheral and night vision. • Are designed to capture light when it is sparse.

VISUAL ACUITY

3-10. Once an image enters the eye, a person subconsciously determines how well sight is needed to see the object and to what amount of detail. The acuteness of vision, or visual acuity, needed to properly see the object determines whether a person uses sharp central vision or peripheral vision.

3-11. Sharp central vision is the type of vision associated with visual detail. This type of vision is used for reading, watching television or movies, driving, and any activity where visual detail is of importance. The fovea centralis is responsible for sharp central vision. The fovea centralis is a tiny spot in the eye responsible for the central 2 degrees of the visual field**.** Although the fovea centralis accounts for only the central 2 degrees of the visual field, it provides the majority of visual information. The fovea centralis contains a large number of cones, which optimizes resolution and makes visual acuity of 20/20-or-better possible. This enables it to provide the majority of visual information.

3-12. The noncentral portion of the retina contains more rods and is responsible for peripheral vision. Peripheral vision is the type of vision associated with motion and night vision, making this type of vision useful for maintaining overall awareness and for conducting activities, such as playing sports. This type of vision is less focused than sharp central vision. In fact, visual acuity is usually in the range of 20/200 in the peripheral retina, ten times worse than that of the fovea centralis. However, peripheral vision is better than sharp central vision for seeing faint objects in the dark. For this reason, personnel who must detect faint objects at night should be taught to look slightly to the side rather than directly at the objects they are trying to see.

3-13. Color is a critical feature of vision. It helps people discriminate between objects and describe them. Color vision describes the sensation created by the wavelength absorbed by the light-sensitive cells of the eye. Although different wavelengths of light exist in the physical world, color exists only in the mind of the beholder.

3-14. In order for vision to take place, the object to be seen must be within the physical constraints of vision. The functional field of view is the area of the visual field where information can be gathered without moving one's eye. In this area, targets or hazards can be detected. This area is not fixed, as with sharp central vision. Instead, it changes in size and shape according to many factors, such as age, processing demands, anxiety, and gender.

Light and How it Impacts the Eye

3-15. While vision mostly occurs inside the human body, it is made possible by the electromagnetic spectrum (see figure 3-3). The electromagnetic spectrum is the range of electromagnetic radiation wavelengths produced by the sun.

3-16. People see objects in the world around them because these objects emit or reflect wavelengths from the small part of the spectrum called visible light. Within the visible part of the spectrum, different wavelengths are associated with certain colors: red, orange, yellow, green, blue, indigo, and violet. Red is associated with longer wavelengths, and violet is associated with shorter wavelengths. Between red and violet, there is a continuous range of wavelengths and colors.

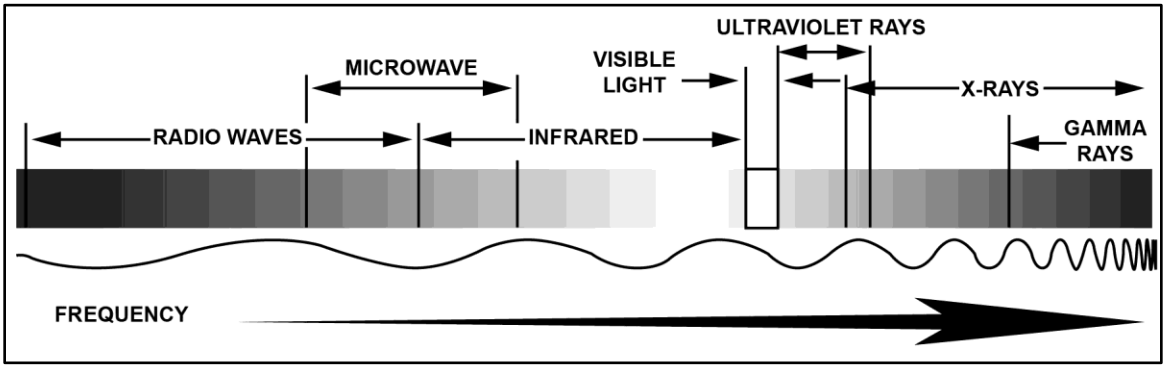

Figure 3-3. Electromagnetic spectrum

Light Conditions

3-17. Different light conditions cause the eye to adapt. These light conditions impact the eye's use of cones and rods and cause the eye to shift between three types of vision:

- Photopic vision.
- Scotopic vision.
- Mesopic vision.

3-18. Table 3-2 provides more information about the types of vision.

Table 3-2. Types of vision

TYPE OF VISION	*ASSOCIATED LIGHT CONDITIONS*	*TYPE OF RECEPTOR CELL USED*	*ADDITIONAL INFORMATION*
Photopic Vision	Well-lit conditions. Daylight.	Cones.	Is in color.
Scotopic Vision	Dark conditions. Nighttime.	Rods.	Light conditions cause complications in this type of vision.
Mesopic Vision	Low-light conditions. Twilight (dawn, dusk).	Cones and rods.	Light conditions present the greatest risk of visual inaccuracies.

3-19. Light conditions shifting throughout the day impact the manner in which the eye works and can cause additional complications and modifications.

Impact of Dark Conditions

3-20. During the night, light conditions range from bright moonlight to utter darkness. No matter how bright the night is, the eye cannot function with daylight precision. This introduces various changes and complications, including—

- Blind spot. While rods are present in the rest of the retina, only cones—no rods—are present in the fovea centralis, the tiny spot that enables the eye to see detail. During dark conditions (during which vision is entirely dependent upon rods), absence of rods in this area of the eye causes the central 2 degrees of the visual field to become a tiny blind spot.
- Eye fatigue**.** As the light changes during twilight, the cone cells begin shutting down and the iris opens to let more light in. This reaction causes the eye to constantly change focus, and consequently, tires the eye quicker.
- Adaptation to low levels of light**.** The human body adapts to low levels of light by increasing the eye's sensitivity. Adaptation to darkness occurs at varying degrees and rates. During the first 30 minutes in the dark, eye sensitivity increases about 10,000 times. This adaptation is affected by exposure to bright light (such as matches, flashlights, flares, or vehicle headlights). Full recovery from these exposures can take up to 45 minutes.
- Decrease in color perception. At night, objects that are bright warm colors (such as reds and oranges) are difficult to see and appear dark in the absence of artificial light. On the other hand, objects that are green or blue will appear brighter, although a person might not be able to determine their color.
- Decrease in visual acuity**.** During nighttime, visual acuity is about one-seventh of what it is during the day. A person can see only large, bulky objects. Darkness blots out detail, so Soldiers must be able to recognize objects by their general shape or outline. Knowing the design of structures common in the area of operations helps Soldiers determine shape or silhouette. For example, in the United States, a church is often characterized by a high roof and steeple, but churches elsewhere have different architectural structures.
- Reduced depth perception.
- Iris opens**.** As the light changes during twilight, the iris opens to let more light in, which allows more detail to be seen. The function of the iris is basically automatic.

- Bleached-out effect. When a Soldier views an image of an object in limited illumination for more than 2 or 3 seconds, the image tends to bleach out into one solid color, causing it to disappear or fade away. Consequently, larger objects are missed as the distances increase. To combat the bleached-out effect, Soldiers should look—not stare—to all sides of objects they are trying to find or follow. By shifting one's eyes from one off-center point to another, observers can continue to see the object in their peripheral vision. It is important that the eye stops moving for a few seconds during the scan to be able to see an object. When scanning around an object, an observer should resist the temptation to look directly at the object just to make sure.
- Impact of substances and illness. Lack of vitamin A, colds, headaches, fatigue, narcotics, alcohol, and heavy smoking can affect night vision.
- Change in the distance at which the eye can detect light sources. Table 3-3 shows the distances at which the naked eye can detect light sources at night. Observers can use these changes to their advantage by practicing silhouetting, which is putting objects against a light background by maneuvering to catch the light. At night, noticeable light is only available in patches. Observers maneuver to place an object between their eyes and that patch of light. By lowering the body or even lying down, an observer might be able to pick up more light and see things that might otherwise go unnoticed. This technique can also be applied during daylight and other light conditions.

Note. From the air, these distances can increase two to three times.

Table 3-3. Light sources and distances at which the naked eye can detect them

SOURCES	*DISTANCES*
Vehicle headlight	4.0 to 8.0 kilometers
Muzzle flash from a single cannon	4.0 to 5.0 kilometers
Muzzle flash from a small-arms weapon	1.5 to 2.0 kilometers
Bonfire	6.0 to 8.0 kilometers
Flashlight	0.0 to 2.0 kilometers
Lighted match	0.0 to 1.5 kilometers
Lighted cigarette	0.5 to 0.8 kilometers

Note. ATP 3-18.4 (Appendix B) provides more information about night-vision techniques.

Impact of Low-light and Shifting Light Conditions

3-21. During periods of low light, the combination of photopic and scotopic systems can result in inaccuracies in visual perception. These inaccuracies can make Soldiers most susceptible to attack during this time. This is one reason that there is the requirement for a stand-to period at dawn and dusk.

3-22. Shifting light conditions can introduce various changes and complications. Because of the constantly changing position of clouds and the sun, light changes while conducting an observation. An observer should always be ready to watch for changing contrast and shadows. An area that the observer previously thought held no enemy might reveal otherwise as the light changes.

3-23. As light conditions change over the course of a day, colors appear to change. This is called a Purkinje shift. Reds, oranges, and yellows appear relatively light in bright illumination, whereas blues appear relatively light in dim illumination. This can be demonstrated by locating red and blue objects that appear equally light under bright daylight conditions, but when viewed at twilight or in dim illumination, the red appears much darker than the blue.

3-24. Light rays striking at wider angles stimulate the cones less efficiently, a phenomenon known as the Stiles-Crawford effect. Because of this, light rays entering the outer edges of the pupil appear less bright than rays entering through its center.

3-25. The output of most night-vision goggles is sufficiently bright that the cones are responsible for the eye's response. This has implications for vision in unaided areas of the visual field at night. Personnel using night vision goggles may be using mesopic and photopic vision for the central 40 degrees of their visual field while depending on scotopic vision to scan for objects in the far periphery.

Why Objects are Seen

3-26. The relative ease or difficulty in seeing objects depends upon several factors. These include—

- Shape.
- Shadow.
- Silhouette.
- Surface.
- Spacing.
- Anomalies.
- Color.
- Movement.

Note. ATP 3-18.4 (Appendix B) provides more information about night-vision techniques.

Shape and Shadow

3-27. Some objects can be recognized instantly by their shape, particularly if it contrasts with the background. Experience teaches people to associate an object with its shape or outline. At a distance, the outlines of objects can be seen well before the details are determined. Outlines of the human body and the equipment that a Soldier carries are easily identified unless they have been altered. Areas of importance when considering shape during observation include—

- Military equipment and personnel have familiar outlines and specific shapes that are easily recognizable.
- Geometric shapes are often man-made. They do not usually occur in nature on a large scale.

3-28. In sunlight, an object or a man casts a shadow that can give away presence. Shadows may be more revealing than the object itself. Observers should take care to detect alterations of a shadow's natural shape.

3-29. Where light is excessively bright, shadows look especially dark. In this exaggerated contrast, the observer's eye cannot adjust simultaneously to the darkened area of the shadow and the bright area of sunlight. This gap requires observers to isolate the shadowed area from the bright sunlight so that their eye can adapt to the shadow.

Sillhouette, Surface, and Spacing

3-30. Any object silhouetted against a contrasting background is conspicuous. Any smooth, flat background (such as water, a field, or best of all, the sky) causes an object's silhouette to become well delineated. However, special care is taken when searching areas with an uneven background, as it is more difficult to detect the silhouette of an object.

3-31. If an object has a surface that contrasts with its surroundings, it becomes conspicuous. An object with a smooth surface reflects light and becomes more obvious than an object with a rough surface that casts shadows on itself. An extremely smooth object becomes shiny. Reflections of light on shiny surfaces can instantly attract attention and be seen for great distances. For example, the reflections from a belt buckle, watch, or optical device can be seen over a mile away from the source.

3-32. Nature very rarely places objects in a regular, equally spaced pattern. Only people use rows and equal spacing.

Anomolies, Color, and Movement

3-33. Anomalies include anything not belonging in the immediate area, are obvious, or become readily detectable. This evidence should arouse observers' curiosities and cause them to investigate the area more thoroughly. Anomalies may include wrong foliage or unusual items in an area. Detecting anomalies is dependent upon—

- Mission.
- Dispersion.
- Terrain patterns (for example, rural, urban, wooded, or barren).

3-34. The greater the contrasting color, the more visible the object becomes. This point is especially true when the color is not natural for that area. Usually, an observer does not identify an object by color alone, but color is often an aid in locating an object.

3-35. Movement seldom reveals the identity of an object, but it is the most common reason a threat's position is revealed. Even when all other indicators are absent, movement gives a position away. A stationary object may be impossible to see, and a slow-moving object may be difficult to detect, but a quick or jerky movement is seen easily.

Vision and Perspective

3-36. People often place great importance on what they see. In fact, one saying that is used to represent a validated truth is, "I saw it with my own eyes." However, people's physical positions, or points of view, might give them only a limited view of the actions happening within a given space. When observing an area, Soldiers encounter positive, negative, and dead spaces. These types of space are indicated in figure 3-4, page 3-10. The type of space encountered determines the amount a Soldier is able to see.

Note. Soldiers use all available assets and cross talk with all members of their element to maintain continuous observation of an area.

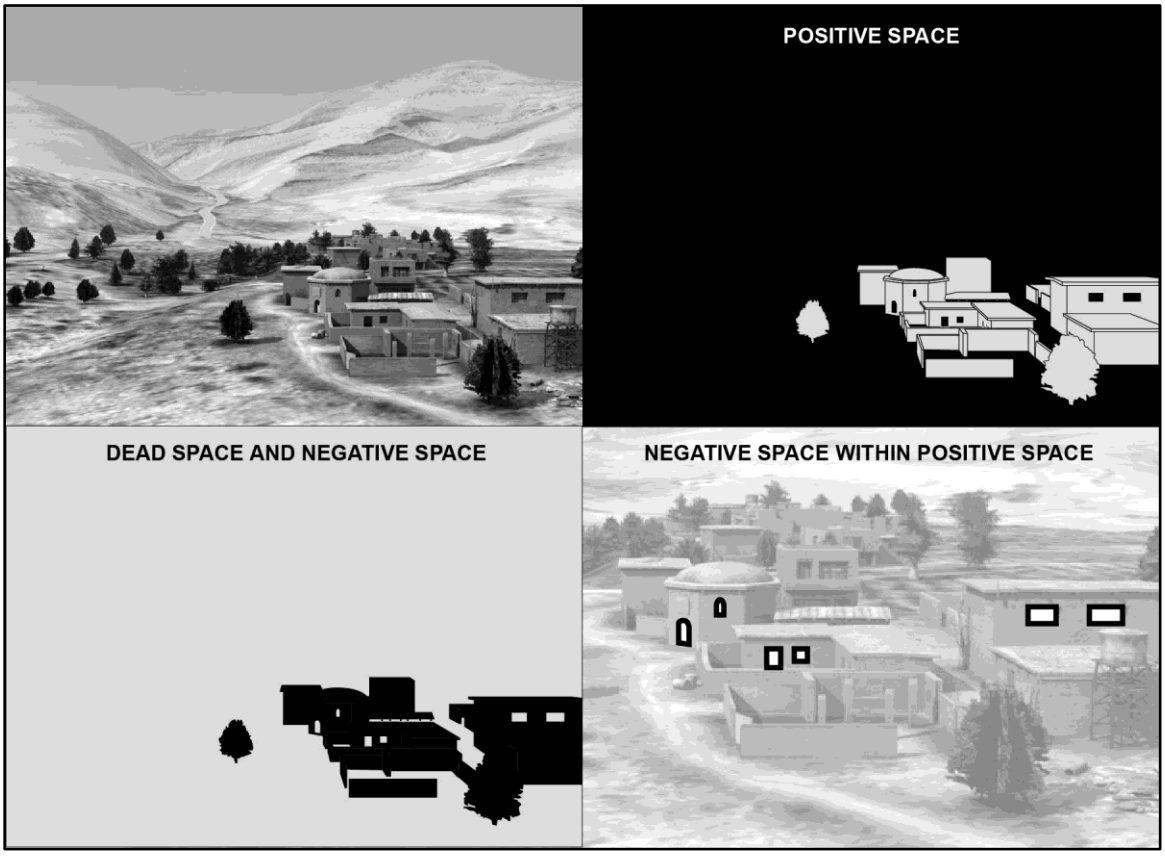

Figure 3-4. Positive, negative, and dead spaces

Positive, Negative, and Dead Spaces

3-37. Positive space is a space occupied by solid objects that take up mass (such as the face of a building, as shown in figure 3-4). Typically, a Soldier cannot see through positive space. The human eye naturally moves from positive space to positive space as the eye becomes attracted to something. For example, as Soldiers observe tree lines, their eyes are attracted to trunks and prominent branches.

3-38. Negative space is the space between positive spaces (such as the spaces between buildings in figure 3-4). This is the area of shadow and background activity that an untrained observer often overlooks. Good camouflage resembles negative space, not positive space. When conducting observation, a Soldier observes the negative space, as well as the positive space.

Note. Positive spaces can contain negative spaces (for example, windows and doorways on the face of a building, as shown in figure 3-4). These areas require observation, as well.

3-39. Dead space provides the enemy a place to hide. Dead space is an area within the maximum range of an observer that cannot be observed from a particular position because of intervening obstacles and the nature of the ground (such as the space behind a building, as shown in figure 3-4). For example, instead of conducting some form of nefarious business in plain sight of a Soldier, the enemy might walk into an alleyway behind a building.

SEARCH METHODS

3-40. Soldiers should constantly observe an area using hasty and detailed searching methods as the situation requires. Normally, the area nearest the observer offers the greatest danger; both types of search should begin there.

Hasty Search

3-41. A hasty search (see figure 3-5, page 3-12) is the first phase of observing a target area. To perform this technique, the observer makes quick glances at specific points, terrain features, or other areas that could conceal the threat and other pertinent pieces of information, beginning with the areas closest to them and then moving to areas further away. Observers should not sweep their eyes across the terrain in one continuous movement; this prevents them from detecting motion.

3-42. The hasty search is effective because the eyes are sensitive to the slightest movement occurring within a wide arc of the object. This is called side vision or seeing out of the corner of the eye. The eye is focused on a specific point to have this sensitivity. When observers see or suspect a target, they use binoculars or an observation telescope for a detailed view of the suspected target area.

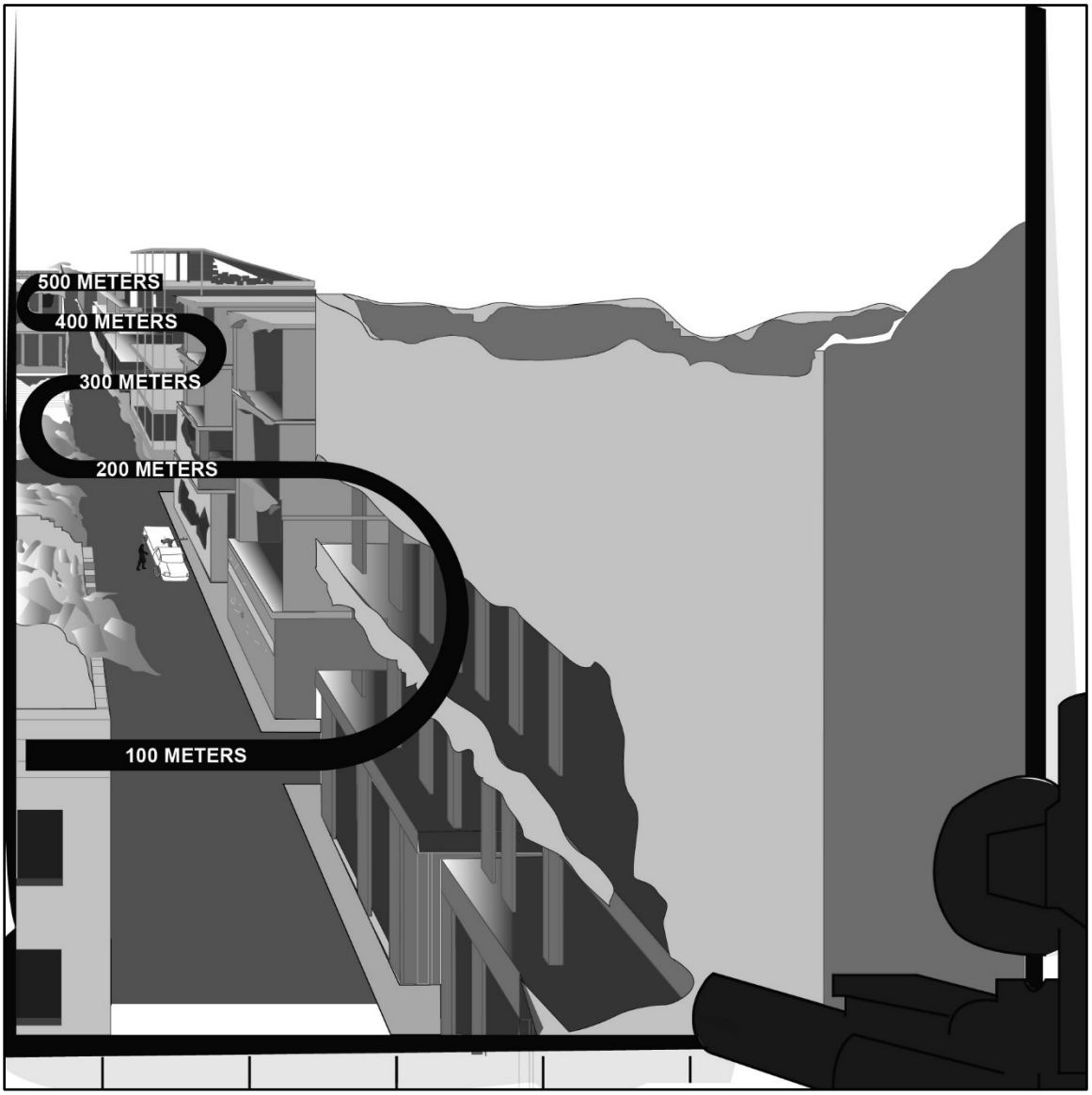

Figure 3-5. Hasty search

Detailed Search

3-43. After performing the hasty search, an observer starts a detailed search using the overlapping strip method (see figure 3-6). Beginning at either flank, observers systematically search the terrain to their front in a 180-degree arc, 50 meters in depth. After reaching the opposite flank, observers search the next area nearest their position, overlapping the strip of previously searched terrain by at least 10 meters to ensure total coverage of the area. Observers continue using this method until the entire area has been searched as far as they can see, including areas of interest that attracted the attention during the hasty search.

Note. During the detailed search, observers should memorize as much of the area as possible, noting any prominent terrain features and other areas that offer cover and concealment for the enemy. These become their key points of interest for subsequent hasty searches.

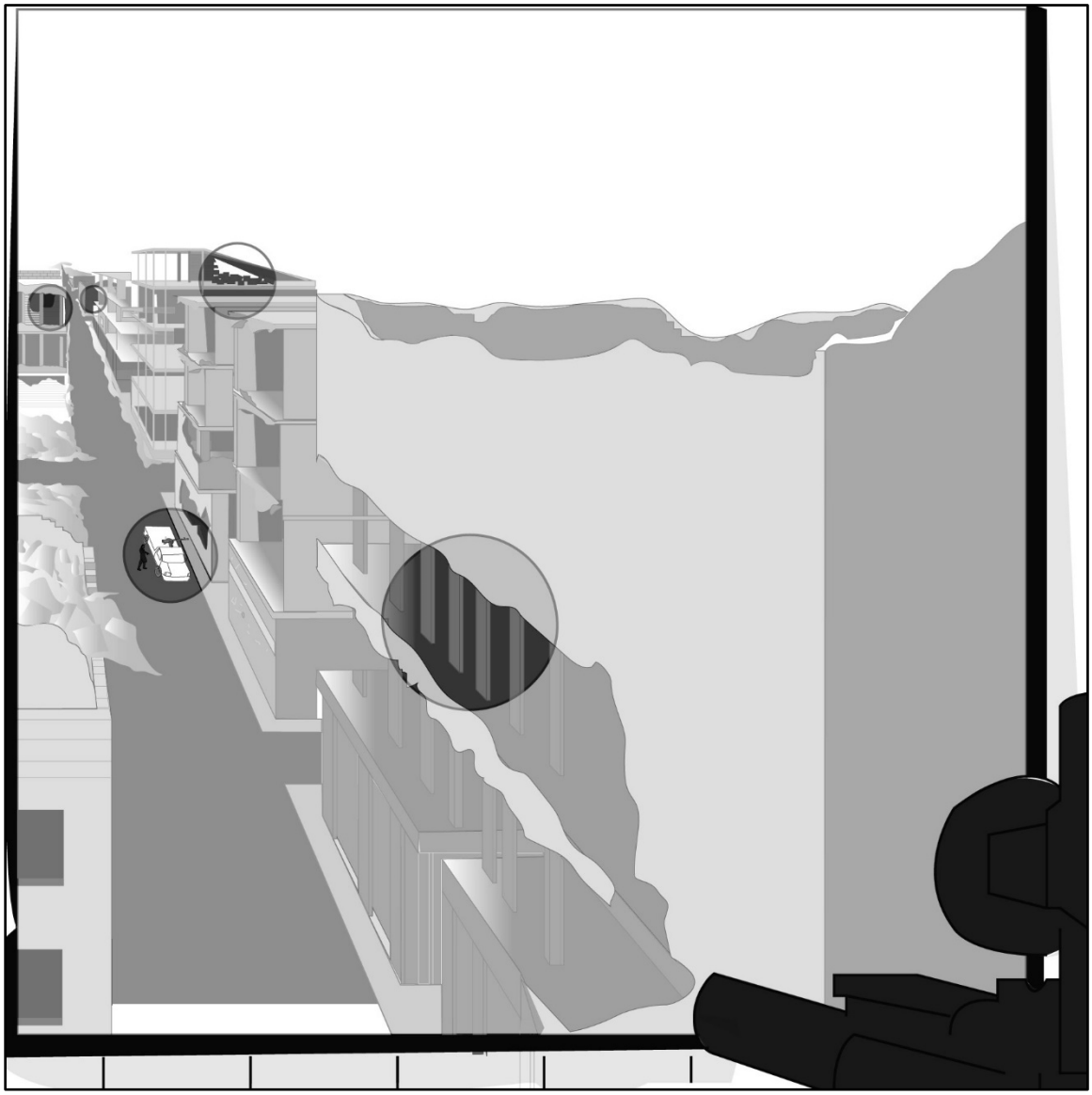

Figure 3-6. Detailed search

3-44. After conducting the initial searches, the observer should continue searching by repeatedly alternating a hasty search with a detailed search every 15 to 20 minutes, depending upon the environment. After completing each detailed search, observers maintain observation of the area by glancing quickly at various points throughout the entire area and focusing their eyes on specific features that they designated during their detailed search.

VISUAL OBSERVATION TECHNIQUES

3-45. Observers should consider using the following observation techniques:

Note. For more information about observation in night and limited visibility conditions, see ATP 3-18.4 (Appendix B), FM 3-55.93, and TC 3-21.75.

- Work in buddy teams. This allows for one member to serve as an observer and the other to serve as a recorder. When one person is focused on a specific area, the other can take in the broader area and focus in the distance.
- Alternate the task of observation. When using optics, team members relieve each other often since prolonged use can cause eye fatigue and greatly reduces the effectiveness of observation. Periods of observation during daylight should be limited to 30 minutes, followed by at least 15 minutes of rest. When using night vision devices, observers should limit their initial period of viewing to 10 minutes, followed by a 14-minute rest period. After several periods of viewing, they can extend the viewing period to 15 minutes and then 20 minutes.
- Do not expose the head any higher than is necessary to see the area being observed.
- Block out as much of the excess light and visual stimuli filtering in through the sides of the optic as possible. Observers should use their hands or other means to bridge the space between the optic and the head.

3-46. When maintaining observation, keep movement of the head and body to a minimum. Observers should place their elbows on a stable and solid surface free of curves, while avoiding bone-on-bone contact. They should stabilize the optics by lying prone, using a buddy or equipment, or another method.

- Consider the attributes of optics, and use them to your advantage. For example, an observer can use thermals to tell the difference between male and female targets. A man has a warmer heat signature in the chest, and a woman has a warmer signature in the groin.
- Use optics in unconventional ways. For example, an observer can use binoculars as a monocular device by holding them vertically.

3-47. Optics are useful for day and night visual observation. However, the intense concentration required to use night vision devices can degrade the other senses.

3-48. Leaders should prepare Soldiers for night operations by having them use all of their senses. On some operations, using all five senses may require Soldiers to avoid using night vision devices.

Note. Appendix D provides additional information about the use of optical devices in observation.

ENHANCED PERCEPTION USING THE SENSE OF SOUND

3-49. Diligent observers learn to listen to the sounds around them. Observation using the sense of sound, also known as auditory observation, becomes increasingly necessary when visual observation cannot occur (such as at night). Due to its importance, Soldiers train their ears along with their eyes.

Note. For more information about auditory observation, see FM 3-55.93.

HOW HEARING WORKS

3-50. Hearing is the sense of sound by which people become aware of surrounding sounds and physical vibrations in the atmosphere. This sense enables a person to perceive speech and other sound-producing events and to detect sources that produce sounds within the limited range of sound intensities and frequencies detectable by the ears.

3-51. The organ used in hearing is the ears. Human ears (see figure 3-7) are composed of various parts that detect and receive sounds, transmit auditory information to the brain, and protect the ears from the elements.

3-52. The inner ear receives vibrations and converts them into transmissions to the brain. This part of the ear can be stimulated by sounds received in two ways: air conduction and bone conduction.

Note. For more information about anatomy and physiology of the auditory system, see Chapters 8 and 9 of *Helmet-Mounted Displays: Sensation, Perception and Cognition Issues*, written by researchers for the United States Army Aeromedical Research Laboratory and the United States Army Research Laboratory.

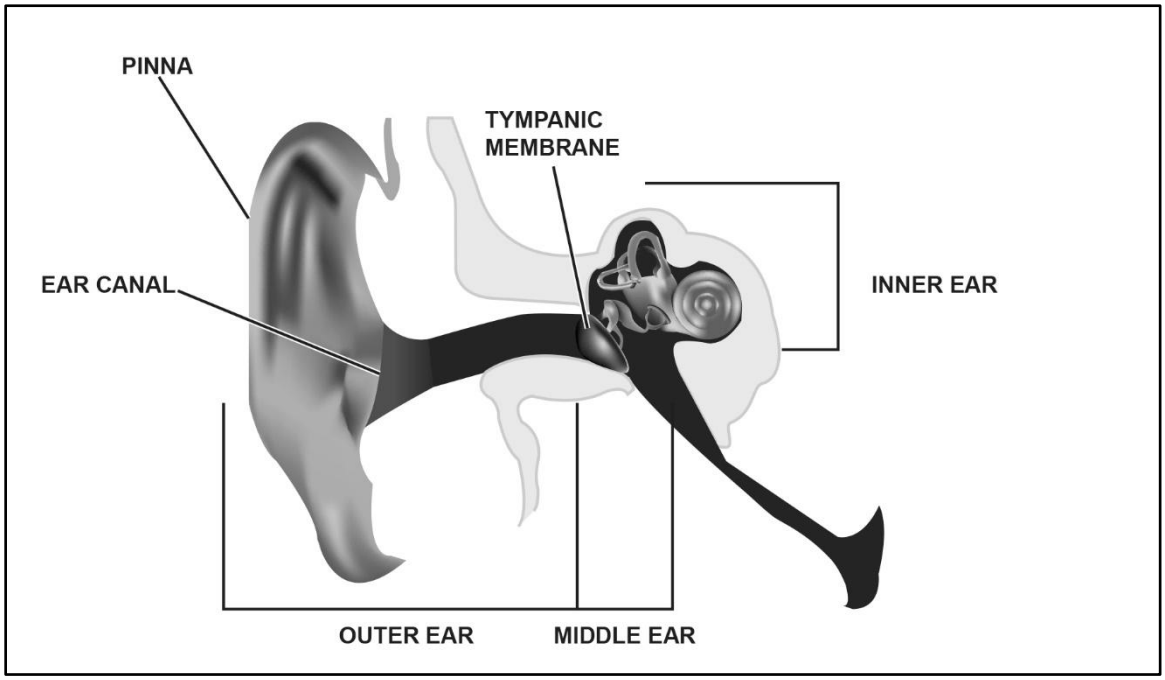

Figure 3-7. Human ear

Air Conduction

3-53. During air conduction, a component of the inner ear, called the organ of Corti, is stimulated through sounds received through the outer and middle portions of the ear. During bone conduction, the organ of Corti is stimulated by vibration of the skull. Vibration of the skull can happen when sound waves hit the human head or when the head itself vibrates.

Bone Conduction

3-54. Bone conduction is approximately 1,000 times weaker than air conduction. However, even when traditional hearing pathways are completely blocked (such as when people wear hearing protection), people might still hear intense sounds (such as explosions, jet engine sounds, or pile driver impact sounds) due to bone conduction.

DETECTION BY SOUND

3-55. Most people rely on sight for most of their information; however, many times sound alerts an observer long before the threat is actually seen. For example, Soldiers might make sounds by moving, rattling equipment, or talking. Their sounds travel before them. Further, the sounds or lack of sounds from birds or animals may alert an observer to the possible presence of the threat.

3-56. Soldiers should listen purposefully to the sounds around them, then categorize the sounds and remember them. Sound can provide information about direction and distance of the sound, as well as the activity causing the sound.

Direction

3-57. Sound waves arriving at a listener's head are affected by the human body and by the outer ear's acoustic properties. Some sounds are reflected by barriers caused by the shape of the person's body, while others are reflected toward the ear canal and amplified by the ear cavities. This reflection or amplification has several effects on how a person detects a sound's direction:

- When the sound comes from either side, the ear nearest to the sound's origin detects the sound first and the sound is slightly louder in this ear than the other ear, so the brain recognizes the origin of the sound.
- When the sound hits both ears equally, the sound is located to the observer's front or rear, as determined by the brain. However, if external conditions (such as fog or humidity) cause the sound to reach both ears at the same time and with the same intensity, the sound's origin can be difficult to locate, which can confuse an observer.
- By cupping a hand behind one ear, observers can increase their ability to hear and pinpoint the direction of a sound.

3-58. After sounds are collected, modified, and channeled toward the entrance to the ear, the ear canal amplifies certain frequencies to enhance sounds important to human behavior and speech and suppresses other sounds.

Distance and Activity

3-59. Sound loses its intensity with distance traveled. The ears must be trained to become familiar with different sounds at different distances so that the distance to the sound can be estimated. This estimate would then give the observer a general location of the sound.

3-60. Although certain sounds of movement might be dismissed as natural, other sounds (such as the rattling of equipment or talking) do not occur in nature. For example, the abrupt ending or beginning of animal noises can indicate a human presence.

Impact of Nighttime on Observation

3-61. Sounds are most noticeable at night. Auditory observation presents its own set of benefits and challenges.

3-62. Mental concentration increases in the dark, as a person attempts to compensate for the loss of sight. Hearing is a relatively acute sense, but it becomes more acute in the dark.

3-63. As most people retire from the day, background noises tend to diminish. This enables Soldiers to better hear noises and determine the origins of the sounds.

3-64. As with most people, nighttime sounds can be unfamiliar to Soldiers and can create fear. Practice and training help Soldiers overcome fear of night sounds. Training helps them to distinguish multiple sounds, faint sounds, and the directions from which sounds originate.

3-65. Lower temperatures and higher humidity associated with nighttime enable sound to carry farther. Table 3-4 shows the distances at which the ear can detect sources of sound at night.

Table 3-4. Sources of sound and the distances at which the ear can detect them

SOURCES		*DISTANCES*
Cannon shot		0 to 15 kilometers
Single shot from a rifle		2 to 3 kilometers
Automatic weapons fire		3 to 4 kilometers
Tank movement	On a dirt road	0 to 2 kilometers
	On a highway	3 to 4 kilometers
Motor vehicle movement	On a dirt road	0 to 500 kilometers
	On a highway	0 to 1 kilometers
Movement of troops on foot	On a dirt road	0 to 300 meters
	On a highway	0 to 600 meters
Small-arms weapon loading		0 to 500 meters
Metal on metal		0 to 300 meters
Conversation between a few men		0 to 300 meters
Steps of a single Soldier		0 to 40 meters
Axe blow, sound of saw		0 to 500 meters
Blows of shovels and pickaxes		0 to 1,000 meters
Screams		0 to 1,500 meters
Oars on water		0 to 2,000 meters

OTHER METHODS FOR GATHERING INFORMATION

3-66. Methods of gathering information using one's hearing include asking questions and actively listening for cues. Soldiers can gather information by asking questions. Questioning may be achieved by tactical or direct methods.

Tactical Questioning

3-67. Tactical questioning is the field-expedient initial questioning for information of immediate tactical value of a captured or detained person at or near the point of capture and before the individual is placed in a detention facility. Tactical questioning is generally performed by members of patrols, but can be done by any appropriately trained Department of Defense personnel. Tactical questioning is limited to direct questioning. Soldiers conduct tactical questioning based on the unit's standing operating procedures, ROE, and the order for that mission.

Notes. 1. Soldiers who are not trained and certified interrogators are not allowed to attempt any interrogation approach techniques in the course of tactical questioning. When it is clear that the person being questioned has no further information or does not wish to cooperate further, tactical questioning must stop.

2. For more information about tactical questioning, see ATP 3-55.4.

Direct Questioning

3-68. Direct questioning is an efficient method of asking precise questions according to a standard pattern. The goal is to collect the maximum amount of information in the least amount of time. Direct questions clearly indicate the topic being questioned, as they require an effective narrative response (for example, brief and simple but specific). During direct questioning, Soldiers should clearly define each subject using a logical sequence. Basic questions are used to discourage yes or no answers.

Notes. 1. Direct questioning is the only technique authorized for Every Soldier is a Sensor (known as ES2) tactical questioning.

2. Soldiers who are not trained and certified interrogators are forbidden to attempt to apply any interrogation approach techniques.

LISTENING PROCESS

3-69. Listening—the process of receiving, attending to, and understanding messages transmitted through the medium of sound—is an essential part of the total communication process. Listening is not the same as simply hearing something. Hearing is the reception of sound. Listening is the attachment of meaning to sound. Hearing is, however, the first step for listening and an important component of the listening process. The receiver then interprets, appreciates, or evaluates what is heard. Figure 3-8 depicts the process of listening.

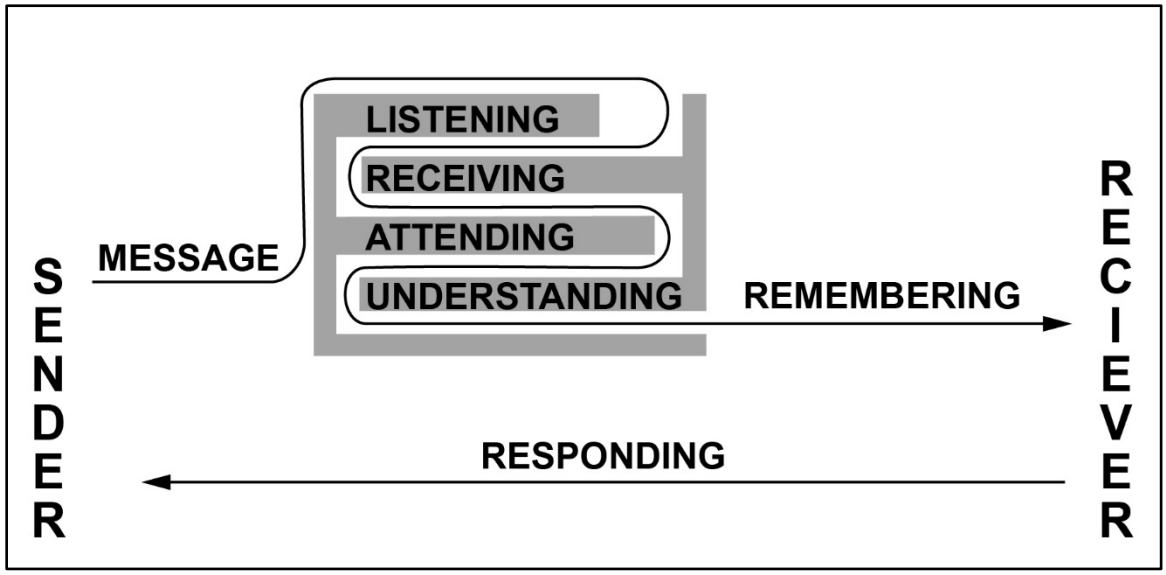

Figure 3-8. Process of listening

3-70. Speaking is the call to listen. The speaker has not communicated until the receiver interprets and understands the message sent.

3-71. After receiving a message, receivers decide whether or not to attend to it and act accordingly. For example, until individuals actually study for a test, they have not attended to the message that a test is tomorrow.

3-72. Effective communication does not take place until the receiver understands the message. Many physical, mental, and psychological barriers affect a person's ability to understand incoming information.

3-73. Responding is a form of feedback that completes the communication transaction. It lets the sender know that the message was received, attended to, and understood. There are several types of responses, as identified in table 3-5.

Table 3-5. Types of responses

TYPE OF RESPONSE	*EXPLANATION*
Direct verbal responses.	Involves direct responses that may be spoken or written.
Responses that seek clarification.	Involves asking for further information.
Responses that paraphrase.	Processing information. People begin with real data or experience.
Nonverbal response.	Is indicated using nonverbal means (for example, a nod of the head to communicate that the message is understood or a shrug of the shoulders to indicate that a message is misunderstood).

3-74. Memory is often a necessary and essential part of the listening process. Additional information about memory is provided in Chapter 4.

EFFECTIVE LISTENING

3-75. Effective listening requires skill. The following guidelines can help Soldiers become more effective listeners and help them derive the maximum amount of information from their interactions with others. These guidelines are—

- Listen actively while others speak. Effective listeners are interested in what is being said. They establish and maintain eye contact and acknowledge understanding.
- Judge content, not delivery. Effective listeners listen to the words and focus on the message.
- Focus on the person's central ideas. Effective listeners listen for new knowledge or concepts.
- Try to organize what you hear. Effective listeners vary the ways in which they attempt to remember the information.
- Do not get overstimulated by the message. Everyone has words that evoke an emotional response. Effective listeners keep their convictions and emotions in check.
- Capitalize on the speed of thought. Most people talk at 120 words a minute. The speed of thought is about 500 words a minute. That gives listeners spare time while a person is speaking to think about what is being said. Good listeners anticipate the point, summarize, weigh evidence, or look for nonverbal clues.

ENHANCED PERCEPTION USING THE SENSE OF TOUCH

3-76. Touch is the sense by which external objects or forces are perceived through contact with the body. Observation using the sense of touch, also called tactile observation, involves the identifications of indicators that an observer can touch (for example, debris or the barrel of a weapon).

3-77. This type of indicator is useful for moving at night, when other senses fail to provide stimuli. It can also be used to detect attributes that other senses fail to detect (for example, the warmth of a car engine).

HOW TOUCH WORKS

3-78. Touch uses the body's largest organ, the skin (see figure 3-9, page 3-20), to produce sensations of pressure, heat, cold, and pain. Skin is a layer of cells that protect the tissue underneath from germs and helps to maintain body temperature. A cross section of human skin is shown in figure 3-9, page 3-20.

Note. For more information about anatomy and physiology of the visual system, see Chapter 6 of *Helmet-Mounted Displays: Sensation, Perception and Cognition Issues*, written by researchers for the United States Army Aeromedical Research Laboratory and the United States Army Research Laboratory and *The Tactile Modality: A Review of Tactile Sensitivity and Human Tactile Interfaces* as written by researchers for the United States Army Research Laboratory.

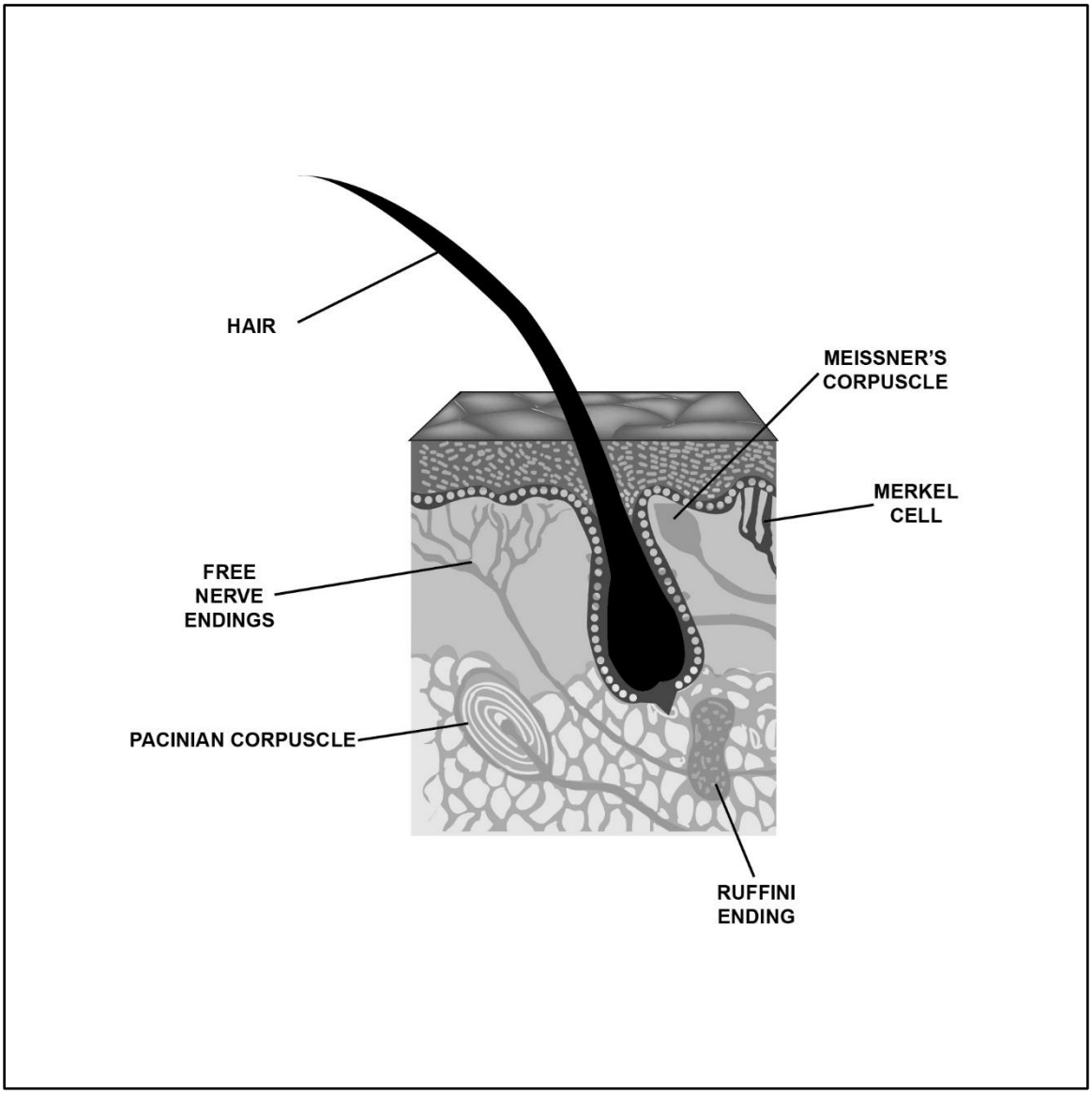

Figure 3-9. Skin

TYPES OF RECEPTORS

3-79. Within the skin, there are many free nerve endings and hair follicle receptors that collect and disperse information about objects coming in contact with the skin. In addition, skin contains four specialized types of receptors that respond to pressure and vibration. Figure 3-10 depicts these types of receptors, and table 3-6 on page 3-22 explains their uses.

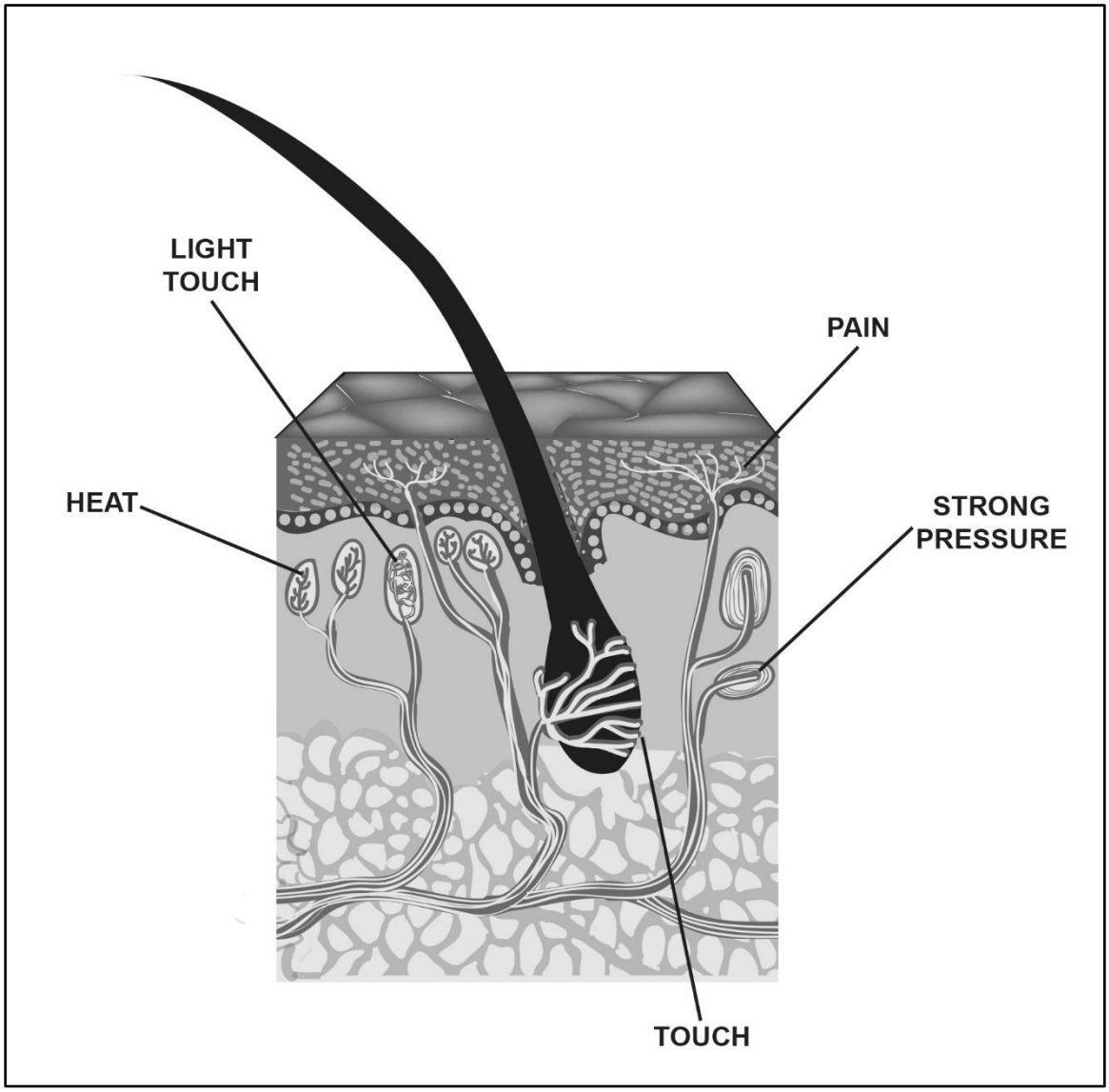

Figure 3-10. Receptors of the skin

Table 3-6. Basic properties of the four types of receptors

LOCATION	*TYPE OF RECEPTOR*	
	Rapidly-Adapting	***Slow-Adapting***
Superficial Skin	Meissner's corpuscle. Sensitivity independent of temperature. Cause a flutter or pricking sensation.	Merkel cell. Sensitivity slightly dependent on temperature. Sensitive to tactile form and roughness.
Deeper Tissue	Pacinian corpuscle. Sensitivity very dependent on temperature. Nonspecific vibration sensation.	Ruffini ending. Sensitivity very dependent on temperature. Sustained pressure and skin stretch.

DIFFERING DEGREES OF STIMULATION

3-80. Different areas of the body are sensitive to stimulation to different degrees. In general, the body is more sensitive to touch in its extremities and decreases in sensitivity toward the body's center, but this does not occur in certain areas due to differences in skin thickness, density, vascularity, elasticity, and many other properties. For example, vibration is detected more easily on hairy, bony skin but is more difficult to detect on soft, fleshy areas of the body.

ENHANCED PERCEPTION USING THE SENSE OF SMELL

3-81. People perceive odors using their sense of smell. This sense enables people to distinguish an odor's origin and to determine information about its source (such as identifying food, mates, predators, or changing surrounding conditions). A Soldier typically only uses 2 percent of the potential provided by the sense of smell. Despite the fact that these senses are underutilized, they still provide useful target indicators. For example, cooking food, fires, cigarettes, aftershave lotion, soap, and insect repellents can indicate the presence of people.

Note. For more information about observation using the sense of smell, also known as olfactory observation, see FM 3-55.93.

HOW SMELL WORKS

3-82. The organ that initiates smelling is the nose. The nose (see figure 3-11) is responsible for scanning the surroundings for new information by smelling the air for all of the scents it contains and for breathing. Scents can be perceived by inhaling.

Note. For more information about anatomy and physiology of the auditory system, see *Olfaction Warfare: Odor as Sword and Shield,* by researchers for the United States Army Research Laboratory.

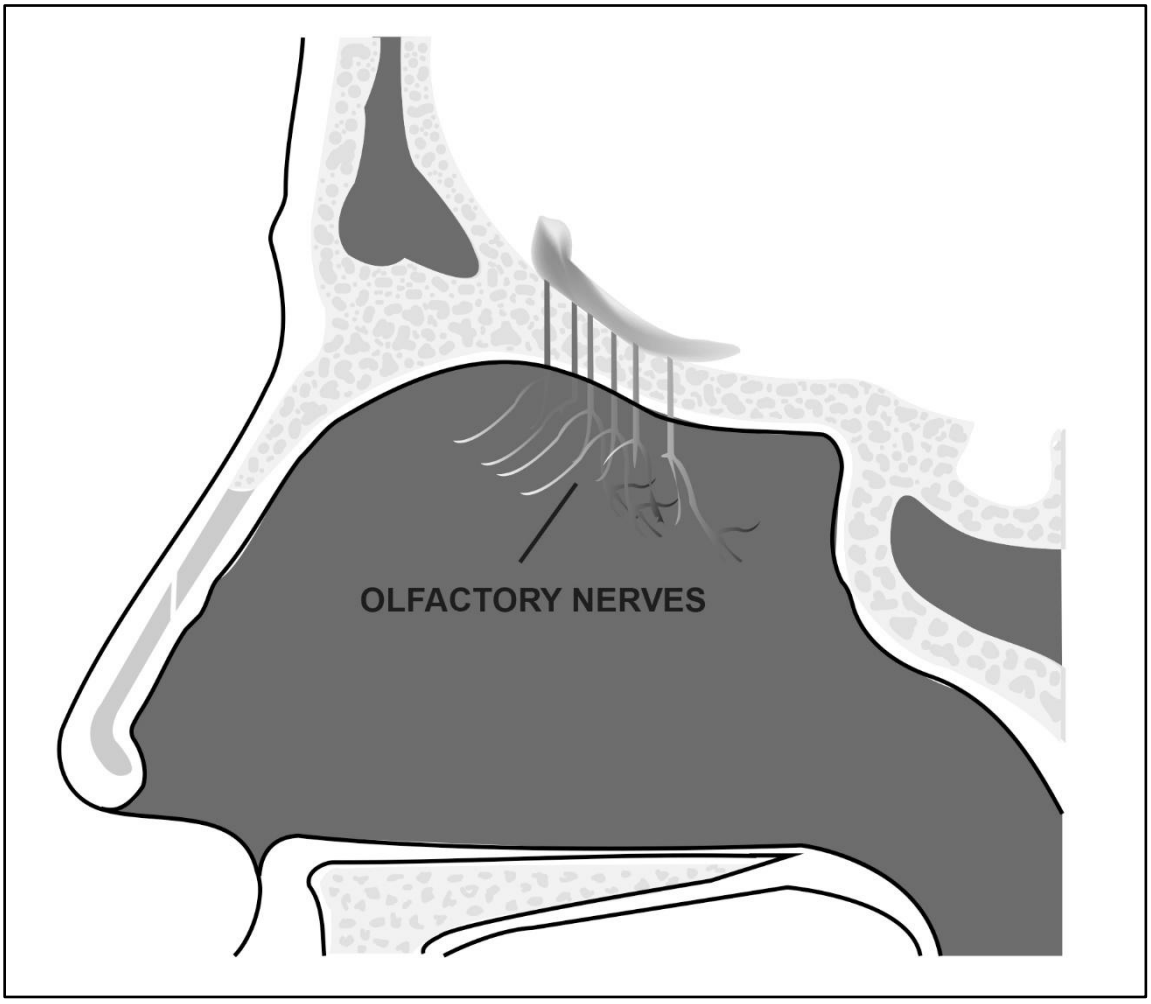

Figure 3-11. Nose

ODOR

3-83. Odor molecules initiate smelling. Odor is a property of some gases or chemicals carried by air. The word "odor" has many associated connotations: positive (such as aroma, bouquet, fragrance, and perfume), neutral (such as flavor and smell), and negative (such as malodor, reek, stink, and stench). Some scents create strong sensual pleasures, while others evoke strong disgust and even fear. The presence of odor enhances the memory of an event. An unpleasant odor can degrade human focus, diminish productivity, and increase distaste for a conducted operation, while pleasant odors can heighten awareness and improve vigilance.

3-84. Specific odors carry valuable information about environments and activities that is often critical for a Soldier's situational awareness. The presence of strong, unpleasant, or unknown smells could be construed as a warning signal that health is or may be endangered. Odor may be the first indication of an adversary's actions. For example, an unknown smell could indicate a terrorist gas attack. The processing of ethylene glycol in labs where improvised explosive devices (IEDs) are made can produce a smell similar to that of nail polish remover. The smells produced by decaying proteins (such as rotten fish [ammonia] and rotten eggs [hydrogen sulfide]) could indicate that the food generating the smell will likely cause food poisoning.

Odor Classification

3-85. One difficulty with describing and sharing information about odors is the lack of a generally accepted classification structure for odors. Models have been developed to perform this task.

3-86. In 1916, Hans Henning developed a smell prism consisting of six primary odors: flowery, foul, fruity, spicy, burnt, and resinous. He concluded that all smells fall into a combination of these categories.

3-87. In 1963, John Amoore proposed a classification system that grouped smells into seven primary odors: camphor, ether, floral, musk, peppermint, pungent, and putrid. The seven primary odors are represented in table 3-7. More recently, the initial list was expanded to include 32 odors.

Table 3-7. Amoore's seven primary odors in nature

PRIMARY ODOR	*EXAMPLE*
Camphor	Mothballs
Ether	Dry cleaning fluid
Floral	Roses
Musk	Aftershave; angelica root oil
Peppermint	Mint gum
Pungent	Vinegar
Putrid	Rotten eggs

Odor Wheels

3-88. Odor wheels list classifications of odors in one ring and outline examples of each classification in another ring. These wheels have been developed for a variety of applications, such as wine, perfume, beer, cider, brandy, compost, fruit juices, and wastewater.

Odor Strengths

3-89. Not all chemicals have odor. Most odors indicate the presence of an organic compound, although some simple chemicals not containing carbon (like ammonia) can also produce an odor. The strength of an odor depends on the concentration of molecules in the air, which rely upon various factors: the odor's volatility, environmental wind direction, flow rate, temperature, and humidity. Generally, people can detect a 5- to 10-percent change in odor intensity.

3-90. When conducting olfactory observations, Soldiers face into the wind at a 45-degree angle. They begin by relaxing and breathing normally. Then, they sniff sharply, think about specific odors, and concentrate. Table 3-8 shows the distances at which the nose can typically sense particular odors.

Table 3-8. Odor sources and the distances at which the nose can detect them

SOURCES	*DISTANCES*
Diesel fuel	0 to 500 meters
Cigarette smoke	0 to 150 meters
Heat tab (used for heating rations)	0 to 300 meters

Human Odors

3-91. Different diets produce different human odors. For example, habitual meat eaters smell different from habitual vegetarians. Many people in other parts of the world have different diets from those living in the United States. Once Soldiers learn the characteristic odors of people with different diets, they can easily detect them.

3-92. Further, the smell of food cooking, smoke, soap, lotions, and insect repellents indicate human presence. Yet other indicators are caused by bodily functions; however, this type of indicator can be reduced by eliminating the cause (for example, washing the body and burying bodily wastes).

ENHANCED PERCEPTION USING THE SENSE OF TASTE

3-93. Taste is the process of analyzing the chemical molecules found in food in order to determine their flavor. The sensation of flavor helps people determine when something is good or bad, edible or poisonous. The sense of smell and the sense of taste complement each other; both work together for full perception of the aromas in an environment.

HOW TASTE WORKS

3-94. The mouth is the organ primarily responsible for the sense of taste. This organ has two parts: the lips and the tongue (see figure 3-12). After food moves past the lips and enters the mouth, it first encounters the tongue. There, flavor is determined.

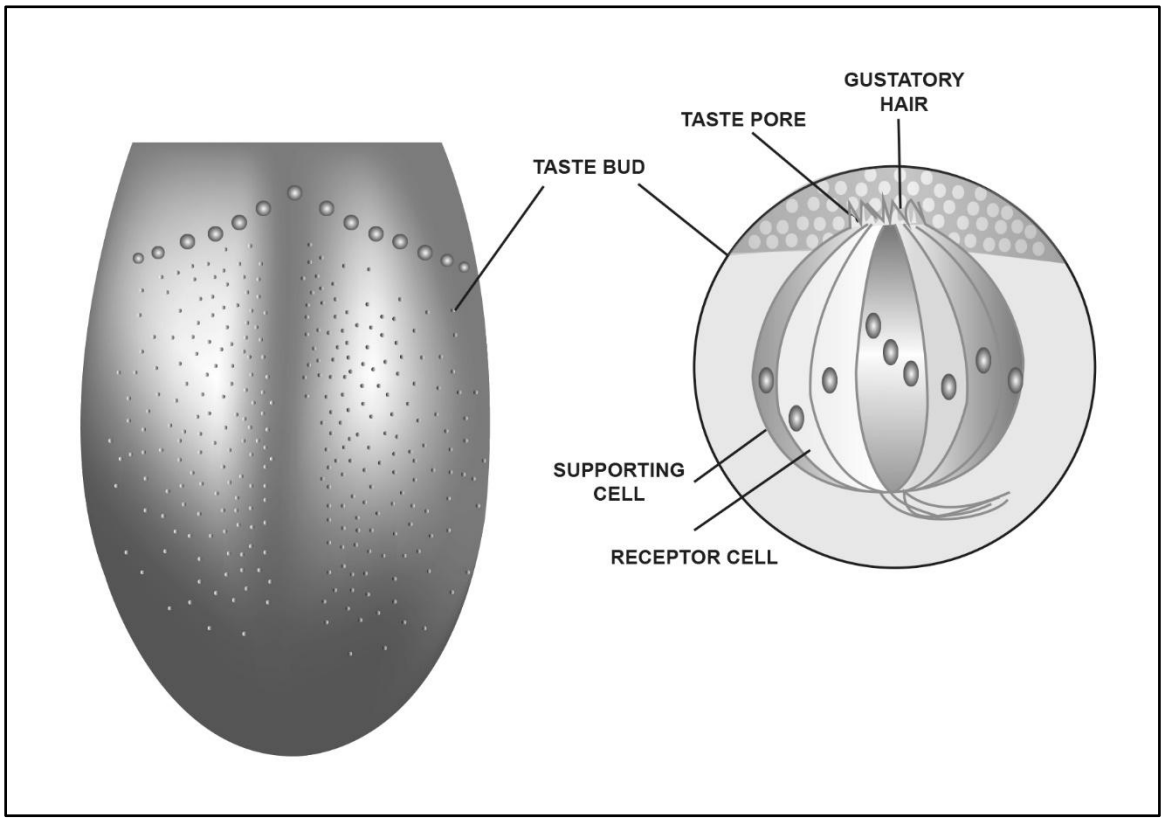

Figure 3-12. Tongue

3-95. Flavor is determined when tiny molecules released by the chewing of food stimulate the cells in the mouth and throat.

TASTE CLASSIFICATION

3-96. Until recently, tastes were categorized using four basic sensations: sweet, sour, bitter, and salty. These categories went unchallenged for years until the early part of the twentieth century when Japanese scientist Kikunae Ikeda discovered a fifth taste termed "umami," a Japanese word meaning a delicious, savory taste.

3-97. Other sensations or tastes being considered as additional categories include—

- Pungency, also known as spicy or hot flavors.
- Coolness, also known as minty or fresh flavors.
- Numbness, also known as flavors that are simultaneously numbing and hot.
- Astringency, also known as dry flavors.

- Metallic, as brought on by certain medicines, amalgam dental fillings, and blood.
- Fattiness.
- Heartiness, as brought on by foods laden with alcohol.
- Temperature.

PART THREE

Critical Thinking and Problem Solving to Promote Cognitive Dominance

Critical thinking involves analyzing the information gathered through the senses. This analysis involves using the brain to perform three key functions: cognition, memory, and perception. This part addresses the way people think about and remember information derived by the senses.

Chapter 4

Cognition and Memory

Cognition involves acquiring knowledge through the senses and understanding it through thoughts and experiences. It is the faculty used for processing information and applying knowledge, using existing knowledge, and creating new knowledge. It is conscious and subconscious, concrete and abstract, intuitive and conceptual. Memory is the faculty used to retain that knowledge over time.

DECISION-MAKING

4-1. When confronted with a threat, Soldiers select the best course of action based upon their analysis of an anomaly. One decision-making process introduced by military strategist and Air Force Colonel John Boyd—called the OODA loop as a reference to the acronym for its phases—enables Soldiers to change a situation more rapidly than a threat can comprehend. Using the OODA loop to interrupt a threat's decision-making process can generate uncertainty, confusion, disorder, and panic; further shattering a threat's cohesion; produce paralysis; and bring about collapse. Figure 4-1, page 4-2, provides a basic understanding of this decision cycle; paragraphs 4-2 through 4-5 detail the four stages.

Note. Soldiers who are trained in predictive profiling are able to identify anomalies and make decisions quicker. The ability to cycle through the reasoning process at an accelerated rate is tempered with an understanding that all decisions must be legal, moral, and ethical.

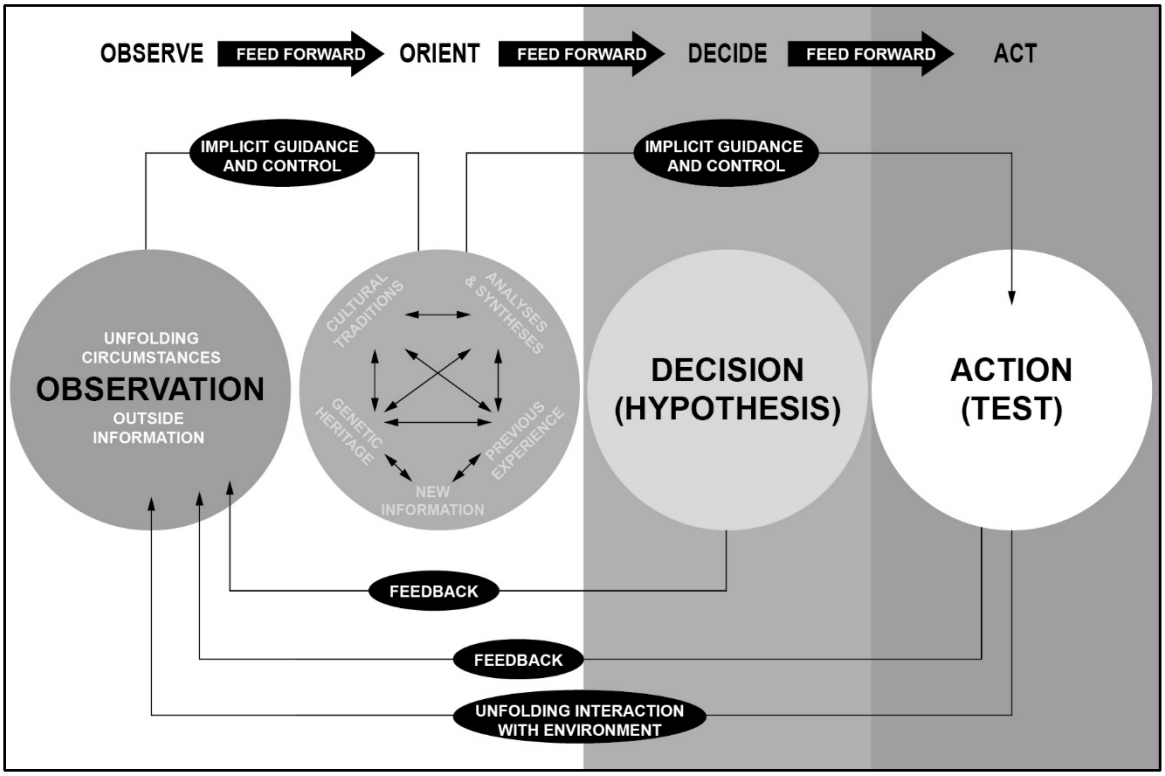

Figure 4-1. Boyd's decision cycle

OBSERVE

4-2. Observation takes place when outside information, unfolding circumstances, and interactions with the environment occur. The information processed includes the environment; enemy tactics, techniques, and procedures; and the physical, mental, and moral situation. New observations are added to the repertoire of knowledge and experience and can be used through an implicit guidance and control link, a connection that occurs when a person experiences a situation that they are familiar with (such as their upbringing, prior knowledge, and previous experience).

ORIENT

4-3. Orientation is an ancient idea, embodied in the concept of awareness. During this phase, feedback and other sensed or observed phenomena shape one's orientation, which shapes observation, decision, and action, in turn. A person can reach action more directly through an implicit guidance and control link, since relying on previous experiences enables a person to create new actions, update orientations, and take action without applying the decision-making process to determine a course of action, as one would when performing a battle drill.

DECIDE

4-4. During the decision phase, a person hypothesizes and selects a course of action that creates a favorable environment for future actions. Analyzing the anomaly ensures the selected course of action falls within the legal, moral, and ethical parameters (see table 4-1). When successful courses of action are identified, the implicit guidance and control link enables a course of action to be connected when encountering the same or similar situations, and, therefore, shortening future decision cycles.

Table 4-1. Parameters framing a course of action

PARAMETERS	*EXPLANATION*
Legal parameters	• Involve conforming to what is permitted by law and within the ROE.
Moral parameters	• Pertain to the principles or rules of right conduct or the distinction between right and wrong. • Are founded on the fundamental principles of right conduct rather than on legalities, enactment, or custom.
Ethical parameters	• Are in accordance with the social rules, standards, and expectations for right conduct or practice, especially within a profession. • Include the expectations placed upon a Soldier who represents the United States.
Legend: ROE–rules of engagement	

ACT

4-5. During the act phase, a person applies and implements the most favorable course of action, and then observes to verify the desired results. Success against threats requires not only using current repertoire but also trying new actions or finding new ways of employing existing actions. This strategy enables Soldiers to keep their orientation more aligned with reality than their threat's orientation.

DATA SELECTION AND ATTENTION

4-6. The surrounding world continually provides incoming data, and a person cannot pay attention to all of it. Much of this data is potentially unimportant and distracting. People have the ability to direct their attention and decide what incoming sensory stimuli require their focus. For the sake of efficiency, these decisions are often made subconsciously. The brain provides a GO/NO-GO signal to regulate the transmission of information. The sound of an air conditioner or refrigerator, many details in the visual field, traffic noise, and other stimuli are simply ignored in terms of conscious thought, unless something is out of the ordinary.

4-7. When processing information, people begin with real data or experience, and from that collected information, they select the data to which they pay attention. Then, they attach meaning to this selected data, make assumptions, and draw conclusions. From these conclusions, people adopt beliefs about the world, which then prompts action and helps determine the data selected during the next encounter.

SHORT-TERM MEMORY

4-8. Initially, newly learned data is stored in the short-term memory, which enables the temporary recall of a few pieces of information. Short-term memory, also called working memory, stores knowledge used for short-term processing needs. With short-term memory, information is used immediately. Working memory handles the interim processing of incoming information. Information in working memory is stored for only a few seconds, unless it is rehearsed. This type of memory can only hold a limited amount of information and is very sensitive to interruption. Working memory can only store about seven (plus or minus two) pieces of information at a time. This limitation is called channel capacity.

LONG-TERM MEMORY

4-9. After a period of time, useful information may move to the more permanent long-term memory. Long-term memory stores knowledge used as a reference to solve problems in the future. Long-term memory allows a person to recall information and events hours, days, weeks, and sometimes years later. This type of memory theoretically facilitates unlimited storage of information.

Note. See paragraph 4-29 for information about channel capacity.

PROCEDURAL MEMORY

4-10. The term "procedural memory" is often used to refer to a person's ability to perform some activity through motor learning without deliberate thought. With repetitious practice, the mind stores signals to move body parts so that the actions can be performed faster, more efficiently, and without requiring conscious thought or effort. This is also called automaticity. One example of training to the point of automaticity is the training associated with immediate action drills.

INFORMATION PROCESSING, STORAGE, AND RETRIEVAL

4-11. For information to be useful, it must not only be properly received and processed but also stored in a manner that enables its speedy retrieval. The following techniques can assist with processing information and storing and retrieving memories.

4-12. Mnemonic devices are mental tricks that involve using a key word or phrase to recall a larger body of information. For example, Soldiers use the mnemonic device POPS to recall the motions necessary to correct malfunctions on the M249 and M240 machine guns:

- P – Pull.
- O – Observe.
- P – Push.
- S – Squeeze.

4-13. The brain receives and processes large groups of information more efficiently when information is divided into smaller, more manageable chunks. For example, a person might remember the number 7-0-67-6-6-0-0-0-0 by chunking it into smaller pieces (such as 706-766-0000). By separating individual elements into larger blocks, this information becomes easier to retain and recall.

> ***Note***. See paragraph 4-8 for more information about short-term memory and its role in information recall.

MENTAL FILE FOLDERS (MEMORIES)

4-14. New sensory information is processed, interpreted, and evaluated through the lens of a person's frame of reference. A person's frame of reference is derived in part by the contents of their mental file folders. Mental file folders are organized clusters of ideas gained through previously acquired experience or knowledge, a person's own personal context for new information. These clusters of ideas begin as unspecified sensory information and gain relevance as they are grouped into clusters and labeled using terms that enable them to be accessed later. In these mental file folders is a schema, or an outlined set of beliefs about the way things are, one's own representation of reality. These beliefs cause people to monitor and select the information taken in and to which they pay attention.

4-15. The brain has a much greater capacity to take in and store new information that relates to something already learned. When experiencing anything new, such as seeing an apple for the first time, a person gathers information. This information is accessed the next time the person sees an apple.

4-16. Pattern recognition refers to the process of recognizing a pattern set that is characteristic of a given person, place, or thing. One theory of pattern recognition involves establishing template and prototype matches for a given thing.

4-17. During template matching, a person compares the incoming sensory information to identical copies (also known as templates) gathered by past experiences and learned and stored experiences in the person's long-term memory. However, the rigidity of this theory does not allow for any variations in traits. The match must be exact; therefore, this form of matching might not be useful in some applications.

4-18. In contrast, a prototype is a compilation of ideas about the average characteristics of a particular thing. Prototype matching, unlike template matching, does not emphasize a perfect match between the incoming

stimuli and the stored concept in the brain. This type of matching enables a similar match to the person, place, or thing in question.

EXAMPLE

TEMPLATE MATCHING

A person smells a scent and determines the scent to be vanilla relying on a past experience of baking cookies using vanilla extract. In this instance, no other smell is similar to vanilla; therefore, template matching might best identify the scent.

PROTOTYPE MATCHING

A concept of a small flying animal with feathers, a beak, and two wings is a prototype concept of a bird. Many birds might fit this concept (such as a crow, sparrow, hen, eagle, and so on).

MEMORY EMOTION LINKS AND MENTAL IMAGERY

4-19. Information is retained longer when it is associated with senses and emotions. For example, someone who smells burned rubber might correlate the smell to a day of drag racing that occurred many years prior. The more senses involved in the learning experience, the greater the number of stimuli that have a chance of reaching long-term memory.

4-20. Mental imagery involves imagining and predicting how an event may play out. The process is similar to *commander's visualization*, the mental process of developing situational understanding, determining a desired end state, and envisioning an operational approach by which the force will achieve that end state (ADP 6-0).

4-21. Envisioning successful outcomes through detailed mental rehearsals enhances thinking skills and increases confidence and effectiveness. Soldiers can use all of their senses to create or recreate a powerful, vivid experience in their mind. The utilization of practical imagery techniques can improve all aspects of performance, including training, preparing, performing, recovering, and healing.

Note. This principle is addressed in Comprehensive Soldier and Family Fitness (known as CSF2) materials.

ISSUES ASSOCIATED WITH COGNITION AND MEMORY

4-22. As with the senses, various issues can impede and complicate the receipt and remembering of information. The following paragraphs detail different issues that can hinder cognition and memory. ASA training provides Soldiers with the cognitive tools needed to overcome these issues. When properly trained to use all of their senses during observation, Soldiers are able to understand and develop skills that help mitigate and overcome these limitations.

4-23. Humans have a tendency to see patterns that do not actually exist. This tendency is called apothecia. For example, some people see faces or figures in shadows, clouds, and patterns with no deliberate design (such as the swirls in the icing of a cake). This concept extends to the perception of relationships between unrelated events (for example, superstitions or conspiracies).

4-24. Sequencing occurs when the brain anticipates a pattern based upon a sequence of observed cues and becomes complacent. These perceived patterns may be accurate or inaccurate. Sequencing is intended to make brain processes more efficient but can hinder the brain's ability to notice the details.

EXAMPLE

Transportation Security Agency agents spent the majority of their 8-hour shift frisking people as they pass through the gate. After a period of time, agents stop noticing the details about individuals. Their brain anticipates that the actions involved in frisking the next person will be much like those for the first 1,000 people.

COGNITIVE BLINDNESS

4-25. Cognitive blindness is a blindness of the mind, the failure of a person to notice a new stimulus or a change in the environment around them. There are three types of cognitive blindness: inattention blindness, change blindness, and adaptation.

4-26. Inattention blindness is a failure to notice unexpected stimuli in plain sight. For example, Soldiers may not notice the new painting by the staff duty desk, even if they pass it on the way to their office every morning.

4-27. Change blindness is the failure to notice shifts in stimuli even though the shifts occurred in plain sight. For example, an IED might be constructed one piece at a time, in plain sight of Soldiers nearby, without the Soldiers noticing.

4-28. When some stimuli are present over a period of time, people adapt to them. Continuing stimuli of constant intensity stops activating receptors; in other words, a person will tune out. As such, adaptation is the diminishing response of a sensory organ to a sustained stimulus. This type of cognitive blindness occurs as a person ignores sensory information that is continuously present; they become conditioned to expect the stimulus and their brain tunes it out.

CHANNEL CAPACITY, COGNITIVE OVERLOAD, AND COGNITIVE DISSONANCE

4-29. Channel capacity is the maximum data rate that can be attained or maintained by the brain (the maximum number of things that a person can pay attention to at one time). A person typically achieves channel capacity when focusing on seven items (plus or minus two items), unless the person is under acute stress, then this number drops to around three (due to the requirement to rapidly process information and interference caused by the hormones released by the body during stressful situations).

4-30. All humans have limitations in their information processing systems. Cognitive overload occurs when the load on the information processing system exceeds its limited size and duration. This happens because people can only process a certain amount of information at a given time. For example, humans have a limited capacity to receive, hold in working memory, and cognitively process information taken from the environment through any particular sense. The single sense used can become overloaded with information, rendering the user incapable of processing all incoming information and resulting in a rapid increase in error.

4-31. Cognitive dissonance occurs when the mind recalls conflicting information or holds two conflicting views of the truth. The brain becomes addled as the person tries to resolve these conflicting views.

EXAMPLE OF POTENTIAL COGNITIVE DISSONANCE

A person might be raised to believe that killing is legally, morally, and ethically wrong. However, Soldiers might be required to kill to perform their job, and within the correct parameters, this act is legal, moral, and ethical.

TUNNEL VISION AND STRESS

4-32. The term "tunnel vision" refers to limitations in observation. Literally, this term refers to the reduced peripheral vision a person experiences during stressful situations. Metaphorically, this phrase refers to the state of ignoring important tasks and attending to fewer cues, focusing on one task that is perceived to have the utmost importance.

4-33. When individuals face extreme stress or a crisis, the sympathetic nervous system influences their thinking. Their instincts begin to drive their actions and greatly reduce their ability to think critically and creatively. Their fine motor skills might degrade; they might lose control of bodily functions, and their hearing and vision narrow. When faced with this situation, this person will choose one of the following three options or a combination: fight, flight, or freeze. Table 4-2 details these responses and their symptoms.

Notes. 1. These responses do not necessarily fall in this order.

2. These responses are often seen using the domain of autonomics and kinesics. See Chapter 8 for more information about autonomics and kinesics.

Table 4-2. Fight, flight, and freeze responses

RESPONSE		*SYMPTOMS*
Fight	Respond with an immediate, aggressive response.	• Clinched jaw or fists. • Grinding of the teeth. • Aggressive tone of voice.
Flight	Flee or avoid the perceived threat.	• Restlessness in the arms and legs (for example, excessive movement and fidgeting). • Restlessness of arms and legs. • Widened eyes.
Freeze	Hesitate and freeze to avoid drawing attention to themselves.	• Pale skin. • Change in heart rate. • Holding of breath. • Closing of the eyes. • Gasping.

4-34. However, stress is not always negative. If too many stressors are introduced, physiological changes occur. A Soldier's level of awareness is affected, and execution of Boyd's decision cycle is impacted. The same thing happens when there are too few stressors. Figure 4-2 on page 4-8 depicts the relationship between performance and stress.

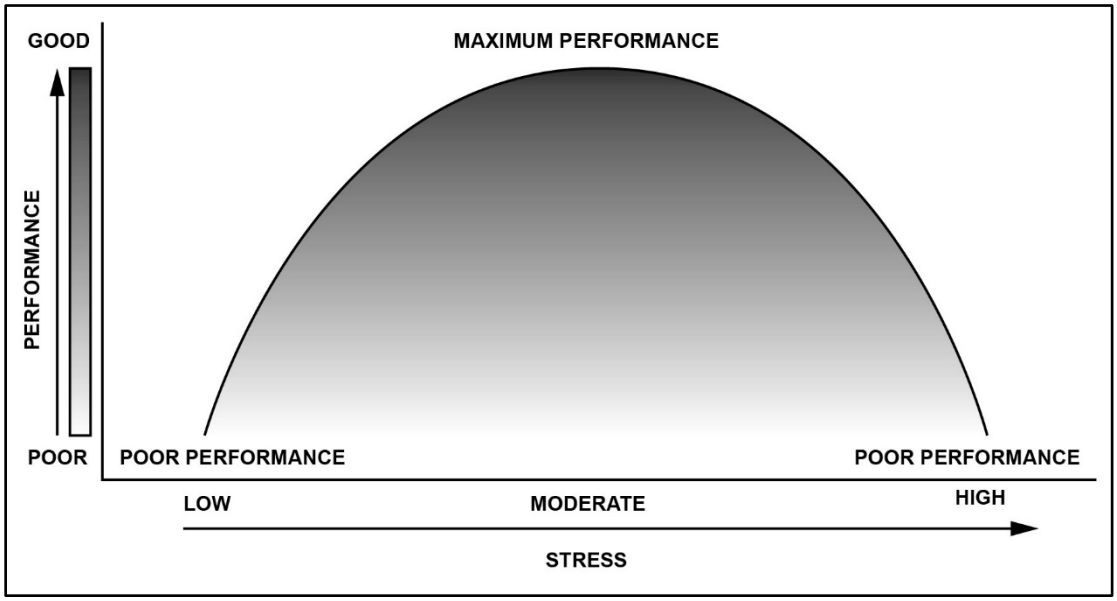

Figure 4-2. Relationship between performance and stress

4-35. Physiological responses to stress can be divided to create categories, or levels, that represent the degrees of stress. Color codes, as identified by Jeff Cooper, a former Marine Corps and marksmanship trainer, can be used to describe these levels of awareness. Using these color codes of awareness, warfighters can easily identify the different states of awareness and levels of stress placed upon them and members of their unit, with the goal of mitigating the negative biological and physiological effects associated with certain levels. Figure 4-3 associates the level of Soldier performance to the various color codes. Table 4-3 on page 4-10 further details the impacts of stress on Soldier performance.

Note. Through realistic training and mental conditioning, Soldiers can remain in condition yellow for sustained periods and shift into orange and red when necessary. Additionally, training and conditioning enables Soldiers to identify when they shift into elevated levels of stress and return to lower, more manageable levels. A Soldier who remains in elevated levels of stress for extended periods of time or is not mentally conditioned to function in an elevated state of stress may be more susceptible to exhibiting emotional impacts from a traumatic event. Leaders need to identify the mental conditions of their Soldiers and take appropriate action to mitigate those conditions.

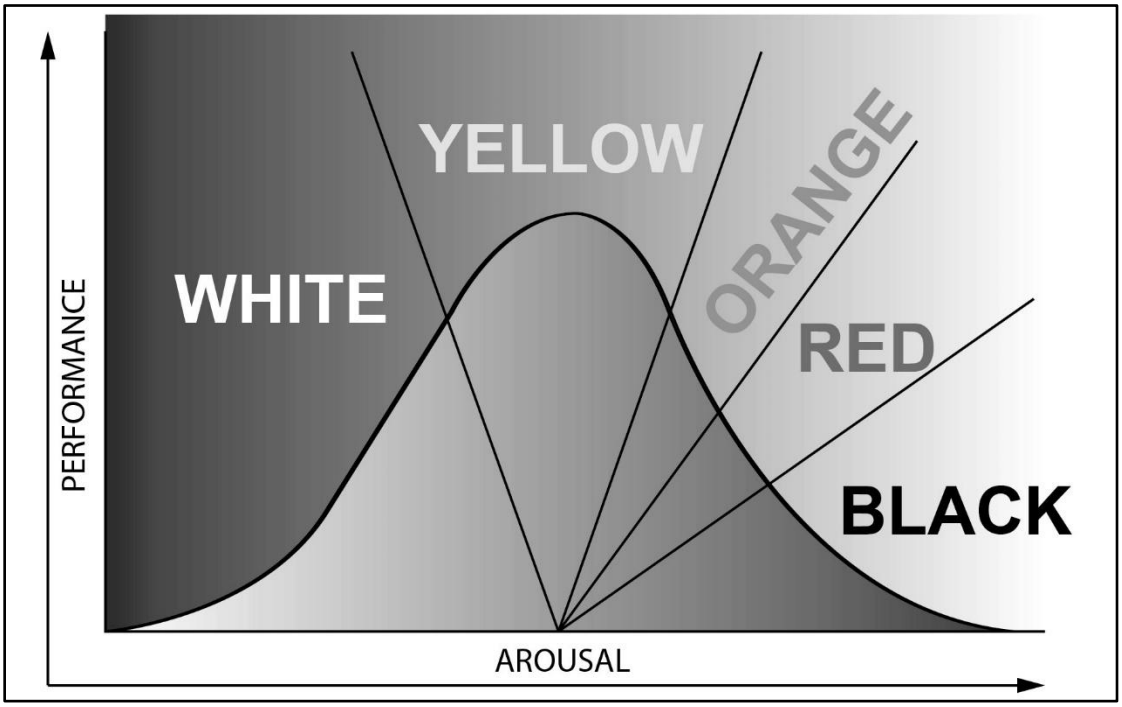

Figure 4-3. Impact of combat stimulus on performance

Table 4-3. Cooper's color codes (with additions) and related impacts on Soldier performance

COLOR CODE	*IMPACT ON SOLDIER PERFORMANCE*
White	• Soldiers are not alert, unaware, unprepared, and oblivious to surroundings. • Daydreaming. • Preoccupied. • Inclined to walk around with head down, or eyes fixated on the ground. • Soldiers do not notice impending danger until it is crucial. • If attacked, Soldiers may only be saved by the inadequacy or ineptitude of their enemy. • Will most likely react with, "What's going on?"
Yellow	• Soldiers are in relaxed state of general alertness, with no specific focal point. • Alert and aware of surroundings. • Difficult to surprise, therefore, hard to kill. • Soldiers have their head up and eyes open. • Soldiers recognize the possibility of being attacked at any time. • Soldiers assess anything or anyone in immediate vicinity that seems unusual, out of place, or out of context and views it as potentially dangerous until it has been assessed. • Soldiers escalate to Condition Orange upon observing people, places, things, or events out of the ordinary. ***Note:*** A Soldier can maintain Condition Yellow indefinitely, without causing adverse mental or emotional impacts.
Orange	• Soldiers are in a heightened state of alertness, with a specific focus. • Soldiers have observed something out of the ordinary and need to assess it. • Upon assessment, Soldiers attempt to predict the most likely course of action and most dangerous course of action of the person, place, thing, or event. • Soldiers develop a rudimentary plan for dealing with each course of action. ***Note:*** Soldiers can only remain in Condition Orange until the problem that affected their attention is resolved in some fashion. They should not remain in this condition for any extended period of time to avoid creating tunnel vision.

Table 4-3. Cooper's color codes (with additions) and related impacts on Soldier performance (continued)

COLOR CODE	*IMPACT ON SOLDIER PERFORMANCE*
Red	• Soldiers are alert and ready to fight or act. • Mentally prepared for a conflict and could act physically if the situation demanded. • Soldiers experience hypervigilance. • Soldiers believe a threat is real and are waiting for the mental trigger (which is a specific, predetermined action that may be taken by the threat); mental trigger results in an immediate, positive, and aggressive reaction from the Soldier. ***Note:*** Typically, Soldiers in Condition Red cannot sustain functionality for long periods without adverse effects. They may experience focus lock, tunnel vision, or adverse effects of adrenaline. If this occurs, Soldiers' training and instinct determine their ability to operate effectively.
Black	***Note:*** Condition Black is not part of Cooper's original color code. This level was first adopted by the Marine Corps. • Soldiers have been exposed to a stressful event and experience a catastrophic breakdown of mental and physical performance. • Soldiers may not be thinking clearly. • Usually accompanied with increased heart rate, causing Soldiers to become counterproductive. ***Note:*** Leaders must immediately identify if a Soldier has progressed to Condition Black and take proactive measures to prevent long-term adverse effects.

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Chapter 5

Perception

Perception involves the mental, physical, and physiological filters through which a person views the world around them. Many factors can influence how Soldiers perceive the information they receive during observation. These factors can include Soldiers' cultures and the culture of the people they are observing, their location and ability to view an area, and their ability to respond to environmental stressors. This section discusses how these factors impact Soldiers' perspectives.

CONTEXT

5-1. Context is the circumstances that form the setting for an event. Upon receiving new information, a person analyzes it in terms of its context, a process known as context analysis. The context in which people view a person, place, or thing can affect their perception of it. This is called the context effect.

5-2. The context effect is supported by the theory of constructive perception. Constructive perception involves using context to form a cognitive understanding of something. In contrast, direct perception involves observing something directly.

EXAMPLES

Direct perception: a person observes an octagonal, red street sign with white lettering that reads STOP.

Constructive perception: a person observes an octagonal, red street sign covered in vines. Only the white letters O and P are visible through the vines.

5-3. Constructive perception helps people as they encounter familiar scenes in their daily life. It helps them recognize words, objects, and even other people. However, it can lead to problems with developing an accurate picture of an environment. For example, a person might expect to see an item used in a given context and give it a certain relevance based on these cues but fail to see the purpose it actually serves or misidentify an object because an object of a similar shape might be more often seen in that context.

EXAMPLE

Upon entering a wood shop, a Soldier sees an object on a nearby workbench. Due to the context in which the object is perceived (in a wood shop), the Soldier believes the object to be a drill, but it is, in fact, a handgun (see figure 5-1, page 5-2).

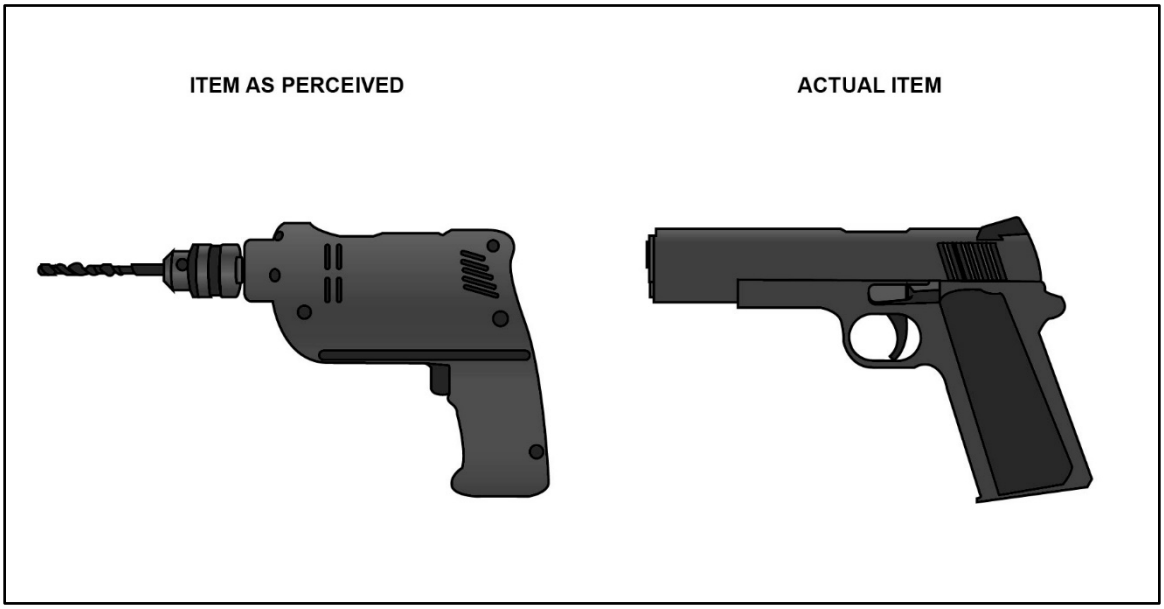

Figure 5-1. Constructive perception of an object

COMMON BIASES/EFFECTS

5-4. Human beings can be illogical and irrational. Our minds are wired to make short-term decisions that solve immediate problems; they are not built to make long-term, deeply analyzed decisions. Our brains were built for survival. As a result we employ mental shortcuts, heuristics, and schemas to make quick decisions. Sometimes these decisions can be incorrect based on biases that our brains develop over time to help make quick decisions. Knowing these biases exist within ourselves allows us to stay self-aware of when they creep into our judgements and allows us to learn and employ mitigation measures to ensure our biases do not lead us to incorrect conclusions.

5-5. Some of the most common biases are listed below. We must be aware of them, learn which ones are most prevalent in ourselves, and then teach our minds how to mitigate their effects on our decisions:

- Blind Spot Bias—the belief that we do not suffer from biases, but others do.
- Primacy—placing too much weight on a first impression.
- Recency—placing too much weight on the last impression.
- Halo/Horn—placing too much weight on one positive or one negative thing.
- Central Tendency—tendency to rate most people as average.
- Leniency /Severity—being too sympathetic or too strict.
- Contrast—comparing individuals to others instead of a universal standard.
- Similar to Me (homophily/affinity)—favoring people because of similarities to you (same race, gender, ethnicity, experiences, qualifications, so forth).
- Stereotyping—believing an individual person has the characteristics that we (often incorrectly) assign to members of that group.
- Confirmation—selectively looking to verify something you noticed and actively looking for something that provides evidence for it.

MOTIVATION

5-6. A motivation is an interest that people consciously decide is worthy of their focus**.** Their desires fuel their motivations. These goals often have payoffs or rewards, whether the reward is pleasure (such as making oneself or a significant other happy) or avoidance of pain (whether physical, mental, or emotional pain).

People's motivations change how they view the people and things that they desire and those people and things standing in the way of achieving their goal.

5-7. Soldiers must understand how motivation changes a person's focus and provides direction. This direction can also lead people to do things that they might not otherwise do. For example, people who have no discernable aggressive tendencies might find themselves in a fistfight over the last loaf of bread if they or a member of their family is starving. In this case, the person is strongly motivated to procure the loaf of bread. Due to its great significance as a source of food, they might consider it worth the fight, even if others or themselves are injured or killed in the fight.

MASLOW'S HIERARCHY OF NEEDS

5-8. After years of studying exemplary people, such as Albert Einstein, Jane Addams, Eleanor Roosevelt, Fredrick Douglas, and the healthiest 1 percent of the college student population, Abraham Maslow proposed five levels of needs, as shown in figure 5-2, page 5-4. Since its inception, the original hierarchy of needs has expanded to include eight levels of needs, as shown in figure 5-3 on page 5-5.

5-9. The most fundamental four layers of both pyramids contain what Maslow called deficiency needs: esteem, love and belonging, safety, and physical needs. If these needs are not met, the individual feels anxious and tense. For example, the response to a problem from a person who is starving or struggling to feed oneself might be less effective or more focused on relieving hunger than a person who is not struggling to eat.

5-10. Maslow's theory suggests that the most basic level of needs must be met before the individual will wish to achieve and concentrate on higher-level needs. As higher-level needs are met, if lower level needs are no longer met, one reverts to lower levels of the pyramid and sacrifices those higher-level needs.

Note. The order of needs in Maslow's hierarchy is not absolute. It is affected by the general environment in which an individual lives and can change based upon socioeconomic factors, such as poverty versus abundance and cultural factors.

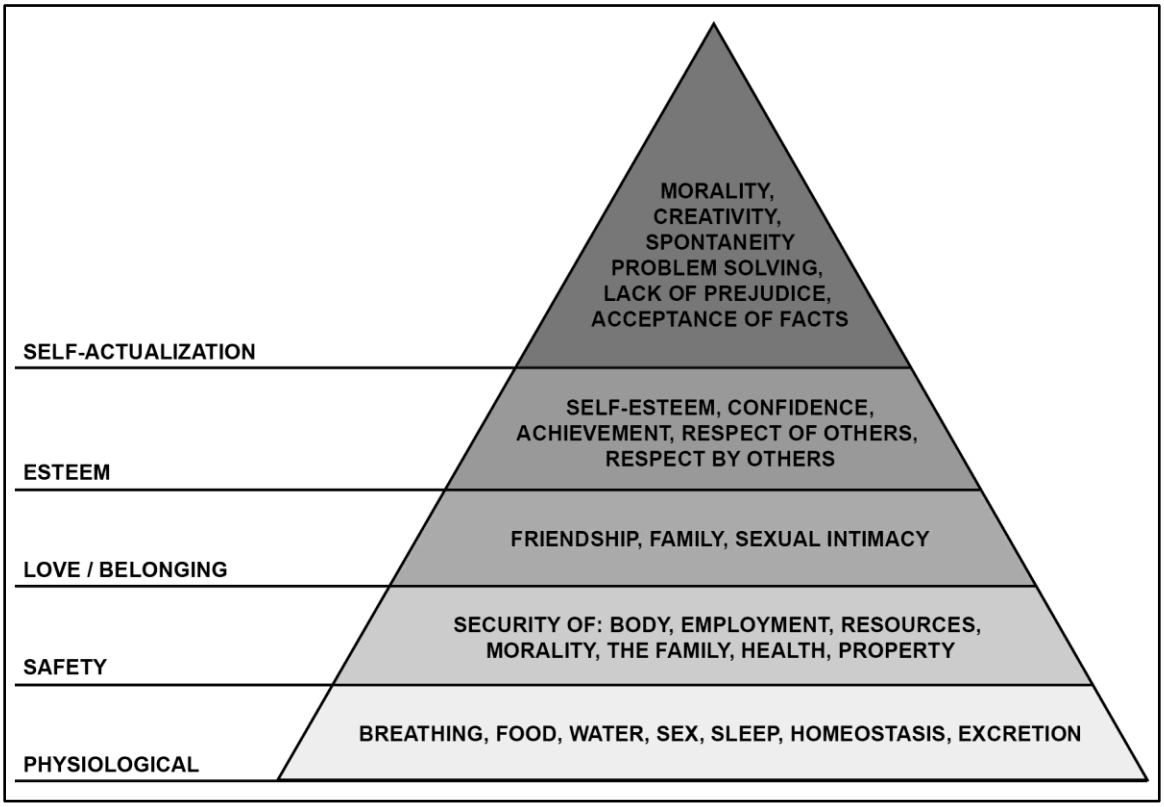

Figure 5-2. Maslow's hierarchy of needs

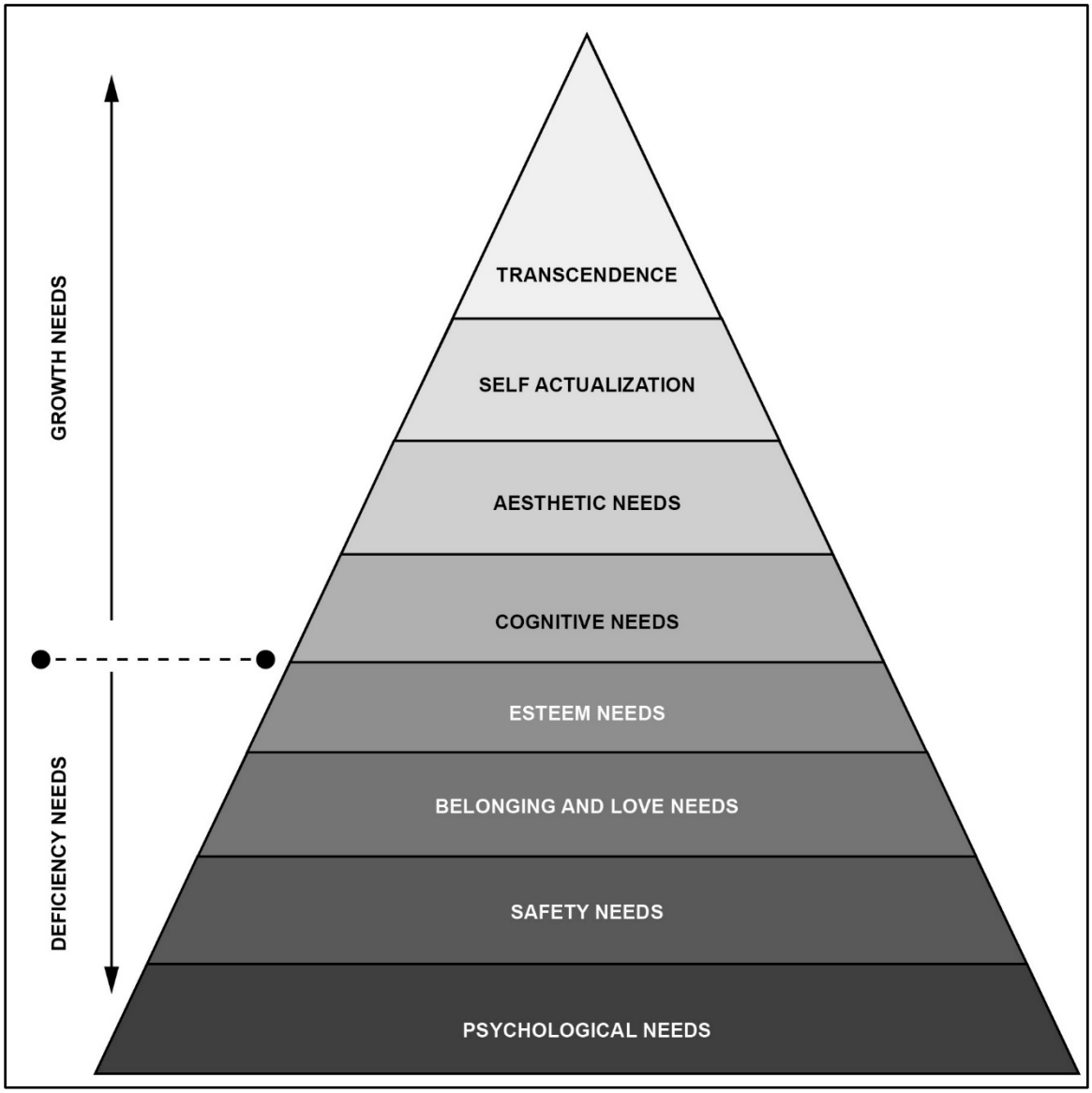

Figure 5-3. Expanded hierarchy of needs

CULTURE

EXAMPLE

"Learn all you can about your Ashraf and Bedu. Get to know their families, clans and tribes, friends and enemies, wells, hills, and roads."
–T. E. Lawrence, The 27 Articles of T.E. Lawrence

5-11. Culture is all the information passed between generations as people learn how to live within a particular group**.** It is an interconnected set of ideas and ideals conveyed not just through language but through disciplines, such as philosophy, etiquette, culinary arts, literature, and visual and dramatic arts, and through

behavioral guidelines and mandates outlined by religious beliefs. Culture includes the traditions, values, beliefs, behaviors, and norms of a group of people. Culture tells people how to behave, allowing for a range of behaviors, but imposing sanctions on bad behavior while often rewarding good behavior.

5-12. Culturally influenced situational awareness allows Soldiers to detect subtle indicators of change or threat in the operational environment and understand how this affects the threat's decisions and planning. Soldiers begin to achieve culturally influenced situational awareness when they can ask and answer such questions accurately:

- What is the threat thinking, and why?
- What are host nation security forces thinking, and why?
- What are groups of people thinking, and why?
- What will the threat, groups of people, adjacent units, coalition partners, and host nation security forces do if I take a certain action, and why?
- How are cultural factors influencing my operations?
- How can I make groups of people and host nation security forces do what I want them to do?

Note. See Chapter 9 for more information about the role of culture in ASA.

AGE, MOOD, AND EMOTION

5-13. Through their interactions with the environment, people validate or invalidate ideas and reinforce behaviors negatively or positively. This enables perspective to change as someone ages. The ASA-trained Soldier understands the normal behavior for people of different ages within their environment—children, teenagers, adults, and the elderly.

5-14. Mood can also impact perspective. People can experience various moods which can impact their interactions with others:

- Laziness.
- Internal and external distractions.
- Past relationships, both poor and excellent.
- Lack of trust caused by believing that a person has betrayed one's trust or that the person does not have one's best interest in mind.
- Lack of self-confidence or overconfidence.
- Prejudice to personal characteristics of a person, a group of people, a message, or various other things.
- Emotionality.
- Indifference.

Note. See Chapter 7 for more information about collective emotion.

5-15. These moods and emotional responses can change the way that people communicate. In fact, most barriers to effective listening are associated with mood and emotion. These possible barriers are—

- Halo effect. The halo effect occurs when, as the result of a speaker's association with someone or something a listener already likes, a listener is more likely to be receptive to the speaker and the message and is less likely to question the speaker's message, even those things they should question.
- Horns effect. The horns effect occurs when, as the result of a speaker's association with someone or something about which a person has negative feelings, a listener is less likely to be receptive to the speaker and the message and is more likely to criticize a speaker's message and less likely to listen as they should.
- Different levels of power between the listener and the speaker. This can occur when a speaker has greater or lesser authority than the listener.

- Emotionality on the part of the speaker. Emotions can create a barrier and distract a person from hearing the real message.
- Prejudging the message before the entire message has been delivered. For example, a speaker might say something at the beginning of a speech or conversation that distracts a listener from effectively listening to the rest of the message.
- Interruptions. Interruptions distract the speaker and the listener.
- Use of trigger words**.** Trigger words can evoke prejudice or emotionality.
- Delivery style. For example, speaking in a monotone voice, stuttering, or using verbal pauses, such as uh or you know, can cause a listener to lose interest.

AFFILIATIONS WITH ORGANIZATIONS

5-16. Affiliations with an organization can influence a person's motivations and perceptions. Understanding these motivations and perceptions can be derived through better understanding the type of organization the person has joined, the group's motivations and behaviors, and the degree of commitment to the organization. This is particularly true concerning terrorist and criminal organizations.

Note. For more information about terrorist and criminal organizations, see JP 3-26 and ATP 3-37.2. See Chapter 10 for more information about the threat mindset.

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Chapter 6

The Nervous System and Its Functions

The brain never stops changing as people grow, learn, and acquire new knowledge or skills through instruction or experience. Understanding how the human brain functions and how the mind processes various pieces of information help Soldiers understand their own capabilities and limitations, enabling them to better gather information from their environment.

HUMAN NERVOUS SYSTEM

6-1. The human nervous system is a complex network that sends signals from the brain to every part of the body to control all aspects of activity, from breathing to philosophical thought. The nervous system is divided into two sections: the central nervous system and the peripheral nervous system.

Note. For more information about structures of the nervous system, see Chapter 8 of *Helmet Mounted Displays: Sensation, Perception and Cognition Issues* by researchers for the United States Army Aeromedical Research Laboratory and the United States Army Research Laboratory, and in Lesson 4 of Chapter 1 in *Army JROTC Leadership Education and Training: Foundations for Success and Wellness, Fitness, and First Aid*.

6-2. Using technological advancements, such as magnetic resonance imaging, surgical methods, and experimental-based approaches, researchers have found that the biological processes underlie many basic emotions and thoughts. These processes even govern how the brain processes information gathered through the various senses in order to create an understanding of the surrounding world.

CENTRAL NERVOUS SYSTEM

6-3. The central nervous system is a network of connections reaching from the brain to the spinal cord, composed of various types of nerve cells called neurons. The central nervous system can be divided into two parts: the brain and the spinal cord.

6-4. The average adult brain is a 3-pound mass, sparking with electrochemical interactions and containing approximately 100 billion neurons and trillions of support cells. Basic structures of the brain and their functions are highlighted in figure 6-1 on page 6-2.

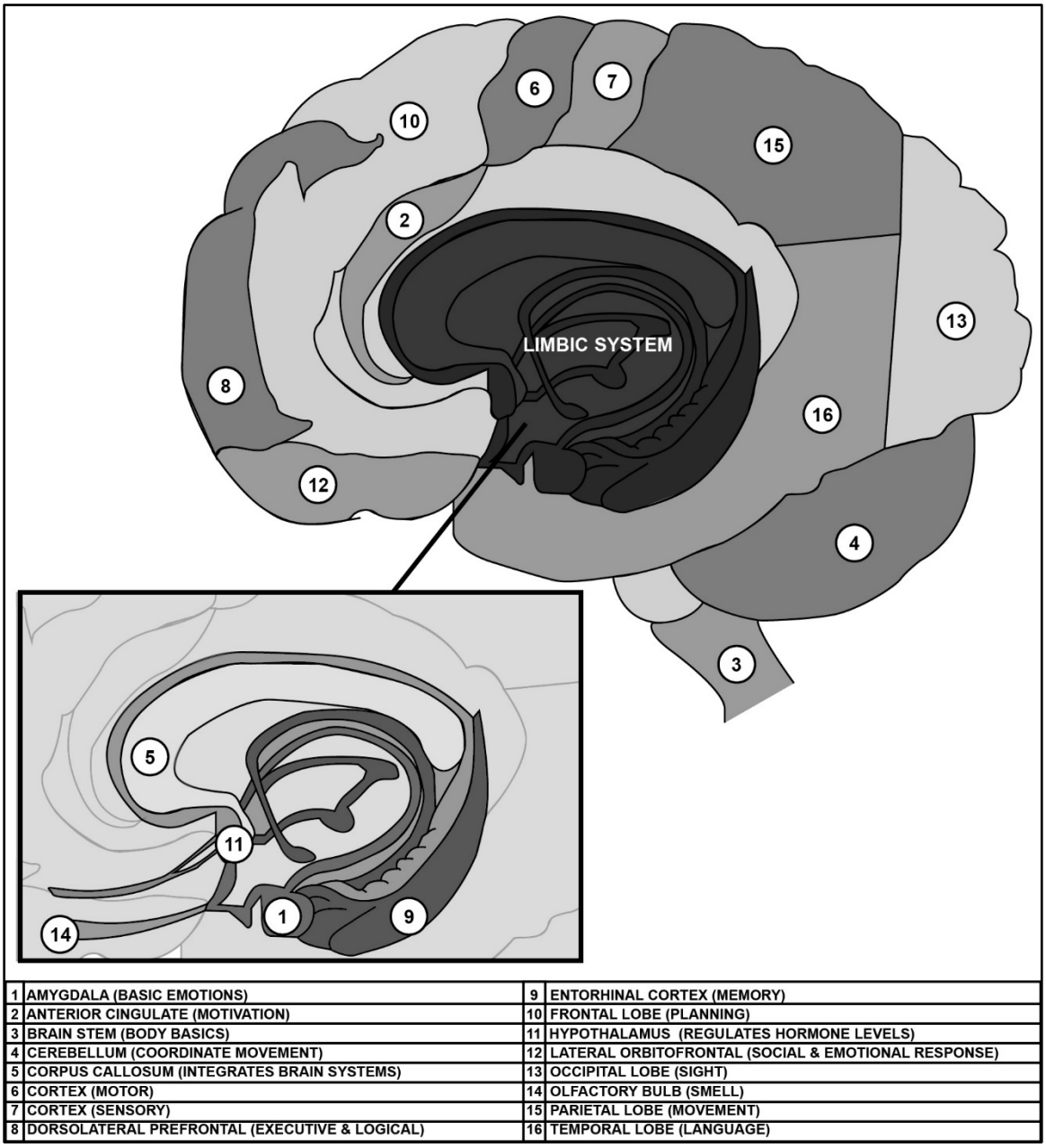

Figure 6-1. Human brain

DIVISION OF THE BRAIN

6-5. Due to the brain's complexity, many methods have been developed to draw boundaries and group brain structures. For example, the brain can be divided based upon the brain's anatomy, development, or theories of its evolution.

6-6. One division based upon the anatomy of the brain involves dividing it into three parts (see figure 6-2): forebrain, midbrain, and hindbrain. The functions of these divisions and the structures within them are identified in table 6-1, page 6-4.

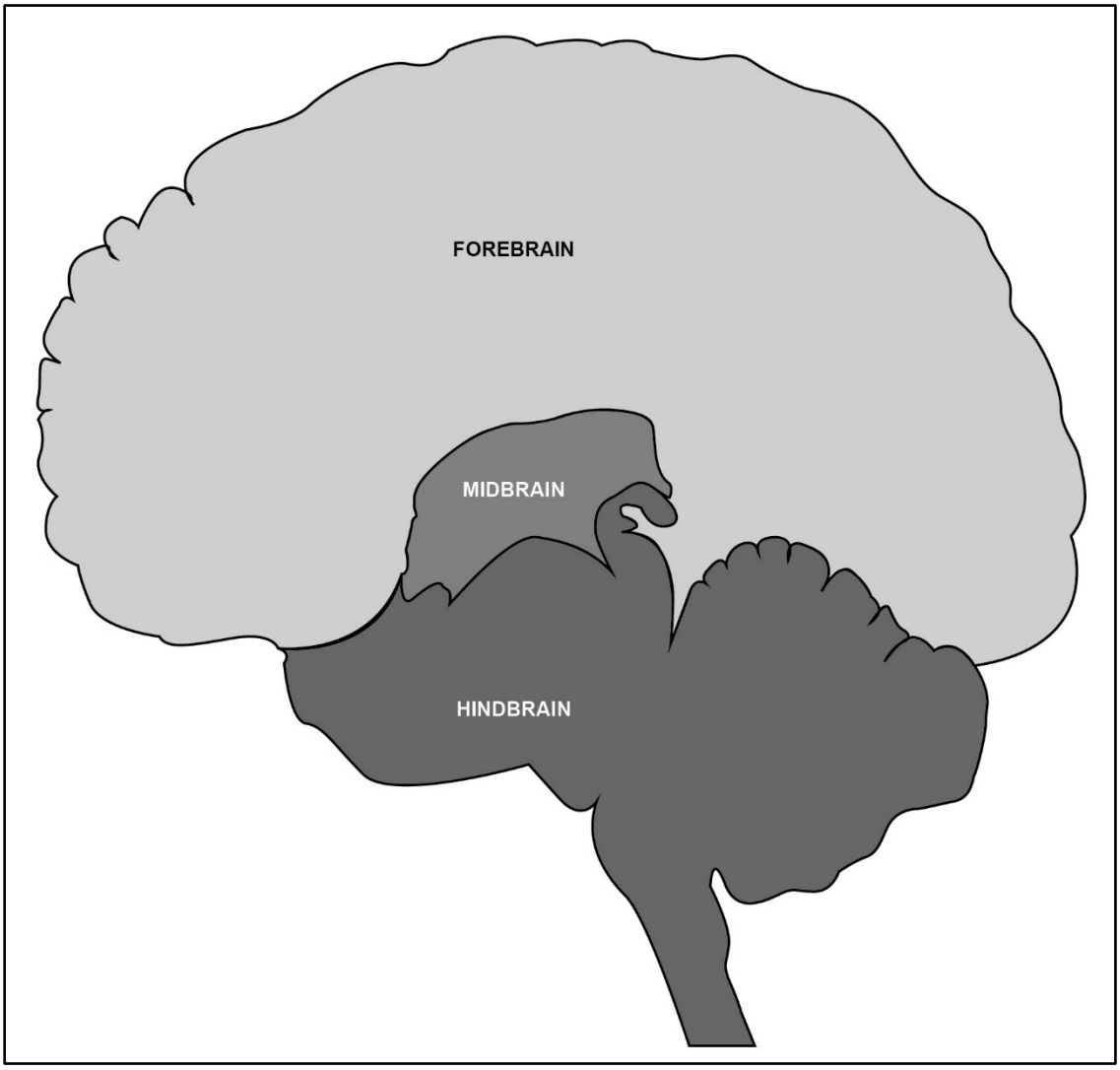

Figure 6-2. Division of the anatomical structures of the brain

Table 6-1. Three-part anatomical division: structures and functions

DIVISION	*STRUCTURES INCLUDED IN THE DIVISION*	*FUNCTIONS*
Forebrain	• Cerebral hemispheres. • Basal nuclei. • Medullary center of nerve fibers. • Thalamus. • Hypothalamus. • Other nuclei.	• Reasoning. • Receiving and processing sensory inputs. • Thinking and perceiving. • Producing and understanding language. • Controlling motor functions.
Midbrain	• Upper section of the brainstem.	• Producing auditory and visual responses. • Controlling motor functions.
Hindbrain	• Medulla oblongata. • Pons. • Cerebellum.	• Maintaining balance and equilibrium. • Coordinating movements. • Conducting sensory information. • Performing autonomic functions such as breathing, heart rate, and digestion.

6-7. Another division involves dividing the brain into two hemispheres, or halves: left and right. This division corresponds to the theory of brain dominance. According to the theory of brain dominance, people develop a preference for one-half, or hemisphere, of their brain. A person who is left-brained is said to be logical, analytical, and objective, while a person who is right-brained is said to be more intuitive, thoughtful, and subjective.

6-8. The theory of brain dominance was proven false. Later research has shown that the brain is not nearly as divided as was once thought. In fact, in certain areas, the brain performs at its best when both hemispheres work together. However, each side of the brain still appears to be responsible for certain functions. Figure 6-3 depicts some of these functions.

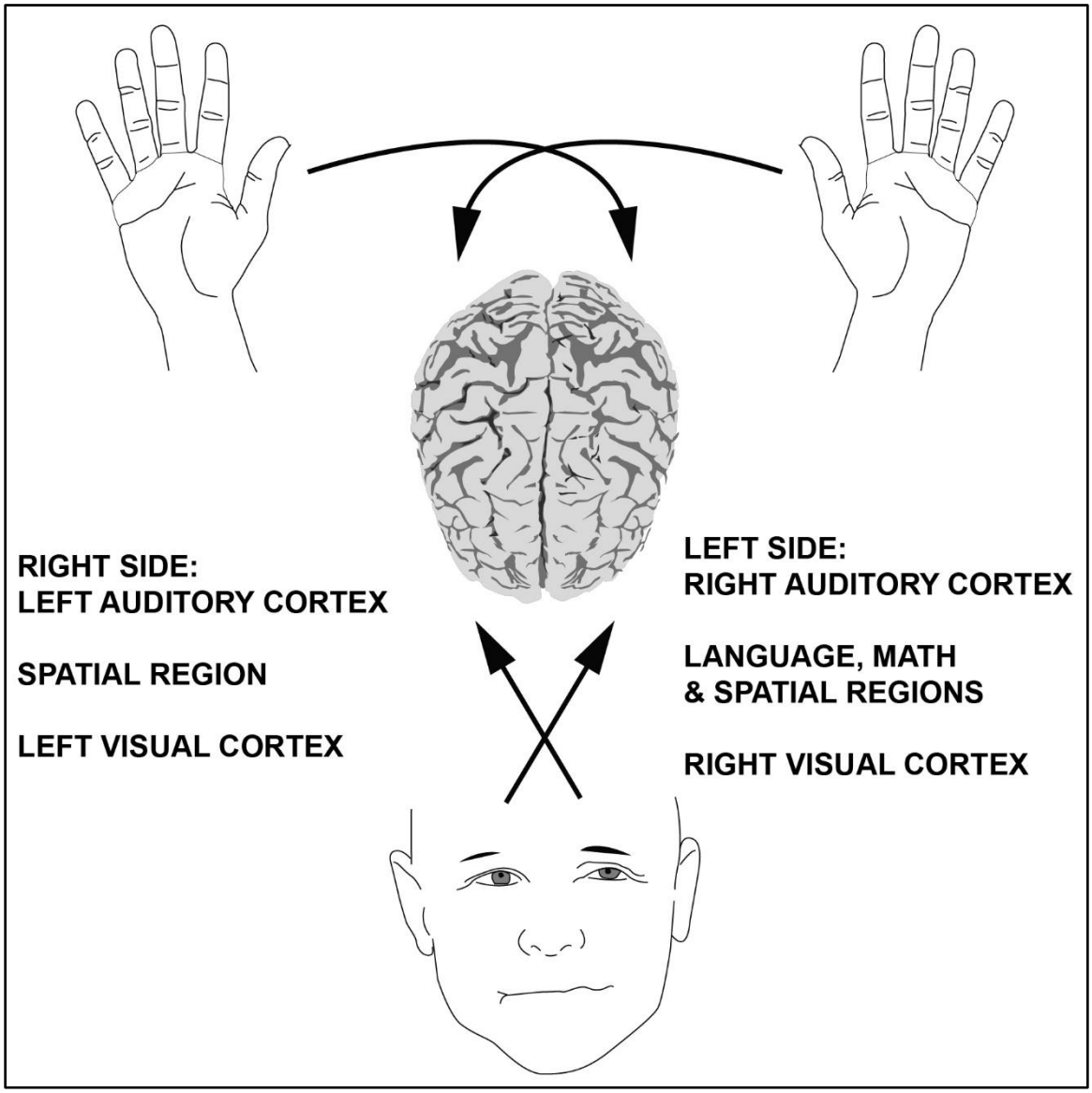

Figure 6-3. Brain functions in the hemispheres

SPINAL CORD

6-9. The spinal cord is the main pathway for the connecting the brain and peripheral nervous system. Nerves located along this bony path relay signals between the brain and the body.

PERIPHERAL NERVOUS SYSTEM

6-10. The peripheral nervous system consists of all the nerves and cell clusters outside of the brain and spinal cord. This system serves as a conduit connecting the limbs and organs of the body to the brain. The peripheral nervous system can be divided into two parts based on function: the somatic nervous system and the autonomic nervous system.

6-11. The somatic nervous system is associated with voluntary movement of the body. It consists of the spinal nerves associated with commands for movement, the cranial nerves that carry information from the brain stem, and nerves that integrate sensory input with response of the body.

6-12. The autonomic nervous system is also called the involuntary nervous system due to the role it serves in the subconscious control of functions. It controls functions such as cardiac regulation, digestion, breathing, salivation, perspiration, urination, sexual arousal, and certain reflex actions like coughing, sneezing, vomiting, and swallowing.

Note. Most autonomous functions are involuntary, but this system can work in conjunction with the somatic nervous system to provide voluntary control.

6-13. This system begins in the hindbrain and lower brainstem and continues outside of the brain. The autonomic nervous system is divided into two parts: sympathetic nervous system and parasympathetic nervous system.

SYMPATHETIC NERVOUS SYSTEM

6-14. The sympathetic nervous system is responsible for the body's response to stress. When a perceived harmful event, attack, or threat to survival occurs, the sympathetic nervous system is called into action. This system increases blood pressure, makes the heart beat faster, and slows down digestion.

PARASYMPATHETIC NERVOUS SYSTEM

6-15. The parasympathetic nervous system operates opposite the sympathetic nervous system to cause a person to begin resting following a period of activity, as shown in table 6-2. This system enables the body to save energy and causes blood pressure to decrease, pulse rate to slow, and digestion to start.

Table 6-2. Reactions of the sympathetic and parasympathetic nervous systems on body structures

STRUCTURE	*SYMPATHETIC STIMULATION*	*PARASYMPATHETIC STIMULATION*
Iris (eye muscle)	Pupil dilation.	Pupil constriction.
Salivary Glands	Saliva production reduced.	Saliva production increased.
Oral/Nasal Mucosa	Mucus production reduced.	Mucus production increased.
Heart	Heart rate and force increased.	Heart rate and force decreased.
Lung	Bronchial muscle relaxed.	Bronchial muscle contracted.
Stomach	Involuntary constriction and relaxation of muscles reduced.	Gastric juice secreted; ability to move increased.
Small Intestine	Ability to move reduced.	Digestion increased.
Large Intestine	Ability to move reduced.	Secretions and ability to move increased.
Liver	Increased conversion of glycogen to glucose	
Kidney	Decreased urine secretion.	Increased urine secretion.
Adrenal medulla	Norepinephrine and epinephrine secreted.	
Bladder	Wall relaxed. Sphincter closed.	Wall contracted. Sphincter relaxed.

FUNCTION OF THE NERVOUS SYSTEM

6-16. The five most commonly known sensory channels—the eyes, ears, skin, nose, and tongue—all rely on specialized cells to receive information from the external world. Then mechanical, chemical, and electrical processes transform the information gathered by these cells into electrical impulses.

6-17. The brain uses neurons (see figure 6-1, page 6-2) to carry information from one part of the brain to another and back and forth between the brain and the body. Upon receiving an impulse, one neuron sends information to the next neuron. Nerve fibers receiving the signals are known as dendrites, and nerve fibers sending signals are known as axons.

6-18. These impulses travel along nerve fibers at speeds up to 290 miles per hour to the nerve-processing centers in the spinal cord and brain. As they travel, they jump across microscopic gaps called synapses using chemicals called neurotransmitters that set off electrical impulses from axons and relay them to the dendrites.

6-19. These impulses travel along neurons that connect to muscles and glands, causing a person’s body to respond to things happening in the outside world (such as sweating in response to the sun’s heat).

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PART FOUR

Sense-Making to Promote Cognitive Dominance

The goal of critical thinking is the ability to sense-make—to infer, deduce, and compare and contrast observations and perceptions—to draw reasonable conclusions and determine a course of action using inductive and deductive reasoning. During sense-making, a Soldier attempts to understand perceived cues, interpret their relationships, and anticipate the trajectory of a situation. In order to perform these actions, Soldiers understand human behavioral cues and those indicators people have left behind, and examine them in context with the environment.

Chapter 7

Understanding Human Behavioral Cues

The domains of awareness are used to describe individual and group behavioral patterns. The more cues an observer sees, the stronger the evidence is to make a sound conclusion. One standalone cue is rarely strong enough to make a tactical decision.

HEURISTICS AS A LENS FOR OBSERVATION

7-1. The word "heuristic" refers to an experiential process that allows a person to create a mental shortcut to enhance problem-solving skills and decision-making. Relating to ASA, heuristics involves developing a rapid method of mentally categorizing observed behaviors. This domain is separated from the other behavioral domains because other domains use elements of heuristics to draw reasonable conclusions (see figure 7-1, page 7-2).

POSITIVE ASPECTS OF USING HEURISTICS

7-2. Heuristics occur when a person identifies patterns that enable them to draw tactical shortcuts for the brain. A heuristic cue occurs once a Soldier makes a prototypical match by comparing their observations to information stored in their mental file folders.

7-3. When navigating everyday events, speed and complete accuracy are not always possible. In scenarios where time is of the essence, heuristics enable a Soldier to draw a reasonable conclusion using a limited amount of information. This speeds up the decision-making process by filling in details that the individual already knows. This is one of the driving forces behind Boyd's decision-making process.

Note. See Chapter 4 for more information about Boyd's decision-making process.

7-4. Heuristics can be used in various ways. (See figure 7-1.) For example, heuristics can be used in—

- Stereotyping. All people use stereotyping to form opinions or make judgments about things they have seen or experienced.
- Educated guess. An educated guess is an estimate or a guessed value based on experience or theoretical knowledge.
- Common sense. Common sense is sound and prudent judgment based on perception of the situation or facts.

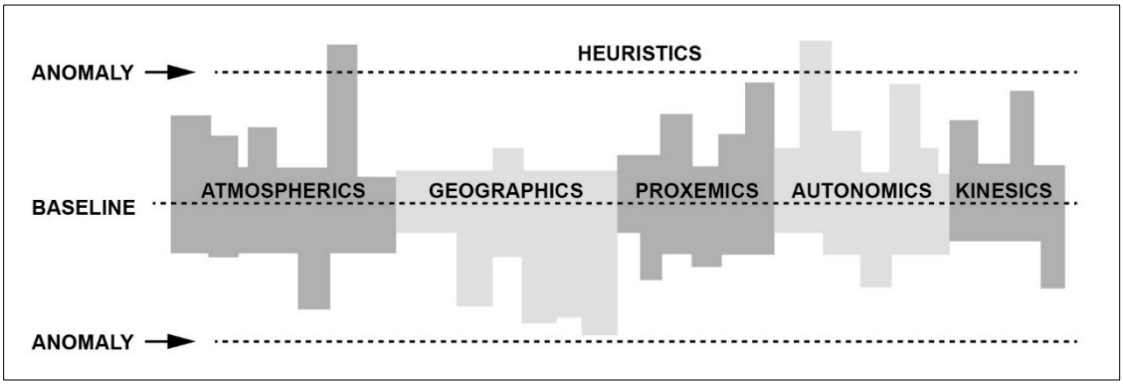


Figure 7-1. Relationship between heuristics and the domains of awareness

EXAMPLE

On post, a Soldier sees a car parked on the side of the road. The driver exits the vehicle and fumbles in the car for a moment, emerging with a piece of paper. The driver unfolds the paper and lays it across the hood of the car, orienting his or her body and the piece of paper. The driver waves down a pedestrian and points to the piece of paper. Although the Soldier has not seen what is written on the paper, it is reasonable to assume the driver is looking at a map by observing the driver's behavior and how the driver used the paper.

NEGATIVE ASPECTS OF USING HEURISTICS

7-5. Heuristic guesses may not always be correct. They can also create stereotypes and biases. A Soldier might have a corrupted mental file folder for a given type of person, place, or thing. This can create a heuristic that gives them an altered sense of reality, leading to negative results.

INDIVIDUAL BEHAVIORAL CUES

7-6. Paralanguage involves communicating using nonverbal communication (such as tone, pitch, and speed of speaking; hesitation; noises; gestures; and facial expressions). Studies suggest that a significant amount of communication between humans is nonverbal.

7-7. Behavioral cues associated with paralanguage can be categorized by people's awareness of their demonstration: conscious (meaning a person is aware of and can control the cues they are demonstrating) and subconscious (meaning a person is unaware and cannot control certain behavioral cues they are exhibiting). Becoming suddenly aware of a subconscious cue can lead to greater exhibition of these cues; these cues become more evident the harder a person tries to hide them. Two domains focus on identifying individual behavioral cues: kinesics and autonomics.

KINESICS

7-8. Kinesics, or nonverbal language, is how people interpret body movements, gestures, and facial expressions as a means of communication. People consciously and subconsciously convey information about how they feel about people, things, and events that surround them by giving and responding to thousands of nonverbal messages every day. They convey their emotional state using wordless messages and react emotionally to the messages conveyed by others, often without understanding why.

7-9. Kinesics cues can be classified according to their origins. These classifications include innate, learned, and mixed. Table 7-1 provides examples of each classification.

Table 7-1. Classifications of kinesics cues by origin and examples

CLASSIFICATION OF CUES	*ORIGIN*	*EXAMPLE*
Innate Kinesics	• Those developed by nature. • Those a person is born with.	• Assuming the fetal position when sick or injured. • Mimicking the motions performed by someone for whom the person admires.
Learned Kinesics	• Those developed by nurture. • Those a person develops through interactions with others and the environment.	• Winking an eye. • Making a thumbs up gesture. • Saluting a superior.
Mixed Kinesics	• Those that originate as an innate action, but cultural rules shape their timing, energy, and use.	• Laughing. • Crying. • Shoulder shrugging.

Individual Kinesic Cues Baseline

7-10. Baselining individual kinesics cues involves making a series of focused observations about a single person to establish a starting point for further observations during a conversation. By identifying a person's baseline body language, an observer is able to confidently assess any changes in behavior in response to specific questions or topics. Table 7-2, pages 7-3 and 7-4, provides more information about indicators used to establish a kinesics baseline.

Table 7-2. Indicators for baselining individual kinesic cues

PART OF THE BODY		*INDICATOR*
Lower Body	**Feet**	• Where are they pointing? • Are they flat on the ground? Are they on their toes? Are they bouncing?
	Legs	• Are they spread apart a normal distance? Are they spread further than shoulder width apart? Are they withdrawn in toward the body and tucked underneath? • Are they crossed? Which leg is crossed?
Upper Body	**Torso**	• Is it leaning toward or away from the person being talked to? • Is it exposed or covered?
	Hands/Arms	• Are they calm? Nervous? Shaking?
	Shoulders	• Are they raised or lowered?

Table 7-2. Indicators for baselining individual kinesics cues (continued)

PART OF THE BODY	*INDICATOR*
Face	• What are the shape and depth of the normal wrinkle lines in the forehead? • What is the shape and depth of the crease that forms from the sides of the nose to the sides of the mouth? • Is the mouth naturally curved upward, downward, or neutral?
Overall Body	• What is the person's preferred pacifying behaviors?
Conversing	• How does the person respond to being confronted, disciplined, or challenged? • What topics do they like to talk about?

7-11. Certain facial expressions of emotion are universal and are independent of race, culture, ethnicity, nationality, gender, age, religion, or any other demographic variable. The Federal Bureau of Investigation refers to these as the seven universal facial expressions of emotion: happiness, surprise, sadness, fear, anger, contempt, and disgust. Table 7-3 depicts the seven universal facial expressions of emotion and details indicators of each.

7-12. The face can also reveal other cues to derive information about a person. For example, people who are attempting to tell a convincing lie may purse their lips and hold tension in their face, literally biting back the truth and creating a lemon face (see table 7-3).

Table 7-3. Seven universal facial expressions of emotion and associated indicators

Happiness  Primarily, a smile. Wrinkles around the eyes. Wrinkles near the mouth (smile lines).	Sadness  Brow furrowed. Upper eyelids droop. Eyes lose focus. Lip corners slightly downturned. Primarily, a frown.
Fear  Eyebrows pulled upward. Upper eyelids pulled upward and together. Eyes widened. Pupils dilated. Lips stretched horizontally. Upper lip raised.	Surprise  Forehead has horizontal wrinkles. Eyebrows raised and curved. Skin below the eyebrows stretched. Eyes widened. Mouth opened, lips parted. Jaw dropped.
Disgust  Nose wrinkled. Nostrils clinched. Lips pursed. Upper lip raised.	Contempt  Eyes neutral. Lips tightened. Lip corner pulled up and back on one side only.
Anger  Eyebrows pulled down and inward. Margins of lips rolled inward. Upper eyelid pulled up. Lips may be tightened. Lower eyelid pulled up. Jaw clinched. Hard stare. Face flushed. Nostrils flared.	

7-13. When someone is uncomfortable, nervous, or anxious, the sympathetic nervous system responds to the stressor and begins to generate energy driving the individual toward fight, fright, or freeze mode. If the situation does not warrant either of these responses, this energy has to be expended in another way. Often, people use this energy to comfort themselves or to calm themselves down. These behaviors are called pacifying behaviors or, more commonly, nervous tics.

7-14. Pacifying behaviors manifest themselves in many different ways for different people, and they can manifest themselves in the person's upper body or lower body. Some people clench their hands together. Some rub their hands on their thighs when they are seated. Some rub the bridge of their nose. Some take a deep breath and exhale. Most people revert to certain behaviors that worked for them in the past. Identifying these patterns enable observers to identify when a person is feeling stressed.

7-15. Tables 7-4 through 7-6, on pages 7-7 through 7-9, provide information about how to interpret the paralanguage depicted by parts of the body. When interpreting cues, an observer considers the baseline, context of the conversation, and current situation.

Table 7-4. Interpreting paralanguage depicted by the feet and legs

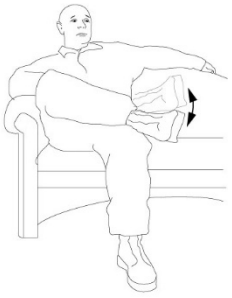
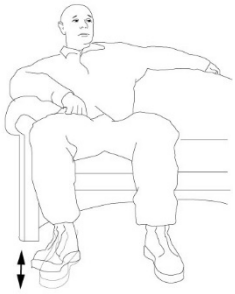
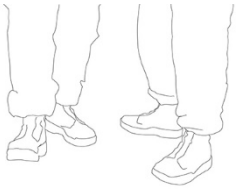
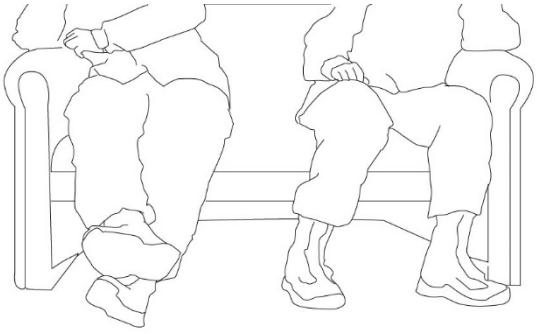
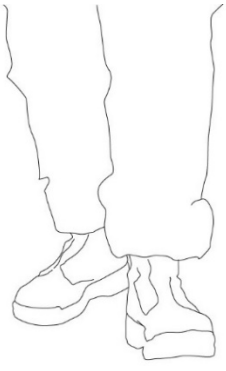
<table>
<tr>
<td>Bounces feet
 
Indicates discomfort.</td>
<td>Taps feet
 
Indicates impatience.
Slowly tapping indicates wishing to walk away.
Quickly tapping indicates wishing to run away.</td>
</tr>
<tr>
<td>Brackets a person using the legs
(points both feet at the person)
 
Interested in what that person is saying.</td>
<td>Directs toes toward the door or exit
 
Wishes to leave.</td>
</tr>
<tr>
<td colspan="2">Turns bracket away from person (points both feet away from the person).
 
Does not want to hear what that person is saying.</td>
</tr>
<tr>
<td>Crosses legs
 
Indicates comfort.</td>
<td>Points toe upward
 
Signals a good mood.</td>
</tr>
</table>

Table 7-5. Interpreting paralanguage depicted by the arms and hands

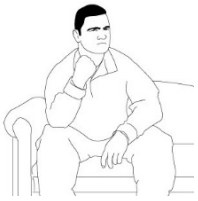
Covers or rubs eyes  Is trying to block a visual memory.	Touches neck  Indicates emotional discomfort, doubt, or insecurity.	Scratches head  Indicates confusion, deception, or forgetfulness.
Covers rubs or scratches ears  Trying to block an auditory memory.	Covers, rubs, or scratches mouth  Trying to keep from saying something.	Steeples hands  Powerful displays of confidence; can indicate nefarious thoughts.
Holds hand with thumbs up  Indicates positive thoughts.	Rubs hands together  Slowly: has to deliver bad news. Quickly: is excited to deliver good news, anticipates a successful outcome.	Balls hand into fist  Exhibiting anger or aggression.
Runs fingers through hair  Indicates emotional discomfort, doubt, or insecurity.	Rubs back or head or neck  Indicates headache or deception.	Splays arms on surface  Shows confidence and authority.

Table 7-6. Interpreting paralanguage depicted by the entire body

<table>
<tr>
<td>Leans downward over a person or thing, arms turned outward, may point finger
 
Is berating the person or thing.</td>
<td>Crosses arms or places hands on hips, slants chin, furrows brow
 
Indicates displeasure.</td>
<td>Crosses arms across torso suddenly
 
Discomfort, disagreement, is cold.
Note. Crossing the arms creates a barrier between the person and whatever is making them uncomfortable.</td>
</tr>
<tr>
<td>Places hands on hips (arms turned outward)
 
Is attempting to appear larger, more dominant, and more powerful.</td>
<td>Places hands behind back
 
Indicates that the person is hiding something, keeps people at bay.</td>
<td>Sits with arms and legs splayed
 
Indicates confidence and dominance.</td>
</tr>
<tr>
<td colspan="3">Reclines with legs or feet crossed, hands behind head
  
Indicates confidence and dominance.</td>
</tr>
<tr>
<td colspan="3">Leans toward someone or leans away from someone
 
Likes person or agrees with what is being said or dislikes person or disagrees with what is being said.</td>
</tr>
<tr>
<td colspan="3">Leans inward, lowers head, crosses arms or keeps arms in and/or crosses legs, might cover genitals or touch face or neck
 
Attempting to appear smaller and submissive, attempting to protect themselves.</td>
</tr>
</table>

Clusters of Kinesic Cues Clusters

7-16. Clusters of kinesics cues provide the greatest degree of certainty that the cues being observed match a given emotion or state of mind. The following section provides clusters of cues that help identify certain states of mind.

Note. Three cues are needed to make a logical conclusion.

7-17. The dominant cluster contains indicators that show that people are trying to take up more space or be aggressive, authoritative, or a leader. Table 7-7 provides details about indicators contained in this cluster.

Table 7-7. Indicators associated with the dominant cluster

AREA OF THE BODY	*INDICATOR*		*POSSIBLE MOTIVATION*
Lower Body	Seated	Plants feet on the floor, with the feet and legs splayed.	Takes up more space.
		Crosses legs.	If disinterested, blocks self from the person.
			Takes up more space.
		Crosses legs and places hands on ankle or lower calf.	Is secure and confident in their position.
	Standing	Positions legs shoulder-width apart or greater.	Takes up more space.
Upper Body	Seated	Leans back with hands clasped behind head, also known as hooding.	Takes up more space.
	Standing	Places hands on hips.	Is authoritative, takes up more space.
		Leans forward.	Is aggressive, makes self look bigger.
		Stretches torso, may also have the chin up and the chest thrust out.	Makes self taller by standing upright and erect.
	Spreads arms out on an object (such as a table or counter).		Takes up more space.
Face	Has expressions of anger, contempt, disgust, or happiness.		Displays general signs of dominance.
	Maintains gaze for longer period, does not avert gaze.		
	Face becomes flushed or nostrils flare.		Is preparing to fight.
	Looks over the top of glasses.		Is authoritative.
Overall Body	Breaches other's intimate proxemic zones (for example, walking down the middle of a path, forcing others to move out of the way; standing too close to someone).		Feels that they can travel where they want.
	Initiates touching with others.		Shows that they are in charge.
	Breaks social rules (such as swearing in public).		Shows that they make the rules.
	Flaunts status symbols that show wealth or power. ***Note.*** Ownership of symbols is not sign of dominance.		Displays general signs of dominance.

Table 7-7. Indicators associated with the dominant cluster (continued)

AREA OF THE BODY	*INDICATOR*	*POSSIBLE MOTIVATION*
Conversing	Ignores a no response.	Displays general signs of dominance.
	Interrupts conversation.	
	Belittles and criticizes a person.	
	Ignores someone else's presence in a conversation.	

7-18. The submissive cluster contains indicators showing that people are trying to take up less space, withdraw the limbs, and be timid. Table 7-8 provides details about indicators contained in this cluster.

Table 7-8. Indicators associated with the submissive cluster

AREA OF THE BODY	*INDICATOR*		*POSSIBLE MOTIVATION*
Lower Body	Seated	Crosses feet and legs and tucks them under a chair.	Makes self look smaller.
		Wraps feet around the legs of a chair.	Seeks stability and security.
		Does not use legs as a barrier.	Does not wish to offend the dominant person.
		OR	
		Uses legs as a barrier.	Is in self-protection mode.
Upper Body	Leans forward.		Makes body smaller and less threatening.
	Exposes torso.		Submission does not present a physical threat (for example, interacting with a boss).
	Pulls arms inward.		
	Exposes wrists in greeting.		Shows that there is no threat.
	Opens palms.		
	Lowers shoulders.		Fails to protect the carotid artery.
	Shows closed-off indicators and protection indicators from uncomfortable cluster.		Tries to protect self.
Face	Has expressions of fear, sadness, and false happiness.		Displays general signs of submission.
	Forced smiles, movement only with the mouth (not the eyes).		
	Gazes away from the dominant person.		Does not wish to offend the dominant person, as staring is a sign of dominance.
	Widens eyes.		Shows vulnerability and cues of fear.
	Is pale.		Displays general signs of submission.
Overall Body	Remains fairly motionless.		Wishes to avoid unnecessary attention and reduce the chances of being seen (elements of freeze response).

7-19. The comfortable cluster contains indicators showing that people do not perceive any threat and are relaxed in their surroundings. Table 7-9, page 7-12, provides details about indicators contained in this cluster.

Table 7-9. Indicators associated with the comfortable cluster

AREA OF THE BODY	*INDICATOR*	*MOTIVATION UNDERLYING THE ACTION*
Lower Body	Keeps feet motionless.	No sympathetic nervous system response, causing the person to become distant from the threat.
	Orients feet toward the person.	
	Does not cross legs or crosses legs so that the inside of the thigh is exposed.	No sympathetic nervous system response, causing the person to protect vital areas and the femoral artery on the inside of the thigh.
	Stands with legs crossed.	Does not perceive threat (body is not prepared for fight/flight while a person is standing with all the weight on one foot).
Upper Body	Keeps torso upright or leans in.	Does not perceive threat, is not concerned about distancing.
	Leans torso away or splays upper body as when reclined or lounging.	Does not prepare body to defend itself.
	Keeps arms open at the sides of the body (gesturing openly) or behind back.	Does not recognize any immediate threat and does not need to use hands/arms to protect the body.
	Keeps shoulders lowered and relaxed (no turtle effect).	Does not recognize any immediate threat and does not need to protect vital areas of the neck.
	Does not use pacifying behaviors.	Does not recognize any immediate threat.
	May use illustrators in speech, but they are open and gentle, not sudden or tense.	
Face	Facial expressions are neutral or happy.	Does not recognize any immediate threat.
	Gaze is relaxed, with minimal blinking.	
	Skin is a normal color, not reddened or pale.	
	Eyebrows are stable (only moving with speech), forehead is relaxed.	
Overall Body	Arms and legs may be crossed, but in a relaxed manner (different than when being closed).	
	Generally does not have any body tension, muscles are relaxed and loose.	
	Seems happy and unconcerned overall.	
	Breathing is slow and steady.	

7-20. The uncomfortable cluster contains indicators that show that people are trying to protect themselves by leaving the area or establishing barriers. Table 7-10 provides details about indicators contained in this cluster.

Table 7-10. Indicators associated with the uncomfortable cluster

AREA OF THE BODY	*INDICATOR*		*MOTIVATION UNDERLYING THE ACTION*
Lower Body	Bounces feet.		Sympathetic nervous system prepares the body for fight.
	Moves knees together.		Flight is not an option, protects vital areas.
	Orients feet toward the door or exit.		Sympathetic nervous system prepares the body for fight.
	Seated	Crosses legs.	Forms a barrier, protects vital areas.
	Standing	Positions legs shoulder-width apart.	Body is capable of fight or flight.
Upper Body	Leans torso away.		Distances from a threat.
	Rotates torso away from a person or object.		Prepares for flight (when facing an exit) or protects vital areas.
	Crosses arms across chest, could grip the opposite arm.		Establishes barriers to protect vital areas.
	Extends arms or moves them up to the face.		Blocks a blow to the face or body.
	Covers crotch and/or groin using arms and/or hands.		Establishes barriers to protect vital areas.
	Raises shoulders.		Protects neck, head, and/or carotid artery from threat.
	Increases use of pacifying behavior.		Results from the energy manifested by the autonomic nervous system.
Face	Has expressions of surprise or fear.		Displays general signs of discomfort.
	Tucks chin in.		Protects the throat.
	Avoids eye contact.		Displays general signs of discomfort.
	Increases the blink rate.		
	Flicks eyes back and forth.		Looks for an escape.
Overall Body	Body is tense.		Displays general signs of discomfort.
	Puts object between self and the threat.		Establishes barriers to protect self.

7-21. The interested cluster contains indicators showing whether people are focused and assesses whether their attention is still on the person or object that should have their attention. Table 7-11, page 7-14, provides details about indicators contained in this cluster.

Table 7-11. Indicators associated with the interested cluster

AREA OF THE BODY	*INDICATOR*	*MOTIVATION UNDERLYING THE ACTION*
Lower Body	Keeps both feet pointing at the people in the conversation.	Focus on person/people or object.
	Keeps feet still (not bouncing).	Sympathetic nervous system is not preparing the person to leave.
	Does not have leg barriers.	Is open.
Upper Body	Keeps torso leaning forward (whether seated or standing).	Focus on person/people or object.
	Has open body language (no arm barriers).	
	Nods head.	
	Tilts head forward.	Is paying attention.
	Tilts head sideways.	Is curious or uncertain.
Face	Orients gaze in the direction of the person speaking.	Is focused on person/people or object.
	Has a decreased blink rate.	
	Has a furrowed brow, eyebrows drawn together.	Seeks to hear and understand the other person.
Overall Body	Keeps body still overall.	Is not distracted even by internal dialogue.
	Ignores distractions, interruptions from others, cell phone calls, and so on.	Is focused on person/people or object.
Conversing	Mirrors or mimics any emotion communicated through the conversation by the other people in the group.	Is focused on person/people or object.
	Does not interrupt the person talking, waits to chime in.	Shows patience.
	Makes uh-huh and mm-hmm sounds.	Wants the object of focus to continue speaking without interruption.

7-22. The disinterested cluster contains indicators that show that people's attentions are not focused and the person or object they are interacting with no longer has their interest. Table 7-12 provides details about indicators contained in this cluster.

Table 7-12. Indicators associated with the disinterested cluster

AREA OF THE BODY	*INDICATOR*	*MOTIVATION UNDERLYING THE ACTION*
Lower Body	Bounces feet.	Is preparing to distance themselves from the person or object.
	Orients feet away from the person or object in the direction they would like to move.	
	Crosses legs, uses leg barriers.	Is distancing themselves from the person or object.
	Behaves in a shifty manner, moves or rocks back and forth.	Is preparing to distance themselves from the person or object.
Upper Body	Raises arm barriers.	Closes off the front of torso.
	Leans torso away from person or object.	Is preparing to distance themselves from the person or object.
	Uses hands to make stopping gestures.	Wants the interaction to end.
	Rubs their wrist, whether they wear a watch or not.	Wants to leave.
	Increases use of pacifying behavior.	Wants to leave, but cannot.
	May have closed-off body language similar to the uncomfortable cluster.	Is not interested in the interaction with the person or object.
Face	Focuses gaze all over the place.	Has focus on anything except for the person talking.
	Repeatedly looks at clocks.	Wants to leave.
	Has blank or neutral facial expressions.	Is not interested in the interaction with the person or object. .
Overall Body	Acknowledges distractions, cell phone calls, and so on.	
	Doodles or fidgets.	Finds other things that captivate their interest instead of listening.
	Shows signs of tiredness (for example, they yawn, slouch in their chair, or lean up against the wall).	Is not interested in the interaction with the person or object.
	Uncrosses legs, picks up bags, and straightens clothing.	Is preparing to leave.

7-23. Social disarming refers to a person deliberately using submissive cues to make the other person feel more comfortable. For example, when shaking a superior's hand, Soldiers may extend their hand with their palm facing upward in order to make the superior comfortable and acknowledge their leadership.

Alignment Between Kinesic Cues and Speech Alignment

7-24. When people express emotion fully and genuinely, their speech and patterns of language match their kinesics cues. Table 7-13, pages 7-16 through 7-18, depicts the relationships between moods and genuine verbal and nonverbal behaviors.

Note. The information found in Table 7-13, pages 7-16 through 7-18, is derived from Technical Report 1238, titled *Nonverbal Communication in the Contemporary Operating Environment*, by researchers from the United States Army Research Institute for the Behavioral and Social Sciences.

7-25. When people want others to believe that they feel a certain way (but they really do not) or they perceive a lack of truth in the information verbalized, they might reveal their real emotion or the real piece of information through their kinesics cues. True emotions might also show when a person's paralanguage does not fit or does not align to the context. For example, people may try to appear to be happy and emulate a genuine smile, but the tension in their faces result in an uneven smile and eyes that appear to grimace (see table 7-13, pages 7-16 through 7-18). Another person might be in a situation that warrants enthusiasm but does not exhibit the trademark downturned eyebrows and tension in the face and body.

Table 7-13. Relationship between moods and genuine verbal and nonverbal behaviors

SELF-REPORTED MOOD	***BEHAVIORS***		
	Facial Expression	***Verbal Reaction***	***Posture (Body Language)***
High Activation Aroused Astonished Stimulated Surprised Active Intense	• A lot of eye contact. • Pupil dilation. • Open mouth. • Arched eyebrows. • Jaw drop. • Raised upper eyelid. • Eyes widened.	• Rapid pace. • Varied inflection. • Incredulous tone.	• Poised for action. • Startled. • Restless.
Activated Pleasant Euphoric Lively Enthusiastic Excited Peppy Elated	• Smile with teeth showing. • Arched eyebrows. • A lot of eye contact.	• Hard laughter, high pitch. • Rapid pace. • Loud volume. • Slightly breathless. • Talking a lot. • Animated intonation (rhythmic pattern).	• Exaggerated hand gestures. • Leaning forward. • Constant body movement. • Orienting toward group members. • More physical contact.
Pleasant Happy Delighted Glad Cheerful Pleased Warmhearted	• Slightly raised eyebrows. • Closed lip smile (grin). • Eyes scan stimuli. • Tightening of eyelids.	• Varied inflection. • Regular pace. • Clearly audible volume.	• Hands are active during speech. • Head tilted toward stimuli. • Body poised to include group members.
Inactivated Pleasant Calm Relaxed At rest Serene Content At ease	• Mouth may be turned slightly upward. • Little facial movement.	• Soft but audible volume. • Some inflection in tone or pitch. • Regular pace.	• Relaxed, but engaged, oriented toward group members. • Little movement in limbs or torso.

Table 7-13. Relationship between moods and genuine verbal and nonverbal behaviors (continued)

SELF-REPORTED MOOD	*BEHAVIORS*		
	Facial Expression	***Verbal Reaction***	***Posture (Body Language)***
Low Activation Quiet tranquil Still Inactive Idle Passive	• Expressionless. • Little eye contact. • Closed mouth.	• Whispering volume. • Monotone. • Slow pace. • Delayed responses. • Infrequent speech.	• Slow movements. • Reclined position. • Immobile.
Inactivated Unpleasant Tired Dull Drowsy Sluggish Bored Droopy	• Excessive blinking. • Droopy eyes (partially closed). • Yawning. • Fixed stare away from group members. • Almost no eye contact. • Drooping of upper eyelid.	• Monotone. • Few vocalizations. • Mumbling. • Low volume. • Low pitch. • Delayed responses.	• Slouching. • Orienting away from group (withdrawn). • Motionless. • Leaning chin on hand. • Hands inactive during speech. • Rubbing eyes. • Shying away from stimuli. • No physical contact.
Unpleasant Unhappy Miserable Grouchy Sad Gloomy Blue	• Frown. • Eyes avoid stimuli. • Blank stare. • Inner corners of eyebrows raised, eyebrows drawn together. • Corner of lips pulled down. • Lower lip pushed up. • Corner of lips tightened and pressed.	• Soft volume. • Slow pace. • Monotone.	• Head tilted downward. • Resting head on hands. • Body poised to exclude group members.

Table 7-13. Relationship between moods and genuine verbal and nonverbal behaviors (continued)

SELF-REPORTED MOOD	*BEHAVIORS*		
	Facial Expression	**Verbal Reaction**	**Posture (Body Language)**
Activated Unpleasant Distressed Anxious Annoyed Fearful Nervous Jittery	• Eyebrows lowered, chin raised, mouth closed. • Sporadic eye contact. • Sneering. • Flushed face. • Nervous smile. • Clenched teeth. • Lips stretched horizontally. • Eyebrows raised and drawn together, upper eyelids raised.	• Stuttering. • Rapid speech. • Short of breath. • Uneven pitch (voice cracks). • Uneven volume.	• Closed fists. • Hand tremors. • Poised for action. • Nervous habits (for example, rocking or chewing fingernails).
High Activation Disgust Angry Contempt	• Nose wrinkled. • Upper lip raised, lower lip protruding. • Eyebrows lowered and drawn together, lower eyelids tightened. • Eyebrows lowered, upper eyelids raised. • Jaw thrust forward. • Unilateral upper eyelid raise. • Asymmetrical lip corner tightening. • Flushed face.	• Many harmonics. • Fast tempo. • High pitch level.	• Clenched fist. • Poised for action. • Perspiration. • Tensed muscles.

AUTONOMICS

7-26. Autonomics involves uncontrollable and observable physiological reactions of the body to external stimuli that can be used to tell something about a person's state of mind. For example, adrenaline and endorphins elicit a human body response (such as redness, swelling, sweating, and fixed pupils).

> ***Note***. Autonomic cues must be aligned with kinesics cues. If theses cues fail to align, further investigation may be necessary.

7-27. This domain includes observing subjects for physiological responses to external stimuli. This might involve observing subjects for sweating, pupil dilation, or blushing.

7-28. Table 7-14 provides examples of autonomic indicators, and table 7-15, page 7-20, lists examples of physiological indicators. Understanding these indicators can warn of intent.

Note. Table 7-15, page 7-20, includes physiological indicators that are often confused with autonomic responses. While these indicators are important, Soldiers should avoid confusing these indicators with autonomic indicators.

7-29. By definition, autonomic cues are very difficult to hide. A person is unable to hide these cues without great effort or using a method of concealment. People may attempt to hide these cues by masking their effects by using methods such as medications (for example, mood-altering medications, medications for allergy, or anti-inflammatory medications), eye drops, makeup, and accessories (such as sunglasses, hoodies, or scarves).

Table 7-14. Autonomic indicators

INDICATOR	*POSSIBLE MOTIVATION*	
Change in skin color	**Blushing**	Embarrassment, shame, anger, happiness, physical exertion.
	Paleness	Precursor to fight or flight response, fear, sadness, depression.
Change in pupil size	**Dilation**	Excitement, attraction, certain drugs and medications, brain injury, sexual stimulation.
	Constriction	Fear, focus, certain drugs (such as hallucinogens).
	Note. Alcohol impacts the eye's ability to react to light, affecting the speed of the pupil's constriction when it is stimulated by light.	
Sweating	Physical exertion, lying, nervousness, fear.	
Increased heart rate	Anger, happiness, surprise, anxiety, shock.	
Change in breathing	**Slow, deep breathing**	Attempts to calm oneself after physical exertion or duress by activating the parasympathetic nervous system through deliberate breathing.
	Quick, shallow breathing	Physical exertion, nervousness, anxiety.
	Note. There are times when a person will perform one breathing technique to control symptoms of the other.	
Change in body temperature (raised or lowered)	Anger: increased temperature in the upper torso, head, arms, and hands. Fear: increased temperature in midchest (heart and stomach). Disgust: increased temperature in the upper half of the body with a focus on the throat and lower face (jowls). Happiness: increased overall temperature with a focus on the face, head, and chest. Sadness: coldness in the extremities, slightly increased core temperature. Surprise: coldness in the extremities, increased temperature in the head and chest. Anxiety: coldness in the lower extremities, increased temperature in the head and torso with a focus on the chest. Love: increased temperature in upper half of the body with a focus on the head and torso. Depression: reduced overall temperature with extreme coldness in the extremities, including the head and face. Contempt: increased temperature in the head, face, and chest, reduced temperature in the groin. Pride: extreme increased temperature in the head and chest. Shame: reduced temperature in the extremities, increased temperature in the chest and face, with a focus on the cheeks. Envy: reduced temperature in the legs, increased temperature in the head and chest.	

Table 7-15. Physiological indicators

INDICATOR		*POSSIBLE MOTIVATION*
Swelling		Impact or injury, blunt force trauma, allergic reaction.
Change in skin color	**Bruising**	Injury resulting from carrying a heavy weight (such as bruising on the shoulders), shooting (such as bruising in the shoulder pocket or on the eye), or ordinary trauma (such as that incurred by fighting).
	Yellowing of the fingernails	Exposure to a chemical (such as nicotine).
Blistering of the skin		Exposure to a chemical (such as an acid).

GROUP BEHAVIORAL CUES

7-30. Group behavioral cues are useful when encountering a group of individuals whose intentions are not immediately known. Reading the group behavioral cues is more effective than reading individual behavioral cues in this situation because trying to analyze each individual's behavior would take too long and becomes more impractical the more individuals there are. Group behavioral cues also give information on the dynamic of the relationships of the people within the group. Group behavioral cues include proxemics, atmospherics, and geographics.

PROXEMICS

7-31. Proxemics involves analyzing physical distances, or proximity, between people, places, and things to determine their relationship. Subconscious and conscious proxemics cues are considered within the context of cultural normalities, tactical considerations, and psychosocial factors.

7-32. The term "relative distance" describes the relational distance between a person and the people and/or things in an environment. The word "relative" emphasizes how different cultures follow different sets of spatial relationships. For example, people from American, Canadian, British, and Nordic cultures tend to keep greater distances between themselves and others, while people from Latin American and Arab cultures keep much closer distances between themselves and others.

7-33. There are four categories of relative distances:

- Intimate distance.
- Personal distance.
- Social distance.
- Public speaking distance.

7-34. People's pitches and tones of voice, as well as the nonverbal language (kinesics) described in this chapter, change to reflect their different relative distance. Table 7-16 provides details about these categories, and figure 7-2 depicts them.

Table 7-16. Categories of relative distance

CATEGORY	*DISTANCE*	*THOSE ALLOWED IN THE AREA*	*USE OF THE AREA*
Intimate distance.	6 to 18 inches.	• Closest of friends. • Those performing a given function (for example, doctors, dentists, and barbers).	• Embracing, touching, or whispering. • Performing a healthcare or grooming service.
Personal distance.	1.5 to 4 feet.	• Good friends.	• Interacting.
Social distance.	4 to 12 feet.	• Acquaintances.	• Interacting.
Public speaking distance.	12 to 25 feet or more.	• Groups.	• Speaking in a public arena.

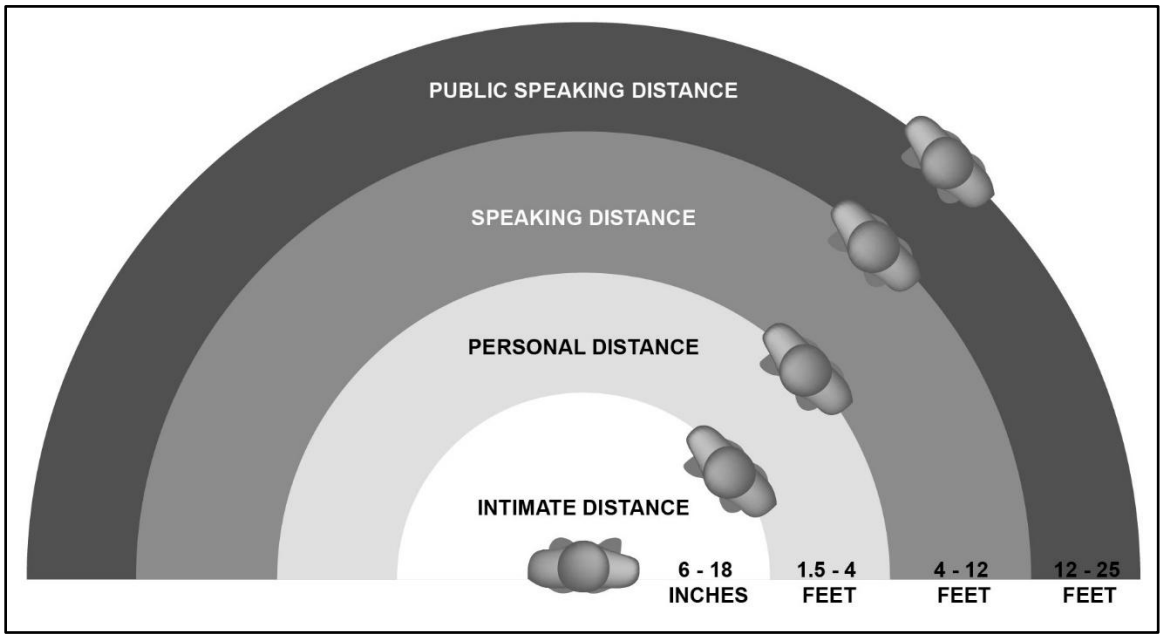


Figure 7-2. Categories of relative distances

Proximity

7-35. Allowing someone to get physically close to you says a lot about your relationship with that person. People who do not know each other act differently when they meet, compared to people who have known each other for a long time. When unfamiliar individuals meet, they naturally drift apart, creating distance from one another. When familiar individuals meet, they naturally attract each other, decreasing the distance between each other. This type of familiarity is the first factor in establishing proximity.

7-36. Another factor in establishing proximity is the presence or absence of a threat. When a threat is perceived, the natural inclination is to move away from it. Moving away provides a gap of time and distance between the person and the perceived threat. This provides standoff and creates valuable time for the person to react to a situation. When a threat is not perceived, or the observer is in a comfortable environment, the natural inclination is to approach the situation, diminishing standoff and reaction time.

7-37. It is important to note that proximity negates skill. The closer a threat is to a Soldier, the less skill is needed to harm or kill them. Proximity can change quickly; a person can cover a distance of 20 feet in approximately 1 second. By observing at greater distances, a Soldier increases the time to react to a potential threat.

Proxemic Push or Pull

7-38. A proxemic push is the movement of a person away from something or someone unknown or possibly dangerous. For example, one person would not crowd the other when standing in line at a bank teller's window. People also push away from others to avoid uncomfortable situations, such as taking a longer path than necessary to avoid certain individuals or things.

7-39. A proxemic pull is the movement of a person toward something known or liked. Proxemic pull tends to be associated with nonthreatening situations.

7-40. Proxemic indicators may play a role in identifying relative status within a group of people. These indicators may assist in identifying high-status individuals who will exert influence within a group. These status indicators may also help to indicate high-value targets, HVIs, and high-payoff targets. Table 7-17 provides additional information about these types of targets.

Table 7-17. Characteristics of high-payoff and high-value targets and high-value individuals

TYPE OF TARGET	*CHARACTERISTICS*
High payoff target	• Are targets in which loss to the enemy significantly contributes to the success of the friendly course of action. • Are those high-value targets that are acquired and successfully attacked for the success of the friendly commander's mission.
High-value individual	• Is a person of interest (friendly, adversary, or enemy) who is identified, surveilled, tracked, and influenced through the use of information or fires. • May become a high-payoff target that is acquired and successfully attacked (exploited, captured, or killed) for the success of the friendly commander's mission.
High-value target	• Is a target the enemy commander requires for the successful completion of the mission. • Is a loss that would be expected to seriously degrade important enemy functions throughout the friendly commander's area of interest.

Note. See JP 3-60 for more information about these types of targets.

7-41. While other types of behavioral cues are involved in determining these types of targets, this is often linked to proxemics due to its underlying theme of associations among individuals. When identifying a high-value target or HVI, a person and surrounding persons are examined for indications of the following behaviors:

- Mimicry.
- Admiration or deference.
- Direction.
- Entourage.

7-42. Mimicry is when one individual mirrors or matches another individual's attributes or characteristics. This occurs because a person may admire that individual's status and attempt to attain the same status.

7-43. Admiration is an outward sign of respect or affection that occurs when an individual or group holds another individual or group to a higher status. One sign of admiration is when group members become silent when an individual speaks.

7-44. Deference is a behavioral cue showing respect for someone or something. It is a condition of submitting to someone or something due to its position of esteem or authority. An example of deference is honoring a city-imposed curfew. Deference toward leaders and intolerance toward outsiders are hallmarks of tribalism.

7-45. A group leader continually gives direction to subordinates either subtly or overt, conscious or subconscious. This includes verbal orders, gestures, the pace and direction of movement, and the effect on the general atmosphere. An example of a subtle direction is when the commander enters the room and all of the individuals in the room begin working on their computers.

7-46. An entourage is a group of one or more people accompanying an individual so they can share in or achieve their status. An entourage tends to show subordination or submissive behavior to maintain the relationship with the dominant personality. Examples include movie stars and their bodyguards or those who want to associate with them.

ATMOSPHERICS

7-47. Every environment has a baseline atmosphere—how a place usually looks, sounds, tastes, feels, and smells. This atmosphere is interpreted consciously through the five senses and subconsciously through intuition. For example, the baseline for an amusement park includes people laughing, children playing, vendors hawking their wares, and the smell of cotton candy and funnel cakes. Atmospherics involves identifying the baseline atmosphere in an area and monitoring it for shifts or anomalies.

7-48. Atmospheric shifts can alert Soldiers to imminent danger. Shifts can include the sudden absence of normal routines, patterns, and attitudes of the local populace or the presence of abnormal activity.

EXAMPLES

Changes that might indicate something is wrong include the following:

- A usually noisy and raucous place becomes dead quiet and calm.
- An area usually full of people contains no people.
- An area usually containing people of all ages and genders contains those of one type.
- An area that usually smells of cow dung smells of cinnamon.
- Civilian attitudes toward patrol members dramatically change.
- Unfamiliar individuals or vehicles appear within the patrol area.
- Anti-American graffiti suddenly appears within the patrol area.
- The civilian workers fail to appear at the military bases.
- Civilian sentiment suddenly changes, as noted in newspaper articles and radio and television broadcasts.
- Women and children are sent to live elsewhere.

Note. This segment provides examples and is not all-inclusive.

7-49. Shifts in atmospherics can be glaringly obvious or extremely subtle.

EXAMPLE

Overt shift: stores, markets, or street vendors close suddenly and without explanation as a patrol approaches.

Subtle shift: fewer children than normal in a particular area.

7-50. The study of atmospherics includes an understanding of how groups of people express themselves through art in the form of symbols: flags, posters, street art, and body art that surround them.

Collective Emotion

7-51. Collective emotion refers to a group's mood, emotion, and disposition. It can be seen as the sum of the emotional states of individuals composing a group. Moods can transfer from one person to the next according to the relationships between group members and can cause moods to begin with one person and ripple through a group. The group's mood can impact how its members interact with others. An area's collective emotion influences future operations within a given area.

COLLECTIVE EMOTION: EXAMPLES

If Soldiers encounter an area or location where all inhabitants appear to be disinterested or hostile, they can expect to gather little information while in this space.

If Soldiers enter an area where children and adolescents are receptive to Soldiers, elders are often receptive as well, and relations are often positive and productive. In contrast, if children appear edgy and parents do not want them speaking to Soldiers, community relations are often strained. Soldiers should be more alert when operating within this area.

Note. See Chapter 5 of this publication for more information about mood and perspective.

Symbolism

7-52. Symbolism involves using symbols to represent people, places, things, or a concept. Symbols can be found everywhere—on the ground, on vehicles, on tattoos, within clothing, on walls—anywhere that an object can be displayed. Symbols influence social interactions. For example, gang members, political parties, and members of religious sects identify one another and the opposition using symbols. Symbols can evoke emotional responses from those who observe them.

7-53. To fully understand symbolism, it should be dissected and examined in parts. The content can be divided into four parts:

- Images.
- Colors.
- Words.
- Location.

7-54. Images can represent a thing or aspect. The thing or aspect represented might be something concrete (such as an organization) or something abstract (such as truth). Symbols often derive their meaning from the history of a given culture.

EXAMPLE

Consider the combat Infantryman badge (see figure 7-3). The bar is blue, the color associated with the Infantry branch. The musket is adapted from the official Infantry branch insignia adopted in 1924 and represents the first official United States shoulder arm, the 1795 model Springfield Arsenal musket. The oak leaves symbolize steadfastness, strength, and loyalty.

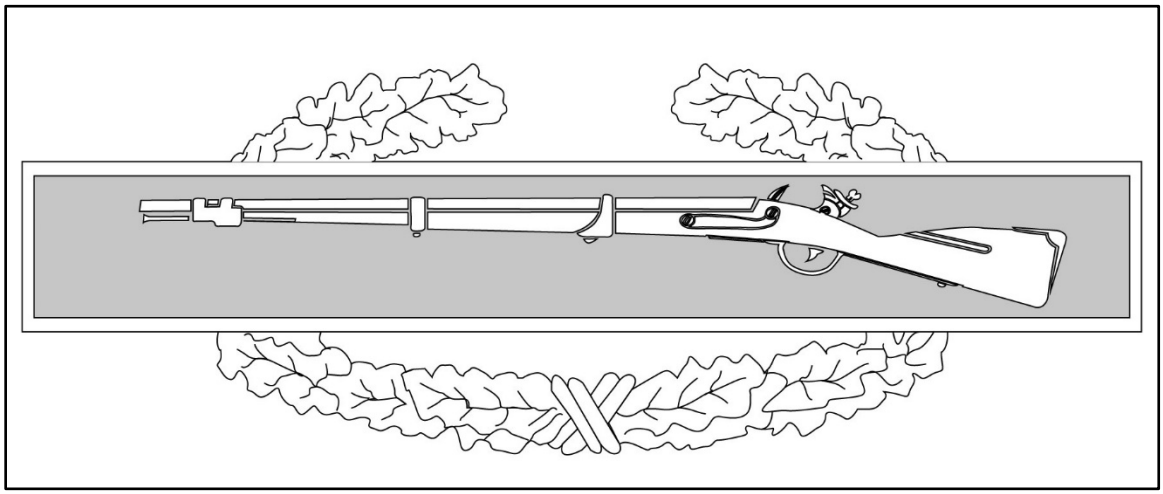


Figure 7-3. Combat Infantryman badge

Colors, Words, and Location

7-55. Colors can have different meanings to different cultures. For example, a woman who wears a white dress to a wedding in the United States would be identified as a bride; in our culture, white represents the bride's innocence and purity. However, brides in China, India, Pakistan, and Vietnam prefer red wedding dresses, as this is associated with good luck.

7-56. Certain colors might be chosen for their ability to stand out and be seen. The colors yellow and black might be combined, as these colors have the greatest degree of contrast when placed together.

EXAMPLE

Consider the U.S. flag (see figure 7-4, page 7-26). The white signifies purity and innocence. Red signifies valor and bravery. Blue signifies vigilance, perseverance, and justice. Stars are a symbol of the heavens and the divine goal to which men aspire. The stripes are symbolic of the rays of light emanating from the sun.

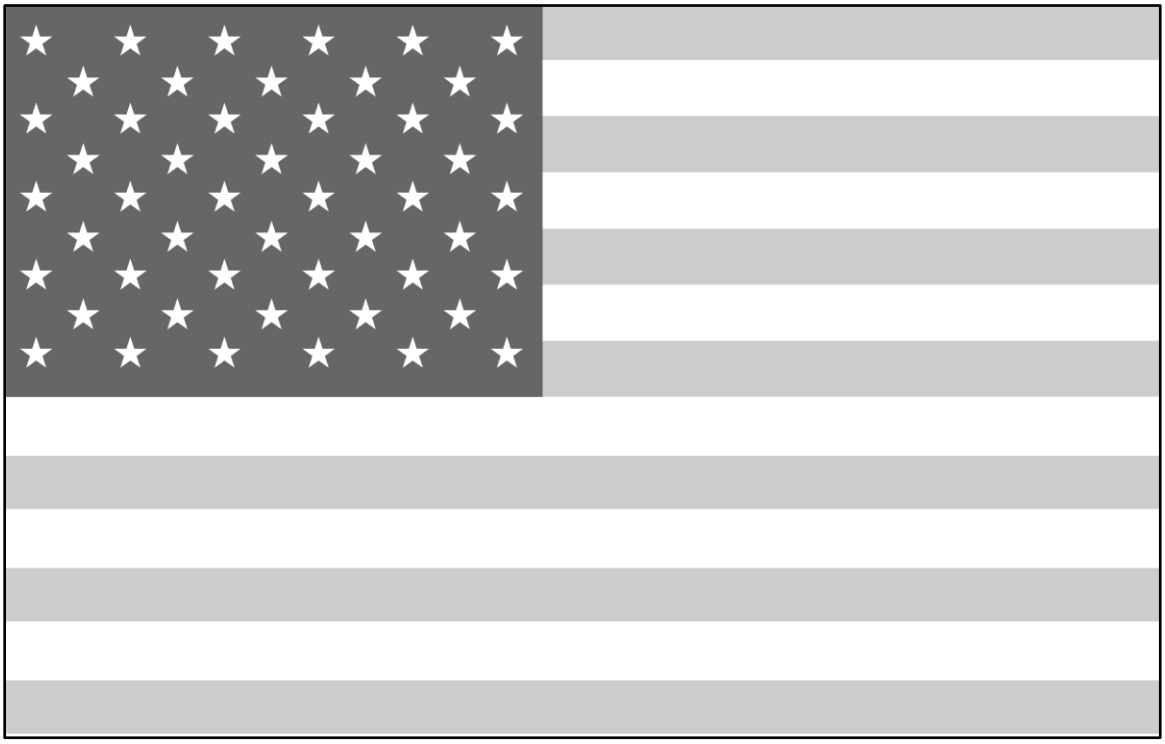


Figure 7-4. U.S. flag

7-57. Symbols might include words that a person or group believe expresses a given position. Words used might include provocative declarations (such as slogans of protest, political or social commentary, or hate speech) or simple language to express an opinion on a given matter. Font and case (uppercase or lowercase) can indicate mood (such as aggression or agreeability).

EXAMPLE

Consider the emblem of the Department of the Army (see figure 7-5). The central element, the Roman cuirass, is a symbol of strength and defense. The sword, esponton (a type of half-pike formerly used by subordinate officers), musket, bayonet, cannon, cannon balls, mortar, and mortar bombs are representative of Army implements. The drum and drumsticks are symbols of public notification of the Army's purpose and intent to serve the nation and its people. The Phrygian cap (often called the Cap of Liberty) supported on the point of an unsheathed sword and the motto, This We'll Defend, on a scroll held by the rattlesnake are symbols depicted on some American colonial flags and signify the Army's constant readiness to defend and preserve the United States.

Figure 7-5. Emblem of the U.S. Army

Note. For more information about the Department of the Army's emblem, see the U.S. Army Center for Military History website.

7-58. The significance of symbols can be also indicated through their locations within a specific context. For example, a person might wear an article of clothing with a certain slogan so that it is seen first, or a group of people might take a picture by posing around an object of significance.

EXAMPLE

Consider the Medal of Honor (see figure 7-6). Due to its great significance, this medal is worn in a position of honor, outside the shirt collar and inside the coat, hanging above all other decorations.

Figure 7-6. Medal of Honor

Context of Symbols

7-59. Once the content has been examined, a symbol's context should be determined. Cultural differences drive the context of a symbol, along with the symbol's legality and intended audience.

7-60. Symbols can have great importance within a culture. Each culture's experiences and perceptions define the importance of a given symbol.

7-61. Symbols might be posted in an area where it is permitted (such as murals) or where it is not permitted (such as street graffiti). Permissions provide an air of legitimacy; whereas lack of permission indicates deviancy, as the deliberate defacing of someone else's property might incur fines or a jail sentence.

7-62. The intended audience of a symbol might be broad or narrow. Public art is intended to be seen by a large group of people (such as all people who pass a given spray-painted mark or flag). In contrast, private art is intended to be seen by a single person and their intimate circle of people (such as all people within a given home or club who pass a given spray-painted mark or flag). The size of the intended audience can reveal information about the degree to which a person is committed to the message being conveyed. In addition, the location of the symbol can provide more information about the person's intentions (for example, a person might wish to incite anger from an audience by painting hate speech on a landmark that the audience reveres).

EXAMPLES

– Public art.
– A mural on an outside wall.
– Gang symbol on a corner.
– Tattoo on one's face.
– Something worn to impress others and indicate status.
– Message on a T-shirt or the material of clothing being worn.
– Flag hung in a biker club.
– Tattoo on an area of the body normally not visible.
– A mural inside a home.

GEOGRAPHICS

7-63. Geographics is the study of the interactions between an environment and its inhabitants. It relies upon an understanding of an area's physical geography (such as areas where there are obstacles restricting freedom of movement and areas where people can move freely) and weather (for example, areas where people can rest without experiencing the discomfort of being exposed to the elements). Interpreting geographics can reveal the significance of social interactions and the degree to which a person knows an area. People who are familiar with an area act, walk, and drive differently than people who are unfamiliar with the area. Included in the study of an area's geographics is the identification of anchor points, habitual areas, natural lines of drift and pathways, and reference points and landmarks.

7-64. An anchor point is an area where only certain individuals within a group would frequent without reservation. It is a location that these individuals have established as their own, their metaphoric base of operations, and can associate and maintain a level of comfort. Individuals outside of this smaller sect of people would have reservations about frequenting this area. This area may be marked using identifying symbols.

EXAMPLES

Gang members may choose an area to congregate (such as a gazebo in a nearby park or the front entrance of a neighborhood liquor store). The area can exhibit graffiti and nuances to identify the specific gang or sect.

In a school cafeteria, children with similar interests group together at different tables to socialize.

In a downtown nightlife setting, different areas appeal to people of different interests. For example, one bar might play jazz music and another might play heavy metal. Only people interested in specific types of music frequent those areas.

Habitual Areas

7-65. A habitual area is an area where most individuals within a group frequent without reservation. This includes areas people visit as part of their routines (for example, a place where people may buy their daily cup of coffee), along the routes between anchor points.

7-66. Threats most likely utilize habitual areas as a place of opportunity to meet, pass sensitive information, and conduct surveillance and intelligence. Habitual areas can also be used as soft targets. Since many people congregate in these areas, they appeal to enemies who wish to conduct events that produce mass casualties.

EXAMPLES

– Grocery stores.
– Coffee shops.
– Courthouses and other public buildings.
– Community parks.
– Bazaars.

Natural Lines of Drift, Pathways, Reference Points and Landmarks

7-67. Natural lines of drift are used to move from one point to another in the most efficient manner. They are most commonly associated with the path of least resistance, meaning that they require the least amount of energy and effort to traverse. Natural lines of drift can be predicted through obstacles and ease of accessibility.

EXAMPLE

A well-worn shortcut between the parking lot used by employees and the building in which the employees work.

7-68. When natural lines of drift are used repeatedly over time, they become worn. This creates pathways.

EXAMPLE

The Ho Chi Minh Trail (see figure 7-7) was a supply route that ran from North Vietnam to South Vietnam and through the neighboring areas of Laos and Cambodia. Parts of this pathway existed for many years as footpaths that facilitated trade in the region. This pathway provided manpower and materiel to the Vietcong and the People's Army of Vietnam during the Vietnam War.

Figure 7-7. Ho Chi Minh Trail as a pathway

7-69. Reference points and landmarks are those places referenced as meeting points or used to provide directions. The manner in which a person references these places can determine the degree to which a person knows an area.

EXAMPLE

A person who has lived in an area for a long time might give directions using landmarks (such as the old oak tree with the really bent branch), whereas a person who is new to the area might give directions using road names.

Chapter 8

Understanding Indicators Left Behind by People

ASA-trained Soldiers can read terrain to identify, collect, and analyze any evidence of change from the natural state. These changes can be further analyzed and used in conjunction with other factors to profile a threat's actions, intentions, and motives.

Note. This chapter briefly introduces this topic. See TC 18-35 for more information about ground sign awareness.

DEFINITION

8-1. Ground sign awareness involves using observation techniques and predictive reasoning to read the natural terrain and detect disturbances that the threat made in nature. While observing sign, Soldiers gather information pertaining to the commander's intent to develop reasonable conclusions and make recommendations to the commander based on the threat's size, activities, location, composition, equipment, and disposition.

8-2. Once Soldiers become adept at recognizing various indicators, disturbances in the terrain become more noticeable as they form a track line of continuous clues. Those clues provide a route to follow. The Soldier can study this sign and determine several important facts.

TYPES OF SIGN

8-3. Types of sign include ground sign and top sign. These terms identify the location in which a sign is found.

8-4. Ground sign is disturbance on the ground created by man, animal, or machine. This includes marks and impressions of footwear and other body parts or equipment left on the surfaces of the earth. Ground signs can include—

- Footprints.
- Tire tracks.
- Weapons imprints in the dirt.
- Discolored soil from an IED emplacement.

Note. Some sources indicate that ground sign is located from the knee and below; others include those marks below the ankle; and yet others include those marks below the sole of the boot. For the purposes of this publication, ground sign includes any impressions left on the earth's surface.

8-5. Top sign is disturbance above the ground produced by man, animal, or machine. This can include—

- Broken branches.
- Bent grass.
- Bruised vegetation.

Note. Some sources indicate that top sign is located from the knee and above; others include those marks above the ankle; and yet others include those marks above the sole of the boot. For the purposes of this publication, top sign includes any disturbances left above the earth's surface.

CLASSIFICATION OF SIGN

8-6. Sign is broken down into two main categories: observable and nonobservable. Observable sign is those changes to the environment's natural state that indicate to the Soldier that a person has passed that way.

EXAMPLE

A Soldier might observe an indentation caused as the soil is displaced by compression as someone walks over a piece of ground. A print originating from someone wearing shoes might indicate that the wearer has proper equipment. A print originating from someone in bare feet might indicate a lack of proper equipment.

8-7. Nonobservable sign includes stimuli that activate senses other than sight (such as noises and smells). Individuals cannot see these indicators with their eyes; instead, other senses are used to collect and identify them. These indicators can be subtle or obvious. Nonobservable sign can include—

- The smell of sweat, bug spray, or rifle oil.
- Cigarette smoke and cooking odors.
- Noises that indicate the presence of a person (such as talking, whistling, loose gear, metallic sounds, and chopping).
- The absence of noise (such as insects and birds ceasing to chirp).

ORIGIN OF SIGN

8-8. The origin of sign may or may not be easily determined. The origin can be conclusive or inconclusive. When an observer can determine that the sign was made by the originating source, its origin is conclusive. When an observer can determine that the sign was made by any man, animal, or machine, but the exact identity is unknown, its origin is inconclusive.

DISTURBANCE

8-9. Disturbance includes any indicator other than ground or aerial sign. Types of sign include the following:

- Changes in the normal life of insects and spiders may indicate that someone has recently passed through the area.
- Disturbed bees and ant nests.
- Torn spider webs.

Note. Spiders often spin webs across open areas, tracks, or roads to trap flying insects. If the tracked person does not avoid these webs, an indicator is left to an observant Soldier. Trained Soldiers can potentially calculate the time and distance gap based upon the time it takes spiders or ants to repair disturbed webs or nests. However, it must be understood that different species repair the disturbance at different rates.

- Wild animals and birds are flushed from their habitat.
- Bird cries that are excited by unnatural movement.
- Moving tops of tall grass or brush on a windless day indicate that something is moving the vegetation.

CHARACTERISTICS OF SIGN

8-10. Nature has its own rhythm but usually without regularity. Regularity is an effect caused by geometric or repeated patterns. Something in nature that is spaced at regular intervals stands out as an anomaly from

the natural state of the environment. Examples of regularity include a constant uniform tread pattern and the rhythm of footprints (see figure 8-1).

8-11. Sign is often seen due to the following factors:

- Regularity.
- Shape.
- Flattening.
- Texture.
- Color change.
- Transference and displacement.
- Foreign material.

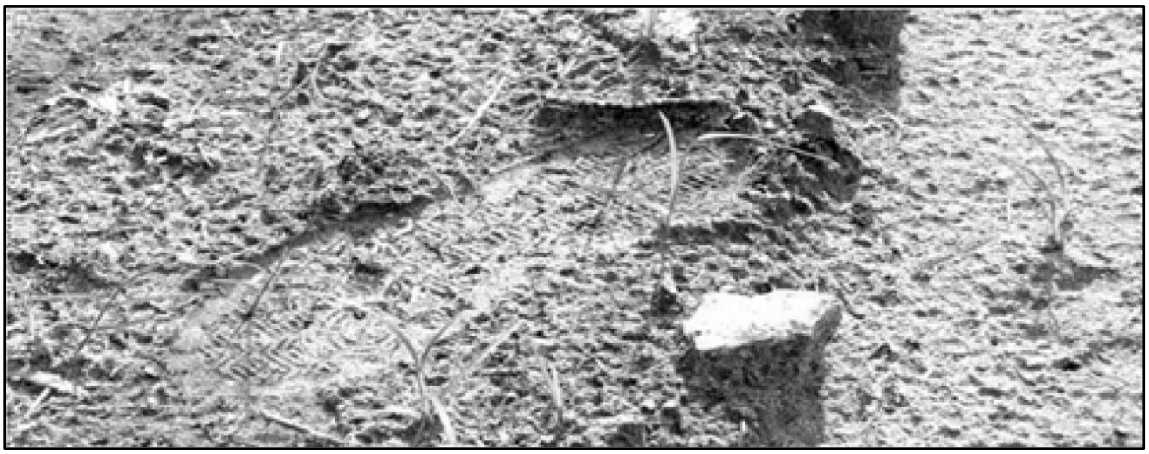


Figure 8-1. Identification of man-made patterns

8-12. Shape is the recognizable form of something man-made (see figure 8-2)**.** This is normally footwear but could also include equipment. Similar to an outline, these shapes stand out because they are unnatural to the environment. For example, straight lines, arches, and other geometric shapes do not commonly exist in nature. Observers should look for outlines that are not normally associated with nature or do not fit the immediate surrounding environment.

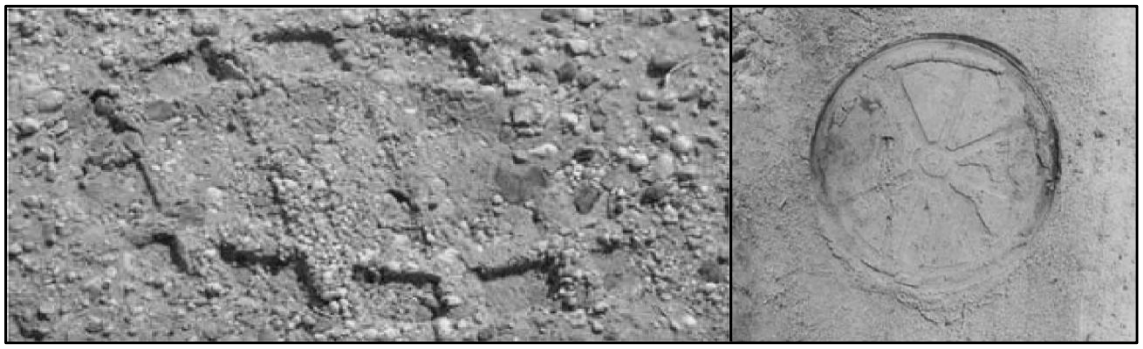


Figure 8-2. Identification of man-made shapes

8-13. Flattening can be due to changes in texture (see figure 8-3, page 8-4). Flattening is the general leveling or depression creating a disturbance from the earth's natural state. An example of flattening is the impressions left on the ground created by pressure from a quarry. When loads are set down at a rest halt or campsite, they usually crush grass and twigs. A reclining human can also flatten the vegetation.

Figure 8-3. Flattening

8-14. Texture, or the natural smoothness or roughness of an area, is affected by the movement of a person (see figure 8-4). A change in texture involves a change or contrast on a surface that exposes a difference between similar environments.

Figure 8-4. A change in texture

8-15. Color changes in an environment can reveal disturbances made by the movement of a person across an environment (see figure 8-5, page 8-6). Variations and disturbances in moisture, vegetation, and soil can cause unnatural color change. For example, rocks can be overturned, revealing the darker, moist soil underneath.

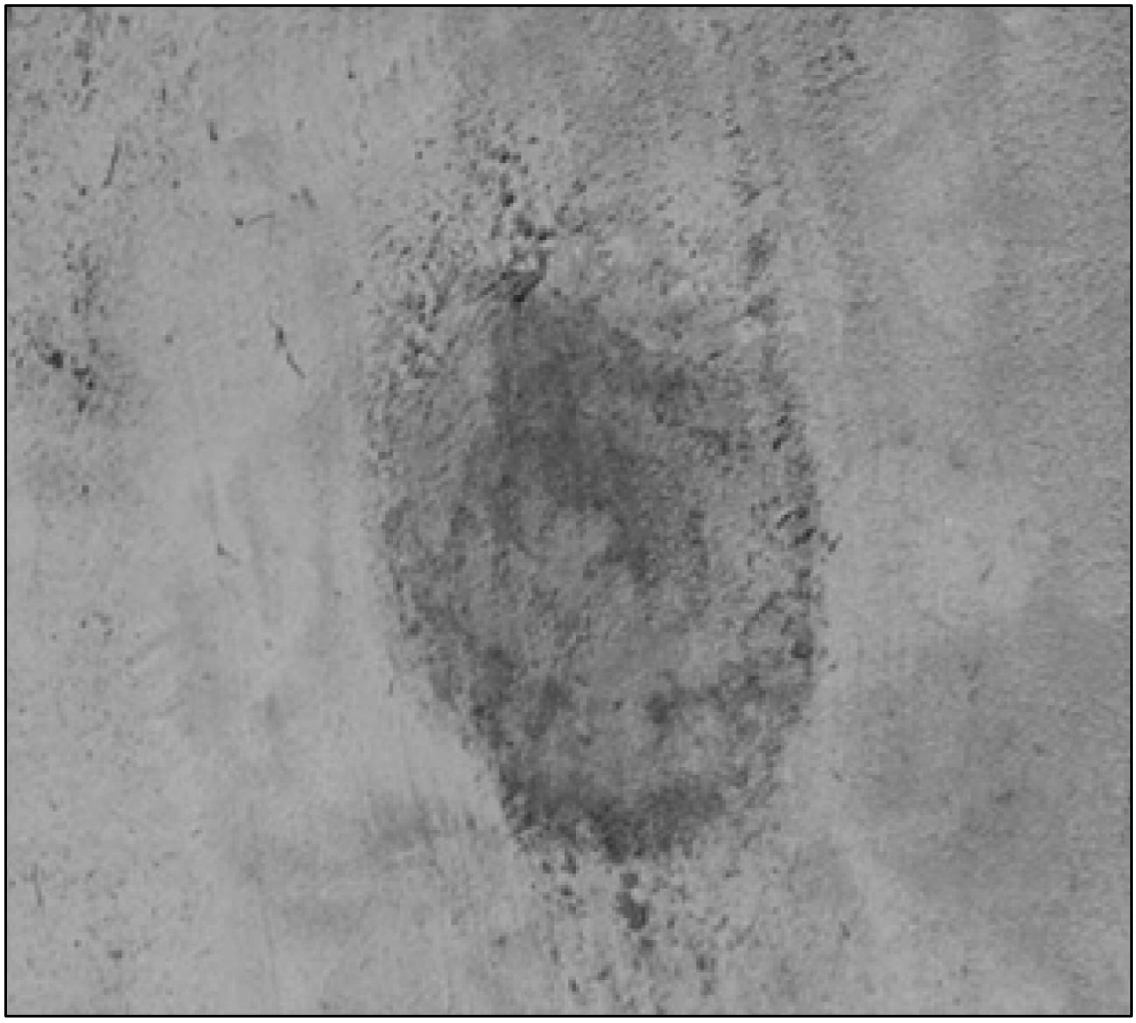


Figure 8-5. Color change

8-16. Transference (see figure 8-6) is the unintended movement of sign from its natural location to another surface or object. Muddy footprints across a parking lot are an example of transference.

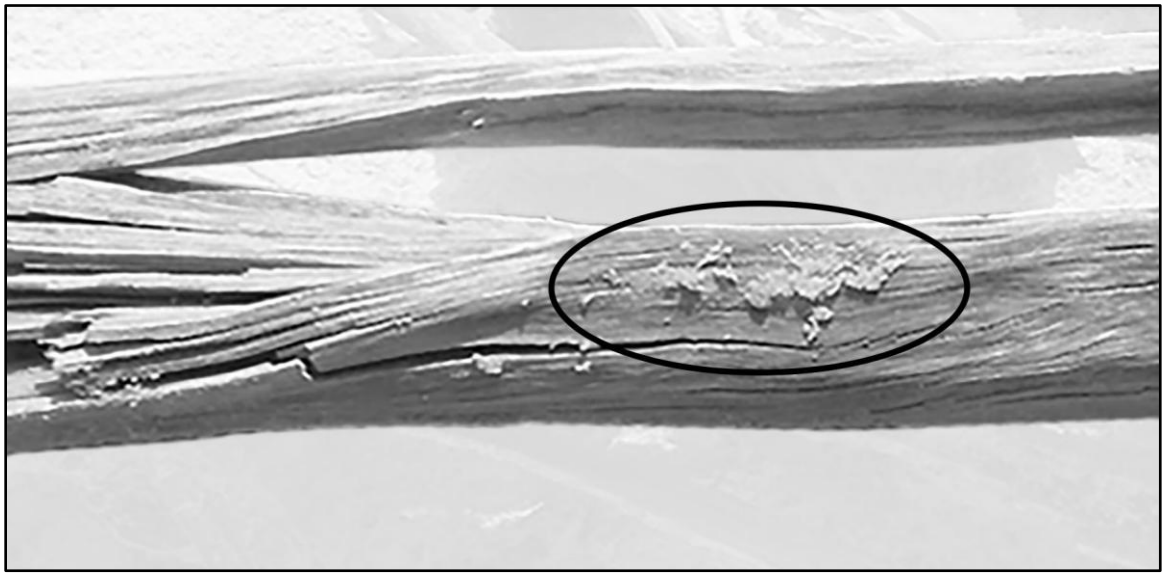


Figure 8-6. Transference

8-17. Displacement (see figure 8-7) takes place when anything is moved from its original position. Displacement includes indentions in the ground made by footwear or bare feet as the soil is compressed. Displacement can also result from clearing a track by breaking or cutting through heavy vegetation with a machete. Individuals may break more branches as they move behind someone who is cutting the path. Displacement indicators can also occur when people carrying heavy loads stop to rest. Prints made by box edges can help to identify the load.

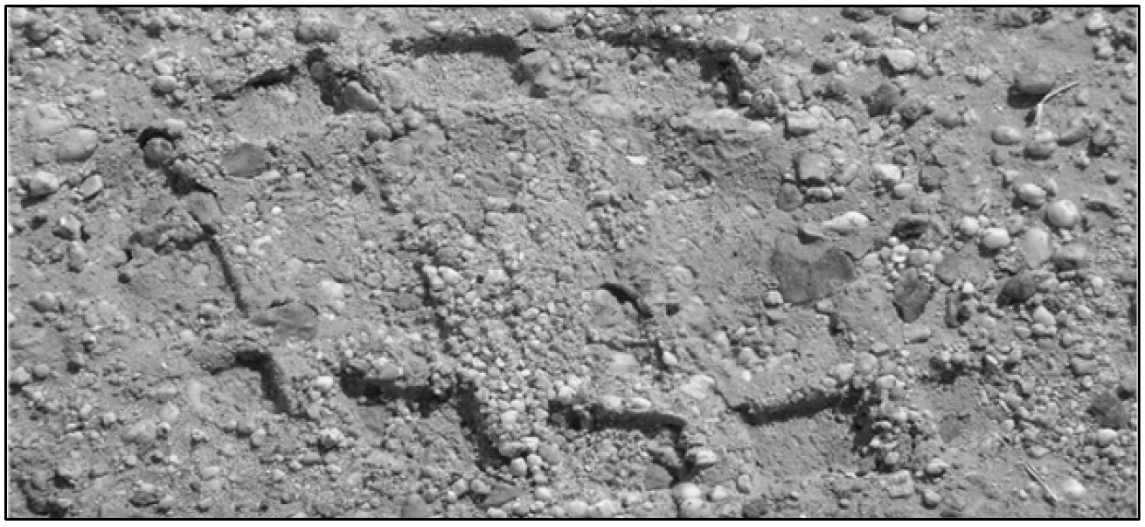


Figure 8-7. Displacement

8-18. Foreign material includes any medium or material not normally associated with the immediate environment. Litter is an example of foreign material in a specific setting.

EXAMPLES OF SIGN

8-19. Sign can include the following:

- Breaks, scuffs, and bruising.
- Bent vegetation.
- Footprints.
- Litter.
- Blood sign.
- Bodily waste.
- Indicators of booby-traps, IEDs, or antipersonnel munitions.

8-20. Examples of breaks, scuffs, and bruising (see figure 8-8) are—

- Foliage, moss, vines, or sticks scuffed or snapped from their original position.
- Moss scraped from the base of a tree.

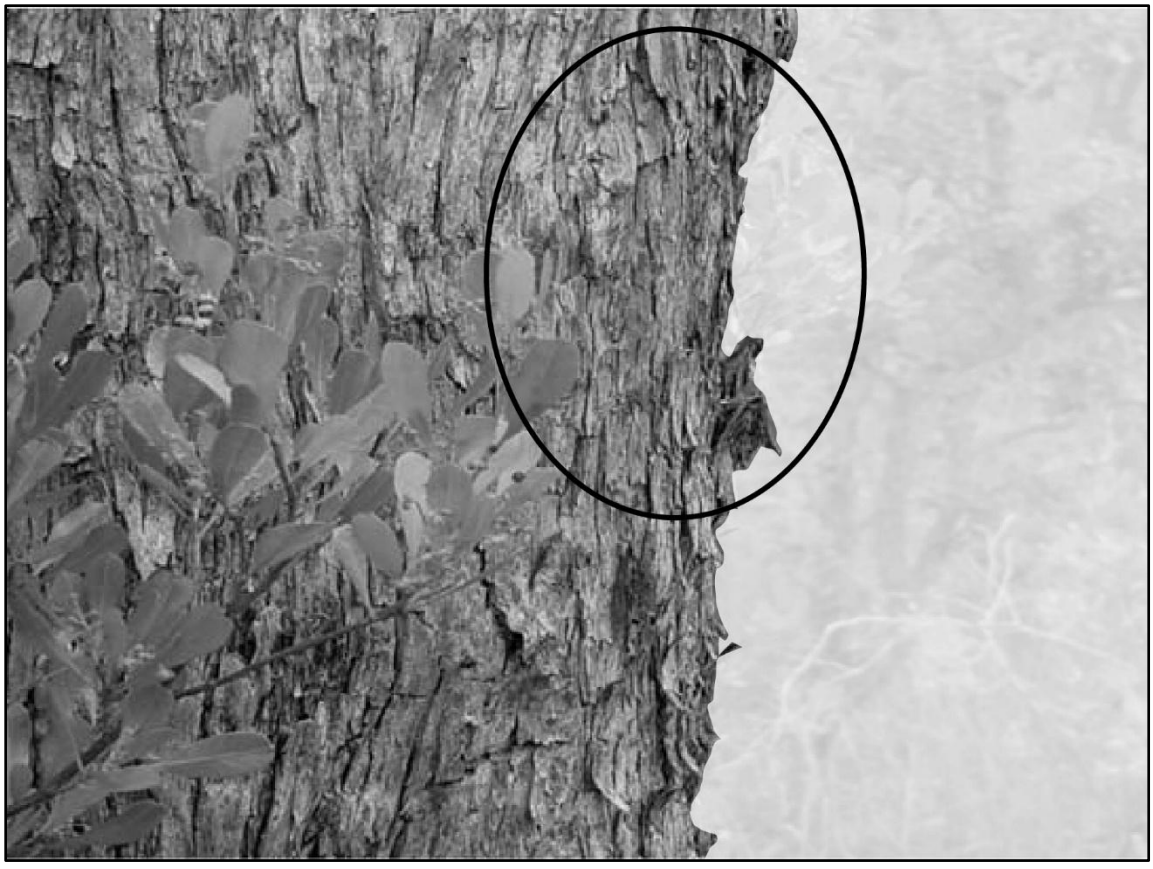


Figure 8-8. Scuff on a tree

8-21. Bent vegetation sign includes—

- Broken grass or other vegetation bent in the direction of movement.
- Obvious color change as the sunlight reflects off disturbed vegetation from a different angle.

8-22. Sign can include footprints. Footprints can provide information about people (such as how many people are traveling in a party and if they are equipped or carrying weight). A footprint is comprised of three main elements:

- Primary impact point.

- Foot roll.
- Terminal point.

Note. While footprints can be located on a variety of surfaces, the ability to analyze the elements of a footprint depends on the consistency of the surface.

8-23. The primary impact point (see figure 8-9) is the first part of the foot to strike the ground. Normally, the heel is the primary impact point when walking forward at a normal pace. When walking backward, sprinting, or climbing steep terrain, the toe is the primary impact point.

Figure 8-9. Primary impact point

8-24. The foot roll (see figure 8-10, page 8-10) is the rolling motion made by the sole of the foot rolling through its length from rear to front. It is caused by the weight of the body as it moves over the foot or the middle part of the foot.

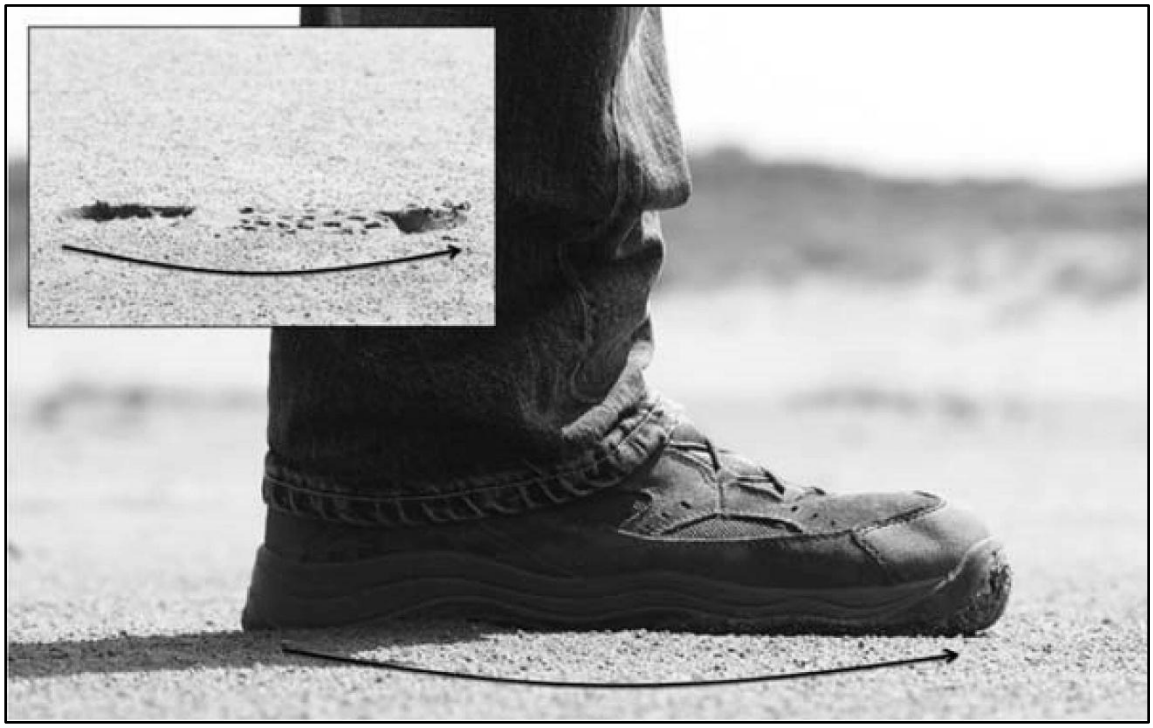


Figure 8-10. Foot roll

8-25. The terminal point (see figure 8-11) is the last place for the foot to leave the ground. Normally, the toe is the terminal point while walking forward at a normal pace. When walking backward, the heel is the terminal point.

Figure 8-11. Terminal point

CHARACTERISTICS OF HUMAN GAIT

8-26. Characteristics of human gait comprise five observable elements:

- Stride.
- Straddle.
- Pitch angle.
- Pressure.
- Dwell time.

8-27. Depending upon a person's activity, speed, terrain, load, and physical condition, the measurement of these characteristics will deviate. Analyzing these characteristics assists Soldiers in determining the threat's actions.

Note. Through continual training, Soldiers are able to determine the variables associated with age, gender, physical conditions, physical disabilities, weight, stature, mental state, and pace. Trained Soldiers learn to correctly identify the variations through practical application and research. Attempts to hide tracks, whether or not the person is carrying a load, and if the person is moving during the day or night can also be determined.

8-28. Stride (see figure 8-12, page 8-12) is the distance from one footprint to the next in a person's direction of movement (for example, the distance between the left foot and right foot). This is determined by measuring the distance between the primary impact points. Under normal conditions, an average human pace is approximately 30 inches.

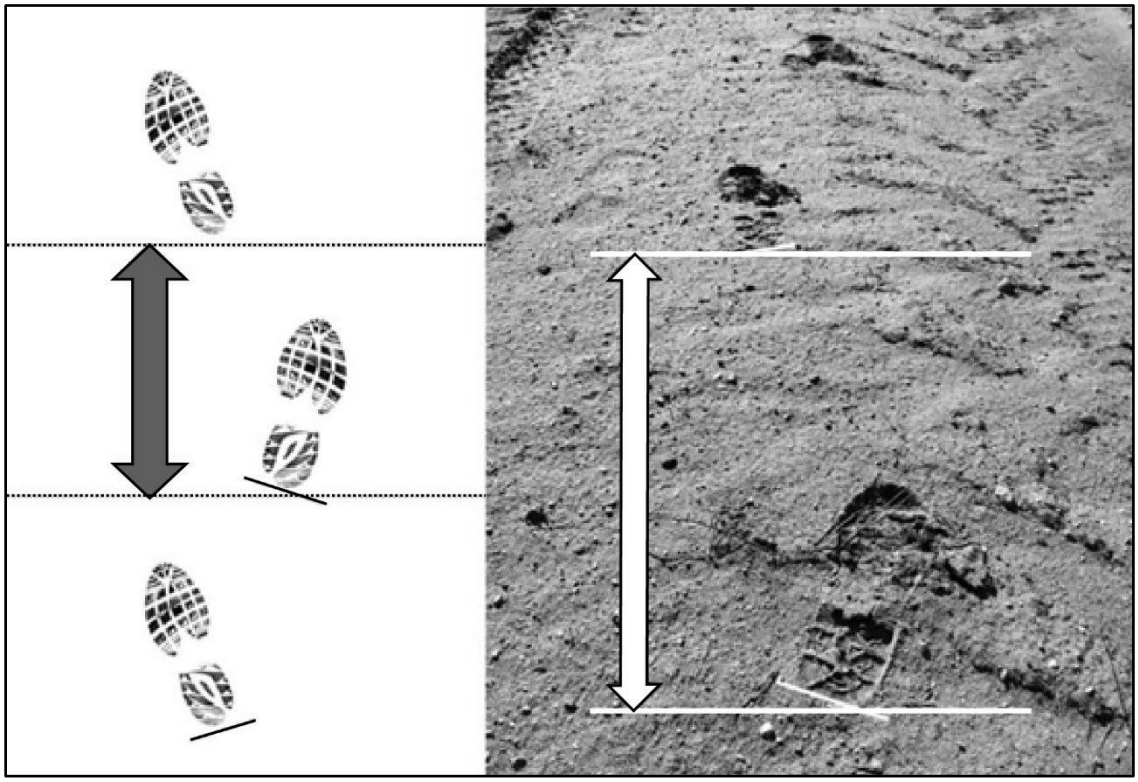


Figure 8-12. Stride

8-29. Straddle (see figure 8-13) is the distance between the inside edge of the left foot to the inside edge of the right foot. For example, if a person was standing still with feet close together, the straddle is the distance measured in between the two feet at the closest point.

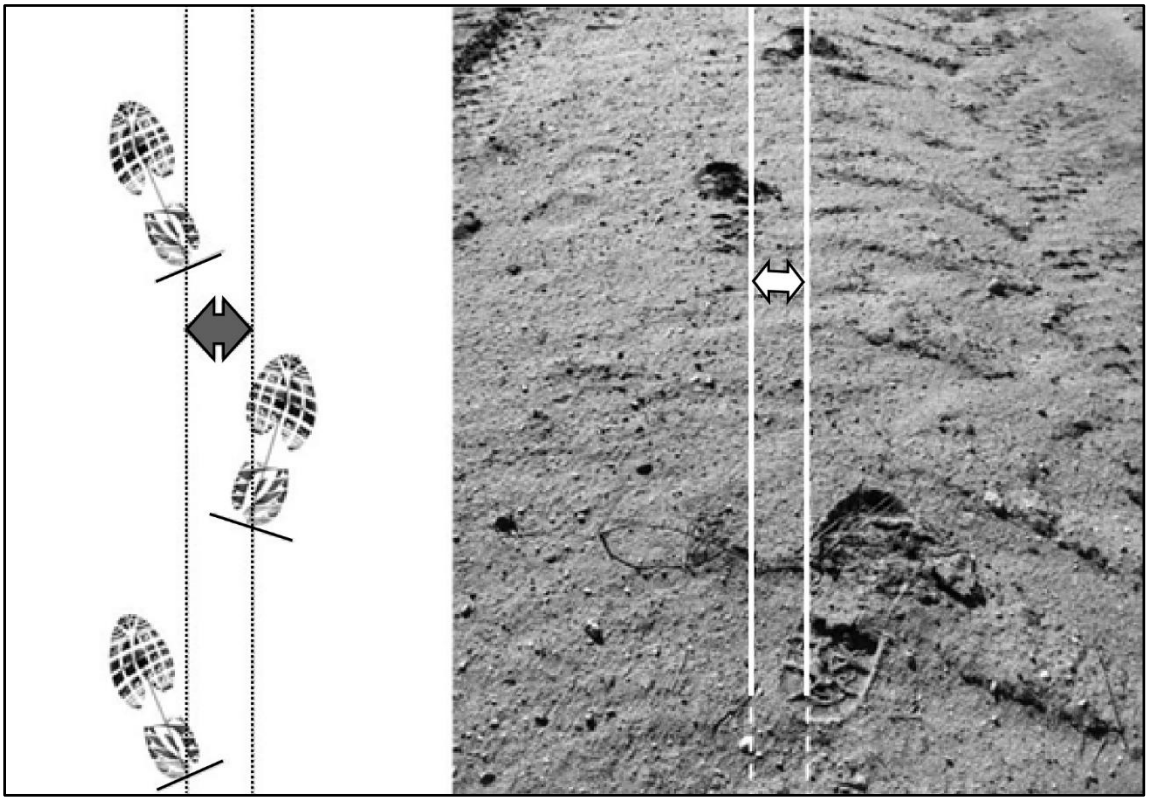


Figure 8-13. Straddle

8-30. The pitch angle (see figure 8-14, page 8-14) is the orientation of the foot to the line of travel. A foot can pitch outward, inward (also called pigeon-toed), or remain parallel to the line of travel. The pitch angle is best determined by estimating or measuring the angle of the foot in relation to the centerline of travel.

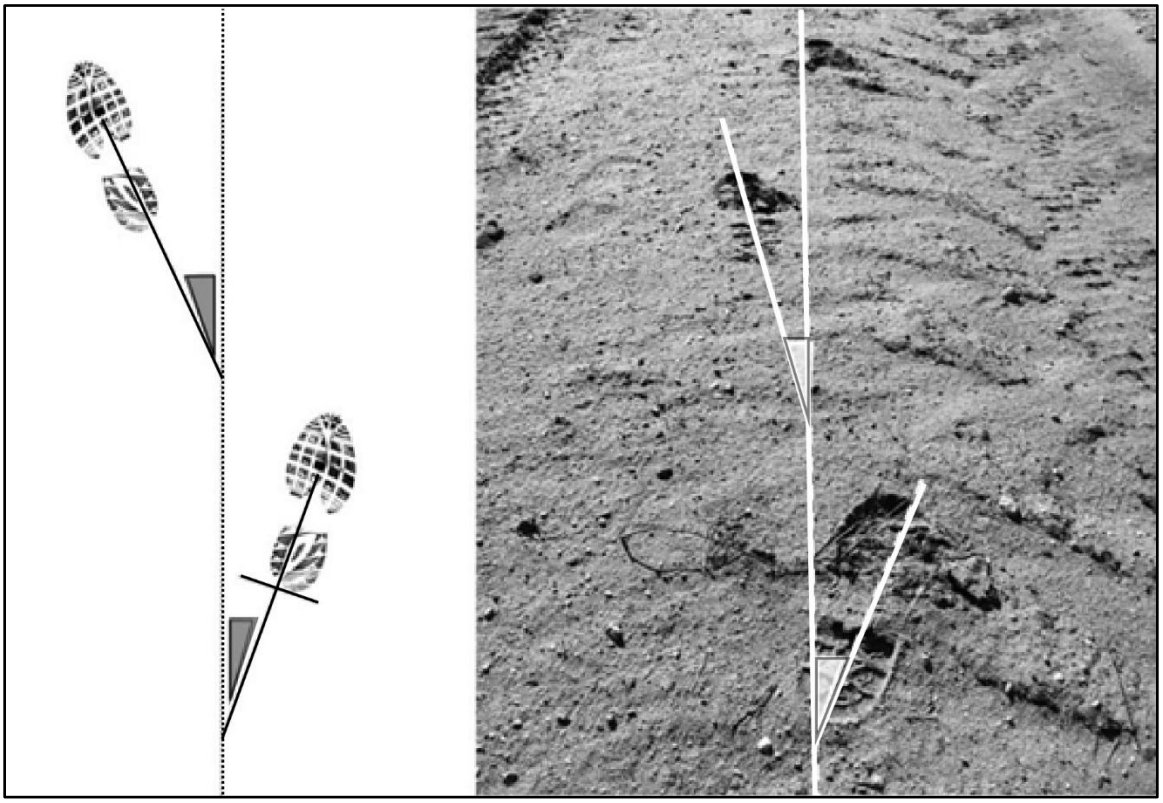


Figure 8-14. Pitch angle

8-31. Pressure (see figure 8-15) is the total weight of a person (including any load being carried) as it relates to the way the foot applies pressure to the ground.

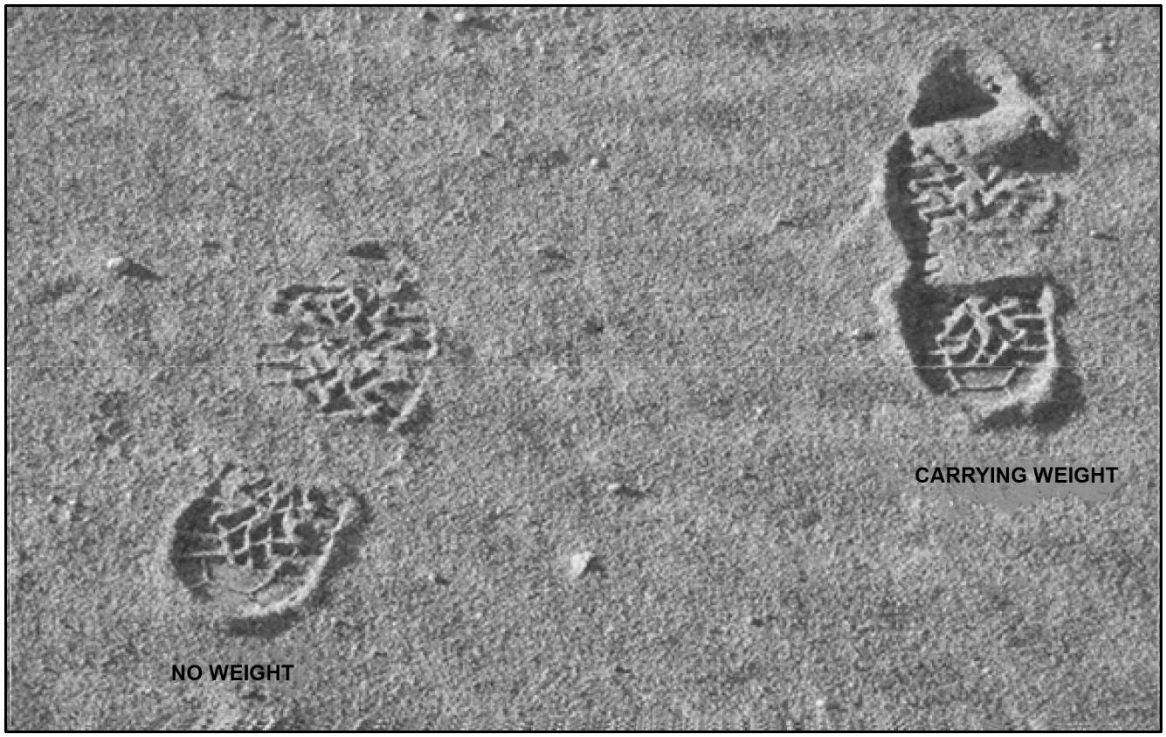


Figure 8-15. Pressure as shown by footprints of individuals carrying and not carrying weight

8-32. Dwell time is the amount of time the foot is on the ground in the same spot. Generally, the longer one stays in an area, the more sign or action indicators are left.

8-33. When Soldiers find footprints, they generally have a normal rhythm and flow (see figure 8-16, page 8-16) or a baseline. Action indicators include any disruptions or changes of the rhythm and flow that lead observers to reasonably conclude that a specific action has taken place at a specific location.

Figure 8-16. Rhythm and flow

8-34. If witnesses, victims, or electronic surveillance are unavailable, trained Soldiers can make a fairly accurate determination of the number of people in a party using the footprints left behind. This involves using the following:

- Average pace method.
- Comparison method.
- Direct count method.

Note. While this publication only covers three methods, other techniques exist for determining the number of people using the footprints left behind by the party.

8-35. The average pace method is effective for determining up to 12 to 15 people. To perform this method (see figure 8-17)—

- (1) Draw a line behind the heel of an easily recognizable print (such as the left foot). This is the key print.
- (2) Alternate. If a good visible set of key prints cannot be identified, draw a box 60 inches in length and encompassing the width of the track. Then, continue to step 4.
- (3) Identify, but do not mark, the next step of the key print at one stride length (such as the right foot).
- (4) Identify the next step of the original key print (for example, the same left foot), and mark it with a line behind the heel.
- (5) Count the total number of prints inside the two lines, and then divide this number by two. The resulting number is the approximate number of people in the party.

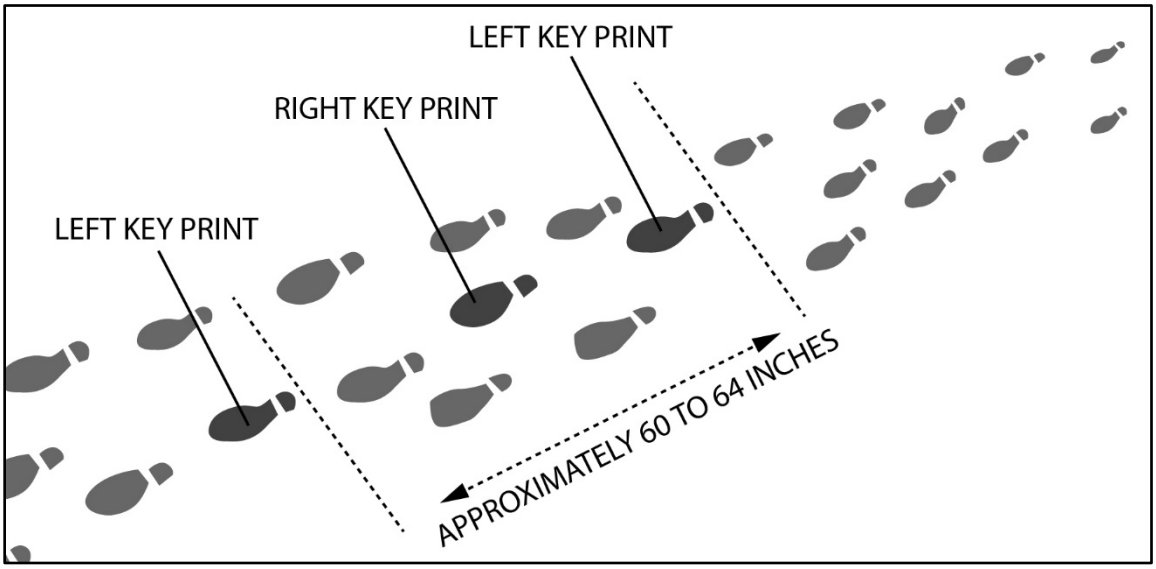


Figure 8-17. Average pace method

8-36. The comparison method is used when the threat has walked in a single-file line. When a group of people walk in a single-file line, it is difficult to recognize each individual print. To combat this, Soldiers compare their own tracks to those of the threat. To perform this method—

- (1) Line up a group of four Soldiers in a single file parallel to the track.
- (2) Have the group walk parallel to the track for a distance in a single file. This provides a general idea of what the track of a group similar in size looks like.
- (3) Compare this track to the track of the threat group.
- (4) If the group's track has more disturbance, have the group walk over the tracks again, giving a comparison to a group of eight people.
- (5) Repeat step 4 until the group creates a track line similar to the threat.
- (6) To estimate the number of people in the threat group, multiply the number of Soldiers required to recreate the track by the number of passes required. For example, if a four-person team requires five passes to create a similar track, the threat party contained approximately 20 people.

8-37. The direct count method (see figure 8-18, page 8-18) is most effective when the party contains less than six people. To perform this method—

- (1) Physically identify each distinct print (in terms of pattern and size) along the track line.
- (2) Count the prints.

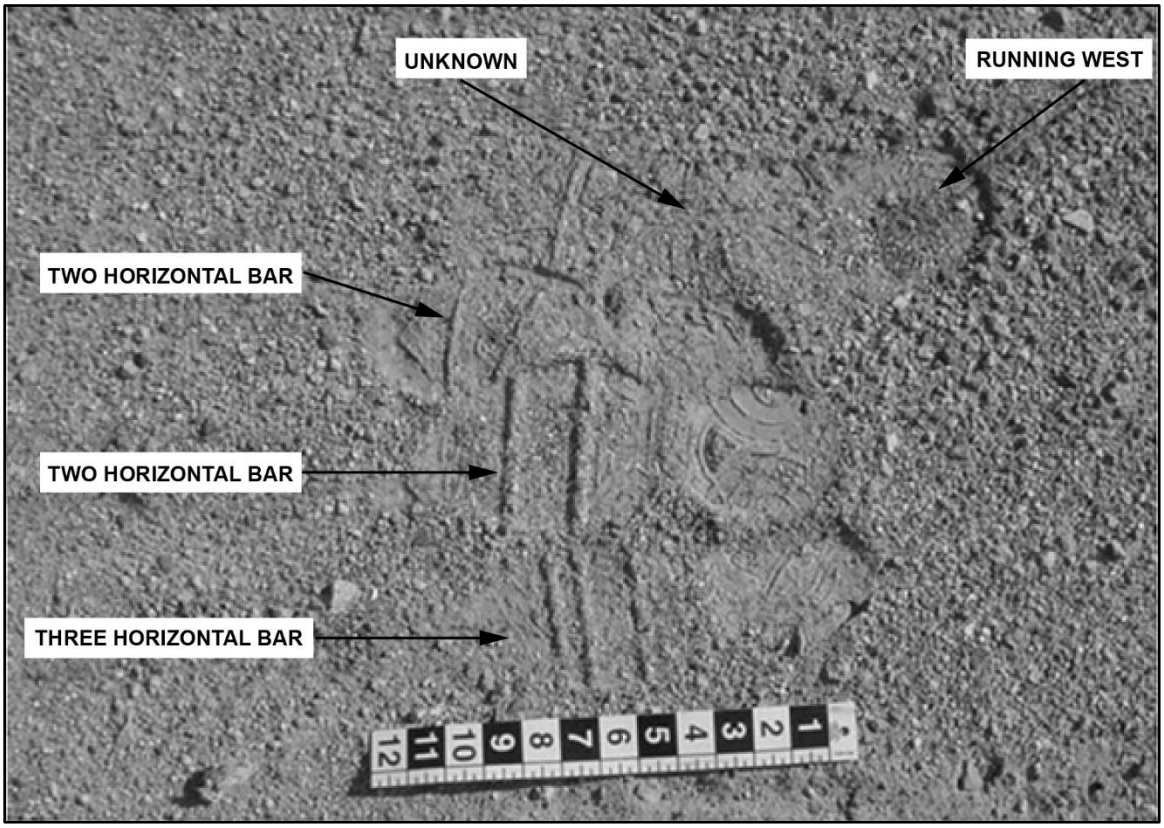


Figure 8-18. Direct count method

LITTER

8-38. Litter (see figure 8-19) is a category of foreign material. It includes any man-made artifact that was either accidentally dropped or deliberately discarded or hidden. A poorly trained or poorly disciplined unit moving over terrain may leave a trail of litter. Litter includes the following:

- Gum or candy wrappers.
- Sunflower seeds.
- Ration cans or packages.
- Cigarette butts.
- Remains of fires.
- Bloody bandages.

EXAMPLE

After an attack or ambush, spent shell cases are easy to identify at the ambush position.

Notes: 1. The Soldier considers weather conditions when estimating the age of litter. Rain flattens or washes litter away and turns paper into pulp. Exposure to weather can cause ration cans to rust at the opened edge. The Soldier can use the last rain or strong wind as the basis for a timeframe. Even sumps, regardless of how well camouflaged, are a potential source of litter.

2. Soldiers should take everything out of the area that they brought in with them.

Figure 8-19. Litter

BLOOD SIGN AND BODILY WASTE

8-39. Blood (see figure 8-20, page 8-20) dropped or splashed onto the ground as the result of a wound is blood sign. The level of blood smears and the amount of blood indicates the position and severity of the wound. Table 8-1, page 8-20, details different types of blood sign.

Figure 8-20. Blood sign

Table 8-1. Types of blood sign

ORIGIN OF BLEEDING	*INDICATORS*
Vein	Dark red drips and drops subsiding as the wound heals.
Artery	Bright red spurts and splashes.
Lungs or thoracic cavity	Pink and frothy blood.
Head	A mixture of grey matter, bone fragments, and blood.
Gut	Bile mixed with blood, dark red to blackish, and foul odor.

8-40. Urine and feces leave stains when deposited on the ground, trees, bushes, or rocks (see figure 8-21). Bodily waste may also include any item placed in the mouth, then ejected or vomited. Feces analysis can also indicate the health or gender of a person. This type of sign can also be affected by culture, as one's diet changes excretions, or bathroom habits may differ from culture to culture. The physical environment changes decomposition rates for this type of sign.

Figure 8-21. Body waste

8-41. Booby-trap, IED, and landmine indicators may consist of trip wires, disturbed ground, protruding branches across trails, metal spikes in the ground, unnatural hollows or depressions, brushed ground, or other items of interest.

RULES OF ANALYZING SIGN AND THE EFFECTS OF LIGHT

8-42. To successfully locate and analyze sign, Soldiers should adhere to the following rules:

- Maintain security for the Soldiers analyzing sign.
- Know exactly where you are.
- Correctly identify the sign found.
- Avoid contaminating the sign (for example, do not walk on top of sign).
- Seek clusters of evidence that confirm what you are finding.
- Never force a sign to conform to your own preconception.
- Mark and record the grid reference of the sign with a 10-digit grid.

8-43. Soldiers need light to find and observe sign. The most effective time to locate and analyze sign is during daylight hours; however, under certain conditions, moonlight, ambient light, or artificial light sources can be just as effective as bright sunlight.

8-44. Soldiers should place themselves in a position to maximize the available light and obtain the best view of the track. Ideally, they place sign between themselves and the light source, as the shadows cast by the sign present the clearest picture (see figure 8-22, page 8-22). This effect is more noticeable during the early morning and late afternoon, when the low angles of sunlight cause maximal shadowing.

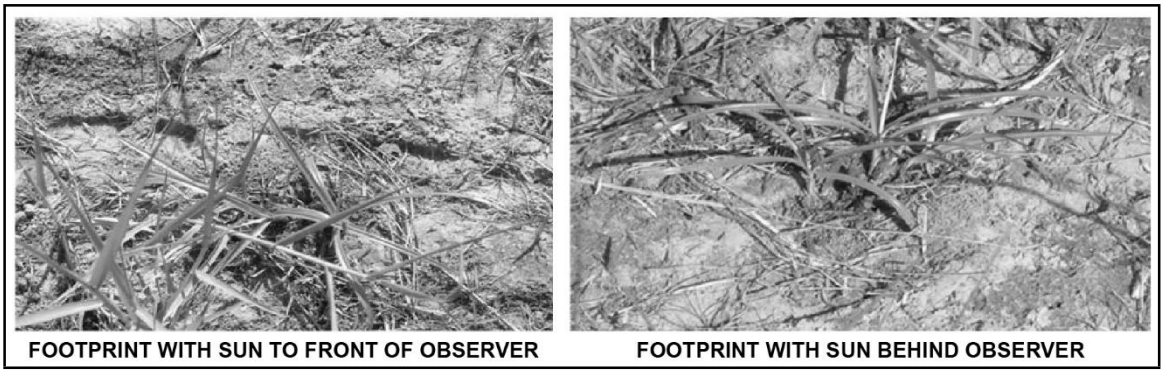


Figure 8-22. Effect of the sun's position on an observer's view of sign

8-45. As the sun rises in the sky, shadows become increasingly difficult to see. As the sun reaches its zenith, the light shines directly into the sign, washing out the shadows. This constantly changing light and shadow pattern is known as the time or shadow effect (see figure 8-23).

Note. When a Soldier finds an angle in which the sign is most observable, that angle should be maintained; however, this angle changes based upon the position of the light source.

EXAMPLE

As the sun rises in the morning, observers should find the angle at which to best see the sign. As the sun reaches its pinnacle, observers move closer to the sign to maintain their ability to see it. As the sun begins to set, observers cross over the sign and move further away from the sign, keeping the sun on the opposite side. This is similar to the movement of a pendulum.

Note. The best time to view sign is between sunrise and 10 a.m. and 3 p.m. to sunset; the worst time to view sign is between 10 a.m. and 3 p.m.

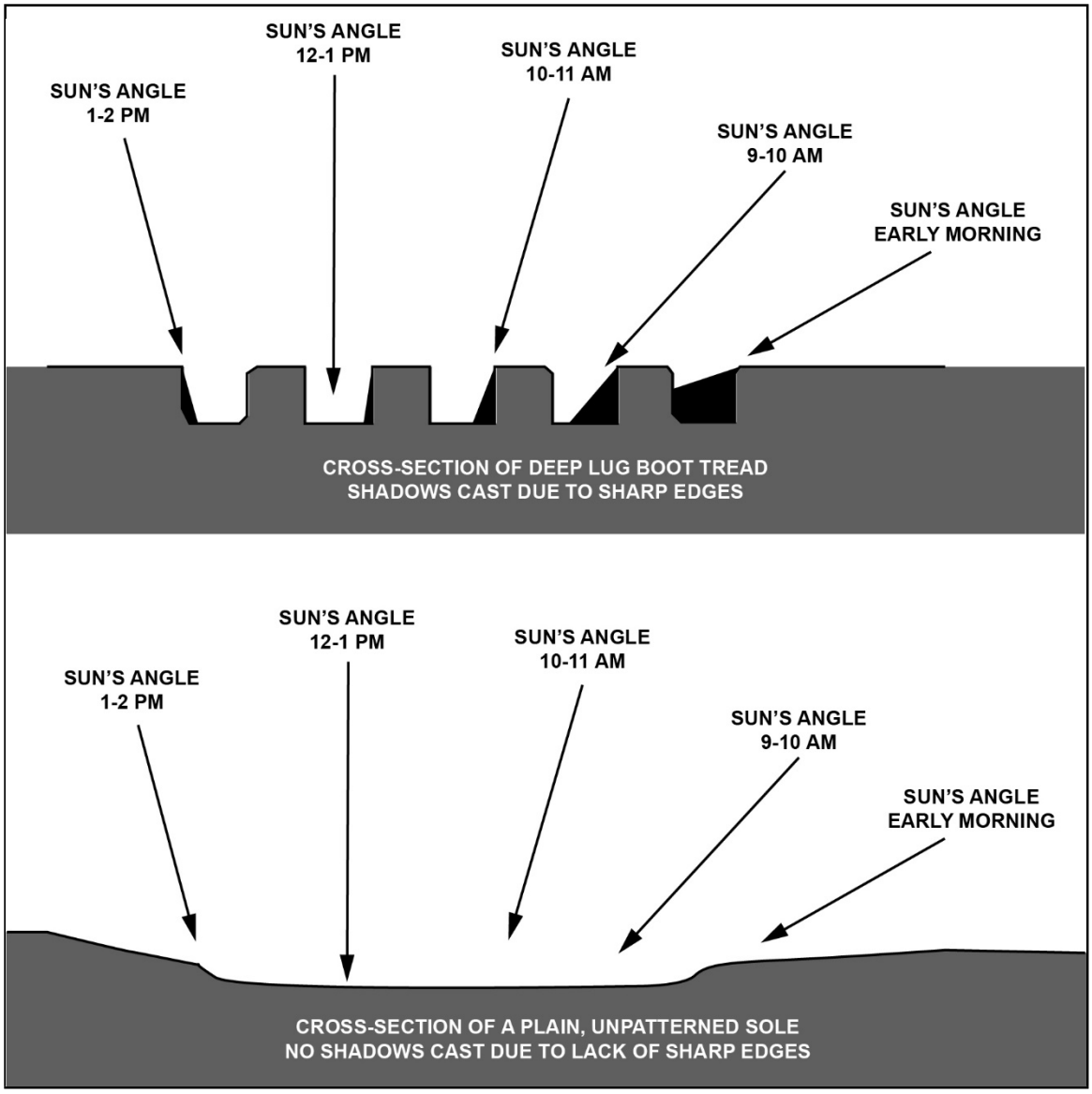


Figure 8-23. Time or shadow effect

ASSESSING THE AGE OF SIGN

8-46. One of the most important aspects of analyzing sign is to accurately judge the age of the sign observed. Without witnesses available to provide information, the exact time the sign occurred is difficult to determine. One of the most difficult tasks to perform in analyzing sign is to make an accurate assessment of the age of the sign based upon appearance, since many factors can affect the sign's appearance. The older the sign, the more difficult it is to determine the length of time between when observers identify sign and the when the threat created the sign, due to longer exposure to the elements and other factors that can age the sign's appearance. Fresh signs offer a better chance of a successful sign analysis.

8-47. If the sign is of an unknown age, Soldiers make a critical decision to determine if an analysis is needed. This is based upon the Soldier's assessment of the chance of a successful outcome. The only value of analyzing old sign is to gain information, such as where the threat came from, what was being done, and where they went.

8-48. One of the most accurate techniques that trained Soldiers use to assess a sign's age is to calculate the time gap and distance gap to estimate how long the sign has been present. Time gap is the gap between the current time and the time the sign was created. Distance gap is the distance that could be traveled during a time gap. Calculating a sign's age can be done using the following methods:

- Estimate the sign's age in hours within a 2-hour bracket.
- Estimate the sign's age in days, if the sign is determined to be older than one day.
- Speak with witnesses to gather information that can help identify the sign's age.

8-49. Many factors affect a sign's appearance. Those factors are—

- Weather conditions and seasons of the year.
- Differences in location and geography.
- Local activity and activity of domestic and wild animals.

8-50. Recent weather and seasonal conditions; such as rain, wind, snow, frost, and even ambient temperature; affect soil, vegetation, and other indicators in an area that impact the sign. These conditions can aid or hinder in determining the relative appearance of sign, as addressed in table 8-2, pages 8-25 and 8-26. For example, meteorological conditions can erase indicators entirely.

8-51. Differences in location and geography are also considered. Different areas such as desert, rain forest, jungles, mountains, and urban areas have different ground types: sand, loam, heavy soil, and stones. These differences affect the appearance of sign.

8-52. Local activity can also contaminate or affect the appearance of sign. Contamination (see figure 8-24) involves tracks or other disturbances made by anyone or anything other than the threat that obscures or destroys the threat's sign. Examples of these activities include human interaction with the environment, vehicular traffic, agricultural activities, and normal day-to-day movements. The activities of domestic and wild animals can also affect the appearance of sign.

Figure 8-24. Contamination

Table 8-2. Weathering of signs due to weather conditions and seasons of the year

SIGN	*INITIAL APPEARANCE*	*CHANGE*	*FACTOR FACILITATING WEATHER*
Bloodstains	Bright red.	Darkens to a deep ruby-red color.	Exposure to air and sunlight.
		Forms a dark brown crust.	Exposure to air and sunlight, moisture evaporation over time.
Scuff marks	Color change on the bark.	Darkens.	Time.
		On trees, sap oozes from the scuffed area and hardens.	Exposure to air.

Table 8-2. Weathering of signs due to weather conditions and seasons of the year (continued)

SIGN	*INITIAL APPEARANCE*	*CHANGE*	*FACTOR FACILITATING WEATHER*
Footprints	Contain particles of soil that are just beginning to fall into the print.	Edges become rounded.	Light rain. ***Note.*** By remembering when the last rain occurred, the Soldier can estimate the age of the print.
		All signs erased.	Heavy rain.
		Sign becomes dried or litter, sticks, or leaves are blown into prints.	Wind. ***Note.*** By recalling wind activity, a Soldier may estimate the age of the sign. For example, a Soldier might encounter footprints. Because the wind is now calm but was blowing hard about 1 hour ago and the sign has litter blown into it that was not crushed into the print when the prints were made, these signs must be over 1 hour old.
	Wet, weathered sign slowly fading into a dry sign.	Signs exiting streams appear as though weathered by rain.	Water running from clothing or equipment into the signs.
Sounds and odors	Localized.	Carried toward or away from a Soldier. ***Note.*** If Soldiers keep the wind in their face, it carries sounds and odors from their objective or from the party being tracked.	Direction of the wind: wind blowing past the sign and toward the Soldier carries sounds and odors to the Soldier. Wind blowing away from the Soldier can carry the Soldier's sign toward the threat. ***Notes.*** 1. Soldiers can determine wind direction by dropping a handful of dust or dried grass from shoulder height. Wind moves the dust or grass as it blows in a certain direction. 2. By positioning their body in the direction the wind is blowing, Soldiers can localize sounds by cupping their hands behind their ears and turning slowly. When sounds are loudest, they are facing the origin. Temperature changes throughout the course of a day, causing air currents too light to detect. As temperature falls in the evening, air cools and moves downhill toward the valleys; as the sun rises, temperatures rise, and warm air in the valleys moves uphill. ***Note.*** These changes can be used to detect sounds during calm and windless weather.

INTERPRETING INFORMATION

8-53. Sign indicates an action occurred at a specific time and place. It tells a story. One sign, a word; several signs, a sentence; a whole line of sign, a paragraph; and multiple action indicators, a chapter in a book. As the signs grow in sequence, a trained Soldier begins to read the story left by the signs. As the story develops, they begin to understand how and when things happened. As ASA-trained Soldiers identify sign and analyze disturbances and evidence, they build a picture of the enemy in their mind by asking themselves the following questions:

- How many people were here?
- From what direction did they come and where are they headed?
- What were they doing?

- Are they disguising the track?
- What is their state of training?
- Are they lost or disorientated?
- How are they armed and equipped (see table 8-3, pages 8-28 and 8-29)?
- Are they carrying weight or large people?
- Are they healthy?
- Do they have any lower body disabilities?
- What is their physical condition: rested or tired?
- Do they know friendly forces are in the area?

EXAMPLE

If Soldiers are assigned to investigate an area post incident, they should attempt to determine the following:

Who*?* Unit type and number of enemy to be followed.
What incident happened?
Where did the incident occur? Determine the action indicator or potential enemy tactics, techniques, and procedures.
When did the incident occur? Calculate the time and distance gaps.
Why*?* Determine the circumstances of friendly and enemy units in relation to the incident.
How did the incident occur? Look for specific action indicators of the incident.

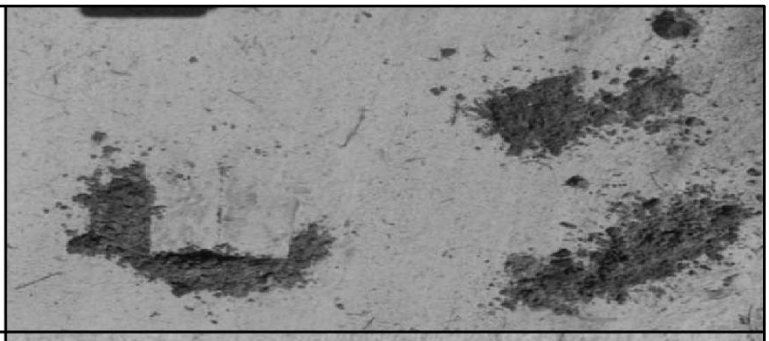
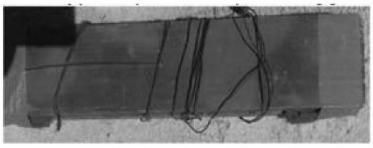
8-54. Information gathered during the sign analysis process can be divided into two categories: facts and assumptions. Facts include the empirical evidence and forensics collected throughout the sign analysis process. Examples include the type of footwear worn by the threat, direction that the threat is moving, and the type of litter or garbage left behind by the threat. Making assumptions involves drawing reasonable conclusions derived from the available facts. Assumptions enable Soldiers to continue planning and operating until the information has been confirmed or denied.

8-55. As facts and assumptions are identified, Soldiers should record them, as this information is critical during sign analysis. This information should also be used when generating a report at the conclusion of the sign analysis.

Table 8-3. Impressions left by equipment

AK-47 	
M16 STYLE BUTTSTOCK 	
TOKAREV PISTOL 	
MORTAR ROUND 	

Table 8-3. Impressions left by equipment (continued)

SPILLAGE FROM REMOVING EXCESS DIRT AT IMPROVISED EXPLOSIVE DEVICE SITE	
PROTOTYPICAL PRESSURE PLATE TRIGGER 	
MORTAR BASEPLATE 	

USING THE INFORMATION COLLECTED

8-56. Ground sign awareness can be applied in various missions across the range of military operations. This skill can be used to—

- Collect immediate information about the area of operation (such as information about what moves through the area or what has been in the area).
- Collect combat information about the threat's composition and disposition.
- Locate arms caches, points of origin for indirect fire, and IED emplacement sites.
- Identify the threat's lines of infiltration, key or decisive terrain, and anchor points.
- Gain and maintain contact with a threat.
- Conduct area interpretation and analysis to determine the specifics of an incident.
- Conduct forensic analysis during site exploitation.

- Assist in countersurveillance by identifying areas of threat activity.
- Assist in counternarcotic operations.

8-57. Collecting information through sign analysis assists in data refinement and aids in the unit planning process for Soldiers on the ground and higher headquarters. Trained Soldiers can also apply this skill to mask their own sign.

Chapter 9

Understanding Context through Assessing the Environment

An *operational environment* is a composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0). Operational environments are characterized by multiple actors, adaptive threats, chaotic conditions, and actors using advanced technology seeking to dominate an environment. The future will include a continued prevalence of urban warfare among civilian populations. The operational variables of political, military, economic, social, infrastructure, information, physical terrain, and time combined with civil considerations of areas, structures, capabilities, organizations, people, and events (ASCOPE) provide a useful framework for analyzing the operational environment. (See ATP 2-01.3, table 4-4, for more information).

"Detailed knowledge of host populations is critical in areas where U.S. forces are increasing to conduct counterinsurgency and stability operations in Iraq. U.S. forces continue to operate in Iraq without real-time, detailed knowledge of the drivers of behavior within the host populations. This greatly limits commanders' situational awareness and creates greater risks for forces. This human terrain knowledge deficiency exists at all command echelons."

–LTG Ray Odierno, Commanding General, Multi-National Corps-Iraq

CULTURAL COMPETENCY

9-1. The cultural perception framework provides a foundation for evaluating a foreign culture based upon the underlying tendencies, habits, values, and beliefs. A baseline of understanding is created through the 4-Ways of Seeing (see the Red Team Handbook, version 9.0, on the Red Teaming Central website for further information). Establishing a baseline allows Soldiers to detect subtle indicators of change in the operational environment and understand how these affect a threat's decisions and planning. A Soldier begins to achieve cultural awareness upon answering questions with some confidence, such as—

- What is the threat thinking, and why?
- What are host nation security forces thinking, and why?
- What are groups of people thinking, and why?
- What will the threat, groups of people, adjacent units, coalition partners, and host nation security forces do if I take a certain action, and why?
- How are cultural factors influencing my operations?
- How can I make groups of people and host nation security forces do what I want them to do?

9-2. Cultural training and study—incorporated into the planning process—provide the backdrop for analyzing political, military, social, economic, infrastructure, information, physical terrain, time variables that facilitate planning successful operations. Soldiers should make efforts to not only understand the culture of the micro-populations where their unit is conducting missions but to also understand how their own cultural experiences and biases impact observations.

9-3. Self-awareness is the capacity for introspection and the ability to recognize oneself as an individual separate from the environment and other individuals. Self-aware people are more enabled as critical thinkers, more aware of personal biases and recognizing their own cultural framework (see the Red Team Handbook, version 9.0, on the Red Teaming Central website for further information). Soldiers do not let personal prejudices cloud their judgment. Military personnel who have a superficial or even distorted picture of a culture have the potential to increase the number of enemies for the United States. Soldiers are culturally literate ambassadors—aware and observant of local cultural beliefs, values, behaviors, and norms—and temper their reactions with this knowledge. This does not mean Soldiers forget the Army Values (or adopt foreign culture values) to appease the civilization they are immersed into; Soldiers analyze how they express their values and beliefs to enhance the perception of the mission's (or United States) legitimacy amongst the population.

Notes. 1. For more information about culture, see the TRADOC Culture Center website.

2. For more information about religion's impact on people, see GTA 41-01-005.

3. For more information about the role of culture in negotiations, see GTA 21-03-012 and GTA 41-01-008.

4. For more information about the role of material contributions to culture (such as arts, monuments, and writings), see GTA 41-01-002.

5. For more information about the role of culture in key leader engagements, see GTA 21-03-012.

6. For more information about cultural factors, see FM 3-24.2.

CULTURE DEFINED

9-4. Culture is all the information passed between generations as people learn how to live within a particular group, beginning with one's family. It is an interconnected set of ideas and ideals conveyed not just through language but through disciplines, such as philosophy, etiquette, culinary arts, literature, visual and dramatic arts, and through behavioral guidelines and mandates outlined by religious beliefs.

9-5. Culture includes the traditions, values, beliefs, behaviors, and norms of a nation, tribe, region, state, or other group of people. It tells people how to behave, imposing sanctions on bad behavior and often rewarding good behavior. It influences the way people act and think and how they view the world.

ENCULTURATION AND FACTORS THAT IMPACT CULTURE

9-6. People are not born knowing their culture; this is something they learn as they mature. Learning one's culture is called enculturation. During this process, children mature as they learn how to behave and accomplish basic activities by observing and receiving correction from friends, parents, relatives, and teachers.

9-7. The size of a nation, its diverse subcultures, different educational levels, and various geographic backgrounds contribute to a great range of cultural variances amongst individuals and groups. Members of the population view cultural influences differently depending on their geographic location or identifying group.

9-8. Culture does not stay the same; it changes over time as circumstances change. As cultures evolve due to technology or events, behaviors also change, in turn, changing the belief system. This transformation may take generations. For example, World War II brought American women into the workforce in record numbers, sparking a significant change in beliefs about gender roles and women working outside the home. What had been ideal behavior for a woman in the 1940s has evolved over the decades.

9-9. Recently, globalization has greatly impacted cultures worldwide. Globalization is the international spreading of communication and transportation technologies, impacting values, attitudes, and economies around the world. As technologies bring countries closer together, a new global culture is emerging. Multinational corporations, the internet, mass media, and a global network of finance, manufacturing,

exporting, and importing are working to homogenize the world. At the same time, many groups and countries are fighting against cultural homogenization and are trying to retain their unique cultures, religions, and traditions.

9-10. Because of globalized technology, terrorists in remote, ungoverned parts of the world can impact anywhere on the globe by using modern travel and the internet. Some nations, religions, and other groups reject globalization. An Iranian intellectual, Jalal-e-Ahmed, developed the term "Westoxification" to describe these similar antiglobalization mindsets. Al Qaeda and other organizations utilize modern technologies but reject the associated Western values, such as democracy, secular government, freedom of religion, and women's rights.

9-11. One manageable understanding of the term defines culture as an integration of anthropological, sociological, and theological factors (see figure 9-1). Tables 9-1 through 9-3, on pages 9-5 through 9-10, display questions that Soldiers should ask when attempting to better understand a culture.

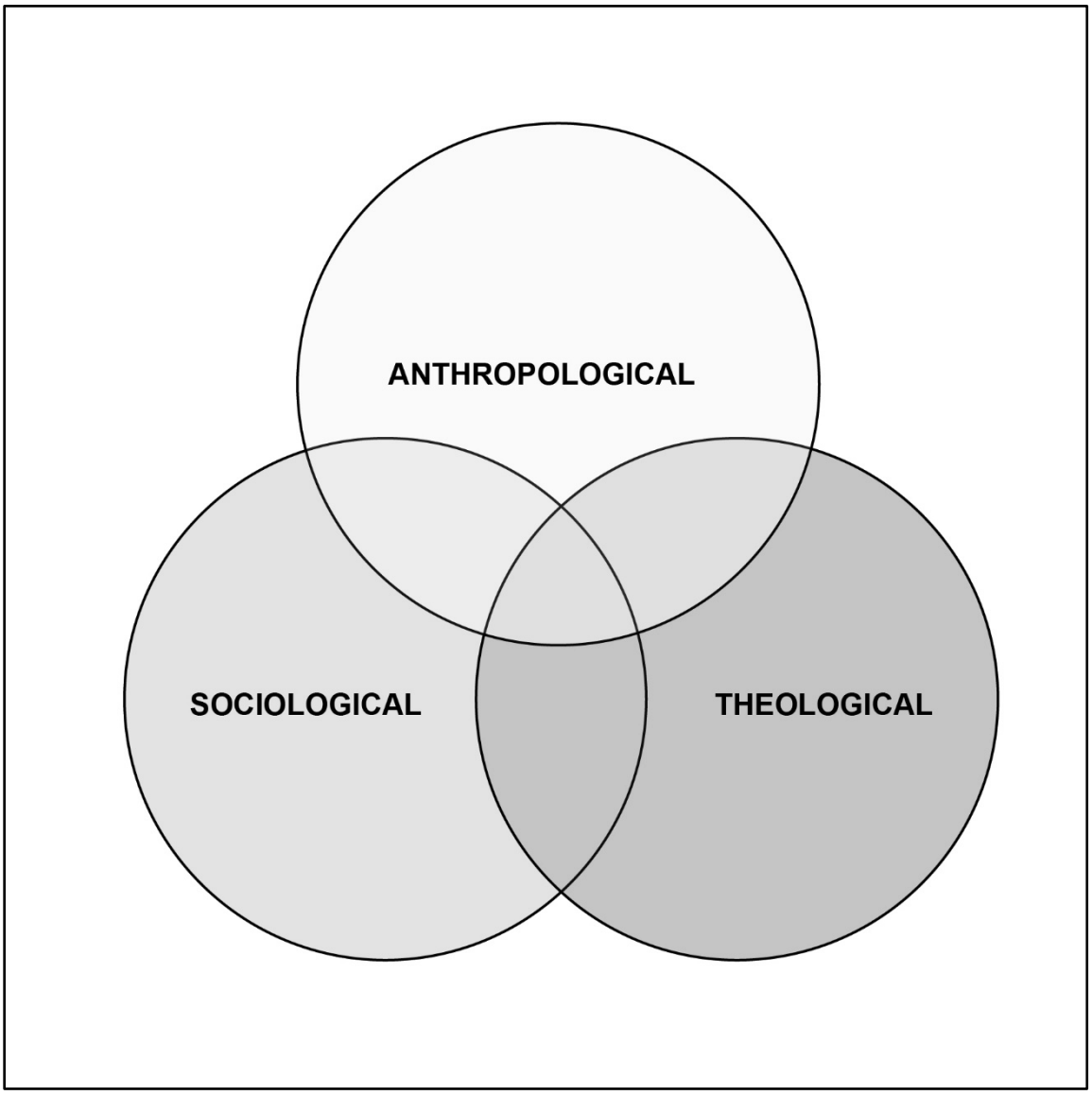


Figure 9-1. Aspects of culture

Anthropology, Sociology, and Values

9-12. Anthropology examines how people, past and present, make sense of the world around them. This field of study is similar to the field of philosophy but uses knowledge derived from biology, social sciences, humanities (for example, visual and dramatic arts, such as painting, sculpture, theater, literature, and music), and natural sciences to answer broad questions about people's relationship to the world around them. It focuses on human innovation in a variety of areas, such as nature, science, technology, medicine, nutrition, psychology, economy, and other fields.

9-13. Sociology examines how people develop or deny kinship and consolidate themselves into organizations and institutions; this is called social organization. This field of study also examines political, educational, and legal systems and the manner in which people treat those different from themselves in terms of gender, ethnicity, lineage, descent, socioeconomic background, or other factors.

9-14. Every society has a social structure that defines interactions between people. In an army, the structure consists of the arrangement of groups into divisions, battalions, and companies utilizing the hierarchy of ranks. In a society, the social structure includes groups, institutions, organizations, and networks. Social structure involves the arrangement of the parts that constitute society, the organization of social positions, and the distribution of people within those positions.

9-15. A culture's environment consists of actions that can be sensed (for example, a group's language and social norms). Living and operating among the population is essential to understanding a population's behavior.

> ***Note***. Culturally competent units understand and train to recognize these behaviors as a means to identify threat actions, anticipate the population actions, and detect subtle changes within the population. Actions inconsistent with the inhabitant's behavioral norms could be indicators of guerrilla activity or internal conflict.

9-16. Values are the principles the population uses to evaluate alternatives or consequences of decisions and actions. A value is a concept that describes the beliefs of an individual or culture and is identity-based (for example, the Army Values). Values are how people understand what they are and what they will and will not tolerate. Values define their sense of honor and respect. Values are often unchangeable.

Sociocultural Factors, Interests, and Cultural Manifestations

9-17. Sociocultural factors are the social, cultural, and behavioral factors characterizing the relationships and activities of the population of a specific region or operational environment. These factors must be closely analyzed.

> ***Note***. See JP 2-01.3 for more information about sociocultural factors.

9-18. An interest is what the population wants or desires for a group's benefit or advantage. An interest may be flexible and can change. Interests are linked to the situation (such as what people want at present).

9-19. Cultural manifestations are the concrete displays of a culture's thought and behavior measured by the senses. It is how a population demonstrates its views on authority, legitimacy, negotiation style, compromise, and other similar thoughts and behaviors.

Theology

9-20. Theology studies a person's relationship with a deity (in monotheism) or deities (in polytheism). This field of study includes the analysis of doctrines, philosophies, histories, traditions, and other aspects of religions to better understand a person's relationship with God.

Table 9-1. Anthropological considerations when examining a culture

AREA	*CONSIDERATIONS*
National and Military History	• Who founded the country? Who brought it to its modern form? What ethnic groups came into the area and when? • What are some of the significant eras, generations, or major shifts? What wars, massacres, or conflicts shaped the culture? • Who are some of the great leaders, heroes, or legends in the nation's history? Who are some of the villains or infamous people? • Have current warring groups or factions ever lived side-by-side in peace? What changed?
Language	• What are the common languages or dialects spoken? • How does one— ▪ Say the standard formal and informal words and phrases universal in all cultures? (Such as hello; thank you; common sayings in a culture—goodbye; you're welcome, God bless you; please, excuse me; pardon me; may I help you; how are you?) ▪ Make toasts with appropriate beverages (such as coffee or beer) when socially acceptable? ▪ Say prayers or well wishes for food when socially acceptable? ▪ Say common sayings, clichés, or slang? • Is English a common second language for those living in the culture? Are foreigners expected to use an interpreter even when speaking to someone who is fluent in English (as is common in France)? • How does one person address another—formally (such as using titles) or informally (such as using a person's first name)?
Art, Music, and Entertainment	• How important is the national anthem to the populace? What do the lyrics mean? • What types of music do the most people listen to and like? What types of movies do they like? • What are their favorite holidays and how do they celebrate them? What types of food are used in the festivities? • What are some of the most popular hobbies and recreations?
Literature	• What are the popular books and who are the controversial authors? Who are the most famous or infamous characters? • What types of stories do children read? What are the morals of these stories? • What stories, fables, and epics pass down through families or communities? Do these help define the culture?
Food and Drink	• What is the local cuisine? What are some typical or traditional foods and drinks? How are they prepared? • How important is sharing a meal? • Is there any food or drink culturally forbidden?
Science and Technology	• Does the country or area have internet service? Is it satellite or hardwired? What internet sites are forbidden or blocked? • Does the enemy use the internet? How and why? • What is the country recognized for inventing or discovering? What do the people generally believe their country invented or discovered?
Law and Government	• Does the country have a document that describes the role of government, rights of the people, and laws (such as a constitution)? • Who makes the laws? Who enforces them? • What influences the ways laws are crafted (for example, religion and other influences)?

Table 9-1. Anthropological considerations when examining a culture (continued)

AREA	*CONSIDERATIONS*
Economy	• What is the daily wage of an average worker or laborer? • What export or local product are the people known for and the most proud of? • What infrastructure is required to support economic growth (such as electricity for factories, roads to move produce, and security to minimize extortion and black markets)? • Are prices fixed or negotiated in normal commerce?
Cultural Property	• What pieces of cultural property are significant to the culture? Where are they housed or located? What are their uses? What is their past and present symbolism? ▪ Landscape heritage, both terrain and marine (natural formations, heritage sites, ecological reserves, religious and sacred places, and United Nations Educational, Scientific, and Cultural Organization World Heritage Sites) ▪ Built heritage, both immovable and movable (for example, cities; secular, sacred, and religious cultural sites; structures; burial sites such as cemeteries and burial mounds; monuments; the contents of libraries, archives, and museums [works of art; books; archives including religious, governmental, and other records such as property, marriage, birth, and death records; photographs; ritual objects; furniture; magnetic or digital media; sound recordings; textiles; natural history specimens; objects found in religious centers; and land and vital statistics depositories]) ▪ Intangible heritage including song, dance, history, culture, traditions, customs, food, and technical knowledge ▪ Living collections including botanical gardens, parks, arboretums, zoos, and marine parks ***Note.*** Federal and international law mandate the protection of cultural property. Violators will be prosecuted. Soldiers responsible for the protection, preservation, restoration, rehabilitation, or restitution of damaged or endangered cultural property should consult GTA 41-01-002.
Social Structure	• How do people identify themselves? Do the people identify themselves with organizations or affiliations (for example, tribes, religions, ethnicity, provinces/regions, classes, or occupations)? • What are the major groups inside and outside of the area? What are some key cultural aspects of each group? What are the formal relationships (such as treaties or alliances) and the informal relationships (such as tolerance or friction) between groups? What are the cleavages between groups and crosscutting ties (for example, religious alignments that cut across ethnic differences)? • What is the structure of the kinship system (extended families, lineages, clans, and tribes)? Are financial resources gained during marriage (such as bride wealth or dowries)? How does one's descent impact identity, rights, obligations, and status (such as nepotism)? • Do insurgents belong to separate groups? Does the population belong to a different social group than the insurgents? Can seams be widened among insurgents or between insurgents and the population?
Roles and Statuses	• What are the expected behaviors or traditional roles of people within the society? How should parents, political leaders, military figures, or religious leaders behave? How are women and children treated? • What are the formal and informal punishments for role violations?

Table 9-1. Anthropological considerations when examining a culture (continued)

AREA	*CONSIDERATIONS*
Values	• What are some of the core values of the people that define who they are? • How do people rank the following in order of importance? God, tribe, country, ethnic group, family, neighborhood, political party.
Routines	• What is the daily or weekly schedule of most citizens (for example, wake up, meals, work, social time, and sleep)?
Interests	• What are the major problems and underlying issues with the people and their root causes? • How do the people advocate for their interests during negotiations? What is the pace of negotiations? To what degree do the participants engage in relationship-building?
Customs	• Is the culture formal or informal? • Does the group tend toward individualism or interest in the collective group? • Do people within the culture believe in cause and effect or fate? • What customs are the people in the society expected to perform? What do the people disapprove of? What are the social taboos within the culture? How does one correct social mistakes? • What is customary use of body language, personal space, and distance between superiors and subordinates? • How does one perform customary greetings and departures (such as shaking hands, kissing, and bowing)? • What are the common courtesies (such as gift giving)? • What are the local business practices (for example, bribes and haggling)? • How important is punctuality in the society (such as in business or social gatherings)? • What rites of passage apply?
Role of Outsiders	• Are there a large number of homeless, refugees, squatters, or internally displaced people? What do the people think of them? • What is customary in dealing with guests or strangers? Are people friendly or guarded with strangers?
Geographic Factors	• What typically defines a community or neighborhood (for example, economic, ethnic, tribal, religious, or political traits)? Where are the neighborhood boundaries? • Where do new arrivals, immigrants, workers, and internally displaced people typically come from? Why did they migrate here? Is the migration seasonal, temporary, or permanent?
Communications	• How do people communicate? • Who are the principal communicators within the local community? How do the people receive information (by radio, TV, newspaper, meetings, or word of mouth)? • Where do the people usually gather (for example, bars, tea or coffee shops, cafes, and markets)? • Where do people socialize or congregate randomly (such as waiting in long lines for day labor, and in traffic)?

Table 9-1. Anthropological considerations when examining a culture (continued)

AREA	*CONSIDERATIONS*
Politics and Leadership	• To whom do the people look to for leadership (such as governmental and nongovernmental organizations, or formal and informal organizations)? • How do people view the role of the host nation government? • What are the roles of and how important are nongovernmental civilian community leaders? • What are the major political parties? What role do they play? • Is the local government effective? Why or why not?
Socioeconomic Factors	• Which jobs are considered honorable? • What economic organizations are important and influential in the society (such as labor unions or merchant guilds)? • Is there a local black market? Who is involved, what products, and how is it tied to the community and local government? • Are bribes or gifts normal in dealing with businesses, government officials, or police? What is acceptable (for example, levels of corruption)?
Legend: TV – television	

Table 9-2. Sociological considerations when examining a culture

AREA	*CONSIDERATIONS*
Military	• How respected is military service in the culture? How are veterans treated? • Is there a noncommissioned officer corps? How are they selected? What are their duties and responsibilities? What is their relationship with officers and Soldiers? • What oath of allegiance, if any, do members of the military swear upon enrollment? • What colors, banners, symbols, or uniforms do antigovernment forces use?
Education	• What is the literacy rate? • Who goes to school (males, females, all, or optional)? What is the last year of general public education? Are public schools secular or religious? How? • What influence do local universities have (do the professors promote radicalism and do the schools serve as recruiting centers)?
Psychology	• Who or what do people fear? • How do people rank the following in order of importance? ▪ Esteem needs (such as self-esteem and respect of others). ▪ Safety needs (such as security and stability). ▪ Self-actualization (such as meeting one's potential). ▪ Love needs (such as belonging). ▪ Physiological needs (such as necessities: water, food, and shelter).
Criminal Justice	• How are laws enforced? What justice can the victims or their families exercise? How do the people feel about corporal punishment and capital punishment? What civil and human rights do the populace hold most sacred? What are the requirements for revenge if honor is lost? • What are the basic rules of the road, traffic laws, and right of way? Are they followed? • What types of organized crime exists? What symbols, colors, graffiti, or uniforms do local gangs or organized crime use? What does each mean (for example, marks territory, identifies targets, or intimidates populace)? • What could dishonor an individual, family, or group? How do you correct serious situations between individuals, families, or groups?

Table 9-3. Theological considerations when examining a culture

AREA	*CONSIDERATIONS*
Tolerance and Intensity	• What is the degree of religious commitment or conviction in each group (nominal, mild, strong, inclusive, exclusive, pluralistic, radical, or fanatical)? • How do they perceive modernization, globalization, and secularization? • How do they view the United States and Western society? What are the religious members willing to die for? What subjects incite emotional responses in the religious members? • How accepting are the group's leaders of conversion of their members to other groups? How tolerant are adherents if other members convert to different groups or religions? • How are competing groups viewed and received? • How easily can others join and quit the group? Are there repercussions? • How do members react to bad behavior within their own ranks?
Roles	• What is the literacy rate? • Who goes to school (males, females, all, or optional)? What is the last year of general public education? Are public schools secular or religious? How? • What influence do local universities have (do the professors promote radicalism and do the schools serve as recruiting centers)?
Conflicts	• Are there any tensions in the nation due to religious differences? • What are the past conflicts involving religion?
Leaders	• Who are the official and unofficial religious leaders? What are their affiliations? What are their areas of influence? What are their scopes of influence on the local population? • What is the role of religious leaders within the society? Do they have a political role? What is it? Does the religious leader have access to resources? If so, what resources? • What is the relationship between the religious leadership and outside groups (for example, the regime, political leaders, or other religious group leaders)? What is the scope of the government's influence on religious leaders (and vice versa)? Do the religious leaders have an impact on the armed forces? • What is the level of religious integration in the military? • How are leaders selected and trained? What methods of religious education, legitimization, ordination, and discipline are in place? • What role do religious leaders play in the cultural society?
Religious History	• What historic narratives are important to the religions? What are the central truths of these stories? What are the local interpretations of these stories? Who are the historical heroes, villains, friends, foes, and rivalries of the group (past, present, and future)? • Did the religion arrive by trade, conquest, or some other manner? How were the religions affected by colonization? • What past conflicts involved religion? • How were they affected by recent history, major shifts, and social changes? How did groups weather changes?

Table 9-3. Theological considerations when examining a culture (continued)

AREA	*CONSIDERATIONS*
Interaction with Other Groups	• How do religious groups connect with society and other groups? • What is the historical relationship with the government? • What is the socioeconomic influence of the religion on the society? How does the society relate to the religious group (for example, eradication, containment, assimilation, power sharing, or pluralism)? • How is this group viewed (for example, religious group, secret society, protest movement, or political party)? Does the group have a distinct subculture or communal life? • How does the group seek to relate to or influence society? Does the group use media resources to do so? • What is the relationship of a secular education to a religious education? How are they legally distinct?
Religious Symbols and Architecture	• What and where are the places of worship, pilgrimage, and memorial sites? Why? • What religious sites are off-limits? When? Why? How will the group react to actions near the site? • What is the location and makeup of ecclesiastic archives or relics? • Is there a distinctive architecture unique to the group's gathering place? What do these distinctions represent?

EXAMPLE

What are the characteristics of American culture?
- – Fast-paced
- – Love of technology
- – Individualism
- – Women's rights
- – Punctuality
- – Pragmatism
- – Tolerance
- – Goal-oriented
- – Value work and personal success
- – Separation of church and state
- – Egalitarian; belief in equal opportunity, not outcomes

Ethnocentrism and Cultural Relativism

9-21. Ethnocentrism is the assumption that the behaviors and values learned growing up in one's own family are the only way things should be. Ethnocentrism involves seeing the world through the filter of a person's own culture and assuming that the learned behaviors, norms, and values are superior to others.

9-22. In order to avoid ethnocentrism and underestimation of potential threats, Soldiers must realize that a society is based on its own local culture and history. Cultural relativism is the idea that different cultures have distinctly and uniquely different values, beliefs, behaviors, and norms from one another and see and respond to the world in different ways. Cultural relativism helps to get beyond stereotypes and is a method to limit the negative impact of ethnocentrism.

Note. Cultural relativism does not mean moral relativism. Moral relativism asserts that there are no absolute standards for right or wrong. Cultural relativism means that Soldiers reserve judgment of other cultures' beliefs and behaviors until they have a thorough understanding of why those within the culture act and believe as they do, based on a clear understanding of their history, religion, technology, and environmental situations.

Culture Shock and Reentry Shock

9-23. Culture shock is a feeling of dislocation, of being out of place in a new culture. When arriving in an environment with new smells, new languages, new faces and clothing, and new rules, Soldiers commonly experience some culture shock. Culture shock usually passes through four stages:

- Honeymoon stage: This stage presents the adventure of new places and opportunities.
- Avoidance stage: This stage is marked by loneliness, frustration, and the urge to avoid everyone and everything associated with the local culture.
- Anger stage: This stage involves stereotyping and disgust for the local culture.
- Adjustment stage: This stage is marked by creative interaction with the local culture.

9-24. Culture shock sometimes leads Soldiers to reexamine their values, priorities, and what they think of themselves and the United States. After a long deployment or several deployments, Soldiers can experience reentry shock (also called reverse culture shock) upon returning home. They might find that home does not meet expectations or memories since things have changed in their absence. If not recognized as part of a normal return experience, this can lead to depression.

CAUTION

Should you experience culture shock or reentry shock, discuss your feelings with friends. Should conditions persist, seek professional help and counseling.

9-25. Soldiers can cope with culture shock and educate themselves about the culture they are being deployed to by reading books, seeing films, and talking with natives and people who have been there. Talking about one's feelings with others also helps. Reentry shock also requires adjusting to the changes in oneself and those that have occurred in the home culture while absent.

CULTURAL SIMILARITIES

9-26. One primary principle underlying ASA is that in addition to physiological characteristics, people of all cultures have common sociological and emotional characteristics. Table 9-4, page 9-12, depicts the differences between the three types of characteristics and provides examples of each category.

9-27. ASA asserts that by using these similarities it is possible for Soldiers to identify the actions that are most likely occurring in terms of their context and the circumstances that form the setting for an event to a situation. For example, a child standing in a sandbox with a shovel in hand is most likely not planting an IED; instead, the child is most likely playing in the sandbox.

Note. Racial, gender, and age profiling has no place within ASA. These forms of profiling fail because they focus on limited attributes and weak links to establish relevance. The enemy comes in many forms; and evidence based solely upon these attributes is insufficient.

Table 9-4. Similarities between people of all cultures

TYPE OF CHARACTERISTICS	*DEFINITION*	*EXAMPLES*
Physiological Characteristics	Characteristics appropriate to an organism's healthy or normal functioning.	• Birth. • Growth. • Old age. • Circadian rhythm.
Sociological Characteristics	Characteristics oriented or directed toward social needs.	• Games. • Relationships: ▪ Social organizations. ▪ Socioeconomic factors tying social class to wealth or job opportunities (for example, blue-collar and white-collar workers; lower, middle, and upper class). • Marriage and family structure: ▪ Nuclear family. ▪ Blended family. ▪ Extended family.
Emotional Characteristics	Characteristics of or relating to emotion.	• Grief. • Happiness. • Sadness. • Disappointment.

OPERATIONAL ENVIRONMENT AND MISSION VARIABLES IN HUMAN CONTEXT

9-28. To understand the operational environment and the commander's mission, Soldiers conduct an in-depth analysis of the OE and the mission. When Soldiers are deploying to a given area they should prepare by analyzing these variables (see table 9-5), which place the OE and the mission in human context. This section identifies various methods used to conduct this analysis.

Table 9-5. Operational variables

VARIABLE	*SUBVARIABLES*	
Political	• Attitude toward the United States. • Centers of political power. • Type of government.	• Government effectiveness and legitimacy. • Influential political groups. • International relationships.
Military	• Military forces. • Government paramilitary forces. • Nonstate paramilitary forces. • Unarmed combatants. • Nonmilitary armed combatants.	• Military functions: ▪ Mission command. ▪ Maneuver. ▪ Information. ▪ Reconnaissance, intelligence, surveillance, and target acquisition. ▪ Fire support. ▪ Protection. ▪ Logistics.

Table 9-5. Operational variables (continued)

VARIABLE	*SUBVARIABLES*	
Economic	• Economic diversity. • Employment status. • Economic activity.	• Illegal economic activity. • Banking and finance.
Social	• Demographic mix. • Social volatility. • Education level. • Ethnic diversity. • Religious diversity. • Population movement.	• Common languages. • Criminal activity. • Human rights. • Centers of social power. • Basic cultural norms and values.
Information	• Public communications media. • Cyberspace operations. • Influence operations. • Deception. • Public affairs. • Electromagnetic warfare.	• Physical destruction. • Protection and security measures. • Perception management. • Intelligence. • Information management.
Infrastructure	• Construction pattern. • Urban zones. • Urbanized building density.	• Utilities present. • Utility level. • Transportation architecture.
Physical Environment	• Terrain: ▪ Observation and fields of fire. ▪ Avenues of approach. ▪ Key terrain. ▪ Obstacles. ▪ Cover and concealment. ▪ Landforms. ▪ Vegetation. ▪ Terrain complexity. • Mobility classification.	• Natural hazards. • Climate. • Weather: ▪ Precipitation. ▪ High temperature-heat index. ▪ Low temperature-wind chill index. ▪ Wind. ▪ Visibility. ▪ Cloud cover. ▪ Relative humidity.
Time	• Cultural perception of time. • Information offset.	• Tactical exploitation of time. • Key dates, time periods, or events.

9-29. Defining the actors in hybrid threat operations requires a dynamic situational awareness of change in a particular operational environment. An order of battle or an appreciation of adversaries may transition abruptly or retain characteristics over an extended period. Similarly, the full band of operational variables and associated subvariables (as detailed in table 9-6, page 9-14) require constant estimation and analysis to project or confirm the motivations, intentions, capabilities, and limitations of a hybrid threat.

Note. See ADP 5-0 and FM 3-24.2 for more information about operational variables and subvariables.

Table 9-6. Operational subvariables

VARIABLE	*DESCRIPTION*
Political	Describes the distribution of responsibility and power at all levels of governance—formally constituted authorities, as well as informal or covert political powers.
Military	Explores the military and paramilitary capabilities of all relevant actors (including enemy, friendly, and neutral) in a given operational environment.
Economic	Encompasses individual and group behaviors related to producing, distributing, and consuming resources.
Social	Describes the cultural, religious, and ethnic makeup within an operational environment and the beliefs, values, customs, and behaviors of society members.
Information	Describes the nature, scope, characteristics, and effects of individuals, organizations, and systems that collect, process, disseminate, or act on information.
Infrastructure	Is composed of the basic facilities, services, and installations needed for the functioning of a community or society.
Physical Environment	Includes the geography and man-made structures, as well as the climate and weather in the area of operations.
Time	Describes the timing and duration of activities, events, or conditions within an operational environment, as well as how the timing and duration are perceived by various actors in the operational environment.
Note. This list of operational variables is not all-inclusive, but it provides an initial point for building situational awareness.	

CIVIL CONSIDERATIONS

9-30. Understanding civil considerations and analyzing their impact on operations enhance several aspects of operations—among them: the selection of objectives; location, movement, and control of forces; weapons usage; and protection measures. Civil considerations are comprised of six categories, expressed in the acronym ASCOPE:

- Areas.
- Structures.
- Capabilities.
- Organizations.
- People.
- Events.

9-31. Soldiers and leaders at all levels should analyze civil considerations from several perspectives—the population, the insurgents, and the counterinsurgents—to determine the effects on friendly and enemy courses of action. Analyzing the six categories of civil considerations from multiple perspectives aids in understanding of the operational environment, and helps to isolate the insurgents from the population. Table 9-7 and lists typical examples in each of the ASCOPE categories.

Note. See ATP 2-01.3, FM 3-24.2, FM 3-0, and FM 6-0 for more information about ASCOPE.

Table 9-7. Typical civil considerations within each ASCOPE category

AREA	*STRUCTURE*	*CAPABILITIES*	*ORGANIZATION*	*PEOPLE*	*EVENTS*
Tribe	Cemeteries	Sewer	Tribe	Phones	Weddings
Families/clans	Religious shrines	Water	Family/clan	Speeches	Birthdays
Ethnicity	Houses of worship	Electricity	Religious organization	Face-to-face meetings	Religious gatherings
Religion	Bars/tea shops	Academic facilities	Ethnic organization	Media/radio	Funerals
Economic districts	Social gathering places	Trash	United States/ coalition forces	Media/TV	Major religious events
Smuggling routes	Print shops	Medical facilities	Governmental agencies	Media/print (newspaper)	Anniversaries of wars or battles
Nation	Internet cafes	Security	Farmers or unions	Visual media (graffiti, signs)	Holidays
Social classes	Television	Market (use and goods)	Community	Visual media (videos, digital video disks)	Harvests
Political districts	Radio station	Employment and commerce	Military or militia units	Audio (pirated or illegal radio)	Reconstruction openings
Military districts	Hospitals	Crime and justice	Illicit organizations	Rallies or demon-strations	Town or council meetings
School districts	Banks	Basic needs	Insurgent groups	Restaurants	Elections
Road system	Dams	Public health	Gangs	Door-to-door	Sports events
Water sources	Bridges	Economic (jobs)	Business organizations	Internet	
Water coverage	Police stations	Religion	Police	Markets	
Water districts	Gas stations	Displaced people and refugees	Nomads	Sports	
Construction sites	Military barracks	Political voice	Displaced people and refugees	Religious gatherings	
Gang territory	Jails	Civil rights, individual rights	Volunteer groups	Parks	
Safe areas/ sanctuary	Water pumping stations		Intergovernmental organizations	Family gatherings	
Trade routes	Oil/gas pipelines		Political organizations	Gas lines	
Power grids	Water lines		Contractors	Bars/tea shops	
	Power lines		Nongovernmental organizations	Food lines	
	Storage facilities		Labor unions	Job lines	

Legend: TV – television

BLENDING OPERATIONAL VARIABLES AND CIVIL CONSIDERATIONS

9-32. Blending operational variables and civil considerations can improve overall understanding of the human factors in a given area. Table 9-8, pages 9-16 through 9-19, identifies one method of crosswalking the operational variables and some examples for each civil consideration.

Table 9-8. Example of blending operational variables and civil considerations

	AREA	*STRUCTURE*	*CAPABILITIES*	*ORGANIZATION*	*PEOPLE*	*EVENTS*
POLITICAL	Enclaves Municipalities Provinces Districts Political districts Voting National boundaries Party affiliation areas Shadow government influence areas	Courts (court houses, mobile courts Government centers Provincial/ district centers Meeting halls Polling sites	Public administration • Civil authorities, practices, and rights • Political system • Political stability • Political traditions • Standards and effectiveness Executive Administration • Policies • Powers • Organization Legislative Administration • Policies • Powers • Organization Judicial/legal Administration • Capacity • Policies • Criminal and civil codes • Powers • Organization • Law enforcement Dispute resolution, grievances Local leadership Degrees of legitimacy	Major political parties • Formal • Informal Nongovernmental organizations Host government Insurgent group affiliations Court system Covert political power Partnerships: foreign	United Nations representatives Political leaders Governors Councils Elders Community leaders Paramilitary members Judges Prosecutors	Elections Council meetings Speeches (significant) Security and military training sessions Significant trials Distribution of power Political motivation Treaties Will

Table 9-8. Example of blending operational variables and civil considerations (continued)

	AREA	*STRUCTURE*	*CAPABILITIES*	*ORGANIZATION*	*PEOPLE*	*EVENTS*
MILITARY	Area of influence Area of interest Area of operation Safe havens or sanctuary Multinational/ local nation bases Historic ambush/ improvised explosive devices sites/ insurgent bases	Bases Headquarters (police) Known leader houses/ businesses	Doctrine Organization Training Materiel Leadership Personnel manpower Facilities History Nature of civil-military relationships Resource constraints Local security forces Quick reaction force Insurgent strength Enemy recruiting	Host nation forces present Insurgent groups present and networks Multinational forces Paramilitary organizations Terrorists Multinational forces present Fraternal organizations Civic organizations	Key leaders Multinational, insurgent, military	Combat Historical Noncombat Kinetic events Unit reliefs Loss of leadership
ECONOMIC	Commercial Fishery Forestry Industrial Livestock dealers Markets Mining Movement of goods/ services Smuggling routes Trade routes Black market areas	Banking Fuel Distribution Refining Source Industrial plants Manufacturing Mining Warehousing Markets Silos, granaries/ warehouses Farms/ ranches Automobile repair shops	Fiscal Access to banks Currency Monetary policy Ability to withstand drought Black market Energy Imports/exports External support/aid Food Distributing Marketing Production Processing Rationing Security Storing Transporting Inflation Market prices Raw materials Tariffs	Banks Business organizations Cooperatives Economic nongovernmental organizations Guilds Labor unions Major illicit industries Large landholders Volunteer groups	Bankers Employers and employees Labor occupations Consumption patterns Unemployment rate Underemployment rate (if this exists) Job lines Landholders Merchants Money lenders Black marketers Gang members Smuggling chain	Drought, harvest, yield, domestic animals, livestock (cattle, sheep), and market cycles Labor migration events Market days Paydays Business openings Loss of business

Table 9-8. Example of blending operational variables and civil considerations (continued)

	AREA	*STRUCTURE*	*CAPABILITIES*	*ORGANIZATION*	*PEOPLE*	*EVENTS*
SOCIAL	Refugee camps Enclaves • Ethnic • Religious • Social • Tribal • Families or clans Neighborhoods Boundaries of influence School districts Parks Traditional picnic areas Markets Outdoor religious sites	Clubs Jails Historic buildings and houses Libraries Religious buildings Schools and universities Stadiums Cemeteries Bars and tea shops Social gathering places (meeting places) Restaurants	Medicine • Traditional • Modern Social networks Academic Strength of tribe or village traditional structures Judicial	Clan Community councils and organizations School councils Criminal organizations Familial Patriotic and service organizations Religious groups Tribes	Community leaders, councils, and their members Education Ethnicity and race • Biases • Dominant group • Percent-ages • Role in conflict Key figures • Criminals • Entertain-ment • Religious leaders • Chiefs and elders Language and dialects Vulnerable populations Displaced people Sports Influential families Migration patterns Culture • Artifacts • Behaviors • Customs Shared beliefs and values	Celebrations Civil disturbances National holidays Religious holidays and observance days Food line Weddings Birthdays Funerals Sports events Market days Family gatherings History (major wars and conflicts)

Table 9-8. Example of blending operational variables and civil considerations (continued)

	AREA	*STRUCTURE*	*CAPABILITIES*	*ORGANIZATION*	*PEOPLE*	*EVENTS*
INFORMATION	Broadcast coverage area: newspaper, radio, television Word of mouth Gathering points Graffiti Posters	Communications • Lines • Towers: cell, radio, and television Internet service Satellite Hard wire Cafes Cellular phone Postal service Print shops Telephone Television stations Radio stations	Availability of electronic media Indigenous communication networks Internet access Intelligence services Printed material Journals Newspapers Flyers Propaganda mechanisms Radio Television Social media Literacy rate Word of mouth	Media groups and news organizations Religious groups Insurgent inform and influence activity groups Government groups Public relations and advertising agencies	Decision-makers Media Personalities Media groups and news organizations Community leaders Elders Heads of families	Disruption of services Censorship Religious observance days Publishing dates Inform and influence activity campaigns Project openings

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Chapter 10

Understanding Context by Comprehending the Threat Mindset and Tactics

"*Nothing is easier than to denounce the evildoer; nothing is more difficult than to understand him*."

– Fyodor Dostoyevsky

The threat of the future mixes the characteristics of those who fight outside the law with those who fight using deadly weapons in a reasoned manner. They steal, murder, conduct assaults, snipe, bribe, prepare defenses, and execute cyber-attacks. They are equally able to choose a rocket launcher firing position as to shoot a mayor from a moving car. They can, possibly in the same day, dress in a host-nation uniform, no uniform, or uniforms of U.S. forces. Such varied forces and capabilities enable threats to capitalize on perceived vulnerabilities.

The existence of innovative adversaries is not new; U.S. forces prepare for states that employ protracted forms of warfare, possibly using proxy forces to coerce and intimidate, or nonstate actors using operational concepts and high-end capabilities traditionally associated with states.

The Army does not have the luxury of focusing on any one potential adversary or any one mission type across the range of military operations. Leaders and Soldiers are exposed to the multiple conditions representing various types of threats that exist across the globe. Potential threats range from standing conventional and unconventional forces, to irregular militias and paramilitaries, to terrorist groups and criminal elements. The Army builds and sustains capabilities to deter threats ranging from counterterrorism, to counterinsurgency, to aggressive states conducting major combat operations.

Regardless of the difficulty of the environment, warfare remains fundamentally a human contest of opposing wills, and Soldiers must master the skills necessary to act, react, and adapt with speed and creativity.

Note. See ATP 2-01.3, TC 7-100, and ADP 3-0 for more information about threat definitions.

ACTORS IN A THREAT ENVIRONMENT

10-1. There are many types of actors or participants in today's complex environment. Some actors are countries (also called nation-states), and some are not. Nation-states are still dominant actors. However, some power is shifting to nontraditional actors and transnational concerns. There are many potential challenges to traditional concepts like balance of power, sovereignty, national interest, and roles of nation-state and nonstate actors.

TYPES OF ACTORS

10-2. Not all actors are threats. In general, the various actors in any operational area can qualify as a threat, an enemy, an adversary, a neutral, or a friend. Land operations often prove complex because these actors intermix, often with no easy means to distinguish one from another, making situational awareness critical to a Soldier's understanding of the environment.

10-3. A *threat* is any combination of actors, entities, or forces that have the capability and intent to harm U.S. forces, U.S. national interests, or the homeland (ADP 3-0). Threats may include individuals, groups of individuals (organized or not organized), paramilitary or military forces, nation-states, or national alliances. To be a threat, a nation or organization has the capabilities and intention to challenge the United States. The capabilities in question are not necessarily purely military but encompass all the elements of power available to the nation or organization. When threats execute their capability to do harm to the United States, they become enemies.

10-4. An *enemy* is a party identified as hostile against which the use of force is authorized (ADP 3-0). An enemy is also called a combatant and is treated as such under the law of war.

10-5. An *adversary* is a party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged (JP 3-0).

10-6. A *neutral*, in combat and combat support operations, is an identity applied to a track whose characteristics, behavior, origin, or nationality indicate that it is neither supporting nor opposing friendly forces and the proponent (JP 3-0).

Nation State Actors

10-7. Nation-states fall into four basic categories according to their roles in the international community. The categories are core states, transition states, rogue states, and failed or failing states. Countries can move from one category to another, as conditions change.

10-8. The category of core states includes more than half of the nearly 200 countries in the world today. These are basically democratic (to varying degrees) and share common values and interests. Within this larger group, there is an inner core of major powers. These are the advanced countries—including the United States—that generally dominate world politics. Most conflict with global consequences involves the core states in some fashion or another.

10-9. Transition states are other larger, industrial-based countries—mostly emerging regional powers—that have the potential to become accepted among the core states, perhaps as major powers. High-end transition states are moving from an industrial-based society to an information-based society. Low-end transition states are seeking to move from an agricultural-based society to an industrial base. As states try to make this transition, there are cycles of political stability and instability and the outcome of the transition is uncertain. Some transition states may successfully join the ranks of core states and even become major powers within that context. Others may become competitors.

10-10. Rogue states are those that are hostile to their neighbors or to core states' interests. These countries attack or threaten to attack their neighbors. They may sell or give armaments to other countries or nonstate actors within or outside their region, threatening regional or international stability. They can sponsor international terrorism or even confront U.S. military forces operating in the region.

10-11. Failed or failing states are fragmented in such a way that a rule of law is absent. Their instability is a threat to their neighbors and the core states. The government has ceased to meet the needs of its entire people, and at least parts of the country may have become virtually ungovernable. Entities other than the legitimate government institutions (such as large criminal organizations) may have filled the power vacuum and taken control. The real threat to U.S. forces may come from elements other than the military. In some cases, the government might be able to control the population and meet the people's needs, but only with outside support—perhaps from countries or groups opposed to the interests of the United States. Failed or failing states often harbor groups antagonistic to the United States and its interests.

Nonstate Actors

10-12. Nonstate actors are those that do not represent the forces of a particular nation-state. Such nonstate elements include rogue actors as well as third-party actors.

10-13. Like rogue states, rogue actors are hostile to other actors. However, they may be present in one country or extend across several countries. Examples include insurgents, guerrillas, mercenaries, and transnational or subnational political movements. Particular sources of danger are terrorists and drug-trafficking or criminal organizations since they may have the best technology, equipment, and weapons available, simply because they have the money to buy them. These nonstate rogue actors may use terror tactics and militarily unconventional methods to achieve their goals.

10-14. Third-party actors may not be hostile to other actors. However, their presence, activities, and interests can affect the ability of military forces to accomplish their mission. These third-party actors can include—

- Refugees and internally displaced people.
- International humanitarian relief agencies.
- Transnational corporations.
- News media.

10-15. These individuals and groups bring multiple sources of motivation, ideology, interests, beliefs, or political affiliations into consideration. They may be sources of civil unrest and their presence may require military forces to consider the potential impacts of traffic congestion, demonstrations, sabotage, and information manipulation.

Hybrid Threats

10-16. The term "hybrid threat" has evolved to capture the seemingly increased complexity of operations, the multiplicity of actors involved, and the blurring between traditional elements of conflict. A *hybrid threat* is the diverse and dynamic combination of regular forces, irregular forces, terrorists, or criminal elements unified to achieve mutually benefitting effects (ADP 3-0). Hybrid threats combine regular forces governed by international law, military tradition, and custom with unregulated forces that act with no restrictions on violence or their targets. These may involve nation-state actors that employ protracted forms of warfare, possibly using proxy forces to coerce and intimidate, or nonstate actors using operational concepts and high-end capabilities traditionally associated with states. Such varied forces and capabilities enable hybrid threats to capitalize on perceived vulnerabilities, making them particularly effective.

10-17. The key components of a hybrid threat are two or more of the following:

- Military force.
- Nation-state paramilitary force (such as internal security forces, police, or border guards).
- Insurgent groups (movements that primarily rely on subversion and violence to change the status quo).
- Guerrilla units (irregular indigenous forces operating in occupied territory).
- Criminal organizations (such as gangs, drug cartels, or hackers).

Note. This section addresses significant categories of threats that can combine, associate, or affiliate in order to threaten or apply hybrid capabilities.

PRIMARY TYPES OF WARFARE

10-18. *Traditional warfare* is a form of warfare between the regulated militaries of states, or alliances of states, in which the objective is to defeat an adversary's armed forces, destroy an adversary's war-making capacity, or seize or retain territory in order to force a change in an adversary's government or policies (DODD 3000.07). In contrast, *unconventional warfare* is activities conducted to enable a resistance movement or insurgency to coerce, disrupt, or overthrow a government or occupying power by operating through or with an underground, auxiliary, and guerrilla force in a denied area (JP 3-05).

10-19. Traditional armed forces characterize standing military units of a nation-state. A nation-state may also have capabilities, such as border guard units, constabulary, and law enforcement organizations that may have an assigned paramilitary role. Irregular forces can exhibit a mixed capability of insurgent, guerrilla, and armed criminal elements. Traditional military units may also be involved directly or indirectly in coordination with irregular warfare operations.

Regular Forces

10-20. Regular military forces are the regulated armed forces of a state or alliance of states with the specified function of military offensive and defensive capabilities in legitimate service to the state or alliance. Traditional capabilities of regular military forces normally are intended to accomplish one or more of the following objectives:

- Defeat an adversary's armed forces.
- Destroy an adversary's war-making capacity.
- Seize or retain territory.

Note. These descriptors are consistent with the Department of Defense definition of traditional warfare according to DODD 3000.07.

10-21. Other legitimate functions of regular military forces can include a wide range of stability and support missions in concert with state policies and programs. These can include national disaster response or assistance to province or district government to counter lawlessness, riot, or insurrection.

10-22. Irregular forces are armed individuals or groups who are not members of the regular armed forces, police, or other internal security forces. *Irregular warfare* is a violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s) (JP 1).

Irregular Forces

10-23. Irregular forces favor indirect and asymmetric approaches. These approaches may employ the full range of military and other capacities in order to erode an opponent's power, influence, and will. Irregular warfare typically involves a protracted conflict that involves state and nonstate forces in a regional area. However, such a conflict can be readily connected to transnational actions due to globalization on political, economic, and financial fronts.

10-24. Different types of irregular forces may use varied levels of violence or nonviolence to exert influence. Access to technology can impact irregular force operations. Some forces may use low-technology approaches to counter the capabilities of a superpower. Yet, a constant search for improved technologies parallels a constantly changing set of operational conditions.

10-25. The actions of irregular forces are not a lesser form of conflict below the threshold of warfare. At the tactical level, they can apply tactics, techniques, and procedures common to regular forces but do so with asymmetric applications and means. However, irregular forces can also use methods, such as guerrilla warfare, terrorism, sabotage, subversion, coercion, and criminal activities.

10-26. Adversaries faced with the conventional warfighting capacity of the United States Army and joint or combined forces partners are likely to fight using a hybrid of traditional, irregular, and/or criminal capabilities as a way to achieve their strategic objectives. A strategy of adversaries is to degrade and exhaust U.S. forces rather than cause a direct military defeat.

10-27. The definition of irregular warfare highlights a key issue of a relevant population and the intention to damage an opponent's influence over that population. The population can be defined in many aspects and may describe itself in terms such as its culture, ethnicity, familial lineage, theology, ideology, or geographic locale. When confronting the United States, regular or irregular forces seek to undermine and erode the national power, influence, and will of the United States and any strategic partners to exercise political authority over a relevant population.

ENEMY COMBATANTS

10-28. An enemy combatant is, in general, a person engaged in hostilities against the United States or its coalition partners during an armed conflict. The term "enemy combatant" includes lawful and unlawful enemy combatants.

10-29. Lawful enemy combatants who are entitled to protections under the Geneva Conventions, include—

- Members of the regular armed forces of a state party to the conflict;
- Militia, volunteer corps, and organized resistance movements belonging to a state party to the conflict, which are under responsible command, wear a fixed distinctive sign recognizable at a distance, carry their arms openly, and abide by the laws of war; or
- Members of regular armed forces who profess allegiance to a government or an authority not recognized by the detaining power.

10-30. The term "unlawful enemy combatant" is defined to include, but is not limited to, an individual who is or was part of supporting forces that are engaged in hostilities against the United States or its coalition partners.

10-31. Unlawful enemy combatants are people—

- Not entitled to combat immunity.
- Who engage in acts against the United States or its coalition partners in violation of the laws and customs of war during an armed conflict.

Insider Threats

10-32. *Insider threat* is a person with placement and access who intentionally causes loss or degradation of resources or capabilities or compromises the ability of an organization to accomplish its mission through espionage, providing support to international terrorism, or the unauthorized release or disclosure of information about the plans and intentions of U.S. military forces (AR 381-12).

10-33. Commanders are also aware of those operating in their area of operations who sympathize with extremist groups and terrorist organizations, along with their ideals. Attacks on Soldiers (such as the shooting incident at Fort Hood, Texas, in 2009) have raised the need for effective leadership and antiterrorism measures to protect the force. Even Soldiers, Department of the Army Civilians, and contractors are not immune to these phenomena. Exposure to actions in the area of operations, in conjunction with challenged personal situations or crises that shake belief systems, can test Soldiers' loyalty to their unit, their fellow Soldiers, and their nation, making them vulnerable to extremist influence.

10-34. Another form of insider threat comes from host nation or allied military units that the Army is working in conjunction with or is training. Individuals from within these foreign militaries may be insurgents who have infiltrated their country's military, or they could be members who are sympathizers or influenced by a terrorist ideology from their country or region. Examples of this have been the numerous green on blue attacks during operations in Afghanistan.

Note. See ATP 3-37.15, ATP 3-37.2, DODI 5240.26, AR 381-12, GTA 90-01-031, GTA 90-01-033, GTA 90-01-036 , and GTA 90-01-044 for additional information about insider threats.

Self Radicalization

10-35. Interactive online sites that support anonymity and include dynamic and charismatic preachers of hatred and terror have helped Al-Qaeda and other terrorist groups spread their ideology into the United States and other citizens of Western society. Radicalization in the West is not often triggered by oppression, suffering, revenge, or desperation. It is a phenomenon that often occurs because in their search for an identity and a cause, individuals find themselves in extremist movements. The consensus view among analysts is that converts to religions and some ideologies, regardless of other demographic factors, bear an elevated risk of radicalization for two key reasons:

- The desire to prove their conviction.
- General ignorance of the overall teachings and the complex, interpretive methodologies of religious traditions.

ORGANIZATIONS

Note. For more information about terrorist and criminal organizations, see JP 3-26 and ATP 3-37.2.

10-36. Within an operational environment, Soldiers encounter many types of actors belonging to groups with similar and differing interests, motivations, and ideologies. Organizations are usually led by people with the same factors that motivate most people: wealth, resources, political authority, influence, sovereignty, identity, and legitimacy.

10-37. It is when these ends are at odds with the interests of the United States, or in the view of the actor, requires harm to American people or property; that the actor becomes an adversary. Entities pursue these ends with cooperation, competition, or conflict. The choice of the means to pursue these ends sets the conditions for the United States' response. Understanding the motivational impetus of the ends described above provides insight on what types of military operations may be helpful in defending the United States' national interests.

CRIMINAL ORGANIZATIONS

10-38. There is no part of the world that is criminal free. Therefore, there will always be criminal elements present in any operational environment. The only question is whether those criminal organizations find it in their interests to become part of a hybrid threat and perform some of the functions required to achieve common goals and objectives.

10-39. Criminal organizations are normally independent of nation-state control. However, large-scale criminal organizations often extend beyond national boundaries to operate regionally or worldwide and include a politically influenced component. Individual criminals or small gangs do not normally have the capability to adversely affect legitimate political, military, and judicial organizations. However, large-scale criminal organizations can challenge governmental authority with capabilities and characteristics similar to a paramilitary force.

10-40. By mutual agreement or when their interests coincide, criminal organizations may become affiliated with other actors, such as insurgents or individuals. They may provide capabilities similar to a private army for hire. Insurgents or guerrillas controlling or operating in the same area as a criminal organization can provide security and protection to the criminal organization's activities in exchange for financial assistance, intelligence, arms and materiel, or general logistical support. On behalf of the criminal organization, guerrilla or insurgent organizations can—

- Create diversionary actions.
- Conduct reconnaissance and early warning.
- Conduct money laundering, smuggling, or transportation.
- Conduct civic actions.

10-41. Their mutual interests can include preventing United States or host country government forces from interfering in their respective activities.

10-42. Some criminals may form loosely affiliated organizations that have no true formal structure. Nevertheless, even low-capability criminals sometimes can impact events through opportunistic actions. Criminal violence degrades a social and political environment. As small criminal organizations expand their activities to compete with or support long-established criminal organizations, they may seek to neutralize or control political authority in order to improve their ability to operate successfully and discourage rival criminal enterprises.

10-43. At times, criminal organizations might also be affiliated with nation-state military or paramilitary actors. In time of armed conflict or support to a regional insurgency, a state can encourage and materially support criminal organizations to commit actions that contribute to the breakdown of civil control in a neighboring country.

Note. For more information about the interactions between criminal networks and terrorist networks, see *Commander's Handbook for Attack the Network*.

Petty Crime, Gangs, and Organized Crime Networks

10-44. Petty crime networks are normally localized, poorly organized, and easily controlled (with some effort). Examples of their activities include auto theft, robbery, and prostitution.

10-45. Gangs and organized crime networks include recognizable organized gangs and criminal syndicates. Their activities may include narcotics distribution, human trafficking, larger black market networks, and other structured and highly organized criminal activities. Financial market manipulation and racketeering, operation of prostitution rings, or other vice networks are additional examples.

Paramilitary, Insurgent, Guerrilla, and Mercenary Organizations

10-46. *Paramilitary forces* are armed forces or groups distinct from the regular armed forces of any country, but resembling them in organization, equipment, training, or mission (JP 3-24). There are various types of nonstate paramilitary forces, such as insurgents, guerrillas, terrorist groups, and mercenaries. However, there are also nation-state paramilitary forces, such as internal security forces, border guards, and police that are specifically not a part of the regular armed forces of the country.

Note. The term "militia" has acquired many definitions based on the situational context. This context may be the culture; historical traditions, such as which group of people have familial, social, theological, or political power; and the external or self-descriptions such forces use in media affairs or propaganda. A generic definition of a militia can parallel the definition of a paramilitary force. However, a nation-state can also have militias that are considered an extension of its armed forces.

10-47. An *insurgency* is the organized use of subversion and violence to seize, nullify, or challenge political control of a region. Insurgency can also refer to the group itself (JP 3-24). Insurgent organizations have no regular table of organization and equipment structure. The mission, environment, geographic factors, and many other variables determine each organization's and its subordinate cells' configuration and composition. A higher insurgent organization can include organizations at regional, provincial, district, national, or transnational levels. Higher insurgent organizations can contain a mix of local insurgent and guerrilla organizations. Each of these organizations provides differing capabilities.

10-48. As an insurgent organization develops and grows, it often forms a political headquarters to communicate with the indigenous population, external supporters, and its enemies. The leaders in this central political headquarters direct the insurgency's paramilitary forces and ensure that the insurgency remains focused on reaching its long-term political goals.

10-49. A *guerrilla* is an irregular, predominantly indigenous member of a guerrilla force organized similar to military concepts and structure in order to conduct military and paramilitary operations in enemy-held, hostile, or denied territory. Although a guerrilla and guerrilla forces can exist independent of an insurgency, guerrillas normally operate in covert and overt resistance operations of an insurgency (ATP 3-05.1). Guerrilla warfare is military and paramilitary operations conducted in enemy-held or hostile territory by irregular, predominantly indigenous forces (see ATP 3-05.1 points of enemy weakness and in conditions developed or selected by the guerrilla force). Deception and mobility are critical to achieving surprise and avoiding engagements unless the tactical opportunity weighs heavily in favor of the guerrilla force. At the tactical level, attacks are planned and conducted as sudden, violent, decentralized actions. Principles of rapid dispersion and rapid concentration facilitate these types of operation.

10-50. Mercenaries are armed individuals who use conflict as a professional trade and service for private gain. Those who fall within that definition are not considered combatants. However, those who take direct part in hostilities can be considered unlawful enemy combatants. According to the Geneva Conventions, the term "mercenary" applies to those acting individually or as a member of a formed group and have the following characteristics:

- Are recruited locally or abroad in order to fight in an armed conflict.
- Are operating directly in the hostilities.
- Are motivated by the desire for private gain. They are promised, by or on behalf of a party to the conflict, material compensation substantially in excess of that promised or paid to the combatants of similar rank and functions in the armed forces of that party.
- Are neither nationals of a party to the conflict nor residents of territory controlled by a party to the conflict.
- Are not members of the armed forces of a party to the conflict.
- Are not on official military duty representing a country that is not involved in the conflict such as a legitimate loan service or training appointment.

10-51. Soldiers serving officially in foreign armed forces are not mercenaries. Loan service personnel sent to help train the soldiers of other countries as part of an official training agreement between sovereign governments are not mercenaries even if they take a direct part in hostilities.

TERRORISTS

10-52. A terrorist is an individual who commits an act or acts of violence or threatens violence in pursuit of political, religious, or ideological objectives. Further, a terrorist group is defined as any number of terrorists who assemble, have a unifying relationship, or are organized to commit an act or acts of violence or threatens violence in pursuit of their political, religious, or ideological objectives. Categorizing terrorist groups by their affiliation with governments or supporting organizations can provide insight in intent and capability. Terrorist groups can align as state-directed, state-sponsored, or nonstate-supported organizations. In some cases, the state itself can be a terrorist regime. Often, legitimate organizations can serve as recruiting grounds for terrorists. For example, militant Islamic recruiting has been linked to the schools (madrassas) established by radical Wahhabi clerics.

10-53. In general, terrorists often feel alienated from society, have a perceived grievance, or regard themselves as victims of an injustice. Terrorism is usually employed in the pursuit of ideological aims, and terrorist groups often recruit from populations that are sympathetic to their goals or ideology (such as groups that feel disenfranchised, like prisoners). However, some individuals or small violent organizations that employ terrorist means may not always be concerned with particular causes or an avowed ideology. These terrorists may be motivated purely by a desire to commit violent acts. From a psychological, behavioral perspective, terrorism may fulfill a compelling need, and this form of terrorism treats avowed ideology and political causes as after-the-fact justification.

Terrorist Organizations

10-54. Within terrorist organizations, utopianism can express itself forcefully as extreme impatience with the perceived status quo. This view commonly perceives a crisis too urgent to be solved by other than the most extreme methods. This sense of desperate impatience with opposition is central to the terrorist worldview.

10-55. There is also a significant, impractical element associated with this utopian mindset. Although their goals often involve the transformation of society or a significant reordering of the status quo, individual terrorists, even philosophical or intellectual leaders, are often vague or uncaring as to what the future order of things will look like or how their ideas will be implemented. Change and the destructive method by which change is brought about might be much more important than the end result.

10-56. Terrorists interact within their groups at the member and leadership levels. Individuals forming or joining groups normally adopt unquestioning submission to the group's often-charismatic authority figure.

Such leaders can demand tremendous sacrifices from subordinates. This type of obedience can cause internal dissension when a leader is at odds with the group or when factions arise in the organization.

10-57. Another adaptation of the individual is accepting a mentality that pits the members of the organization against all other parties (the mentality of us against the world). This results in a presumption of automatic morality on the part of the other members of the group and purity of their cause and goals. This justifies violence as morally acceptable, with the use of violence becoming a defining characteristic.

10-58. There is a dehumanization of all individuals not within the organization. This dehumanization permits violence to be directed indiscriminately at any target outside the group. Dehumanization also removes some of the stigma regarding the killing of innocent people. Another aspect is making the oppressed people an abstract concept, permitting the terrorist to claim to act on their behalf.

10-59. A terrorist may choose violence as a lifestyle. It can provide perceived emotional, physical, religious, and sometimes social rewards. Emotionally, the intense sense of belonging generated by membership in an illegal group can be satisfying. Physical rewards can include such things as money, authority, and adventure. This lure can often subvert other motives. Social rewards may be a perceived increase in social status or power.

Terrorist Behaviors

10-60. Terrorists within groups usually have different behaviors collectively than individually. Groups are collectively more daring and ruthless than individual members. The individual terrorist does not want to appear less committed than the others do and does not object to proposals within the group that would not be considered as an individual. Peer pressure is the norm. Group commitment stresses secrecy and loyalty to the group. Ideological intensity abounds.

10-61. However, this same peer pressure and intensity can sometimes result in the formation of splinter groups or dissenting individual members. This runs the risk of compromising the original group's purpose. New causes may evolve as a result. Organizations that experience behavioral difficulties may tend to increase their level of violence as frustration and low morale develop due to a lack of perceived progress or successful counterterrorism operations.

Note. See JP 3-26 for more information about terrorist behaviors.

CATEGORIES OF ORGANIZATIONS

10-62. There are many different categories of actor groups. These categories serve to differentiate organizations according to specific criteria, which are usually related to the field or specialty of whoever is selecting the categories. Also, some categories are simply labels appended arbitrarily, often by the media. For example, every terrorist organization is by definition radical, as terrorist tactics are not the norm for the mainstream of any group. Different groups stem from different motivations and beliefs. Much of current terrorism can be described as being based on a universal political ideology or religious dogma, which is in contrast to traditional nationalist-ethnic terrorism that was more prominent in the past.

Note. While these categories have been previously applied to terrorist organizations, they can also be applied to other actor groups.

Government-Affiliated Categories

10-63. Categorizing groups by their affiliation with governments provides indications of their means for intelligence, operations, and access to types of weapons. Joint doctrine identifies three affiliations:

- Nonstate supported organizations operate autonomously, receiving no significant support from any government.

- State-supported organizations generally operate independently but receive support from one or more governments. Sometimes the support is passive or submissive (for example, a government might provide a terrorist group a safe haven within the country).
- State-directed organizations operate as an agent of a government and receive substantial support, including intelligence, logistic, and operational support, from the sponsoring government.

Political Categories

10-64. Motivation categories describe groups in terms of their ultimate goals or objectives. While political or religious ideologies determine the how of the conflict and the sort of society that arises from a successful conclusion, motivation is the what in terms of end state or measure of success. Some common motivation categories are outlined in the following paragraphs.

10-65. Separatist groups desire separation from existing entities through independence, political autonomy, or religious freedom or domination. The ideologies separatists subscribe to include social justice or equity, anti-imperialism, and the resistance to conquest or occupation by a foreign power.

10-66. Groups of the ethnocentric persuasion view race as the defining characteristic of a society, and a select group is often perceived superior because of its inherent racial characteristics. Ethnicity becomes a basis of cohesion.

10-67. Nationalistic groups rely on the loyalty and devotion to a nation and the national consciousness derived from placing one nation's culture and interests above those of other nations or groups. This mindset can influence the creation of a new nation or in splitting away part of an existing state to join with another that shares the perceived national identity.

10-68. Revolutionary groups are dedicated to the overthrow of an established order and replacing it with a new political or social structure. Although often associated with communist political ideologies, this is not always the case, and other political movements can advocate revolutionary methods to achieve their goals.

Ideological Categories

10-69. Ideological categories describe the political, religious, or social orientation of the group. While some groups are seriously committed to their avowed ideologies, others consider ideology to be poorly understood and primarily a justification for their actions to outsiders or sympathizers. It is a common misperception to believe that ideological considerations prevent actors from accepting assistance or coordinating activities with groups or states of opposing religious or political beliefs. Quite often organizations with differing ideologies have more in common with each other than with the mainstream society they oppose. Common ideological categories are outlined in the following paragraphs.

10-70. Political ideologies are concerned with the structure and organization of the forms of government and communities. While observers outside organizations may stress differences in political ideology, the activities of groups that are diametrically opposed on the political spectrum are similar to each other in practice. Table 10-1 provides characteristics of political ideologies.

Table 10-1. Political ideologies

IDEOLOGIES	*CONSIDERATIONS*
Right Wing	Right-wing groups are associated with the reactionary or conservative side of the political spectrum and, in their extreme form, can be associated with fascism or neo-Nazism. Despite this, these extremists can be every bit as revolutionary in intent as other groups, the difference being that their intent is to replace existing forms of government with a particular brand of authoritarian rule.
Left Wing	Left-wing groups are associated with the liberal side of the political spectrum and, in their extreme form, can be associated with revolutionary socialism or variants of communism (such as Maoist and Marxist-Leninist ideologies). With the demise of many communist regimes and the gradual liberalization of the remainder towards capitalism, left-wing rhetoric can often move towards and merge with anarchistic thought.
Anarchist	Anarchist groups are antiauthority or antigovernment and strongly support individual liberty and voluntary association of cooperative groups. Often blending anticapitalism and populist or communist-like messages, modern anarchists tend to neglect the issue of what replaces the current form of government. They generally promote small communities as the highest form of political organization necessary or desirable. Currently, anarchism is the ideology of choice for many individuals and small groups that have no particular dedication to any ideology and are looking for a convenient philosophy to justify their actions.
Note. These categories are used simply to provide points of reference. Within a given ideology, multiple parties with opposing views can exist. For example, many countries have active communist parties that are not necessarily aligned with other left-wing ideologies.	

10-71. Religious motivations can be tied to ethnic and nationalist identities (such as Kashmiri separatists who combine their desire to break away from India with the religious conflict between Islam and Hinduism). The conflict in Northern Ireland also provides an example of the mingling of religious identity with nationalist motivations. There are frequently instances where groups with the same general goal (such as Kashmiri independence) engage in conflict over the nature of that goal (for example, religious or secular government).

10-72. Religiously inspired terrorism is on the rise. There is more than a 40-percent increase in the total number of international terrorist groups espousing religious motivation since 1980. Numerous religious denominations have either seen activists commit terrorism in their name or spawned cults professing adherence to the larger religion while following unique interpretations of that particular religion's dogma. Religiously motivated terrorists seek justification of their objectives from religious authorities to promote their cause as infallible and nonnegotiable.

10-73. Cults that adopt terrorism are often apocalyptic in their worldview and are extremely dangerous and unpredictable. Of note, religiously inspired cults executed the first confirmed uses of biological and chemical nerve agents by terrorists. For example, the Tokyo subway sarin attack was an act of domestic terrorism perpetrated on 20 March 1995 in Tokyo, Japan, by members of the cult movement, Aum Shinrikyo.

10-74. Often, particular social policies or issues are so contentious, they incite extremist behavior and terrorism. Frequently, this is referred to as single-issue or special-interest terrorism.

Location or Geographic Categories

10-75. Geographic designations have been used in the past, and although they are often confusing and even irrelevant, they still appear. Often, a geographical association to the area with which the group is primarily concerned is made. Mid-Eastern is an example of this category and came into use as a popular shorthand label for Palestinian and Arab groups in the 1970s and early 1980s. Frequently, these designations are only relevant to the government or state that uses them. However, when tied to particular regions or states, the concepts of domestic and international activity within and by actors can be useful.

10-76. Domestic or indigenous organizations are homegrown and operate within and against their home country. They can be tied to social or political factions within a particular society and focus their efforts specifically on their nation's sociopolitical arena.

EXAMPLES OF DOMESTIC OR INDIGENOUS GROUPS

The African National Congress was formed in opposition to laws of the South African government. This organization fought a campaign against the government until the early 1990s.

10-77. Often describing the support and operational reach of a faction, international and transnational groups are loosely defined. International groups typically operate in multiple countries but retain a geographic focus for their activities.

10-78. The term "international" can include organizations that move across international boundaries in various ways. For example, an insurgency-linked terrorist group that routinely crosses an international border to conduct attacks, then flees to a safe haven in a neighboring country, is international in the strict sense of the word but does not compare to groups that habitually operate across regions and continents.

EXAMPLES OF INTERNATIONAL GROUPS

- Hezbollah has cells worldwide and has conducted operations in multiple countries but is primarily focused on influencing the outcome of events in Lebanon and Israel.
- Habitat for Humanity disperses teams that operate worldwide and conduct humanitarian efforts in multiple countries but focus their efforts in the United States.

10-79. Transnational groups operate internationally. They are not tied to a particular country or even region.

EXAMPLES OF TRANSNATIONAL GROUPS

Al-Qaeda is transnational—made up of many nationalities, based out of multiple countries simultaneously, and conducts operations throughout the world. Their objectives affect dozens of countries with differing political systems, religions, ethnic compositions, and national interests.

Anonymous is a transnational coalition of internet activists who organize for specific events via internet media. It is loosely organized in cellular structures but has no apparent hierarchy or even clearly defined unified goal or ideology. This group conducts cyberspace warfare on behalf of various causes, across international boundaries, against state governments and nonstate actors, including corporations.

ORGANIZATIONAL STRUCTURE

10-80. Militant organizations can take many forms, with most sharing some mutual attributes that are, in many ways, common to any organization that seeks to affect change, particularly nonstate actors. For example, an insurgent organization is normally considered to consist of five elements:

- Leaders.
- Combatants.

- Cadre.
- Auxiliaries.
- Mass base.

10-81. Movement leaders may be military leaders or have a purely political role, potentially with international recognition and legitimacy. They set the goals and focus efforts for the organization and work to establish credibility and support.

10-82. Combatants can include main, regional, and local forces, including militias. This group can also include nonviolent participants in rallies or violent rioters within an otherwise peaceful protest.

10-83. Political cadre can also be called militants or the party. This group serves as the ideological core of an organization and includes political advisors, religious advisors, or representatives of a third-party actor. This is the core of true believers who may or may not directly participate in activities to further the organization's goals. They may serve to recruit new members, spread their message among the populace or to foreign audiences, motivate and inspire fighters, ensure compliance with the organization's values and goals, work to exploit opportunities for information efforts, or work to undermine or replace existing governing organizations.

Note. An organization does not need to be radical in nature to have political cadre.

10-84. Auxiliaries are active followers who provide important active support services. This could include a diaspora in other countries (for example, financial support provided to the Irish Republican Army by sympathizers in the United States who feel an ethnic kinship with them or those who are sympathetic to their cause or seek to undermine the Irish Republican Army's opponents).

10-85. Mass base, which includes the bulk of an organization's membership, is composed of a populace that provides passive support. Mass base members are often recruited or indoctrinated by the cadre, although in many cases, a populace may be naturally inclined towards supporting an insurgency. Members of the mass base may be difficult to identify, and it may be extremely difficult to even define their role in a conflict. At times, even disinterested members of the populace may support the combatants when the culture dictates it. For example, Pashtuns consider it a duty to provide shelter and food to any stranger. This may not mean the populace is sympathetic to the organizations, but organizations can take advantage of this cultural phenomenon to provide themselves with a readily accessible means of sustainment, as well as a means of protecting themselves by their proximity to noncombatants.

KILLING MINDSET

10-86. The killing mindset includes the mental processes involved when someone who uses any deadly weapon (such as a knife, club, bow and arrow, or explosive) to systematically or randomly inflict death or great bodily harm on others. Scenarios that involve those acting upon a killing mindset are dangerous because often there is no criminal objective (for example, robbery or hostage taking) involved other than mass murder. The stages involved in this mindset can be categorized in two ways:

- Stages of an active shooter.
- Terrorist planning cycle.

STAGES OF AN ACTIVE SHOOTER

Note. For more information about the stages of an active shooter, see NTTP 3-07.2.3.

10-87. An active shooter is usually not a spur-of-the-moment actor. The person progresses through a number of identifiable stages. These stages may occur in rapid succession or over a period of months or even years. During the first four stages, security forces may have an opportunity to intervene before the shooter is able to execute the plan. These stages are—

- Stage 1: Fantasy.

- Stage 2: Planning.
- Stage 3: Preparation.
- Stage 4: Approach.
- Stage 5: Implementation.

10-88. Stage 1: Fantasy. Shooters usually begin the process by imagining the event. They may romanticize the media coverage and the notoriety attributed to them because of the event. Often at this stage, the shooter has become radicalized by outside sources. Shooters may express these fantasies through web postings, writings, artwork, or even discussions of the event.

10-89. Stage 2: Planning. The next stage is to select a target. Decisions on who, what, when, and where are made during this stage. Shooters select their weapons of choice and determine the logistics of traveling to the site, transporting weapons, and other details of the event.

10-90. Stage 3: Preparation. During this stage, shooters obtain weapons and supplies necessary to carry out the planned event. Shooters may position these items prior to the target date. Shooters may also warn certain individuals to avoid the target location during a given time period.

10-91. Stage 4: Approach. At this point, shooters have developed a plan and obtained the necessary weapons and supplies. They now act on the plan. Shooters travel to the target location and, most likely, are armed with their weapons of choice. Security forces may encounter shooters through a traffic stop, an entry control point vehicle inspection, or a citizen complaint. Contact with shooters at this point is very dangerous. However, by approaching in a tactically sound manner, security forces may be able to stop shooters before anyone is harmed.

10-92. Stage 5: Implementation. Shooters execute the plan. Because they are highly focused on their targets, they do not stop until they run out of ammunition or victims or take their own lives.

TERRORIST PLANNING CYCLE

10-93. Operational planning of offensive terrorist actions can be analyzed according to requirements common to all operations. The planning and operation cycle shown in figure 10-1 is valid for traditional hierarchically organized groups, as well as decentralized network-type organizations. The differences between the two organizations are the location of the decision-maker at the various steps of the cycle and the method of task organizing and providing support for the operations.

Note. For more information about the terrorist approach to planning and execution, see JP 3-26.

TERRORIST PLANNING CYCLE	
I	BROAD TARGET SELECTION
II	INTELLIGENCE GATHERING AND SURVEILLANCE
III	SPECIFIC TARGET SELECTION
IV	PRE-ATTACK SURVEILLANCE AND PLANNING
V	REHEARSALS
VI	ACTIONS ON THE OBJECTIVE
VII	ESCAPE AND EXPLOITATION

Figure 10-1. Terrorist planning cycle

10-94. The broad target selection phase of planning involves the collection of information on a large number of potential targets, some of which may never be attacked or seriously considered for attack. Personnel who are not members of a terrorist organization's cadre, but serve as lower-level active or even passive supporters,

may be used for data collection and target surveillance. This phase also includes open source and general information collection. Potential targets are identified through the media, internet research, and elicitation of unwitting sources.

10-95. Potential targets are screened based on symbolic value and their potential to generate high-profile media attention. Terrorist group objectives influence the selection of a person or facility as a worthy target. This includes the risk and likely casualty figures achieved by the attack. The number of preliminary targets that can be screened is limited only by the capabilities of the group to collect information from sympathizers and open sources. Targets that are considered vulnerable and which would further the terrorist organization's goals are selected for the next phase of intelligence collection.

Intelligence Gathering and Surveillance

10-96. During the intelligence gathering and surveillance phase, targets showing potential vulnerabilities are given a higher priority of effort. The type of surveillance employed depends on the priority and type of target. Elements of information typically gathered include the following:

- Practices, procedures, and routines.
- Residence and workplace.
- Transportation and routes of travel.
- Security measures.

10-97. The practices, procedures, and routines for facilities include scheduled deliveries, work shift changes, identification procedures, and other observable routines. For individuals, it can include regularly scheduled errands, appointments, and activities.

10-98. The residence and workplace category applies primarily to the physical layout and individual activities at the two places the target typically spends the most time.

10-99. For individuals, transportation and routes of travel are the modes of transport and common routes to any regular destination. For facilities and conveyances, they address ingress and egress points, types of vehicles allowed on the grounds, or availability of transportation into the target site.

10-100. Intelligence gathering and surveillance of security measures include a myriad of potential collection areas, depending on the complexity of the security around the target. Presence of a guard force; the reaction time of response units; any hardening of structures, barriers, or sensors; personnel, package, and vehicle screening procedures; and the type and frequency of emergency reaction drills are examples of key collection objectives. This is one of the most important areas of information for attack site selection since the intent is to bypass and avoid security measures and be able to strike the target during any period.

Specific Target Selection

10-101. Specific target selection for actual planning involves several factors prior to a decision to proceed or not proceed. A decision to proceed requires continued collection of intelligence about the chosen target. Intelligence about targets not receiving immediate consideration is still collected for future opportunities. Selection factors include—

- Does success affect a larger audience than the immediate victim(s)?
- Will the target attract high-profile media attention?
- Does success make the desired statement to the correct target audience(s)?
- Is the effect consistent with objectives of the group?
- Does the target provide an advantage to the group by providing an opportunity for the group to demonstrate its capabilities?
- What are costs versus benefits of conducting the operation?

10-102. Members of actual operational cells begin to appear during this phase. Those who conduct the preattack surveillance and planning phase include either trained intelligence and surveillance personnel or members of the cell organized to conduct the operation. Consequently, the level of intelligence expertise and operational competency increases correspondingly. During this phase, information is gathered on the target's patterns over time—usually days to weeks, sometimes longer depending on the complexity of the target. It

allows the attack team to confirm the information gathered from previous surveillance and reconnaissance activities but with greater focus based upon the planning conducted thus far. The type of surveillance employed depends on the target's activities. The information gained is then used to—

- Conduct security studies.
- Conduct detailed preparatory operations.
- Recruit specialized operatives, as needed.
- Establish a base of operations in the target area (such as safe houses or caches).
- Design and test escape routes.
- Decide on the type(s) of weapon or attack.

10-103. As with conventional military operations, rehearsals are conducted to improve the odds of success, confirm planning assumptions, and develop contingencies. Terrorists also rehearse to test security reactions to particular attack profiles. Terrorists use their own operatives and unwitting people to test target reactions.

10-104. Typical rehearsals include—

- Deployment into the target area.
- Actions on the objective.
- Escape routes.
- Equipment and weapon performance.

10-105. Tests in the target area are conducted to confirm—

- Target information gathered to date.
- Target pattern of activities.
- Physical layout of target or operation area.
- Security force reactions (for example, state of alert, timing, size of response, or equipment, routes).

Actions on the Objective

10-106. Once terrorists reach the execution phase of the operation, the odds of success favor the terrorist and are clearly against the target. Terrorists attempt to minimize time spent conducting the actual operation to reduce their vulnerability to discovery or countermeasures. With the exception of barricade-style hostage-taking operations, terrorists normally plan to complete their actions on the objective before immediate security forces can react. Terrorists conducting planned operations possess important tactical advantages. As the attacker, they possess the initiative, giving them the advantage of surprise; choice of time, place, and conditions of attack; employment of diversions and secondary or follow-on attacks; and employment of security and support positions to neutralize target reaction forces and security measures.

10-107. Escape plans are usually well rehearsed and well executed. Successful escape further enhances the effects of fear and terror from a successful operation. The exception is a suicide operation, where the impact is enhanced by the willingness to die in achieving the attack. However, even suicide attacks usually have support personnel and handlers who deliver the suicide asset to the target and subsequently make their escape.

10-108. Exploitation is the primary objective of all terrorist operations. Terrorist operations must be exploited properly and publicized to create their intended effect. Media control measures, prepared statements, and a host of other preparations are made to effectively take advantage of a successful operation. These are timed to take advantage of media cycles for the selected target audiences. By quickly capturing and exploiting images, the adversary can rapidly leverage events to influence the public via self-produced media (such as internet, radio, television, text messaging, podcast, and blogs) to gain an advantage within the information environment.

10-109. Unsuccessful operations are disavowed when possible. The perception that a group has failed severely damages the organization's prestige and makes it appear vulnerable, or worse, ineffective. Once a terrorist organization is perceived as ineffective, it becomes more difficult to impact target audiences or recruit members.

10-110. In addition to the impact on the target, successful attacks bring perceived favorable attention, notoriety, and support (such as money and recruits) to the terrorist group conducting the operation. If the

group conducting the operation subscribes to a revolutionary ideology, its members see each success as gradually inspiring more revolutionary fervor in the population they are attempting to influence. Any success encourages the terrorists to conduct further operations and improves their ability to do so through increased support and experience.

COMMON THREAT TACTICS

10-111. There are a number of ways in which adversaries act. While a wide array of methods is available, violence is usually designed not to defeat the armed forces on the battlefield but to cause enough real and perceived damage in the physical and informational spheres that they cannot sustain the will to accomplish the mission. Overall, their strategy includes—

- Neutralize technological overmatch. The enemy attempts to use the physical environment and natural conditions to neutralize or offset the technological advantages of a modern force. It trains its forces to operate in adverse weather, limited visibility, rugged terrain, and urban environments that shield them from the effects of high-technology weapons and deny the full benefits of advanced mission command and reconnaissance, intelligence, surveillance, and target acquisition systems.
- Conduct preclusion (limit access and deny entry). Antiaccess is defined as those actions and capabilities designed to prevent forces from entering an operational area. Area denial includes actions and capabilities that are not only designed to keep forces out but to limit the freedom of action within the operational area. Preclusion refers to the combination of antiaccess and area denial methods and seeks to influence the ability to introduce forces into the theater and sustain combat power.
- Control tempo. If the enemy cannot end the conflict quickly, it may take steps to slow the tempo and prolong the conflict. This can take advantage of lack of commitment over time. The preferred enemy tactics during this period are those means that avoid decisive combat with superior forces. These activities may not be linked to maneuver or ground objectives. Rather, they may be intended instead to inflict mass casualties or destroy flagship systems, both of which reduce the will to continue the fight.
- The enemy tries to inflict highly visible and embarrassing losses on forces to weaken domestic resolve and national will that sustain the deployment or conflict. Modern wealthy nations have shown an apparent lack of commitment over time. They have also demonstrated sensitivity to domestic and world opinion in relation to conflict and seemingly needless casualties.
- Change the nature of conflict. Adversaries try to change the nature of conflict to exploit the differences between friendly and enemy capabilities. For example, enemy forces forego massed formations, patterned echelonment, and linear operations that would present easy targets. Instead, they hide and disperse their forces in areas of sanctuary that limit the ability to apply a full range of technological capabilities. However, they can rapidly mass forces and fires from those dispersed locations for decisive combat at the time and place of their own choosing. Similarly, an enemy's definition of victory may not require a convincing military performance. It may call for inflicting numerous casualties, or it may equate to survival.
- Allow no sanctuary. Enemies may seek to attack anywhere on the battlefield, at overseas bases, at home stations, and even in military communities. This includes airfields, seaports, transportation infrastructures, and lines of communication. Targets include not only military forces but also contractors and private firms involved in transporting troops and materiel into the region. Enemies may seek to present a nonlinear, simultaneous, and situationally ambiguous battlefield. Striking such targets not only denies sanctuary but also weakens national will.
- Employ shielding. Adversaries use any method necessary to protect key elements of combat power from destruction by a force.

10-112. Threat tactics take many forms. Some are accomplished as independent actions. Others may be undertaken as part of additional coordinated activities. The following sections describe the more common types of threat tactics, specifically offensive and defensive tactics.

Note. Although the following discussion presents the most common types of threat tactics, it is not intended to be an exhaustive discussion of the subject since the combination of methods and approaches is virtually unlimited. Threat tactics are broad and diverse. Additionally, with the use of the internet and common training bases, actors exchange information on tactics that can yield success. See ATP 3-37.2 for more information.

OFFENSIVE TACTICS

10-113. Offensive threat tactics include—

- Threat or hoax.
- Arson.
- Sabotage.
- Kidnapping and hostage taking.
- Assassination.
- Hijacking.
- Raid or ambush.
- Seizure.
- Man-portable air-defense system.
- Environmental destruction.
- Weapons of mass destruction.
- Chemical, biological, radiological, and nuclear (CBRN) threats and hazards.
- Bombing.
- Suicide attack.
- Maritime delivery tactic.
- Civil disturbance.

Threats or hoaxes

10-114. Threat groups use threats and hoaxes to coerce or preclude actions by a targeted individual or population. Threats and hoaxes can dull the effectiveness of countermeasures or preventive measures when a targeted individual or population loses situational awareness or disperses finite assets against many possible threats. This tactic can also be used to gain information concerning the target's response to a potential attack and be combined with an actual attack to circumvent fixed security measures as a diversion tactic.

Arson

10-115. Arson is a malicious act that uses fire or an incendiary agent to damage, sabotage, or destroy property. Arson is one of the hardest criminal act to prove guilt due to a lack of trace evidence left at the scene that could be linked back to the perpetrator. The goal of arson is to conduct physical and psychological damage and overstretch a unit's resources by reducing its commitment to other missions.

Sabotage

10-116. Sabotage is the planned destruction of the target's equipment or infrastructure. Its purpose is to inflict psychological and physical damage. Sabotage demonstrates how vulnerable the target is to the threat group's actions. Sabotage can have significant economic impacts and also create mass casualties.

Kidnapping and Hostage Taking

10-117. Kidnapping is usually conducted against a prominent individual(s) for a specific reason. The most common reasons are ransom, some demanded action (such as release of a prisoner), or the desire to publicize a demand or an issue. A kidnapping victim may be killed once a threat group achieves its objective or perceives its demands will not be met. The success of kidnapping relies upon balancing the value of the

victim to the government, organization, or social group with the costs of meeting the kidnappers' demands. Kidnapping and hostage taking can also be used as a means of financing the organization.

10-118. Hostage taking is typically an overt seizure of people to gain publicity for causes, political concessions, political asylum, release of prisoners, or ransom. Killing hostages may occur once the group believes that it has fully exploited the media coverage from the situation. Unlike kidnapping victims, hostages are not usually prominent figures.

Assassination

10-119. An assassination is a deliberate action to kill a specific, usually prominent, individual (such as a political leader, notable citizen, collaborator, or a particularly effective government official). A group might assassinate individuals who cannot be influenced or intimidated, have left the group, who support the enemy, or have some symbolic significance to the enemy or the world. Threat groups may refer to these killings as punishment or justice as an attempt to legitimize the acts.

Hijacking

10-120. Hijacking involves the forceful commandeering of a conveyance. Normally associated with aircraft, it may also include ships, trains, vehicles, or other forms of conveyance. The type of hijacking depends on the organization's purpose. These range from hostage-taking activities, procuring a means of escape, or as a means of destruction.

Raids or Ambushes

10-121. A *raid* is an operation to temporarily seize an area in order to secure information, confuse an adversary, capture personnel or equipment, or destroy a capability culminating with a planned withdrawal (JP 3-0). A terrorist raid is similar in concept to a conventional military operation but usually is conducted with smaller forces against targets marked for destruction, hijacking, or hostage or barricade operations. In some cases, a raid is designed to allow control of the target for the execution of another operation.

10-122. An *ambush* is an attack by fire or other destructive means from concealed positions on a moving or temporarily halted enemy (FM 3-90-1). An ambush is characterized by surprise, violent execution, and speed of action. Its objective may be to cause mass casualties, assassinate an individual, or disrupt security operations.

Seizure

10-123. A *seize* is a tactical mission task that involves taking possession of a designated area using overwhelming force (FM 3-90-1). Seizure of a critical element of infrastructure typically involves a physical site of notoriety or importance to a target population, or a media or communications node that could gain widespread attention in one way or another (such as pirated broadcasts or disruption of service).

Man-Portable Air-Defense System

10-124. Man-portable air-defense systems are used in a variety of conflicts as a means to provide ground forces with the capability to reduce the threat of aircraft. Their availability to conventional and unconventional organizations provides a significant capability for attacking military and commercial aircraft.

EXAMPLES OF MAN-PORTABLE AIR DEFENSE SYSTEM

- The 1994 assassination of Rwandan president Juvenal Habyarimana and Burundian president Cypien Ntaryamira while their plane attempted to land in Kigali, Rwanda.
- The 2002 downing of a Russian Mi-26 military heavy transport helicopter in Grozny, Chechnya.

Environmental Destruction

10-125. Actors have used environmental destruction in limited cases to distribute their message. The destruction of oil tankers, poisoning of public water systems and local food supplies, and burning or destruction of oil fields can have a major impact on local economies and operations to stabilize peace and governments in conflicted regions.

Weapons of Mass Destruction

10-126. Weapons of mass destruction are CBRN weapons capable of a high order of destruction or causing mass casualties; they exclude the means of transporting or propelling the weapon where such means are separable and divisible from the weapon. This capability would allow for catastrophic results and could be delivered through numerous means.

CBRN Threats and Hazards

10-127. CBRN threats include the intentional employment of, or intent to employ, weapons or improvised devices to produce CBRN hazards. The means of a CBRN attack can range from a highly sophisticated weapon system (such as a nuclear bomb) to an improvised device (such as a rudimentary improvised radiological device).

10-128. Threats have employed, and some continue to seek, CBRN material to use these weapons when they can be obtained. Although the capability to weaponize chemical or biological material is beyond the reach of most threat groups, using these chemical or biological materials as a weapon or as a radiological dispersal device is more feasible. Many chemical and biological agent precursors are commercially available, and instructions on building a device have been found on the internet.

TOKYO SUBWAY SARIN ATTACK

On 20 March 1995, five two-person teams that were members of Aum Shinrikyo (a Japanese doomsday cult) executed near-simultaneous sarin attacks on the Tokyo Metro during the height of the morning rush hour. The liquid nerve agent was contained in plastic bags wrapped in newspaper. The attackers each carried approximately 900 milliliters of sarin (a single pinhead-size drop can be lethal). At subway stations, the sarin packets were left and punctured with the sharpened tips of umbrellas, allowing the liquid chemical agent to ooze out, slowly vaporizing within the train cars and stations. The attacks were coordinated to occur where and when the subway train routes converged on Kasumigaseki Station, the center of the capital's government district. The attackers fled in prestaged escape vehicles. First responders, hospital staffs, and hospital facilities became contaminated as they attempted to treat victims, increasing casualties and degrading emergency response and recovery. The attacks killed 12 people and injured or contaminated more than 5,500 people.

The sarin attacks marked a turning point and new level of sophistication and lethality for terrorists using CBRN weapons. A postattack analysis and criminal case study of Aum Shinrikyo revealed a history of escalating violence and showed that the Japanese police suspected their experimentation with, and intent to use, chemical weapons before the attack.

Bombing

10-129. Bombs, including IEDs, vehicle-borne IEDs, and suicide bombers wearing explosives are the favored weapon of irregular actors. They are highly destructive, flexible enough to be tailored to the mission, do not require the operator to be present, and have a significant psychological impact. They may be used as a technique to conduct other operations, such as sabotage or assassination, or can simply be a tactic to create terror through destruction and casualties.

10-130. The briefcase, backpack, or any other carried form of an IED is restricted by the size of the case that can be easily identified and separated from the attacker. The grenade or handheld bomb can be used in crowded areas, especially near buses and other forms of mass transit.

10-131. Vehicle-borne IED**s** can be positioned near facilities with the intent to kill forces by parking nearby or driving into an area or target. The bomb is then detonated by suicide initiation, time delay, or remote control. These devices have ranged from a simple passenger car to a large delivery or sewage truck. Explosives can also be placed within generators, donkey-drawn carts, and ambulances to disguise their intent.

BEIRUT, LEBANON: MARINE BARRACKS BOMBING
21 October 1983

In 1982, the United Nations requested military support to bring peace to Lebanon during the Lebanese Civil War. On 21 October 1983, a delivery van loaded with 2,000 pounds of explosives crashed through the gate of the Marine Corps barracks in Beirut, Lebanon, killing 241 American servicemembers. It was determined that Syria had facilitated this attack, and Iran had acted through the terrorist organization Hezbollah to conduct the attack. The United States and France retaliated against Syrian and Iranian interests in Lebanon; however, this bombing ultimately influenced public opinion and resulted in the withdrawal of international peacekeepers from Lebanon.

10-132. A delivered device can be mail, a parcel, or letter bomb sent through postal delivery services or delivered to a mail-handling location with the intent to injure or kill a specific person or someone within a specific organization.

UNABOMBER

May 1978 to April 1995

Theodore Kaczynski (known as the Unabomber) killed three people and injured 23 others between May 1978 and April 1995 by sending bombs through the postal system to his targets. Kaczynski's bombs were made of wooden parts. Some of the bombs contained nails and other fragments and performed like claymore antipersonnel munitions when they were opened. Kaczynski believed that the bombings were necessary to attract attention to the erosion of human freedom by modern technology.

Suicide Attacks

10-133. A suicide attack can be the act of an individual or a tactic planned and conducted by an irregular force to spotlight a grievance with intentional self-destruction and incidence of mass casualties, death, and mayhem. This tactic is typically an action used when other more conventional means of combating an enemy are overmatched and produce no results.

10-134. Suicide bombers can use various forms of IEDs to achieve their goal. In the person-borne IED tactic, attackers attempt to enter or get close to a target to place or throw an explosive or incendiary device. It also includes a person-borne suicide bomb, which usually employs high explosives with a switch or button that the person activates by hand. Explosives can also be detonated remotely by a handler. This type of device can include fragmentation bombs and can be contained in vests, belts, or clothing that is specifically modified to conceal the bomb. There have been instances where the device was implanted into the body of the perpetrator to evade detection.

10-135. The vest or belt form of an IED is the preferred method of suicide terrorists. Worn under loose-fitting clothing, the device is undetected unless the suspect is physically searched, and it cannot easily be separated from the bomber. Women have placed bombs around their chest or belly to disguise the bombs within their anatomy or appear to be pregnant.

10-136. Whatever means a suicide bomber uses, an irregular force member conducting such an act of terrorism has the ability to adjust actions until the moment of attack. In short, a suicide bomber is a terrorist version of precision munitions. These attackers have the ability to think, move, react, and determine the actual place of detonation to increase the impact. In some cases, bombers may change their minds, but the bombs can still be triggered remotely.

Note. A profile for suicide bombers has become increasingly diverse. Males, females, children, married couples, pregnant women, and families have engaged in suicide attacks. Those who volunteer to be suicide bombers may be motivated from within or outside of the conflict area. Potential suicide bombers and terrorists can be indoctrinated at an early age to avenge family grievances. They may be traumatized by violence or participate for nationalistic or self-defense reasons.

EXAMPLES OF SUICIDE BOMBINGS

- The suicide vehicle bombing of temporary military billets in Beirut, Lebanon (1983).
- The suicide vest bombing of a dining facility in Mosul, Iraq (2004).
- The suicide vest bombing in Khost, Afghanistan (2010).

Maritime Delivery Tactic

10-137. Terrorists can use small, fast maritime vessels loaded with explosives and a team of suicide bombers to attack or cripple commercial or naval vessels.

USS CARD
2 May 1964

On the night of 2 May 1964, during the Vietnam War, the aircraft carrier USS Card was in the port of Saigon. Security was being handled by the host nation security forces. After bribing security forces to gain access to the area, two Viet Cong commando divers climbed out of a sewer tunnel and attached two explosive charges to the hull. The attack sank the USS Card and killed five civilian crewmembers.

USS COLE
2000

In 2000, two Al-Qaeda members conducted a suicide attack on the USS Cole, killing 17 military personnel. The terrorists made adjustments based on the failed attack against the USS Sullivan earlier in the year. They obtained intelligence on refueling operations and stationary time in port to plan the engagement, pulling up alongside the USS Cole with approximately 270 kilograms of composition C-4 and detonating it.

CIVIL DISTURBANCE

10-138. History has shown that people everywhere demand to be treated fairly and want their grievances to be heard to right their wrong—perceived or real. Civil unrest may range from simple, nonviolent protests that address specific issues to events that turn into full-scale riots.

Note. Gathering in protest may be a recognized right of any person or group, regardless of where U.S. forces may be operating. In the United States, this fundamental right is protected under the Constitution, while other countries have various laws that protect the rights of their citizens. During unified action, U.S. forces should never violate basic civil or human rights.

10-139. Dealing with civil disturbances is a unique and challenging undertaking. This type of mission requires a great degree of situational awareness due to the following:

- Uncertain existence of potential threats.
- Close proximity to potentially hostile, abusive, and threatening noncombatants participating in the event, as well as neutral or possibly friendly noncombatant bystanders.
- Presence of media.
- Sensitive nature of military and law enforcement interaction.
- Emotionally charged and complex environment (most often in urban areas), which poses a potential for rapid escalation.

Note. For more information about civil disturbances, see ATP 3-39.33.

DEFENSIVE TACTICS

10-140. Threats can conduct defensive actions to—

- Gain time.
- Economize irregular force capabilities.
- Develop conditions favorable for subsequent offensive operations.
- Retain decisive terrain or deny access to an area.
- Cause extensive commitment of enemy forces and materiel.
- Fix forces for a specific time.

10-141. Irregular actors achieve defensive requirements through asymmetric tactics that take advantage of resources on the battlefield, reduce the capabilities of U.S. forces, and restrict ROE. Some defensive tactics include the following:

- Area defense and retrograde.
- Dispersion and hiding.
- Operational shielding.
- Enemy information activities.

Area Defense and Retrograde

10-142. Threat operations might use variations of an area defense and forms of retrograde action. In an area defense, threats may attempt to deny access to designated terrain or a resource for a specific time, limit the freedom of maneuver to an opposing hostile force, or channel hostile force elements into killing zones to attack them. Within threat capabilities, mutually supporting defensive positions attempt to defeat or destroy a hostile force as it attacks. A reserve element could be available to sustain the temporary ability to defend through reinforcement or counterattack or to help elements disengage and hide from an area of operations. The retrograde is a transitional action to regain the initiative and renew offensive actions.

Dispersion and Hiding

10-143. Dispersion and hiding in complex terrain and urban environments degrade situational understanding and complicate intelligence and targeting efforts. Urban areas offer excellent cover and concealment from ground forces and airpower because building interiors and subterranean areas are hidden from airborne observation, and vertical obstructions hinder the line of sight to ground targets.

10-144. Within an area of operations, irregular actors use safe houses that support operations due to a true belief in the cause or out of fear. Safe houses (such as guest houses) facilitate an individual's ability to discreetly travel from one location to another by providing a place to spend the night, acquire resources, obtain false documentation, or secure transportation. Organized crime syndicates, terrorist networks, and traffickers rely on safe houses to move people from place to place.

10-145. Safe houses may be houses, apartments, mosques, stores, refugee camps, barracks, or other infrastructures that house individuals involved in criminal or terrorist activities. Al-Qaeda, the Taliban, Islamic State of Iraq and Syria, and their associates have leveraged the safe house network to great ends, particularly in Afghanistan and Pakistan. The exploitation of safe house infrastructure can be sensitive for political, religious, cultural, or historic reasons. Enemy forces have been known to deliberately occupy sensitive buildings under the assumption that United States forces refrain from entering or returning fire.

Note. For more information about safe houses, see the 1954 Hague Convention for Protection of Cultural Property in the Event of Armed Conflict on the United Nations Educational, Scientific and Cultural Organization website.

Operational Shielding

10-146. Adversaries use any method necessary to operationally shield key elements of combat power from destruction by an extra-regional force, particularly by air and missile forces. This protection may come from use of any or all of the following:

- Noncombatants.
- Risk of unacceptable collateral damage.

10-147. Threats may deliberately use noncombatants as human shields. This limits forces to more stringent ROE and limits heavy firepower capability. In some areas, enemy forces have prevented civilians from evacuating likely engagement areas to ensure that a source of human shields remained available. Subversives have closed down schools and orchestrated work strikes to produce crowds of civilians in potential operational areas. Attackers have also used peaceful demonstrations as cover and a means of escape after executing an attack. Threats may use crowds of noncombatants to cover and conceal their movements and to negate multinational force movements. These groupings can conceal movements and be a means of escape after executing an attack. Some threat organizations purposely use the elderly, women, and children as human shields. Activities to create selective areas of human shields can include the following:

- Orchestrating work strikes and mass rallies.
- Coordinating peaceful-appearing demonstrations.
- Coercing civilians to gather with and around an irregular force action, security, or support element.

10-148. Types of withdrawal actions or repositioning through human shields cause terror for the noncombatants involved and may allow threats to regain a tactical initiative and renew offensive actions. Asymmetric techniques take advantage of typical restrictions on the ROE and often reduce capabilities to apply the full suite of weapon systems against an irregular force. Some defensive tactics are to—

- Disperse within a relevant population of noncombatants.
- Use noncombatants as a human shield during armed conflict with an enemy.
- Exploit positioning in close proximity to infrastructure (such as hospitals, schools, and places of religious worship).
- Conduct information warfare manipulation of actions when forces cause noncombatant casualties in combating the irregular force.

Enemy Information Activities

10-149. Enemy information activities can disrupt popular support for U.S. forces and multinational partners and garner regional and international sympathy and support. A savvy opponent could use information to influence politics or policy. Threat organizations can spread rumors or misinformation using social media,

news outlets, and word of mouth as a means to offset official information from a host nation or commanders of U.S. forces.

10-150. Adversaries exploit the lack of cultural understanding in U.S. forces. They conduct information campaigns dedicated to portray American culture as an institution bent on political and economic global domination in the name of Western democracy. Information campaigns paint U.S. military forces as brutal and unconstrained by the accepted rules of warfare. They also exploit instances of missteps due to cultural differences. The fabrication and exaggeration of American cultural shortcomings are designed to alienate the populace from supporting the United States and aid in recruiting people to support the group's ideology.

10-151. The internet provides a means to spread a group's ideology, an ad hoc means of operational connectivity, and a link to the full media spectrum for public relations. The internet facilitates recruiting, training, logistic support, planning, fundraising, and so on. News reports, streaming videos on websites, blogs, and editorials can—sometimes unwittingly—amplify the psychological effects of an incident, aid in publicizing the event globally to a much wider audience, and potentially gain further recognition of a group's cause.

EXAMPLE OF ENEMY INFORMATION

Enemy forces use sympathetic media to reinforce their narrative. Some media companies repeatedly display images of casualties and massive collateral damage and accuse U.S. forces and multinational partners of using excessive force. This footage is often manipulated to implicate U.S. forces for the resulting damage and deaths to local civilians.

To gain sympathy for their cause or mask the destructive results of violence on innocent civilians, they may create videos that contain footage of attacks on military forces, wounded women and children, and damaged local infrastructure. These videos have appeared in regional marketplaces immediately after attacks.

OTHER METHODS

10-152. As Soldiers draw conclusions based upon their observations, they should ensure that their data is as complete as possible so that their decisions have a solid foundation in evidence. Soldiers should also consider the ways in which an enemy attempts to conceal their actions.

10-153. Adversaries employ a wide variety of counterprecision techniques, including terminal defenses, advanced aircraft, extended-range precision munitions, electromagnetic and cyberspace warfare, and commercially available technology, such as Global Positioning System jamming. Adversaries increasingly employ hardened and buried facilities and multispectral decoys of key, operational-level targets.

10-154. When friendly forces use deception, the goal is to make an enemy more vulnerable to the effects of weapons, maneuvering, and the operations of friendly forces. The opposite is true when enemy forces use deception to mislead friendly forces and disguise their intent.

Note. See Chapter 2 for information about how friendly forces use deception.

10-155. Deception at the individual level can be thought of as manipulation of interest, or distraction. Interest is a sense of being involved in some process—actual or potential, whereas attention is a simple response to a stimulus (such as a loud noise). Attention without interest cannot be maintained for very long. During extended periods of uneventful observation, attention is maintained through interest. Manipulating interest enables an enemy to shift a Soldier's awareness from their actual intent to a perceived intent.

10-156. *Concealment* is protection from observation or surveillance (FM 3-96). STP 21-1-SMCT expands this definition to include anything that hides personnel, equipment, and/or vehicles from enemy observation. It can include natural concealment (such as bushes, grass, and shadows) and man-made concealment that blends into the natural terrain. Threats use the principles of concealment by positioning themselves so that natural and man-made objects obscure a Soldier's view of them and their activities. This is called hiding in dead space.

Note. See STP 21-1-SMCT and TC 3-21.75 for more information about concealment.

10-157. Dead space provides the enemy a place to hide. Dead space is an area within the maximum range of a weapon or observer that cannot be covered by fire or observation from a particular position because of intervening obstacles, the nature of the ground, characteristics of the trajectory, or the limitations of the pointing capabilities of the weapons. For example, instead of conducting some form of nefarious business in plain sight of a Soldier, the enemy might walk into an alleyway behind a building.

Note. See Chapter 3 for more information about dead space.

10-158. Camouflage is the use of natural or artificial material on personnel, objects, or tactical positions with the aim of confusing, misleading, or evading the enemy. Criminals, terrorists, and insurgents can manipulate societal baselines by mimicking benign behavior. Camouflage provides a means for the enemy to blend with the local population, allowing them to hide in plain sight.

Note. See ATP 3-50.21 for more information about camouflage.

10-159. Camouflage includes any item that people use to conceal their nature, behavior, or intent. For example, enemies may use window shades, sunglasses, or baggy clothing to conceal their nature, behavior, or intent.

10-160. Enemies also use objects that they believe troops perceive as benign or as undesirable to inflict destruction. A harmless water bottle can be combined with other objects to create an IED pressure plate. The Soldier's perception of the water bottle as a benign item may cause Soldiers to miss its relevance until it is too late. Further, as shown in figure 10-2 on page 10-28, enemies have used items, such as clocks, soda cans, litter, dead animals, and other items that, when considered on their own, are benign items. To counter this method, Soldiers should consider the context in which they are viewing an object, as this could alter their perception of the object.

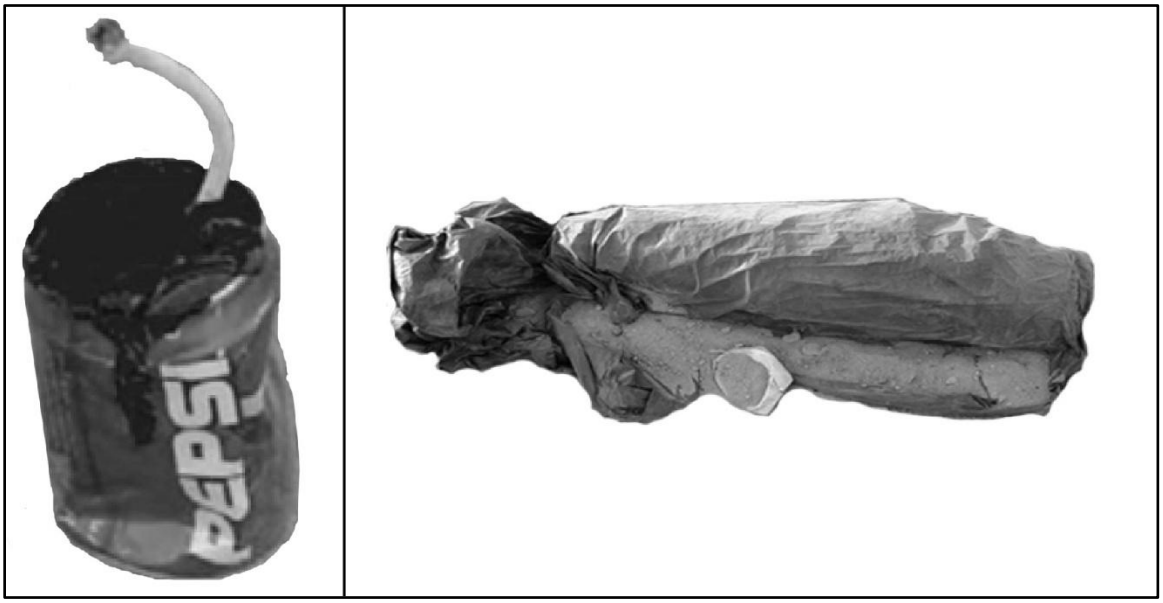

Figure 10-2. Items that exhibit camouflage

EXAMPLES

- A fake ambulance with over 1,000 pounds of explosives inside.
- A white sewage pumping truck with over 1,000 pounds of explosives hidden inside of the tank.

Olfactory warfare

- Reducing or eliminating odors in an area to hinder the adversary's ability to detect friendly forces.
- Using a decoy scent (a smell associated with certain activities) to deter attention to one area by drawing attention to another area or create false alarm.
- Using a neutral or misleading scent to mask or obscure the actions taking place in a given location.
- Using a strong, unpleasant odor to deter people from entering certain areas or progressing in a given direction.

10-161. Camouflage can also involve blending into an environment where others adopt a person's role or assume a position normally viewed as benign so that they can avoid detection. For example, an enemy could dress like a police officer in order to blend in at a police station.

MARINES AND BRITISH ARMED FORCES
14 September 2012
Camp Bastion, Afghanistan

"*Fifteen insurgents dressed in United States Army uniforms armed with automatic rifles, rocket-propelled grenade launchers, and suicide vests breached the base's perimeter fence at approximately 10 p.m. The insurgents, who were organized into three teams, began to attack fixed and rotary wing aircraft parked on the flight line, in aircraft hangars, and other buildings on Camp Bastion…*

Fires continued to burn through the night, but rounds ceased being fired a few hours after the first explosion. Fourteen insurgents were killed and one was wounded and taken into custody by coalition forces…

By the conclusion of the assault, six Harriers were destroyed and two others were significantly damaged…Two Marines were killed during the attack. Additionally, eight coalition personnel and one civilian contractor were wounded."

–Excerpts from, Running Toward Gunfire: Marines, British Forces Repel Insurgents Attacking Camp Bastion, written by SGT John Jackson, 24 September 2012.

AFGHAN NATIONAL ARMY SOLDIERS FROM THE 207th CORPS ASSISTED BY A U.S. MARINE SPECIAL OPERATIONS TEAM
15 August 2010
Village of Tangi Buzbai, Bala Murghab District, Badghis Province, Afghanistan

During a cordon and search mission, Afghan National Army soldiers from the 207th Corps assisted by a United States Marine Special Operations Team disrupted insurgent fighters, and their weapons and financing network. The joint Afghan-United States forces were attacked by an unknown number of insurgents using small arms and machine gun fire. The Afghan-led force responded with small-arms fires and precision guided munitions from coalition air forces on the insurgent positions. More than a dozen insurgents were injured or killed during the engagement.

After the engagement, two men, claiming they were civilians injured during the engagement, approached coalition forces looking to get medical treatment for their wounds; however, the men were positively identified by several Afghan sources as being insurgents. During the after action assessment, physical information was presented that led to the verification that these insurgents had been involved in the fighting. The two insurgents were taken into custody and their wounds were treated by the coalition. No civilians were injured in the engagement.

–Paraphrased from, *Insurgents Pose as Civilian Casualties as Afghan, U.S. Forces Inflict Heavy Toll on Insurgents in Western Afghanistan*, written by the Combined Joint Special Operations Task Force-Afghanistan Public Affairs

IRAQI POLICE FORCE
22 February 2006
Samarra, Iraq

"*On 22 February 2006, insurgents posing as Iraqi police officers destroyed the Golden Mosque in Samarra, one of Iraq's holiest Shi'ite shrines. The attack set off a spasm of sectarian violence that has metastasized into what some consider an intractable civil war. Since then, the insurgent tactic of infiltrating the security forces and corrupting its personnel has become almost commonplace, with catastrophic results for Iraq. The populace distrusts Iraqi security forces, coalition forces distrust their Iraqi counterparts, the Iraqi government is viewed as increasingly illegitimate, and the country has plunged into further chaos, delaying the safe transfer of security responsibilities to Iraqi forces.*

The undermining of the Iraqi police forces occurred, in part, because of negligible vetting—the investigation and selection of new recruits for the police force… Failure to vet recruits to ensure they possess the proper character can result in the infiltration of criminals, insurgents, warlords, and other undesirables into the state's security apparatus, setting up the possibility of a coup d'état or worse. This, in turn, may trigger a cycle of costly international interventions and endless peacekeeping operations."

–Excerpts from, *The Art and Aggravation of Vetting in Post-Conflict Environments*, written by Sean McFate, published in the July-August 2007 issue of Military Review: The Professional Journal of the U.S. Army

THREAT ANALYSIS

10-162. Soldiers use threat analysis to develop an understanding of a threat's capabilities, likely objectives, and desired end states. Table 10-2, pages 10-31 through 10-34, details the factors that should be considered during threat analysis.

Note. See ATP 3-37.2 for more information about threat analysis.

Table 10-2. Methodology factors for threat analysis

FACTORS	*CONSIDERATIONS*
Operational Capabilities	
Terrorist Group Tactics	• What type of attack has the terrorist group conducted in the past? • Has the terrorist group conducted large-scale or small-scale bombings, kidnappings, assassinations, drive-by shootings, or other assaults? • Has there been an indication that the group has new capabilities? • Has the group been notably unsuccessful in an attack?
Mass Casualty Capabilities	• Does the terrorist group have the capability and willingness to conduct a mass casualty attack? Has the group conducted mass casualty attacks in the past? • Has the group shown an interest in CBRN material?
Targeting Techniques	• Does the terrorist group conduct attacks that are intended to maximize casualties? • Does the group attempt to damage only property by placing IEDs after business hours or in remote locations?
State Sponsorships	• Does the terrorist group have state sponsorship? • Who is the state sponsor? • What type of intelligence, logistics, training, or funding is provided? • Is support issued from one or more governments? If so, which ones?
Group Operating Areas	• Is the terrorist group indigenous, regional, or transnational? • Can indigenous groups operate regionally or internationally?
High Technology Access	• Does the terrorist group have access to high technology? • Does the group use computers? If so, to what extent? • Can the group conduct sophisticated, technical surveillance or employ advanced IEDs? What type of equipment is used? • Where did the group get the equipment? • Who trained the group?
Operational Methods	• What is the method of operation? (A terrorist group usually continues to use tactics, techniques, and procedures that have been successful in the past.)
Professional Representations	• What is the overall level of competence? • Has the terrorist group consistently carried out successful, sophisticated attacks? • Has the group demonstrated a high or low degree of tradecraft?
Legend: CBRN – chemical, biological, radiological, and nuclear, IED – improvised explosive device	

Table 10-2. Methodology factors for threat analysis (continued)

FACTORS	*CONSIDERATIONS*
Operational Intentions	
Recent Attacks	• Has the terrorist group conducted a recent terrorist attack? If so, what type of attack? • What weapons were used? • Were pre-incident indicators noted? • Was outside support used? • Did the group take credit for the attack?
Anti-U.S. Ideologies	• Does the terrorist group have an anti-U.S. ideology? • Is the ideology stated publicly? • What are the group grievances against the United States? • What trigger events could entice the group to act?
Anti-Host Nation Ideologies	• Does the terrorist group have an anti-host nation ideology? • Does the group consider U.S. aid or support to be a hindrance to its goals? At what point would the group consider attacking U.S. interests because of this support?
Attacks in Other Countries	• Has the terrorist group conducted an attack in another country? If so, where? What type of attack? • Which type of support network was in place?
Responses to Current International Events	• Has the terrorist group responded to an international event with a terrorist attack? If so, what was the event? • What type of response did it carry out? • Has the group ever publicly denounced an international event involving the United States? • Did it threaten U.S. interests?
Operational Activities	
Presence	• Is a terrorist group present but inactive?
Fundraisers and Safe Havens	• Does the terrorist group use the country for fundraising? If so, what type of fundraising? • How much money is generated? • What is its intended use? • Is money funneled to other locations or groups? • Does the group use a country as a safe haven?
Suspected Surveillance, Threats, and Suspicious Incidents	• Has the terrorist group conducted surveillance? • Is the group proficient at surveillance? • What does the group do with surveillance information? • Has the group threatened Department of Defense or U.S. interests? • How does the group conduct surveillance? • Have suspicious events been linked to the group?
Philosophy Changes	• Has the group shown signs of changing philosophies? • Does the philosophical change include targets? • Is the Department of Defense affected?

Table 10-2. Methodology factors for threat analysis (continued)

FACTORS	*CONSIDERATIONS*
Operational Activities (continued)	
External Cells	• How does local leadership interact with external leadership? • How much contact is normal? • Does the terrorist group have connections with other cells? • Do the cells train together? • Do they share intelligence?
Key Operative Movements	• Has there been noted movement of key operatives? If so, from where to where? • Was the movement covert? • Was there a reaction from other cells? • What was the purpose of the movement? • Were code words used?
Contingency Planning	• Has contingency planning been noted? • Who or what were the targets? • How were past plans executed? • Who conducted the planning? • Was outside help used or requested? • Did any of the attacks occur after planning was noted? • How much time elapsed?
United States or Host Nation Security Element Disruptions	• Has United States or host nation security forces disrupted terrorist group activities? • Does the group perceive U.S. involvement? • What caused the disruption? • What was uncovered by security? • How does it affect group operational capability in the country?
Weapons Caches	• Have weapons caches been uncovered? If so, what weapons were found? • Are the weapons consistent with group past weapons usage? • Who supplied the weapons?
Cell Activities	• What type of activity does the terrorist group primarily conduct in country (for example, its operation, support, size of cells, and number of cells)?
United States Targeted Asset Indicators	• Is there an indication that the terrorist group is targeting U.S. assets? If so, at which stage of the planning process was the plan uncovered? • What is the timing, specific target, and location of the plan?
Terrorist Activity Intelligence Report Assessments	• What type of intelligence is being reported? • What is the source, reliability, and access of the reports?
Army Presence	• What is the size, location, and duration of Army presence in the country? • What are Army personnel doing in the country? • What is the terrorist perception of Army significance? • How politically sensitive is the Army presence? • What could entice the terrorists to attack Army interests?

Table 10-2. Methodology factors for threat analysis (continued)

FACTORS	*CONSIDERATIONS*
Operational Environments	
External Influence	• Is the host nation at war? • Could this influence a terrorist group to attack? • Is there active insurrection? • Is the terrorist group involved in the insurrection?
Host Nation Security and Cooperation	• Can host nation security (including national law enforcement, paramilitary, and military institutions) maintain social order? • How well are security forces trained to respond to terrorist incidents? • What equipment is available for security forces? • How are forces dispersed around the country? • Does the host nation cooperate with U.S. authorities? • Does the host nation share information?
Political Influence	• What political influences are affecting the motivation of the terrorist group to attack? • Did host nation strategies become more stringent after previous terrorist acts occurred?

10-163. By understanding a threat's capabilities, likely objectives, and desired end states, Soldiers can identify potential courses of action. When considering possible courses of action, Soldiers should consider the following, at a minimum:

- The courses of action that the threat's doctrine assumes the threat will use in the current situation and the threat's most likely objectives.
- The courses of action that could greatly influence the friendly unit's mission.
- The courses of action that may exceed the boundaries of known threat doctrine or tactics, techniques, and procedures, even if threat doctrine generally considers them unfeasible.
- The courses of action indicated by recent activities and events.

10-164. Each proposed course of action should meet five criteria:

- Suitability. If the course of action is successful, it accomplishes the threat's objective.
- Feasibility. The threat has the time, resources, and space available to execute the course of action.
- Acceptability. The threat's tactical or operational advantage gained by executing the course of action justifies the cost.

Note. The threat might undertake an unfavorable course of action if they believe there are no other choices.

- Distinguishability. Each threat course of action should differ greatly from the others.
- Completeness. The course of action shows how the decisive operation accomplishes the mission and how shaping and sustaining operations support the decisive operation.

10-165. Once identified, Soldiers should evaluate and prioritize each course of action according to the likelihood that the threat will adopt that option and the degree of damage that would be inflicted by the course of action. These are known as the MLCOAs and MDCOAs. Once identified, these courses of action should be developed into as much detail as time allows. To ensure completeness, each course of action answers six basic questions—who, what, when, where, how, and why.

PART FIVE

Conducting Advanced Situational Awareness Training

ASA training produces skills that are valid across the range of military operations. In an asymmetrical environment, Soldiers trained in this skill are capable of identifying the enemy who blends into the host nation populace. In a conventional conflict, they detect the enemy at greater distances and provide early warning and detection for conventional formations.

Chapter 11

Training Strategy

The ASA training strategy is a concept for integrating resources into a program to train and sustain ASA skills. This training supports Subject Area 11 warrior tasks and battle drills (such as Survive/Maintain Situational Awareness) and other efforts to integrate the human dimension into all areas of soldiering, including the ES2 program and the Maneuver Leader Development Strategy. The ASA training strategy begins in the institution through courses taught at the United States Army Infantry School and continues to the unit, where sustainment training continues to build on the skills presented during training. This chapter outlines this training strategy.

TRAINING STRATEGY AND PHILOSOPHY

11-1. ASA training depends on four tenets:

- Combat lethality as an end state.
- Academic training reinforced by realistic, immersive range training exercises.
- Continuous training and individual growth.
- Integrated training.

11-2. ASA training is designed to support Soldiers' cognitive skills on the battlefield to create preemptive decision-making over threats, thereby increasing their combat lethality. Training should be approached with a combat focus and an understanding of the tactical mindset.

"*The best weapon we have in the Army is still the U.S. Soldier. He or she is also the most precise weapon that the Army has because of a combination of skills, experience, and knowledge*."

–Sergeant Major of the Army Raymond F. Chandler III

11-3. During academic training, Soldiers are introduced to the ASA principles within a classroom environment. Then, academic concepts presented during classroom training are reinforced using realistic, immersive exercises conducted on ranges.

Note. This course is best taught using ASLTE principles.

11-4. Learning ASA skills is a process, not an event. Training should not end upon graduation from a training course. For Soldiers to develop their abilities, the majority of the training happens outside of the institutional training environment. As professional warfighters, Soldiers should strive for excellence in all areas of warfighting. Soldiers should strive toward individual growth and personal mastery of ASA skills.

EXAMPLE

Examine people in their environment (public places, such as malls, bars, and other social gatherings) to conduct data on social interaction.

11-5. Situations where ASA skills can be applied do not happen in a vacuum; they happen as part of missions. To give Soldiers the tools they need to successfully complete their missions, ASA become an integral part of training.

EXAMPLES

During a live-fire exercise, place items with subtle intelligence value on the objective. These items can be hidden among targets or around the objective. Require the element to construct a picture of the events occurring at the location.

During force-on-force training, have the opposing force behave as to indicate the presence of a clear enemy chain of command. Further, visual cues (such as hidden equipment, documents of intelligence value, and ground sign indicators) can be presented. Have the element search the captured members of the opposing force. Use evidence to paint a picture of past or future events and identify enemy composition, disposition, intentions, affiliations, and motivations.

As part of a situational training exercise, construct an apparently abandoned enemy camp. Require participants to derive information about the enemy to determine the enemy's composition and disposition. Include signs (such as footprints, litter, and documents of intelligence value) to facilitate predictive analysis.

Note. Chapter 13 provides more information about the ways ASA principles can be integrated into training.

OBJECTIVES

11-6. The process for implementing the ASA training strategy is based on the concept that Soldiers should participate in realistic, applicable training to prepare them to perform the following actions in combat:

- Utilize understanding of the human sensory system to establish cognitive dominance by impacting awareness and promoting diligent observation.
- Promote communication and accurate reporting to improve situational understanding.
- Employ knowledge of ASA human domains about people and organizations within an OE.
- Apply critical thinking and problem-solving skills to perform predictive analyses that foster performance enhancement and resiliency, promote adaptability, support prompt decision-making, and enable proactive thinking and event preemption.
- Demonstrate ASA principles in complex, uncertain environments.
- Apply principles of cultural awareness, self-analysis, and social awareness to human behavior pattern recognition and analysis.

COMPONENTS

11-7. There are two primary components of the ASA training strategy: institutional training and continuous sustainment training within the unit.

Note. If a long period of time elapses between initial and sustainment training sessions, or if doctrine or training materials are altered, retraining might be required.

INSTITUTIONAL TRAINING

11-8. As the proponent for institutional training, the United States Army Infantry School provides ASA training to Soldiers that enhances their ability to understand and interact in complex and dynamic operational environments while conducting combined arms maneuver and wide area security.

11-9. These institutional courses are associated with the ASA training effort:

- ASA–Basic.
- ASA–Advanced.

11-10. The ASA–Basic course trains personnel of all ranks and in various military occupational specialties to develop sophisticated decision-making abilities for application in complex, irregular, and ambiguous environments. The ASA–Basic course is divided into two parts: a period of academic-style presentation of cognitive data and a period of scenario-based training in a complex and dynamic field environment.

Note. This training is conducted at the proponent institution, as well as by using mobile training teams.

11-11. This training addresses the following areas:

- Classroom training and practical exercises.
  - Pre-assessment exam.
  - Predictive profiling.
  - Human sensory system.
  - Principles of observation.
  - Cognitive processing.
  - Decision-making process.
  - Identifying potential threat courses of action.
  - Force multipliers.

  - Domains of awareness.
  - Maslow's hierarchy of needs.
  - Understanding the threat mindset.
  - Five stages of the killing mindset.
  - Seven-step terrorist planning cycle.
  - Insider threats.
- Written post-training assessment test.
- Scenario-based training (day and night).
- Final situational training exercise.

11-12. The advanced course sets a foundation for mastering the critical thinking skills of situational awareness. These skills promote force protection and mission planning that enables unit success in future operations shaped by information complexity and adaptive threats. It also prepares attendees to assist commanders with planning, resourcing, and conducting initial ASA unit training and skill sustainment, and with developing realistic training plans and exercises.

11-13. This training addresses the following areas:

- Pre-assessment exam.
- Classroom training and practical exercises:
  - Introduction to ASA–Advanced.
  - Practical application of ground sign awareness.
  - Domains of ASA.
  - Decision-making.
  - Five stages of the terrorist mindset.
  - Red cell exercises (planning, briefings, reconnaissance, final planning, and briefings).
  - Mobile observation.
  - Training (for example, training plan development, training ground sign awareness, and training plan execution).
- Teach-backs.
- Individual student performance counseling.
- Post-training assessment exam.
- Retesting.
- Course graduation.

SUSTAINMENT TRAINING

11-14. Sustainment training continues in the regular Army, Army National Guard, and United States Army Reserve units using the same basic skills taught in the institutional courses. To sustain the skills taught during institutional training, Soldiers who have attended the ASA–Advanced course conduct ASA-focused training and identify areas for inclusion of ASA skills into other unit training.

Note. See Chapter 13 for more information about ASA-focused training exercises and about methods for integrating ASA principles into unit training.

INSTRUCTORS

11-15. The mission of an ASA instructor is to teach Soldiers how to apply ASA skills to promote cognitive dominance and combat lethality in all conditions and environments. Competent ASA instructors are key to Soldiers effectively performing ASA skills during combat. Instructors also serve as the validation point for any questions during training.

Note. All commanders must be aware of the importance of maintaining expertise in instruction and training.

INSTRUCTOR TRAINING

11-16. ASA instructor training consists of three levels:

- Phase 1: foundational instructor training.
- Phase 2: instructor subject matter expertise.
- Phase 3: continuing professional development.

11-17. Each phase is designed to standardize the instruction of specific skills. The courses associated with these levels are taken progressively, with sufficient intervals between them to allow mastery of the course material.

11-18. During phase 1, Soldiers attend an ASA–Basic course or conduct self-study to learn rudimentary information about the discipline of ASA. At the conclusion of this phase, Soldiers should be able to perform the following actions:

- Demonstrate knowledge of the human sensory system and its impact on awareness, enhanced perception, and situational understanding.
- Demonstrate knowledge of the domains of awareness.
- Demonstrate critical thinking and problem-solving skills to establish a baseline and detect anomalies and critical event cues.
- Demonstrate situational understanding and articulate observations and information in a complex, three-dimensional operational environment.
- Apply ASA principles to perform predictive analyses of MLCOAs and MDCOAs in order to identify external and insider threats and preemptively predict threats.
- Demonstrate cognitive dominance in order to promote resiliency, adaptability, mental toughness, critical thinking, problem solving, decision-making, and enhanced communication.

11-19. During phase 2, Soldiers complete ASA–Basic and ASA–Advanced training presented by institutional instructors in sequence, as well as conduct in-depth self-study. During this phase, Soldiers demonstrate knowledge of instructional design, classroom management, presentation techniques and skills, knowledge and abilities to lead, educate, train, and mentor students. Soldiers who complete this phase are effective communicators, encourage student participation, and understand ASLTE learning practices and apply them to maintain attention, gain student feedback, and enhance retention. This phase is designed to produce Soldiers who can present practical exercises that support ASA principles and assist in the integration of concepts into planned unit training. At the conclusion of this phase, Soldiers should be able to perform the following actions:

- Exhibit mastery of the subject matter (also called subject matter expertise).
- Demonstrate effective communication skills (verbal, listening, and written).
- Display ASLTE instructional skills through demonstrating:
  - Implementation of ASLTE principles.
  - Promotion of active learning.
  - Effective face-to-face presentation, teaching, facilitation, and mentoring skills.
- Demonstrate classroom management:
  - Preparation (such as classroom, roster, handouts, workbooks, and practical exercises).
  - Mastery of instructor equipment and technology.
  - Management of the learning environment.
- Apply ASA principles in realistic, complex, individual and unit training exercises by—
  - Advising commanders on methods to incorporate ASA principles into realistic unit training.
  - Developing realistic training plans and exercises that enable unit success in future operations shaped by information complexity and adaptive enemies.

- Promoting the use of role-players and other methods to simulate continually evolving, complex dilemmas requiring critical thinking and decision-making in culturally diverse, joint, interagency, intergovernmental, and multinational environments.

- Perform instructor self-development, as detailed in the 21st century Soldier competencies:
  - Adaptability and initiative studies and training (ASLTE, reading list, and written reports).
  - Critical thinking and problem-solving studies and training.
  - Communication/engagement studies and training (verbal, oral, and written).
  - (See the Strength Maintenance Training Center website for more information on Soldier competencies.)

11-20. Phase 3 continues the professional development. Mastery of this material requires additional study. For the resources necessary to master this discipline, see the U.S. Army, Fort Benning 3-16 Cavalry website.

EFFECTIVE INSTRUCTOR

11-21. Effective ASA instructors have a number of traits. Soldiers selected for this role exhibit the following characteristics:

- Knowledge.
- Motivation.
- Respectfulness.
- Ability to maintain respect.
- Sincerity.
- Patience.
- Approachable persona.
- Honesty and fairness.
- Organization.
- Alertness.
- Ability to communicate.
- Integrity.

11-22. Understanding and applying these traits are critical in successfully transferring knowledge to Soldiers during all ASA training. Effective instructors have a complete understanding of all materials and publications associated with ASA, including this publication and supporting publications. They demonstrate comprehension and proficiency in all aspects of ASA and understand the importance of ASA training.

11-23. An instructor's job is to continuously motivate students and keep them mentally prepared for learning Instructors provide real-world examples throughout the course to show ASA applicability and emphasize the importance of practicing ASA skills in various environments. Effective instructors consistently encourage students to do their best and reassure them that, with practice and self-development, their skills will improve over time.

11-24. Most students, even those who do not perform well, begin training with great enthusiasm. Successful instructors have helpful, positive attitudes and are supportive of their students. ASA instructors who are considerate of Soldiers' feelings and encourage them throughout their training find training is a pleasant and rewarding duty. Remember, treat Soldiers as Soldiers, and they will act like Soldiers.

11-25. An instructor must earn and maintain the Soldier's respect. Students see instructors as technical experts and authorities on ASA and instructors’ instructions are better received when students respect them.

11-26. Effective ASA instructors help Soldiers understand that close observance of instruction leads to success. They believe the content of the lessons are important, and their sincere belief is conveyed to the students.

11-27. Effective ASA instructors are patient. They train for skill, not for time. They take the time to evaluate their students' performance before making recommendations, so they can provide individualized solutions to performance problems.

11-28. Effective ASA instructors relate to the Soldier calmly, persistently, and patiently. An effective instructor is sensitive to the pressures of performance and realizes that not all students perform at the same level during training; weaker students may need instruction reinforced more often than stronger students. If Soldiers cannot ask questions of their instructor, they will not ask at all.

11-29. Honesty and fairness are necessary traits of an effective ASA instructor. Soldiers do not listen to what is said when they do not trust their leadership. Effective instructors state the truth, even when they do not have the answers.

11-30. Effective ASA instructors are organized. They have a plan and execute it. They do not waste time.

11-31. The best ASA instructors focus 100 percent of their attention on their students. An alert instructor can identify a student's weaknesses and correct them before they become habitual.

11-32. Effective ASA instructors speak clearly and to the point. They answer any questions that pertain to ASA principles accurately and in a manner that students easily understand. They impart their knowledge and help Soldiers gain practical experience.

11-33. Effective ASA instructors possess integrity beyond reproach. The validity of the training resides with an instructor's integrity.

TYPES OF INSTRUCTORS

11-34. Each ASA course has a designated primary instructor and assistant instructor. The roles these types of instructors play differ primarily in terms of instructional activities associated with courses.

Primary Instructor

11-35. The primary instructor has overall responsibility for the preparation, coordination, synchronization, and execution of a particular course. Primary instructors—

- Are the instructors of record for ASA courses.
- Have primary instructional responsibilities and are normally the trainers who deliver instruction to students.
- Ensure proper evaluation of a student's performance in all events.
- Serve as subject matter experts for all areas of ASA.
- Understand how to operate all training aids, simulations, and audiovisual and computer equipment associated with course presentation.
- Continuously evaluate courses for effectiveness and efficiency and provide appropriate feedback to the training development proponent, when necessary.
- Ensure that all instruction is conducted according to course requirements.

Assistant Instructor

11-36. Assistant instructors are responsible for assisting the primary instructor, as directed. Assistant instructors may provide instruction for a given portion of a course, assuming the role of primary instructor for that portion. Assistant instructors—

- Act under the direct supervision and active guidance of a primary instructor.
- Understand how to operate all training aids, simulations, and audiovisual and computer equipment associated with a given portion of course presentation.

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Chapter 12

Eight-Step Training Model

Training models can provide a framework for planning and managing training events. The eight-step training model is a simple, progressive approach to planning and executing training. Commanders and leaders can use this model to organize and record planning progress and details to ensure proper preparation for an upcoming training event, with the goal of maximizing limited time and resources. The eight-step training model also provides a vehicle for creating continuity for similar training events in the future.

Note. Training models such as the eight-step training model, are only guides and not lock-step processes. They can be useful, but they are, effectively, just modifications of the military decision-making process or troop-leading procedures. See ADP 7-0 for additional information about training models and the role they play in unit training management.

There are eight steps to this training model:

- Step 1: Plan the training.
- Step 2: Train and certify leaders.
- Step 3: Reconnoiter the training site.
- Step 4: Issue an operation order for the training.
- Step 5: Rehearse.
- Step 6: Execute the training.
- Step 7: Conduct an after-action review.
- Step 8: Retrain and retry as necessary until the standard is achieved.

STEP 1: PLAN THE TRAINING

12-1. During this step, leaders perform the following actions to establish the groundwork for high-quality training:

- Assess the unit's training level and the shortfalls that require training.
- Develop specific, obtainable training objectives for the upcoming event.
- Allocate adequate time in the training schedule.
- Create scenarios and instructions to support the training objectives.
- Identify required resources, including necessary training areas and possible trainers.
- Identify and reduce risks.
- Develop training support plans.

STEP 2: TRAIN AND CERTIFY LEADERS

12-2. The train-the-trainer concept implicit in this step ensures that those responsible for training the unit are qualified to conduct the training. This involves ensuring that they have a thorough knowledge of the subject matter to be trained and are able to provide proper instruction and certification.

STEP 3: RECONNOITER THE TRAINING SITE

12-3. Leaders reconnoiter proposed training areas and facilities to ensure that they can adequately support the proposed training and allow the unit to accomplish the desired training objectives.

12-4. During this step, leaders ensure that all resources, training areas, and training support plans are properly coordinated and ready for execution. During this step, plans can also be modified to maximize training effectiveness.

Note. Training not properly planned, coordinated, and supported with adequate resources should not be performed.

STEP 4: ISSUE AN OPERATION ORDER FOR THE TRAINING

12-5. Commanders and leaders ensure that subordinates have all available information to adequately perform the training. Through issuing an operation order, the commander clearly identifies the training objectives, presents a clear mission statement, clearly defines the training event and how it will be conducted, and properly tasks subordinate leaders and those who support the training.

12-6. Vital to this step is a clear understanding of exactly what the training seeks to accomplish, how the unit accomplishes it, what resources are needed, and who is responsible.

STEP 5: REHEARSE

12-7. Rehearsals are critical to the execution of any plan. All those involved in the training event are included in the rehearsal to ensure understanding, synchronization, and preparation of the plan. Leaders supervise rehearsals to ensure that those responsible for the training are prepared to conduct efficient, organized, and effective performance-oriented training.

STEP 6: EXECUTE THE TRAINING

12-8. Commanders ensure that the training occurs on schedule. This entails maximum participation, minimum training distractions, and leader participation and supervision.

Note. This does not mean that leaders run the training event. Trainer should be allowed to do their job, while leaders ensure that the standard is met.

STEP 7: CONDUCT AN AFTER-ACTION REVIEW

12-9. Following the conduct of a training event, commanders conduct after-action reviews. During these events, they review the training objectives, compare the unit's training level and the objectives, and obtain lessons learned to improve the training and unit tactics, techniques, and procedures. Commanders record all input and file it for future use in other training events or unit standard operating procedures.

Note. The Unit Training Management tab located on the Army Training Network provides guidance on conducting effective after-action reviews.

STEP 8: RETRAIN AND RETRY AS NECESSARY UNTIL THE STANDARD IS ACHIEVED

12-10. Too often, this step is neglected because of limited time or resources. However, this step is sometimes the most critical.

12-11. Training instills competency and confidence in Soldiers, units, and leaders and enables the unit to complete its mission as established by the training objectives. Commanders honestly assess their units and ensure that their units train until the standard is met.

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Chapter 13

Applying Advanced Situational Awareness Principles in Training

This chapter contains sample events and methods for incorporating ASA principles into training. These concepts are not prescriptive. Commanders should be creative when incorporating these ASA concepts. In this chapter, these exercises are divided into segments based upon the skills desired.

OBSERVATION, RECALL, RETENTION, AND COMMUNICATION

13-1. Exercises that assist in observation, recall, retention, and communication include—

- Keep in memory (known as KIM) games.
- Micro-observation pit exercises.
- Range estimation exercises.
- Observation lane exercises.
- Observation house exercises.
- Village entry exercises.

KEEP IN MEMORY GAME

13-2. Soldiers should be able to observe vast areas and accurately record any and all information. Because many situations occur suddenly and do not offer opportunities for prolonged observation, Soldiers learn to extract the maximum amount of information from any situation, even when able to observe for only short periods of time. KIM games are a series of exercises that can help increase a Soldier's abilities to perceive reality and retain information, even when the object being observed is no longer visible. The name of the game comes from the book, *Kim*, by Rudyard Kipling. The story is about a young Indian boy who was trained to remember combat information during the British occupation of India.

13-3. KIM games can be conducted anywhere in very little time, with a large return for the trainer's investment of effort and imagination. Although the various time limits of viewing, waiting, and recording the objects are often not reflected in tactical reality, KIM games are designed to exercise the mind through overload (much the same as weight training overloads the muscles).

13-4. Advancement in KIM games is measured by shortening the observing and recording times and lengthening the waiting time between observing and recording. Greater results can be realized by gradually adding additional elements to increase confusion and uncertainty.

13-5. The basic game is flexible. It can be performed in an infinite number of locations and requires few resources. To perform the game, the instructor should follow the example steps outlined in table 13-1 on page 13-2.

Note. Additional tools to support ASA training events and games are available on the AKO/Communities Advanced Situational Awareness website.

Table 13-1. Performing a keep in memory game, example

PERFORMING BASIC KIM GAMES

Resources: A table, a cover, 10 assorted objects, paper, pencils.

Note. The quantity of these resources is modified based upon the number of students performing the exercise. Tables should be organized so that all participants can see all items.

Preparation: To prepare for the game, the instructor performs the following steps:

- Select 10 objects.
- Place the objects randomly on the table.

Note. Do not place the objects in orderly rows, since studies show that placing objects in rows makes the task of memorization easier.

- Create an answer key to facilitate easy discussion at the conclusion of the exercise.
- Cover the objects.

Conduct: To perform the game, the instructor performs the following steps:

- Brief the students on the following rules before each iteration:
  - Do not talk.
  - Do not touch objects.
  - Do not write until told to do so.
  - Do not take pictures.
- To aid in retaining and recording their observations, students can use the following standardized categories:
  - Size: describe the object by giving the three dimensions in a known unit of measure or with a known object.
  - Shape: draw a rough sketch of the object.
  - Color: record the color of the object.
  - Condition: describe the object by giving the general or unusual condition of the object (such as new, worn, or dented).
  - Appearance: describe what the object appears to be (such as an AK-47 round 8996 or radio handset).
- Gather students around the table.
- Remove the cover, and begin the time for viewing.
- Allow students to observe the objects for a period of time.

Notes. 1. The instructor determines the time allowed for observing and recording. These times are dependent upon the students' level of training. Table 13-2 provides an example format for timelines.

2. As students increase in skill, instructors can add additional stressors, such as firing a pneumatic gun, decreasing time standards, or requiring students to perform physical activities.

- At the end of the time limit, replace the cover.
- Direct students to return to their seats.
- Allow a designated period of time to elapse.
- Direct students to begin writing their observations. (Additional tools to support ASA training events and games are available on the AKO/Communities Advanced Situational Awareness website.) Identify the designated time for completion.
- Allow the students to record their observations.
- Direct students to stop writing their observations once it is the designated time for completion.

Table 13-2. Example format for keep-in-memory game exercise schedule

EXERCISE NUMBER	*OBSERVE (MINUTES)*	*RECORD (MINUTES)*	*REMARKS*
1	2:00	3:00	No distractions.
2	2:00	3:00	Noise during recording.
3	1:50	2:50	Only blanks may be fired while recording.
4	1:50	2:50	Soldiers do PT between observe and record.
5	1:50	2:30	Two-hour delay between observe and record.
6	Repeat exercise 1.		
Legend: PT – physical training			

MICRO-OBSERVATION PIT EXERCISE

13-6. The micro-observation pit exercise is a variation of the KIM game designed to reinforce retention and recording of details about objects observed for a limited period of time. Unlike KIM games, the micro-observation pit exercise requires Soldiers to map the location of the objects observed. To perform the exercise, the instructor should perform the steps outlined in table 13-3, pages 13-3 and 13-4.

Table 13-3. Performing a micro-observation pit exercise, example

PERFORMING A MICRO-OBSERVATION PIT EXERCISE

Resources: A table, a cover, 10 assorted objects, pencils.

Note. The quantity of these resources is modified based upon the number of students performing the exercise. Pits should be organized so that all participants can see all items.

Preparation: To prepare for the game, the instructor performs the following steps:

- Using engineer tape, tapes off a 3-foot circle or square.
- Selects 10 objects.
- Places the objects randomly into the pit.

Note. Do not place the objects in orderly rows, since studies show that placing objects in rows makes the task of memorization easier.

- Create an answer key to facilitate easy discussion at the conclusion of the exercise.

Conduct: To perform the game, the instructor performs the following steps:

- Brief the students on the following rules before each iteration:
  - Do not talk.
  - Do not touch objects.
  - Do not write until told to do so.
  - Do not take pictures.
- To aid in retaining and recording their observations, students can use the following standardized categories:
  - Size: describe the object by giving the three dimensions in a known unit of measure or with a known object.
  - Shape: draw a rough sketch of the object.
  - Color: record the color of the object.
  - Condition: describe the object by giving the general or unusual condition of the object (such as new, work, or dented).

Table 13-3. Performing a micro-observation pit exercise, example (continued)

PERFORMING A MICRO-OBSERVATION PIT EXERCISE (CONTINUED)

  - Appearance: describe what the object appears to be (such as an AK-47 round 8996 or radio handset).
- Gather students around the table.
- Begin the time for viewing.
- Allow students to observe the objects for a period of time.

Notes. 1. The instructor determines the time allowed for observing and recording. These times are dependent upon the students' level of training.

2. As students increase in skill, instructors can add additional stressors, such as firing a pneumatic gun, decreasing time standards, or requiring students to perform physical activities.

- At the end of the time limit, direct students to return to their seats.
- Allow a designated period of time to elapse.
- Direct students to record their observations. (Additional tools to support ASA training events and games are available on the AKO/Communities Advanced Situational Awareness website.) Identify the designated time for completion.
- Direct students to stop once it is the designated time for completion.

Additional tools to support ASA training events and games are available on the AKO/Communities Advanced Situational Awareness website.

RANGE ESTIMATION EXERCISE

13-7. Soldiers should be able to correctly estimate the distance to objects effectively in order to report reliable combat information. To perform the exercise, the instructor should perform the steps outlined in table 13-4.

Table 13-4. Performing a range estimation exercise, example

PERFORMING A RANGE ESTIMATION EXERCISE

Resources: An area that enables observers to see 500 to 1,000 meters, with a well-defined observation line (preferred, but distances can vary depending on preference), binoculars and/or spotting scope and assigned weapons' optics (for example, advanced combat optical gunsight or M145 machine gun optic), ten enemy silhouette targets, laser range finder, paper, pencils.

Preparation: To prepare for the exercise, the instructor performs the following steps:

- Place the targets randomly within the observation area. Assign each target a number or letter to make references easier.

Note. Do not place the objects in orderly rows.

- Using some type of laser range finder, determine the range to each target. Document this information to create an answer key.

Conduct: To perform the exercise, the instructor performs the following steps:

- 1. Brief the students on the following rules before each iteration:
  - Do not talk.
  - Do not move closer to the observed area.
  - Do not write until told to do so.
  - Do not take pictures.
- Guide the students to the observation line.
- Identify the observation method to be used (eye estimation).
- Begin the time for viewing and recording.
- Allow students to observe the targets for 5 minutes.
- At the end of the time limit, require students to cease recording.
- Distribute binoculars. Identify the observation method to be used (binocular estimation).
- Begin the time for viewing and recording.
- Allow students to observe the targets for 5 minutes.
- At the end of the time limit, require students to cease recording.
- Distribute assigned weapons' optics. Identify the observation method to be used (assigned weapon's optic estimation).
- Begin the time for viewing and recording.
- Allow students to observe the targets for 5 minutes.
- At the end of the time limit, require students to cease recording.

Additional tools to support ASA training events and games are available on the AKO/Communities Advanced Situational Awareness website.

Note. As students increase in skill, instructors can add additional stressors, such as firing a pneumatic gun, decreasing time standards, or requiring students to perform physical activities.

OBSERVATION LANE EXERCISE

13-8. Observation lane exercises sharpen Soldiers' observation and perception skills and their skill in using optics. To perform the exercise, the instructor should perform the steps outlined in table 13-5.

Table 13-5. Performing an observation lane exercise, example

PERFORMING AN OBSERVATION LANE EXERCISE

Resources: An area partly cleared at least 50 meters in depth and 50 meters in width, with well-defined left and right limits, and a well-defined observation line (preferred, but distances can vary depending on preference); one pair of binoculars per student; ten full-sized and small-scaled military items, scaled appropriately (can include radio antennas, small-scale mock vehicles, batteries, map protractors, weapons, rifle cleaning rods, military radio batteries, dog tags, pocket knives, boonie hats, Alice packs, face paint tubes, shooting stools, helmets—nothing larger than a 155-mm artillery shell); paper; and pencils.

Preparation: To prepare for the exercise, the instructor performs the following steps:

- Establish a centerline in the middle of the observation area (see figure 13-1).
- Place the items randomly within the observation area so that all items are visible from the prone position at the centerline. Place some items in locations where only a portion of the item is visible.

Note. Do not place the targets in orderly rows. Nothing should be higher than arm's reach.

- Identify left and right limits using tape or another form of identification.

Conduct: To perform the exercise, the instructor performs the following steps:

- Brief the students on the following rules before each iteration:
  - Do not talk.
  - Do not move closer to the observed area.
  - Do not write until told to do so.
  - Do not take pictures.
- Guide the students to the observation line.
- Identify the observation method to be used (eye estimation).
- Begin the time for viewing.
- Allow students to observe the targets for 5 minutes.
- At the end of the time limit, require students to begin constructing a terrain sketch identifying the location of found objects.
- Distribute binoculars. Identify the observation method to be used (binocular estimation).
- Begin the time for viewing and recording.
- Allow students to observe the objects for 20 minutes.
- At the end of the time limit, direct students to stop writing their observations.
- Ask the students to guide an assistant instructor to each object. Once the object's location has been identified, have the students observe the area (moving positions if necessary) to identify the object.

Additional tools to support ASA training events and games are available on the AKO/Communities Advanced Situational Awareness website.

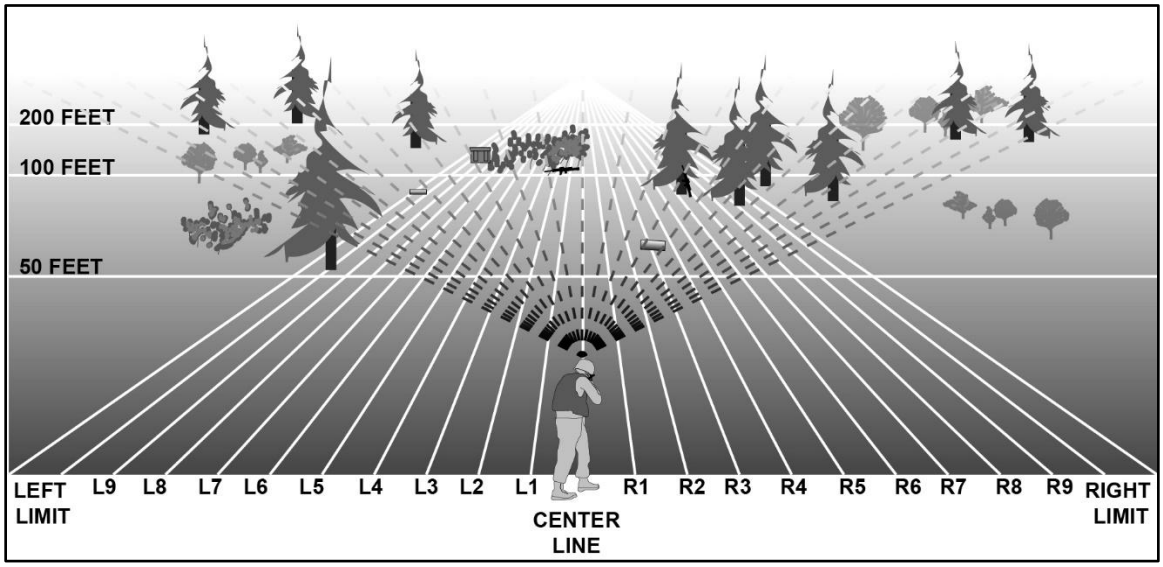


Figure 13-1. Observation lane exercise layout

OBSERVATION HOUSE EXERCISE

13-9. Observation house exercises combine observation and critical-thinking skills, enabling a Soldier to link their observations with their meanings. To perform the exercise, the instructor should perform the steps outlined in table 13-6, page 13-8.

Table 13-6. Performing an observation house exercise, example

PERFORMING AN OBSERVATION HOUSE EXERCISE

Resources: Bottle of fake blood; one expended round from an AK-47; one magazine from an M4; one camouflage jacket; one camouflage mesh head wrap/sniper veil; one 6-foot long rope; one cell phone and batteries; terrorist or anarchist literature; one map of a military installation; one ammunition can full of batteries; one bottle of acetone; one ticking wind-up alarm clock; a facility (such as a house or container express) containing a minimum of the following furnishings: five tables with cloths, five rugs, pictures hanging on all walls, two hookahs, three armoires with at least four hanging articles of clothing, food items, plates, dishes, utensils, four chairs, eight pillows, four end tables, one couch, two computers, two phones, book shelf with books, and two beds; paper; and pencils.

Preparation: To prepare for the exercise, the instructor performs the following steps:

- Arrange items throughout the house to simulate events that have occurred within the facility.
- Complete a key by drawing all items. Include their sizes, shapes, identification (what the item is), conditions, and colors.

Conduct: To perform the exercise, the instructor performs the following steps:

- Brief the students on the following rules before each iteration:
  - Do not talk.
  - Do not move closer to the observed area.
  - Do not write until told to do so.
  - Do not take pictures.
- Guide the students to the facility. Explain that students have 5 minutes to move about the house freely, utilizing all of their senses to detect anomalies and observe the contents of the facility. Taking notes and use of artificial light is authorized.
- Allow the students to move about the house freely for 5 minutes. Provide time notifications at every 30-second mark below 2 minutes.
- Once the time expires, students will the house.
- Students have 5 minutes to recall and assess the items. During this time, no talking is allowed. During the recall and assessment, students identify and note anomalies or items that are potentially dangerous by themselves or when combined with other items in the vicinity.
- Allow students to identify and discuss anomalies and potentially dangerous items for 5 minutes. Ensure that all potentially dangerous items and anomalies are identified.
- Remove, replace, and rearrange selected items within the facility.
- Perform another iteration of the exercise so that students can see their improvement.
- At the end of the time limit, require students to cease recording.

This event is critiqued during an after-action review.

GROUND SIGN AWARENESS PIT EXERCISES

13-10. Ground sign awareness pit exercises sharpen a Soldier's understanding of how sign is perceived and the information that can be gathered using this evidence by linking sign to the appropriate action indicators. To perform the exercise, the instructor should perform the steps outlined in table 13-7, and table 13-8 on page 13-10.

Table 13-7. Ground sign awareness pit exercise number one, example

GROUND SIGN AWARENESS PIT EXERCISE #1

Resources: A 20-foot by 20-foot flat area composed of soft, porous, sandy dirt that can be raked; a rake; a shovel; at least five tape measures; and at least four threat weapons.

Note. The size of the area may vary according to the size of the group receiving the presentation. Ensure that all students have an unobstructed view of the pit. Rake the pit between demonstrations so that students are shown examples of uncontaminated sign.

Conduct: To perform the exercise, the instructor performs the following steps:

- Describe time-showdown effect.
  - Make one footprint in the pit, and describe how best to observe the detail of the print.
  - Demonstrate with the sun to your back and to your front, ensuring that the angle between the sun and the print creates a prominent shadow.
  - Encourage students to move around the pit for all demonstrations in order to view the sign as it receives the most prominent shadow. Tell them to attempt to position the prints between the sign and themselves.
- Describe the characteristics of human pace. Demonstrate these characteristics by walking across the pit, jogging across the pit, and running across the pit. Describe the effect of the domains in relation to why a human performs this task.
- Demonstrate the average pace of carrying weight by carrying weight across the pit. Describe the effect of the domains in relation to why a human performs this task.
- Demonstrate low and high crawling by low and high crawling across the pit. Describe the effect of the domains in relation to why a human performs this task.
- Demonstrate the pie method for decision-making in relation to action indicators. Draw lines in the sand around the actions performed in the pit to explain the importance of not contaminating the action indicators.
- Place threat weapons in the pit to make the tracks of the weapons. Identify the tracks that they leave.

Note. Rake the area as needed and before performing any other exercises.

Table 13-8. Ground sign awareness pit exercise number two, example

GROUND SIGN AWARENESS PIT EXERCISE #2
Resources: A 20-foot by 20-foot flat area composed of soft, porous, sandy dirt that can be raked; a rake; a shovel; at least five tape measures; and at least four threat weapons. ***Note.*** The size of the area may vary according to the size of the group receiving the presentation. Ensure that all students have an unobstructed view of the pit. Rake the pit between demonstrations so that students are shown examples of uncontaminated sign. **Conduct:** To perform the exercise, the instructor performs the following steps: • Divide the students into two groups (groups A and B). • Direct the students in group A to turn their backs or walk a distance from the pit so they cannot see the scenario. • Direct the students in group B to conduct actions in the pit that create action indicators. Guide them as they do so. Possible actions include— ▪ Four people in a wedge formation with weapons. ▪ Sniper in the prone with a spotter. ▪ Two individuals meeting. ▪ Two individuals walking past each other on the same line of drift. ▪ Basket carry of wounded. ▪ Arm wrestling. • Direct group A to return. • Direct group A to observe the action indicators and explain in detail what action has taken place in the pit using advanced situational awareness terms and concepts. • Rake the pit and direct the groups to switch roles.

AGING PIT EXERCISE

13-11. The best way a Soldier can learn to assess the age of sign is by constant practice, but even experienced Soldiers can be wrong in their assessment. One of the most accurate techniques used to train this skill is to allow Soldiers to observe sets of sign, footprints, damaged vegetation, fire pits, and food products under controlled circumstances. This can be done using the creation of aging stands. These aging assessment exercises train the Soldier to gauge how the appearance of sign alters over time when exposed to weather, time, and other local factors (see figure 13-2). To perform the exercise, the instructor should perform the steps outlined in table 13-9 on page 13-12.

Note. In addition to training, aging stands can be used to determine and test how elements affect signs in an environment.

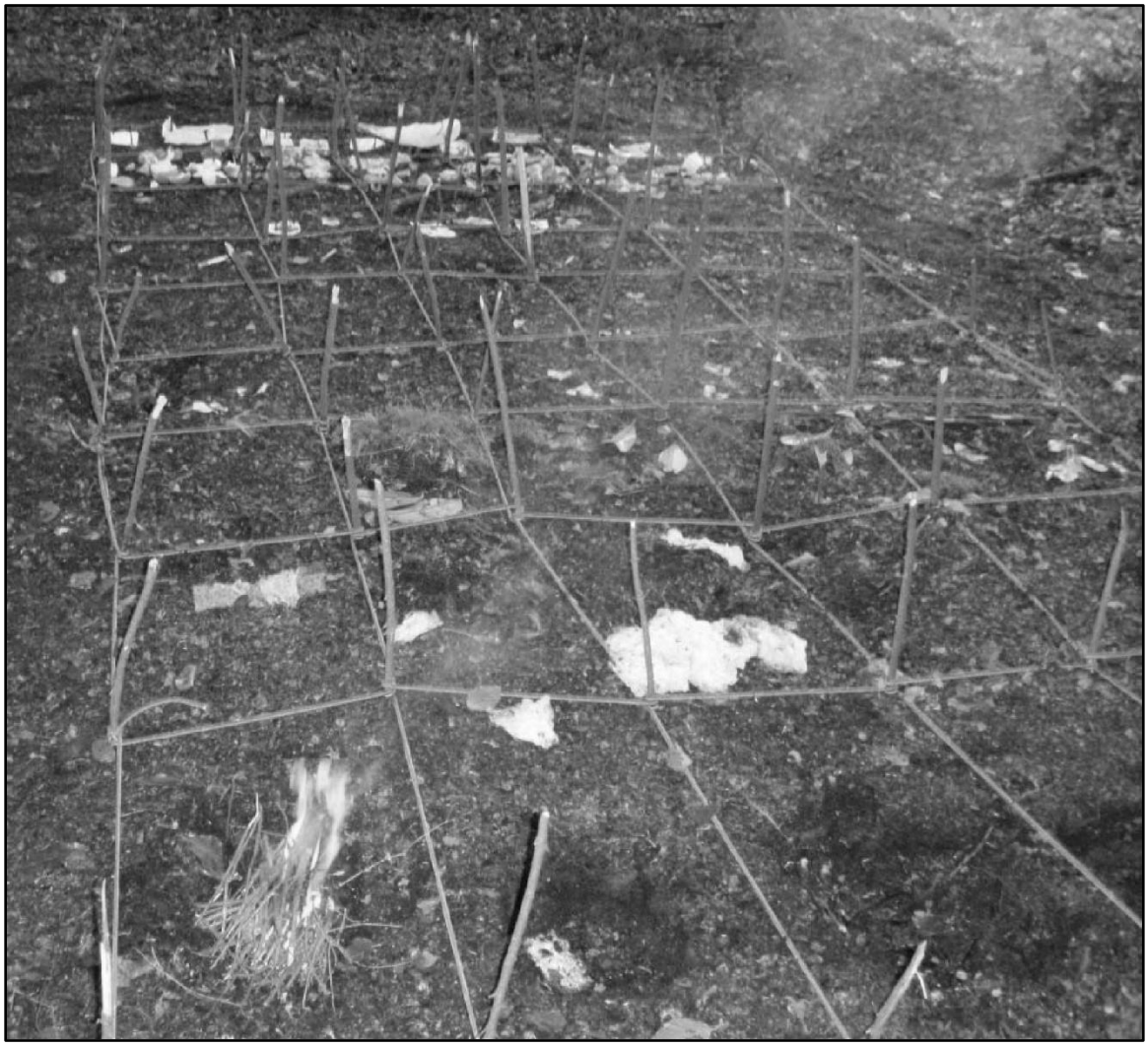


Figure 13-2. Photograph of an aging pit setup

Table 13-9. Performing an aging pit exercise, example

AGING PIT EXERCISE

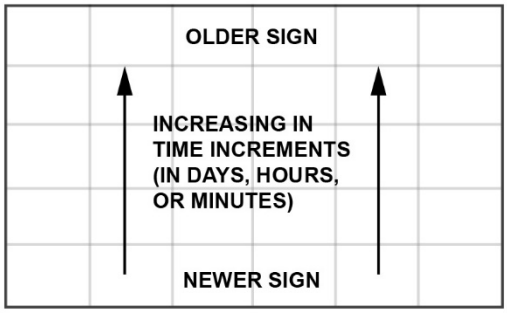
Resources: 20-foot by 20-foot flat area that has attributes of the operational area; relevant types of items (such as fire, feces, footprints, and trash), rope, or another divider.

Conduct: To perform the exercise, the instructor performs the following steps:

(1) Sanitize the area.

(2) Using rope or another divider, break up an area into a grid pattern.

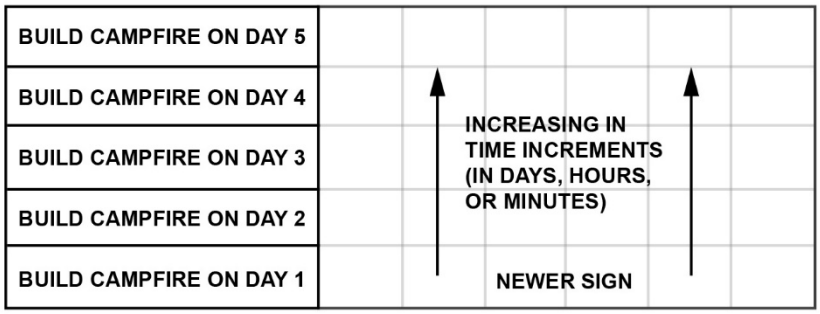
(3) Beginning on one end of the grid, place a sign (such as fire, feces, footprints, and trash).



(4) Allow a set increment of time (for example, days, hours, or minutes) to elapse.

(5) Repeat Step (3) for the next block of the grid. Continue to show elapse of a chosen period.

(6) Continue performing Step (5) until the samples represent a lapse of an appropriate period.



(7) Present these aged signs to the students. Explain the changes due to exposure.

RED CELL EXERCISE

13-12. The purpose of the Red Cell Exercise is to establish that Soldiers understand and can critically think in the terrorist mindset. This three-part exercise begins as homework assigned to student groups on days one and two, ending with a planned attack on day three. Each group is assigned a designated terrorist organization that was active and has conducted a successful attack in the last 30 years.

13-13. Example organizations:

- Boko Haram.
- Abu Sayaff.
- Irish Republican Army.

Day One Homework

13-14. Each group dives into its organization looking for—

- Political drive.
- Ideology.
- Financial support.
- Allies.
- Areas of operation.
- Origin.
- Estimated personnel strength.
- Attack methods.

13-15. Each Soldier in the group is responsible for one piece of this information while presenting it in classroom discussion. You want the Soldiers to understand what is driving their organization to conduct the attacks. Soldiers should essentially be looking for the inner workings and structure of their terrorist organization.

Day Two Homework

13-16. Each group goes back and looks at its organization looking for—

- Attack planning.
- Targets selected and why.
- Success of the attack.
- How the attack was conducted.
- How the organization exploited its attack.
- The MLCOA and MDCOA.

13-17. As with day one, each Soldier in the group is responsible for one piece of this information while presenting it in classroom discussion. You want the Soldiers to see how their organization conducted its attacks and why. They should now be in the mindset of their organization.

Day Three Red Cell

13-18. Begin the Red Cell Exercise (see table 13-10, page 13-14) while teaching the seven-step terrorist planning cycle. When the broad target selection is reached, assign a Soldier from each group to a white board and provide each Soldier a different broad target area within the United States or the area of operations for that organization.

13-19. When moving into specific target selection it is important to express upon the Soldiers the cost-effective ratio. This helps guide students in planning their attack. It is your job as an instructor to help guide the student group in their planning process as to mitigate any friction points with target selection. Once a specific target is selected, continue with class instruction. Once all instruction is complete, allow Soldiers 45 minutes to 1 hour to plan their attacks accordingly.

Mission

13-20. Each group plans its attack with the number of personnel in its respective group. Soldiers keep their attack within the guidelines of the terrorist organization they have been studying, and everyone participates.

13-21. Soldiers should reference the seven-step terrorist planning cycle and actively engage in each step, with the exception of stage six (the approach stage).

Note. For more information about the seven-step terrorist planning cycle, refer to page 10-14.

Table 13-10. Performing a red cell exercise, example

PERFORMING A RED CELL EXERCISE

Resources: To conduct the exercise requires the following resources:

- Whiteboard.
- Dry erase markers.
- Computer with internet access.
- Information regarding terrorist organizations.
- Red Cell Exercise briefing sheet.
- Student team assignment number.

Preparation: To prepare for the exercise, the instructor performs the following steps:

- Briefs conditions for conduct of the exercise.
- Assigns group to student teams.
- Has background knowledge of all terror groups assigned.

Note. Do not assign different student teams the same terror organization.

Conduct: To perform the exercise, the instructor performs the following steps:

- Give broad target assignment.
- Supervise selection of specific targets to ensure it stays within the terror group's methodologies.
- Allot a funding limit for students to accomplish their planned attack.
- Allow 45 minutes to 1 hour for Soldiers to accomplish their planning.
- Supervise planning to ensure it stays within the terror group's methodologies.
- Review each student team's attack through group presentation and critique.

Scoring: Soldiers receive GO/NO-GO for participation. In order to receive a GO, Soldiers participate in the planning of one piece of the group attack and present their role in the attack. Experience in the exercise, time constraints, and complexity of the exercise impact the rating, as well as the trainer's judgment.

Note. Do not allow Soldiers to plan their attack unsupervised as this compromises their view of the seven-step terrorist planning cycle.

CULTURAL COMPETENCY

13-22. In light of increasing focus, the Army has developed tools to enable Soldiers to develop cultural competency and regional expertise. Many of these tools are developed by the following organizations:

- The TRADOC Culture Center is available online and offers various resources to encourage regional expertise, such as smart cards for various regions and other resources for Soldiers to develop general cultural competency. The TRADOC Culture Center has compiled links to various distance learning resources.
- The Uniformed Services University of the Health Sciences produces the *Warfighter Nutrition Guide*. Chapter 14 of this guide discusses cultural eating practices and their health implications.
- Joint Knowledge Online develops new cultural trainers and adapts new scenarios to meet the Army's needs. Two of the organization's notable trainers are the Virtual Cultural Awareness Trainer and the Cross Cultural Competence Trainer.
- Program Executive Office for Simulation, Training, and Instrumentation houses the United States Army Games for Training Program that promotes the development of complex virtual trainers,

such as the Bilateral Negotiation Trainer and the Operational Language and Culture Training System.

13-23. Distance learning resources include the following:

- Virtual Cultural Awareness Trainer.
- Cross-Cultural Competence Trainer.
- Bilateral Negotiation Trainer.
- Operational Language and Culture Training System (Iraqi, Dari, Pashto).
- First-Person Cultural Trainer.

13-24. The Virtual Cultural Awareness Trainer (see figure 13-3) is a story-driven cultural awareness trainer that focuses on working with interpreters, extending culturally appropriate greetings, building rapport with local populations, and learning basic tactical language. Following the lessons, students can engage in an immersive simulation to apply the skills they have learned. Courses are offered for Horn of Africa, Afghanistan, Northern Africa, and Latin America. The Virtual Cultural Awareness Trainer is available on the Joint Knowledge Online website.

Figure 13-3. Virtual cultural awareness trainer

13-25. The Cross-Cultural Competence Trainer is web-based, highly immersive and interactive training designed to boost cultural competence and prepare joint forces and civilians to engage effectively within different cultures. The Cross-Cultural Competence Trainer combines video reenactments with high-resolution first-person avatar interactions presented in the actual area of operations where joint forces are facing the toughest cultural challenges. Learners may also choose from paths of instruction tailored to the mission to which they are about to deploy, or they can tackle multiple missions to practice responding to an even wider variety of cultural interactions. This trainer features a module dedicated to teaching universal cultural concepts. The Cross-Cultural Competence Trainer is available on the Joint Knowledge Online website.

13-26. The Bilateral Negotiation Trainer (see figure 13-4, page 13-16) is a three-dimensional software simulation that provides an immersive training environment for Soldiers to practice skills in conducting

meetings and negotiations in a specific cultural context. Students virtually assume the role of a United States Army officer to conduct a series of bilateral meetings with local leaders to achieve mission objectives. The program, called BiLat v2.1, is available for download from the Milgaming web portal.

Figure 13-4. Bilateral negotiation trainer

13-27. The Operational Language and Culture Training System is a suite of game-based courses and simulations. Courses for Iraqi, Dari, and Pashto are self-paced, interactive games that use numerous pedagogic and technologic innovations to enable rapid and sustained learning of foreign languages and cultures. The goal of the software is to allow everyone—from beginners to advanced students, regardless of their self-perceived learning aptitude or prior language knowledge—to learn and retain functional spoken communication skills after just a few hours of study. The latest versions are available for download from the Milgaming web portal.

13-28. The First-Person Cultural Trainer (see figure 13-5) is a three-dimensional, interactive simulation that trains Soldiers on the values and norms of a specific culture in order to facilitate military missions. The environment acts in a nonlinear way, as a Middle-Eastern geographic area would. The game gives Soldiers the ability to read nonverbal communications of the nonplayer characters in the game, to communicate with them, and to establish rapport. Soldiers' abilities to negotiate the game's cultural landscape determine their success in gaining combat information about a hidden IED network. The project is currently focused on Iraq and Afghanistan but has applications in many other cultural, geographic, and military situations. For more information or to arrange a demo, call the TRADOC Intelligence Support Activity action officer.

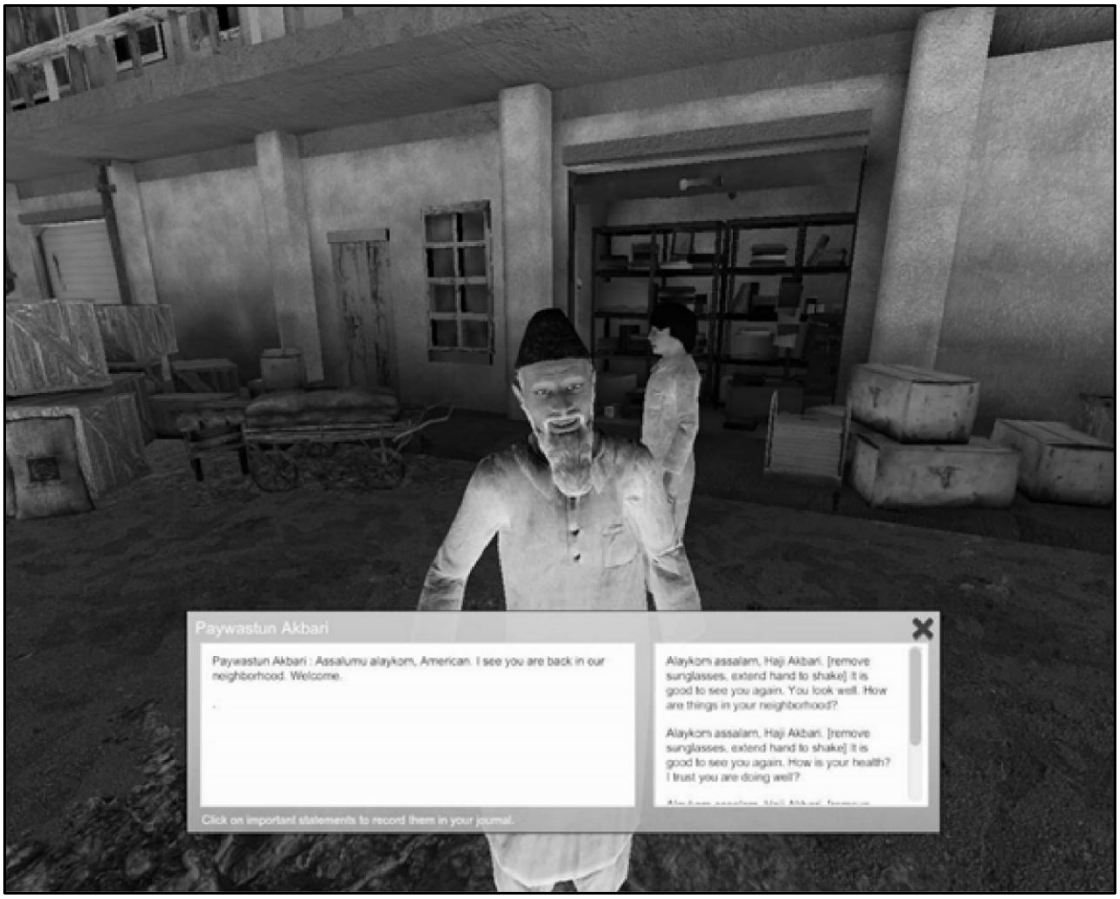


Figure 13-5. First-person cultural trainer

RESILIENCE AND PERFORMANCE ENHANCEMENT

13-29. In addition to formal and informal training, several self-development resources can be used to build resilience and promote performance enhancement.

ARMYFIT

13-30. The web-based ArmyFit environment provides a training platform for personal development and additional in-depth self-assessment and a social platform for interacting with others. (See the ArmyFit website for more information on the training platform.) In this environment, unique training features are introduced, including regular progress tracking, personalized fitness news and applications, activity monitoring integration, badges and awards for progress, and year-round email messaging tailored to Soldiers' needs. Formal resilience and performance enhancement training is provided through a personalized virtual academic environment where comprehensive resilience modules are organized based on a person's global assessment tool (known as GAT) scores.

13-31. Its social platform features enable Soldiers to adjust their privacy settings in order to dialogue with peers, leaders, organizations, and experts providing services and information for improving health and fitness without compromising their anonymity. Soldiers can select the personal information visible to those with whom they choose to friend or follow, such as the visibility level of their personal GAT scores on their profile page and of badges and awards earned through the platform.

13-32. As an integrating function, this platform allows Army senior leadership to evaluate changes in mortality risks; examine resilience indicators and their correlation with physical health, training,

deployments, location, and other routinely collected information; and evaluate the impact of community resources.

GLOBAL ASSESSMENT TOOL

13-33. The GAT assesses an individual's dimensions of strength. This web-based instrument combines objective health data with survey-based questions, providing the individual with self-awareness in the five dimensions of strength: physical, emotional, social, spiritual, and family. In addition, it has a segment that examines survey answers to evaluate one's risk of death from cardiovascular disease, cancer, accidents, and other causes as compared to a normative American population. The results of the GAT and answers to the questions are used to provide personalized self-development training; health news; applications; and recommended organizations, experts, and topics to track and engage with on ArmyFit. (See the GAT website for more information.)

Notes. 1. All Soldiers should complete the GAT annually unless they are in a deployed status when their current GAT expires. In this case, Soldiers should complete the GAT within 60 days of redeployment from contingency operations.

2. Soldiers are not required to release or discuss their results with anyone. If Soldiers have questions about their results, they are encouraged to discuss them with their unit master resilience trainer or another trusted advisor.

COMPREHENSIVE RESILIENCE MODELS

13-34. Comprehensive resilience models provide personalized, tailored, video-based training in each of the twelve resilience skills and in performance enhancement within a virtual academic environment accessed through one's personal profile on ArmyFit. Specific, comprehensive resilience models are recommended based on individual need, as measured by the GAT, or identified as universally beneficial to improve health, resilience, or performance.

13-35. The CSF2 is designed to increase Soldiers' abilities and willingness to perform assigned tasks or missions and enhance their performance by assessing and training mental resilience, physical resilience, and performance enhancement techniques and skills. This initiative introduces many resources used to train Soldiers on skills to counter stress. (See the CSF2 website for additional details.)

Note. For more information about suicide prevention training, see the United States Army Public Health Command website on this topic or GTA 12-01-006.

OPERATIONAL SCENARIOS

13-36. An operational scenario is a graphic and narrative description of the operational variables: political, military, economic, social, information, infrastructure plus physical environment, and time. It concerns events of a future hypothetical operation. An operational scenario describes the following:

- Global conditions before and during operations.
- Friendly and threat forces, including weapons, munitions, and sensors listings.
- Friendly and threat strategic and theater plans, including air, naval, and special purpose forces.
- Friendly, unaligned, or independent, and threat behavioral and cultural operational aspects, and considerations.
- Operational and tactical orders and plans for friendly and threat forces involved in the conflict.

13-37. An operational scenario includes considerations of geographic setting (weather, climate, topography, and vegetation), health hazards, transportation facilities, the electromagnetic environment, and other regional and operational elements. When appropriate, operational scenarios also address those unaligned or independent forces that may oppose threat, friendly, or both forces.

Note. For more information about operational scenarios, see TC 7-101.

SCENARIO DEVELOPMENT

13-38. Many regulations govern scenario development. These include TC 7-101 and the TC 7-100–series of publications and AR 350-2. Due to the amount of information included in these publications, this information is not included in this book, instead; these publications should be consulted during scenario development. Table 13-11 (adapted from TC 7-101), pages 13-19 through 13-21, provides a broad-brushed perspective of scenario development.

Note. TC 7-101 provides detailed information about all areas addressed in table 13-11, pages 13-19 through 13-21.

Table 13-11. Depiction of scenario development process

DESIGN PHASE	*STEP/TASK*	*ACTION REQUIRED*	*ADDITIONAL NOTES*
Phase 1: Initial Planning	Define parameters.	Developed based on commander's training assessment and exercise director's initial guidance, troop list, unit training objectives mission-essential task list, requested conditions, and resources. Product is defined exercise parameters and prioritized training objectives mission-essential task list.	Depending on the type and size of the event, an initial planning conference may be required.
	Determine timeline.	Consider amount of time available, training objectives, training support personnel required, and available transportation and training facilities.	If time is limited, training objectives may have to be modified or eliminated in order to compensate for this shortfall.
	Determine whether exercise is live, virtual, constructive, gaming, or a combination.	Refer to parameters to determine resources to support live, virtual, constructive, or gaming training event.	Consider aspects such as troops available, equipment status, and geographical space.
	Determine operational theme.	Refer to proposed training objectives, requested conditions, and initial guidance.	Depending on the time allotted and the experience of the training unit, it may be possible to train sequentially under two different themes.
	Determine whether using existing or composite operational environment.	Selection depends on the type of mission, training resources, and availability of data about the operational environment.	In almost all cases, training exercises contain portions of existing, modified, or composite operational environments. ***Note.*** See DATE Version 2.1 for more information about composite operational environments.

Table 13-11. Depiction of scenario development process (continued)

DESIGN PHASE	*STEP/TASK*	*ACTION REQUIRED*	*ADDITIONAL NOTES*
Phase 2: Task and Countertask Development	Determine opposing force countertasks.	Using the prioritized training objectives, parameters, and opposing force universal task list, select countertasks to counter, and stress the training unit.	Consider resources available and the desired fidelity of the exercise.
	Develop opposing force's order of battle and task organization.	Using the selected opposing force countertasks and TC 7-100.4, develop opposing force's order of battle and build the appropriate task organization.	This step depends on whether there is an existing operational environment and associated order of battle. If so, this step may not be necessary or may occur in later phases.
	Select opposing force tier levels.	Using the selected opposing force task-organized unit, select the appropriate Worldwide Equipment Guide tier levels. Product is a fully developed opposing force unit.	Same as above.
Phase 3: Political, Military, Economic, Social, Infrastructure, Information, Physical Terrain, and Time Operational Environment Development	Develop the operational environment.	Using the operational variables, select the appropriate subvariable settings to produce the training conditions that support the training tasks required.	Same as above. Whether using existing operational environment or composite, exercise planners should go through all the variables and their subvariables to ensure the entire conditions are set for the training objectives. The sequence for consideration of variables is situation dependent. Planners are not restricted to any particular selection sequence.
	Refine supporting mission-essential tasks and associated task organization.	Examine whether or not the proposed supporting mission-essential tasks and task organization are still accurate based on the defined operational environment.	Regardless of whether or not there is a real operational environment, planners should review the supporting tasks against the operational environment and warfighting function to ensure all tasks and task organization are accurate or need to be modified prior to beginning the exercise.
	Determine common processes for the desired operational environment.	Preplanned events that represent everyday activities common to the operational environment.	The level of fidelity of key events and the number of variables and subvariables replicated are determined by factors such as the experience level of the training unit, the type of training exercise, and the number of role-players available.
	Determine key events to highlight chosen training objectives.	Select key events that are preprogrammed into the existing or developed operational environment that results in training value for the unit.	Indicators can build up to a key event, and a key event can result in second-order, third-order, or even fourth-order effects.

Table 13-11. Depiction of scenario development process (continued)

DESIGN PHASE	*STEP/TASK*	*ACTION REQUIRED*	*ADDITIONAL NOTES*
Phase 4: Orders, Plans, and Instruction Development	Prepare and conduct final exercise planning conference.	Present an overview of the entire exercise to ensure all details are complete.	Results of this final planning conference lock in all exercise parameters, which includes troop lists, training objectives, and the exercise operational environment. Final review and approval or disapproval of unit requests for equipment and troop list exceptions outside the normal table of organization and equipment are also included.
	Prepare and conduct final exercise briefing.	Provide the final pre-exercise information briefing to all pertinent staff.	The briefing covers all aspects of the exercise. No decisions are expected except for deconfliction on any last-minute issues.
	Develop and issue higher unit warning orders, intelligence estimates, and other exercise documents to the training unit.	Develop and issue various documents and plans to the player unit. These may include warning orders, country studies, and intelligence summaries.	These documents are issued in order to promote realism in training and provide information to the player unit prior to the exercise. The information allows training units to develop preparatory home station training prior to the actual exercise.
	Develop and issue higher unit operation plans and orders to the training unit.	Develop higher unit operation plans and orders to initiate the training unit's mission planning cycle and orders development process.	These documents provide key planning information. Combined with the above documents, they enable the training unit to conduct its internal mission planning and orders production process.
	Develop and issue opposing force plans.	Using the opposing force countertasks, order of battle, and defined operational environment, develop and issue opposing force orders.	These documents provide key planning information. They enable the opposing force unit to conduct its internal mission planning and rehearsal process.
	Develop instructions for role-players.	Develop role-player instructions in order to support exercise realism, common processes, key events, and the selected operational environment subvariables. Provide specific acting and material guidance to role-players so that they accurately represent the desired training conditions.	The document describes the exercise operational environment and its relationship to role-player requirements and includes scenario timeline and areas to be occupied (who, what, where, when, and duration), as well as personal and group profiles.
	Develop and issue the road to war to the training unit.	Using all products developed in phases one through four, develop and issue the road to war.	This document is normally the last document produced in the exercise design sequence because its completion depends on other products. It is a historical document that normally explains the chronology of events that produced the current situation.

INTEGRATING ROLE-PLAYERS INTO SCENARIOS

13-39. As discussed in Chapter 10 of this publication, the contemporary OE is a synergistic environment made increasingly complex by interrelated operational variables. Certain entities may exist within an operational environment. To maintain fidelity of a scenario, these entities should be depicted in scenarios. Trainers and scenario designers develop roles for participants in the training exercise. These roles are assumed by various role-players during training exercises.

13-40. A role-player is an individual hired or tasked to portray an assigned character within a training exercise. Role-players embody the culture and condition of their assigned character within the exercise. A character is a fictional or imaginary person replicated on any training battlefield. A character recreates all or part of the personality of an individual, group, or nation. Each character plays a certain role in a scenario. A role is a part assigned or assumed by a character in a given context.

Note. For more information about the use of role-players, see TC 7-102.

13-41. With proper training and preparation, role-players can successfully perform in any operational environment. Role-player success stems from preparation on the part of the trainer and scenario writer. Consequently, mission accomplishment for a unit stems from role-player training, preparation, and execution.

Types of Role Players

13-42. Role-players can be categorized by skill set or by degree of interaction. Role-players can be divided into two groups: generic role-players and special skills role-players.

13-43. Table 13-12 identifies the differences between these types. Each type of role-player has inherent expectations, responsibilities, and requirements. Role-players should be able to fulfill the requirements as specified by the needs of their respective role-types.

Table 13-12. Types of role players by skill sets

TYPE	*DEFINITION*	*EXAMPLES*
Generic Role-Players	Personnel with or without special skills who replicate noncombatant and combatant civilians in the operational environment. ***Note.*** The personnel should be capable of playing a realistic role within the operational environment upon hiring.	• Displaced people. • Transients. • Transporters. • Improvised explosive device trigger personnel.
Special Skills Role-Players	Individual role-players that possess special skills (divided into foreign language and cultural).	• Mayors. • Police chiefs. • Religious leaders.

13-44. Role-players can be categorized by the degree to which they interact with those attending the event. Table 13-13 explains these types.

Table 13-13. Two types of role-players

TYPE	*DEFINITION*
Free Role-Play	Role-play with freedom to engage all members of a training unit while maintaining role-echelon assignment and character purpose. ***Note.*** This type is often used with experienced training units.
Scripted Role-Play	Actions or inactions for role-players scripted by trainers and scenario designers that are reliant upon training unit activity.

13-45. When used alone in a scenario, free role-play creates a living environment for the training unit. The events within the scenario occur based upon the training unit's action or inaction and the role-players' response. Evolving and emerging characters are often in scenarios utilizing free role-play. Experienced units often use some degree of free role-play.

13-46. Inexperienced units may succeed by using scripted role-play alone in a scenario. Scripted role-play creates a controlled environment for the training unit. In this environment, responses are planned by trainers and scenario designers in relation to the training unit's actions or inactions.

13-47. Free and scripted role-play may be used together or alone in training scenarios. Together, the two create an environment for moderate role-playing with control over events (due to scripted role-play and limited free role-play) and limited (if any) evolving and emerging roles. When used together in the scenario, the degree of free or scripted role-play depends upon the unit's experience and the trainers' knowledge of role-player capabilities.

Role-Player Dynamics

13-48. Role-playing is not a static activity. It is influenced by various factors that are present within the scenario. The ranks and skill sets of members in the training unit audience varies. Similarly, skill levels and abilities of role-players also vary.

13-49. One effective technique is to align the two with appropriate rank and skill set. This is called role echeloning (see figure 13-6, page 13-24). Effective role echeloning depends upon prior planning. If possible, trainers should identify the military partner to their role-players before interaction occurs. This allows role-players time to observe their military partner in action during the training scenario.

EXAMPLE

An experienced role-player might portray a mayor as a special skill role-player. The mayor interacts with the training unit's leadership. Less experienced role-players might portray civilians as generic (simple or complex) role-players. The civilians may interact with training unit staff.

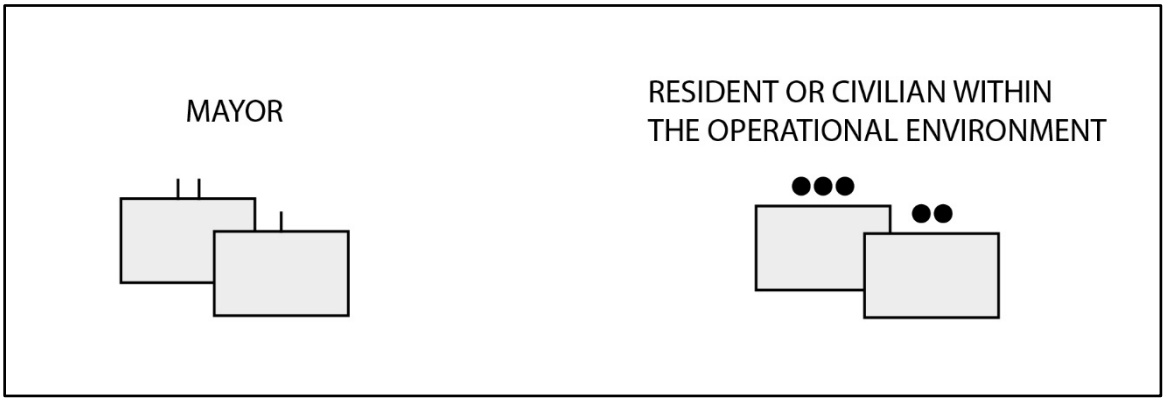


Figure 13-6. Role-echeloning example

Scenario Evolution

13-50. Trainers and scenario writers know from experience that not all scenarios or events within situations occur as planned. Even when events meant to alter the scenario are written to disrupt, unexpected events may still occur.

13-51. The outcome of the scenario and possibly the achievement of training objectives are affected by roles that have shaped the scenario. There are three types of shaping roles: mature role, evolving role, and emerging role. Table 13-14 explains these roles, and figure 13-7, page 13-26, depicts them.

Table 13-14. Types of role players by skill set

TYPE	*DEFINITION*	*EXAMPLES*
Mature Role	• A main character or role portrayed by any role-player within the scenario who possesses mental, emotional, and physical characteristics of a seasoned individual within the contemporary operational environment or designated operational environment.	An elderly tribal leader.
Evolving Role	• A character within the scenario who becomes increasingly complex either gradually or abruptly within a scenario. • Alters the scenario, disrupts planned scenario events. • Demotes main character(s) to lower character status. • Influences other characters, eventually transformed to the influential main character within the scenario.	Power brokers.
Emerging Role	• A role portrayed by a character from the background, appears because of character interaction or affiliation with evolving characters. • Draws attention away from the focus scenario event and main character(s) but to a lesser degree than evolving roles. • These characters are not planned or anticipated.	

Note. Scenario designers and trainers may decide to plan for unexpected events by creating evolving and emerging roles when training experienced units. Less experienced units may see a lesser occurrence of these roles when training.

13-52. Mature roles are main characters or roles portrayed by a role-player within a scenario that possesses mental, emotional, and physical characteristics of a seasoned individual within the contemporary OE or designated OE.

13-53. Evolving roles may alter the scenario or planned events within a scenario by transforming their character into a power broker status. The evolution of these characters within scenarios typically demotes the main character to a lower status. Power brokers alter scenes by influencing other characters. Their sophisticated means of negotiation transforms them to the influential main character within the scenario. The events caused by evolving characters or evolutionary events can reshape scenes and training objective outcomes. Evolving role-players responsible for the factors driving the evolutionary event are either challenging an experienced unit or focusing it towards its training objectives.

13-54. Emerging roles alter scenarios but to a minor degree compared to evolving roles. Emerging role characters move throughout the scenario unnoticed waiting for an opportune time to emerge. For example, character A may be assigned to mingle through a market. After a chance meeting with an acquaintance, character A gleans what could be credible information for the training unit. Character A decides to approach the training unit with the information collected. Character A's effort to disseminate the information collected to the training unit is an example of an emerging role.

Scenario Writing

13-55. Trainers and scenario writers should closely monitor the effect evolving and emerging roles has on the training unit. They need to ask themselves the so-what question, "How does the evolution or emergence of the characters within the scenario affect or hinder the training unit's objectives?"

13-56. Trainers prepare role-players for the effect the evolution or emergence of their character has on the training unit. Not only do character evolutions affect interactions with the training unit, it also affects with whom the character associates and affiliates. For example, a neutral character becomes hostile as a result of a training unit action. The hostile character now associates and affiliates with new characters within the scenario and may not interact with the training unit as in the past.

EXAMPLE

Role-player #1 and role-player #2 portray average mechanics in the evolutionary event. Their desire to assist the passing convoy turns sour when role-player #2 challenges role-player #1 to insert an explosive device under the hood of a vehicle they repair.

Their emergence from the background (nearby village) brings their characters to the foreground in the event. Their choice to assist the passing convoy transitions them from the background to emerging roles with emerging relationships with the members of the convoy and each other.

Role-player #2's challenge to role-player #1 attempts to transition role-player #1 from an emerging role into an evolving character.

13-57. Previous experience and ability to influence beyond their chain of command may cause veterans to question the fidelity of a role-player. Veterans may attempt to question role-players (while in character) about their accent, costume, social and political affiliations, and other subjects. Trainers and role-players should exercise caution in the event this occurs. Trainers may consider intercepting the role-player, if possible, before either party disrupts the scenario.

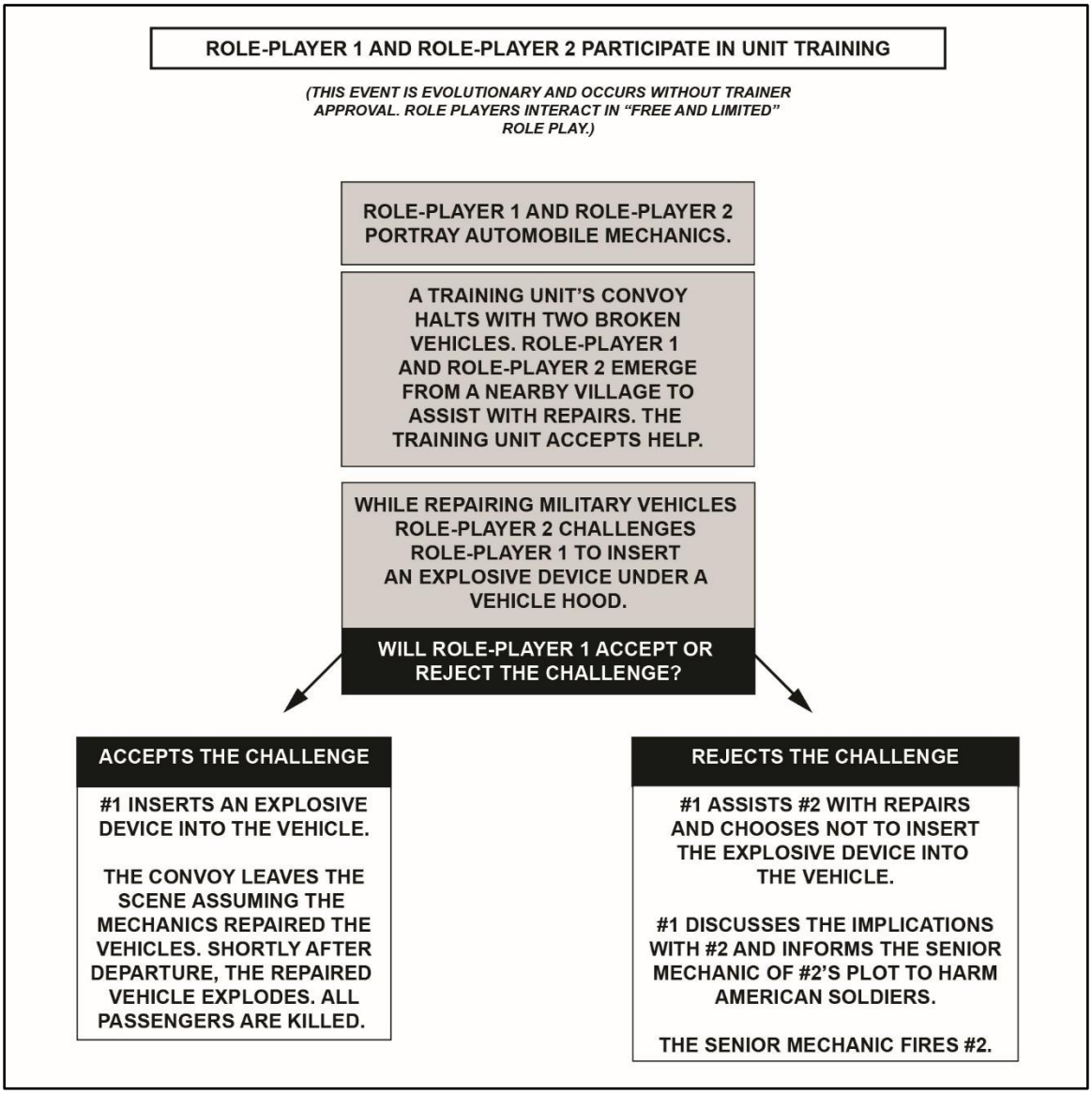


Figure 13-7. Example of emerging and evolving roles

Quality of Role-Players and Resourcing

13-58. The process used to determine the quantity of role-players needed to support a given event has three steps (see table 13-15):

- Training strategy analysis.
- Operational environment assessment.
- Resource analysis.

13-59. Upon the conclusion of role-player mission analysis, trainers and training unit leadership should continue to prepare for training. In the event the scenario design is altered, trainers and training unit leadership are encouraged to revise their initial analysis to meet the requirements of the new scenario.

Table 13-15. Determining the quantity of role players and resourcing

#	STEP	ACTIONS
1	Training strategy analysis.	• Receive mission or create scenario. • Conduct mission essential task list assessment. • Establish training objectives. • Comprehend context of event. • Establish training strategy.
2	Operational environment assessment.	• Choose major training events. • Conduct research. • Conclude research. • Compile data. • Perform operational environment assessment crosswalk. • Complete operational environment assessment. • Initiate and complete scenario description.
3	Resource analysis.	• Develop role-player quantity estimate. • Initiate coordination for role-player contracting or tasking with resource management team. • Continue coordination with resource management team. • Finalize coordination and receive quantity of role-players authorized according to allocated funds.

Step 1: Training Strategy Analysis

13-60. During a scenario, trainers and training units observe characters leaving the scenarios due to death or travel, participating in all or some planned and evolutionary events, and evolving from a general character to a mature character with a more involved purpose and role. Trainers work with commanders to determine the number of role-players for all events prior to the start of training. This calculation ensures the efficient and effective number of role-players and enhances the fidelity of characters and the scenario.

13-61. The quantity of role-players for training events can be determined through detailed resourcing, planning, and assessing. The calculation of role-players required begins as commanders align training objectives with the unit's mission essential task list to develop a strategy that achieves training objectives to standard. This training strategy describes the methods and resources required to implement the commander's training concept and scenario. Trainers use the commander's major training objectives to construct specific role-player requirements and events.

> ***Note***. The quantity of role-players found in a scenario during a training program can remain constant or may fluctuate depending upon event requirements within the scenario. For example, does character A successfully support the training objective of event #1, or does character A require the assistance of characters B through G?

Step 2: Operational Environment Assessment

13-62. Using major training events as a template, leaders and trainers now perform an operational environment assessment. The operational environment assessment provides patterns and trends of emergent actions and an analysis of the critical variables within the operational environment. Next, leaders and trainers use the scenario description (if provided) to garner information, such as demographics, ideology, and infrastructure of the operational environment.

13-63. Using these two products, leaders and trainers begin developing estimates of role-players required for major training events within the scenario. For example, training units may determine the scenario's police

force requires 15 individuals to function after conducting an operational environment assessment and reviewing the scenario description.

Note. Trainers and leaders may not always find scenarios available. If time permits, several TRADOC products support scenario writing. (See the TRADOC website.)

Step 3: Resource Analysis

13-64. Leaders and trainers coordinate the required quantity of role-players with local resource management. Resource managers apply the analysis derived by leaders and trainers to determine the funding requirement for role-players requested. Concurrently, trainers begin to prepare projected role-players with attire and materiel.

Note. Prior to contracting or tasking specific role-players, trainers must understand the role-players' roles when coordinating resources. Trainers state the specific purpose for all requested role-players to assist the resource management team in acquiring the required skill sets and materiel.

13-65. Experience from previous training scenarios and role-player historical data can be useful when determining the quantity of role-players. Trainers can provide commanders and leaders of the training unit historical role-player data for comparison, lessons learned, and scenario input. Trainers should make a concerted effort to provide the historical data to training units before the start of training.

13-66. Trainers should also determine whether to use military or civilian role-players. To make this determination, several factors are analyzed:

- Cost.
- Location.
- Certifications.
- Security clearance.
- Billeting.
- Training aids, devices, simulators, and simulations (known as TADSS).
- Cultural skills.
- Language skills.
- Additional skills.

13-67. Table 13-16 contrasts these areas for military and civilian role-players.

Table 13-16. Comparing military and civilian role players

MANAGEMENT FACTORS	*TYPE OF ROLE PLAYER*	
	Military	**Civilian**
Cost	No additional pay required.	Dependent upon contract.
Location	May be stationed at remote location.	Availability dependent.
Certifications	Receive and maintain training at unit level (weapons, licenses, and other training).	Receive training from military unit. May require refresher or new training on equipment depending upon role-player experience.
Security Clearance	May have security clearance.	May or may not have security clearance.
Billeting	Ability to acclimatize to surroundings makes tent or barracks feasible accommodations for training.	May require indoor billeting.
Training aids, devices, simulators, and simulations	Authorized to operate but may require training.	Authorized to use. Requires training.
Cultural Skills	Familiarity of role-player with members of the unit may fail to authenticate the cultural or ethnic representation desired for training.	Represent the unique cultural or ethnic background desired when training in today's contemporary operational environment.
Language Skills	May not have the exact language skills and knowledge necessary to replicate the language of training in the operational environment.	Have unique language capability required for training in today's contemporary operational environment.
Additional Skills	Have various skills, some of which may not be applicable to scenario training.	Requires training on equipment utilized during training (military vehicle/ training aids, devices, simulators, and simulations), may have unique skills applicable to training (interpreter/translator).

13-68. In order to achieve fidelity within the scenario, trainers and scenario designers crosswalk all aspects of the situation. Properly assigning characters roles to align with operational variables is critical for achieving scenario fidelity.

Assign Characters

13-69. Prior to assigning a character to a role-player, trainers should consider role-players for a given role. Trainers ensure appropriate character assignment for the selected role-players. Trainers should ask themselves, "Does this person have the attributes that contribute to scenario fidelity?" Assigning a noticeably young, pregnant woman to portray an elderly council member does not support scenario fidelity, for example.

13-70. Trainers should also interview role-players about their capabilities (for example, language, leadership, education, and so on). If necessary, trainers should have role-players demonstrate their skills prior to the start of all scenarios.

13-71. To ensure the appropriateness of a character assignment, trainers should crosswalk role-player data (see table 13-17) with a character development checklist (see table 13-18, pages 13-30 through 13-32). The trainer should also identify daily activities (see table 13-19, page 13-33). Data in the character development checklist, their daily activities, and any relevant back-stories become the character biography.

Notes. 1. In large organizations, it may not be feasible to maintain files on specific role-players; therefore, the role-player checklist may not apply. In smaller organizations or within institutional training environments, the role-player checklist assists in the development of role-player files. Using the checklist is at the trainer's discretion.

2. Not all items on the character development checklist are required.

3. Character role assignments should not be fixed. If at any time during role-player training, role-players are deemed unsuitable for their assigned character, they should be replaced immediately to prevent a loss of training objective achievement. The replaced role-player may then assume another character (if possible and when practicable).

Table 13-17. Items on a role-player checklist

ITEM	*DESCRIPTION*
Name	Role-player's name.
Age	Role-player's age.
Gender	Role-player's gender.
Skills	Any special skills, including language and cultural knowledge.
Certifications	Any special certifications, including any licenses to operate vehicles.
Duration of Role-Play Capability	Length of time the role-player is available and can commit to the event.
Experience	Number of events supported, role-player types portrayed.
Current Character	Name of current character and brief description.

Table 13-18. Items on a character development checklist

ITEM	*DESCRIPTION*
Name	Identify the character's full name. Does the name have any special meaning or significance? If so, what?
Gender	Is this character male or female? Are there social restrictions to being one gender?
Birthday	What is the character's birthday? Does it have special meaning to the character? Does the birthday have special meaning to their practiced religion? Does the birthday have special meaning to their family? ***Note.*** At a minimum, role-players should know their character's birth month to identify with the character.
Age	How old is the character? Do they know how old they are? Is this age young or old for the operational environment they live in? Is this character considered an adult, child, or elder?

Table 13-18. Items on a character development checklist (continued)

ITEM	*DESCRIPTION*
Birth Order	Only child: pampered/spoiled, center of attention, self-centered, feels unfairly treated when they do not get their own way and may not cooperate. First child: only child for period of time, used to being center of attention, may respond to birth of second child as being unloved and unwanted, may respond to other children by gaining authority over them, strives to please. Second child: never had parents' undivided attention, always has sibling ahead of them that are more advanced. Middle child of three: has neither rights of oldest nor privileges of youngest, feels life is unfair, is adaptable, learns to deal with older and younger siblings. Youngest child: behaves like an only child, feels everyone is bigger and more capable, expects others to take responsibility, feels small and weak, may not be taken seriously, develops feelings of inferiority, and often allies with older child against middle child.
Education	What is the character's level of education? Does their level of education influence and affect the type of work they can perform?
Occupation	What does the character do for a living? Do they enjoy their work? Why or why not? Are they free to change jobs, or are they bound by legal or social issues (for example, could be sued by breach of contract)?
Hometown/ Province	Did the character grow up here or move here? Does their family live in this town? Do they enjoy where they live? Have they ever tried to move from this area?
Language Spoken	What language does the character primarily speak in the operational environment? What other languages are they fluent in? Does the character socialize by speaking in his or her first or other language? Why does the character choose to speak the language used?
Talents and Strengths	What talents is the character known for? Has the character ever used his or her talents to earn an income? What are the character's strengths? Do others recognize these strengths?
Flaws and Weaknesses	What are the character's flaws (different than weaknesses; for example, could be a physical flaw [birthmark] or speech impediment)? What are the character's weaknesses? Do others recognize these weaknesses?
Personality Type	How would other people describe the character? Nice? Well-liked? A fair weather friend or loyal? Is the glass half full or half empty?
Ambitions	What does the character strive to do with his or her life? What inhibitors prevent achieving these goals? Have they achieved any goals at this point in their life? If so, what? Have they devised any other goals?
Mannerisms	What are the character's mannerisms? Do they twirl their hair? Do they bite their fingernails? Do they touch their face when talking? Do they fold their arms when standing/seated? How about hands? ***Note.*** Role-players should feel free to develop mannerisms and incorporate their own as long as they abide by the culture of the current operational environment.
Ethics	What does the character consider ethical and unethical behavior? What would they never do and why? How rigid are their standards?

Table 13-18. Items on a character development checklist (continued)

ITEM	*DESCRIPTION*
Political Affiliation	How does the character feel about the people governing them? Do they respect their leaders or mistrust them, or both? Do they like the way things are run, or are they an advocate for change? How connected do they feel to their leaders? Do they feel that they have the people's best interest at heart or that it is something they rarely think about?
Religious Affiliation	What does the character believe in? What god(s) do they worship? Are these god(s) real beings or abstractions? What do they think happens after death? Are their beliefs typical to their culture? If not, how do they differ? How is the difference between culture and religion perceived by the group?
Income Level	Does the character have an income? What is it? Are they paid by the government or illegally? Is their income comparable to the general populace? Is it less or more? Why?
Marital Status	Is the character married? If so, do they live in a society that allows for more than one spouse? How many do they have? Can they afford more than one spouse? Are they single? Would they ever consider getting married?
Hobbies	What are the character's hobbies? What do they enjoy doing when away from work (if working)?
Recreational Activities	What is the farthest the character has ever been from home? Does the character enjoy having fun with friends? Do they enjoy solitude?
Pets	Does the character have any pets? What are their names? How many? Do they live in a society that allows for more than one pet? Do they live in a society that respects animals or mistreats and ignores animals? Do their pets live inside or outside?
Favorite Possessions	What does the character cherish most? Is it a trinket, a house, family? Why?
Physical Description	What does the character look like? Is their hair short or long? Do they wear glasses? Do they wear sunglasses?
Enemies	Does the character have enemies? Why?
Reactions Under Stress	Does the character tense up under stress? Do they get mad or serious? Do they cry?

Table 13-19. Daily character activities

FIELD	*DESCRIPTION*
Sleep Schedule	What time do characters wake up? What time do they go to sleep?
Meals and Food	Do characters eat all meals (breakfast, lunch, and dinner)? When? Where (dining out or in their home)? With whom? How do characters get food (buying or growing food)? If they buy their food, where? Do they have contacts at the shopping locations? Do they get a discount? If they grow their food, where is their garden or farm? How long do they perform these activities? During what hours?
Work	Do characters work? Where? For how long? Do these hours affect their home life? How do characters commute to work, home, and other locations?
Shopping/ Gardening	Where do characters shop? What types of goods do they buy? Do they have contacts at the shopping locations? Do they get a discount?
Attire	What do characters wear during work? What do characters wear during downtime?
Grooming	Do characters groom themselves each day? Is this option available? Do characters wash their clothes? How often? Is this option available?
Religion	Do characters have strong religious beliefs? If so, where do they worship and when?
Socializing	Does your character see friends and family daily? With whom does your character associate? Frequency?

13-72. Trainers should be cautious when assigning roles. They might consider rescinding recurring role assignments in order to avoid trapping the role-player in identical personalities, emotions, and even responses. Role-playing different characters allows role-players to improve confidence in their ability and skills. It also allows role-players to widen their character resumes and prevents training units from visually stereotyping role-players during training.

13-73. As events within scenario operations occur, characters within the situations might require new character assignments due to untimely character deaths, for example. Reassigning a role-player requires careful thought by the trainer. A sufficient amount of time must elapse between reassignments to ensure the fidelity of the characters and the scenario (see table 13-20, page 13-34). It offers role-players time to rehearse and become familiar with their new characters. The waiting period also offers role-players time to shift their mentality from that of the old character to that of the new, preventing a blending of characteristics between old and new characters that can impact character and scenario fidelity.

EXAMPLES

Role-player A is assigned a character on day one of scenario operations. This character dies in the second planned event. Role-player A receives a new character assignment, but not until day six. This gives them time to rehearse and become familiar with their new character.

Role-player A dies on day one and is reassigned on day two. The role-player retains the mentality of the first character even after reassignment, exhibiting the emotions, characteristics, and personality of their first character in a mixed version of the old and new characters. This blending of character roles impacts character and scenario fidelity.

Table 13-20. Ensuring scenario fidelity

#	*STEP*	*ACTIONS*
1	Frame the scenario and identify applicable role-players.	Frame the scenario within the context of the identified training objectives. Identify applicable role-players and the required skill levels.
2	Identify operational variables in conjunction with training objectives.	Identify operational variables within the scenario in conjunction with the established training objectives. Identify operational variables for each role-player. Not all variables are necessary for every event. Ensure that each variable chosen for the scenario and role-player possesses a beginning and end-state.
3	Address role-player dynamics.	Determine whether to use free or scripted role-play (and to what degree). Provide a list of role-play instructions to carry the scenario to its logical conclusion. Identify role-echeloning and emerging relationships.
4	Consider the unit's demographic.	Consider the unit's experience. Consider role-player experience.
5	Assess scenario fidelity.	Crosswalk all steps (operational variables, training objectives, dynamics of the role-players, and demographics of the training unit) to ensure the desired training objective has been achieved. Identify any oversights in the planning.

Step 1: Frame the Scenario and Identify Applicable Role Players

13-74. First, trainers frame the scenario within the context of the identified training objectives and identify applicable role-players. The event framework is shown in figure 13-8. The city block has been economically depressed for several years. Interaction with three main role players (that is, the mayor, banker, and florist) revitalizes the city block.

13-75. Within the scenario, five role-players are available, but three are required to achieve the training objectives: a mayor, a banker, and a florist. Two act as specialized role-players: the mayor and the banker. The additional three act as generic role-players: a florist and two other role-players who are required but are not germane (extras to be added when required).

Note. Trainers should identify the optimal mix of characters to satisfy the training objective. Then tailor the mix to fit the constraints of the scenario.

Step 2: Identify Operational Variables in Conjunction with Training Objectives

13-76. Next, trainers identify operational variables within the scenario in conjunction with the established training objectives. This also involves identifying operational variables for each role-player (see table 13-21, pages 13-36 and 13-37). Not all variables are necessary for every event. For the purposes of this example, political, economic, and social variables are used (see figure 13-8):

- Political. Mayor X (cultural role-player) was elected by the residents (generic role-players) of the city block.
- Economic. Mayor X and the residents of the city block conduct all banking activities at the bank.
- Social. Children (generic role-players) of the city block have stopped playing on the city block playground due to the dumping of debris and hazardous waste.

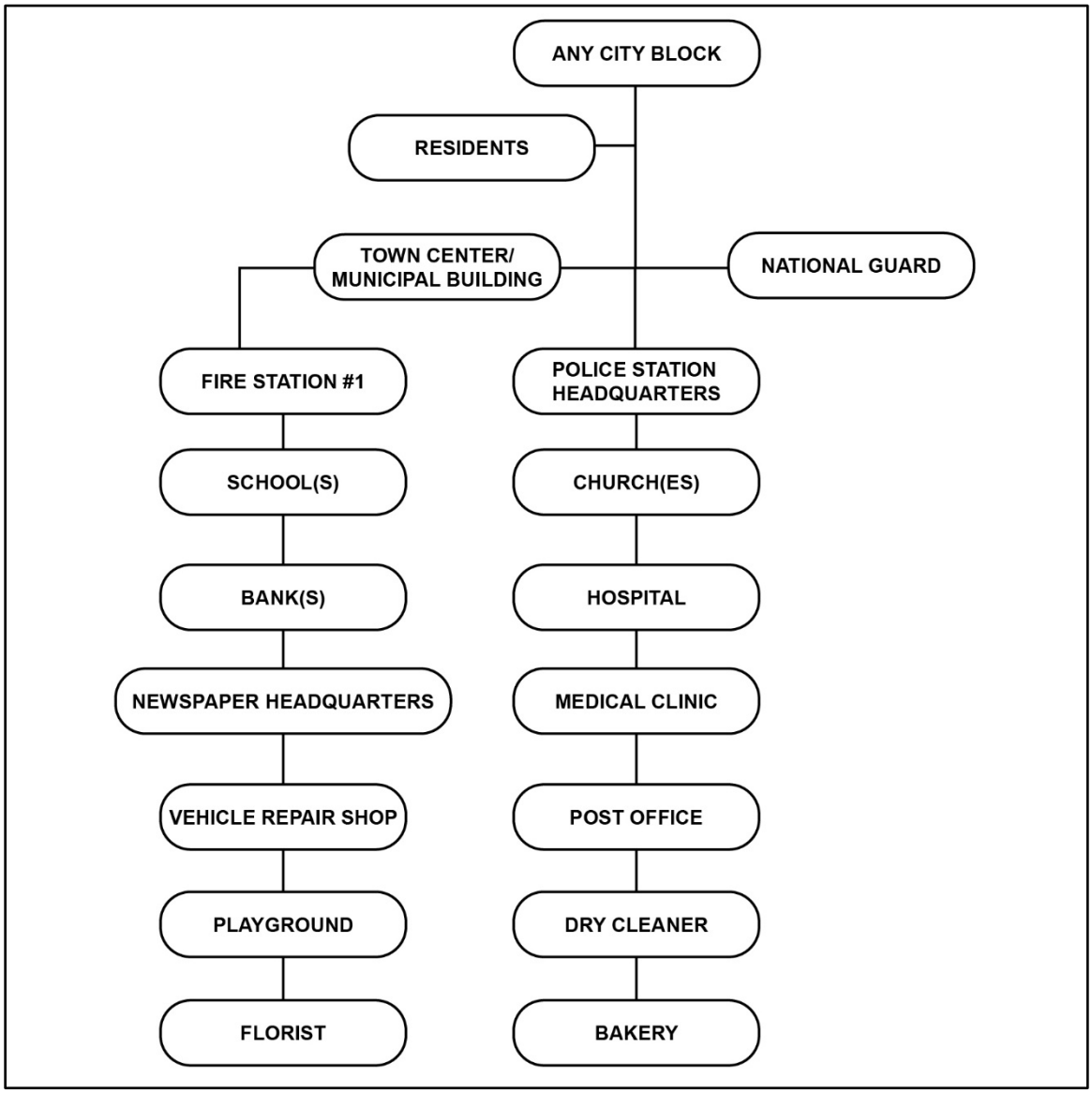


Figure 13-8. Scenario framework for city block example

Table 13-21. Considering operational variables for a character

VARIABLE	*DESCRIPTION*
Political	Describe the political status of the character. Is the character eligible to vote? Have they had the option to vote before? What is the current state of political affairs worth to the character? What is the character's political affiliation? How does the character's political affiliation affect their religious beliefs, or vice versa? How does the character's political affiliation affect their desire to support or protest current affairs in the operational environment?
Military	Is the character in the military? Does the character work for the military inadvertently? Was the character forced to join the military against their will (if they are currently serving)? Is the character against the military? Did the character desert from the military? If so, why? Overall, how does the character view the military in the operational environment?
Economic	What type of income does the character receive? How much of the income the character brings home is taken against their will? What amount of their gross income does the character donate? Does the character have access to a bank? Would they trust a bank if one were available? Where does the character keep their money? Does the character share their wages with extended family? How much of their total income does the character split between wives (if there is more than one)? What effect does the current state of affairs in the character's operational environment have on their income? Does the character aspire to change, support, disrupt, or protest the current state of affairs in order to receive their income?
Social	Where does the character stand on the social ladder? How/why are they in this social position? Is the character an admired icon of the community/province? Is the character a religious leader with influence in the community/province? What other factors contribute to their social standing? Will their social standing at this time remain? If so, for how long?
Information	Does the character rely on media resources for current affairs? If so, what resources are utilized (for example, internet, newspapers, TV, radio, word of mouth)? Does the character live in an operational environment with a functioning mail delivery system? Would they trust the mail system if it was utilized? Does the character have access to the internet? If so, what sites are searched? What is their main purpose for utilizing the internet? How does the character differentiate between media resources that are slanted towards corrupt politics and tainted foreign civil authorities? Does the character have access to a telephone/cell phone? If so, it is it used for business? What type of business? Can the character read?
Infrastructure	Where does the character live (house/hut/apartment/homeless)? Does the character have the luxury of indoor plumbing? How does the character cook meals? What type of environment does the character live in (rural/urban)? Where does the character do their grocery, clothes, hobby, and leisure shopping (if available)?

Table 13-21. Considering operational variables for a character (continued)

Physical Environment	Describe the environment the character lives in. How does this affect their daily life? What effects does the character's physical environment have on their infrastructure/social/ information variable?
Time	How does the character tell time? Can they read a watch? Do they wear a watch? How does time affect their daily living? Is the character prohibited from certain practices/events at certain times due to religious affiliation/political affiliation?
Legend: TV – television	

The political climate in the city block will degenerate due to discord. Parties involved will disagree on various matters, such as a date for the upcoming mayoral election. Economically, the city block is experiencing a downturn due to poor security. Consequently, the bank is not receiving loan payments. The florist, for example, has not paid interest on their loan for a year. Socially, this has caused massive amounts of distrust among the residents.

13-77. Trainers ensure that each variable chosen for the scenario and role-player possesses a beginning and end state. This establishes and supports role-player dynamics and the framework for the scenario. These variables establish the conditions that manifest themselves on the city block. They also describe the manner in which the role-players interact with themselves and the training unit. The role-players now have a basic set of instructions to support the training objective of 'Conduct Humanitarian and Civic Assistance.' With this information, a special-skill role-player can engage in a series of interactions that enhance the training environment. In addition, all characters are given a set of free role-play instructions to carry the scenario to its logical conclusion.

Step 3: Address Role-Player Dynamics

13-78. Trainers address role-player dynamics. They determine whether to use free or scripted role-play (and to what degree) and identify role-echeloning and emerging relationships. When present, these dynamics create an adaptive living environment with the scenario for the training unit based on their actions and reactions.

13-79. For the purpose of this example, role echeloning occurs between the mayor and a senior officer. Role echeloning also occurs between the banker and the same senior officer or others present. Within each role lies the option (scripted role-playing) of deliberately dealing with a lower-ranking Soldier to achieve a specific result. This dynamic is developed at the discretion of the trainer, with consideration of the role player's abilities (mature versus evolving character). The trainer has also elected to include the florist as part of an emerging relationship with the banker. The florist evolves (evolving role) into the city block power broker.

The mayor holds discussions with a senior officer to resolve political strife within the city block. The banker (with guidance from the trainer using scripted role-playing) engages the lead private first class of a patrol for the same issue and demands a solution. The florist (in the presence of the training unit) orders the mayor to hold city block elections within one month. The mayor hastily agrees, deferring the election decision to the florist.

The mayor's hasty decision to defer elections to the florist illustrates their evolving role within the city block. This role was scripted based on conditions and the experience of the role-player (generic-complex).

Step 4: Consider the Unit's Demographic

13-80. The balance between scripted and free role-playing is dependent upon the overall experience of the unit, the complexity of the training objective, and the ability of the role-players. During recent deployments, many veterans learned and displayed persuasion, empowerment, motivation, negotiation, conflict resolution, bargaining, advocacy, and diplomacy at various skill levels in their operational environment. As leaders, they were able to affect their operational situation by extending influence through local leaders such as police chiefs, mayors, and tribal elders. In addition, their leadership influence now extends beyond the operational level to joint, interagency, intergovernmental, multinational, and other groups. Units that are more experienced require freer role-play so they can interact with role-players to the degree they are accustomed to in the operational environment. Units that are less experienced require more scripted role-play in order to control the conditions in which they are training.

13-81. In order to curtail scenario preparation and role-player training to an experienced unit, inexperienced unit, or a mixed experience unit, trainers should know the quantity of veteran participants within the training unit. Trainers are also considerate of the training unit's level of experience in relation to the training objective and role-player experience. Trainers and scenario designers should consider these questions while writing, planning, and preparing scenarios for training units with deployment experience:

- What are veterans' expectations from role-players?
- What are inexperienced and new unit members' expectations of role-players?
- What can role-players provide the experienced and inexperienced unit members?

13-82. In the context of this example, the training unit is considered experienced with a robust mix of veterans. Trainers are considerate of the training unit's level of experience in relation to the training objective and role-player experience. The training unit's experience allows trainers to include evolving and emerging roles versus scripted role-play.

After one deployment to Iraq and one to the Horn of Africa, the senior officer's experienced suggestion to conduct city block elections in six months was well-received by the florist and the mayor. The senior officer understands that hastily conducting elections does not solve the city block strife, economic situation, or political angst.

13-83. The scenario designer and trainer understand the senior officer's experience influences the manner in which the civic leaders are handled. This explains why it was decided to include the evolving role of the florist to challenge the senior officer's understanding of the power structure. To further train the unit, the decision for the banker to challenge the lead private first class also included reinforcement of their overall training objective.

Assess Scenario Fidelity

13-84. To effectively achieve the training objective, Conduct Humanitarian and Civic Assistance, trainers crosswalk all steps (operational variables, training objectives, dynamics of the role-players, and demographics of the training unit) to ensure the desired training objective has been achieved.

13-85. In this example, during the crosswalk, trainers and scenario designers overlooked the need for translators within the city block. This oversight occurred because trainers understood the training unit to have sufficient translator capability. Due to the oversight, the need for an additional skilled role-player was added to the overall role-playing requirements.

Note. Overall, oversights for additional role-players may occur during the scenario planning process. In the event types of role-players are not identified, trainers and scenario designers reassess each of these five steps to ensure scenario fidelity.

Character Development to Enhance Role-Player Competence and Confidence

13-86. Role-playing may not come naturally to those hired or tasked to portray characters. In role-playing, participants adopt characters and parts that have personalities different from their own. Characters assigned to role-players may possess opposing motivations, backgrounds, ethics, and values.

13-87. As challenging and new as this may be for all role-players, character development brings validity and fidelity to the scenario and to the roles. If not provided by the trainer, role-players can develop background information about their character using the operational variables and the character development checklist provided in this chapter. Further, characters can develop back-stories.

Familial Relationships

13-88. Characters within the scenario have family members possibly inferred or portrayed on the battlefield. Family member characters can be children, siblings, parents, spouses, or a mixture of all types. Siblings, parents, and spouses are easily simulated and replicated through the use of adults. Children, however, are not easily replicated due to safety and legal constraints. Children on the battlefield are inferred or portrayed by a young adult (age 18 and up).

13-89. The training environment is not safe for children, senior citizens, or the disabled. If units insist on the replication of young adults, senior citizens, or disabled family members, trainers plan to overcome this possible constraint. Consult your servicing Office of Staff Judge Advocate (known as OSJA). A judge advocate is able to provide legal advice to trainers and training units about contractual constraints and legal risks when working with children, senior citizens, and the disabled.

13-90. When legal constraints do not authorize contracting children, senior citizens, or the disabled for role-playing, other options exist. The following are ideas and options training units and trainers may use to replicate children, senior citizens and the disabled:

- Wear padding to depict pregnancy.
- Wear oxygen masks or have oxygen tanks to simulate chronic obstructive pulmonary disease or other lung diseases.
- Use baby bottles, strollers, bassinettes, and dolls to simulate or replicate the presence of infants.
- Use diaper bags with diapers, bottles, extra clothes, pacifiers, and other related items to simulate the presence of infants and toddlers.
- Use outdoor toys to simulate the presence of children.

Note. Outdoor toys should not be too elaborate. Trainers should consider the operational environment.

- Use makeup to create to replicate the appearance of senior citizens or the elderly (age 70 and older).

- Allow replicated senior citizens and the disabled to use walkers, canes, and wheelchairs.
- Use ramps or chair rails to simulate apparatuses disabled persons may utilize.

Note. In order to successfully, safely, and legally create family elements within the training scenario, trainers should consult with a judge advocate or their servicing OSJA, as well as perform all necessary risk assessments, and rehearse scenario events.

Outfitting Role Players (Attire and Materiel

13-91. The outfitting and material for certain training units may cost more than others due to special material or outfitting needs of the unit. Trainers should consider the following factors when resourcing scenarios:

- Total quantity of role-players required.
- Total generic role-players.
- Special skill requirements.
- Clothing.
- Material.

Clothing and Resource Management

13-92. A character's attire requires attention and detailed planning. Attire worn within the training operational environment provides a visual reference to culture, social status, and lifestyle. Not all characters wear traditional clothing on a daily basis. For example, what may appear to be a young male in everyday street clothes could be a young male college student. Trainers consider the following when outfitting role-players in order to ensure character fidelity:

- Effect of operational variables.
- Training unit's mission and training objectives.
- Character's identity and purpose (that is, a character's age, personal taste, social status, occupation, and marital status).
- Group identity (that is, village, tribal, national, ethnic group, or family).
- Location of the operational environment (for example, climate of the region, season, dress of the region or province).
- Resource constraints.

13-93. Role-players should understand the importance of proper wear and care of their attire. Working together, trainers and role-players can preserve the longevity of attire and accessories. In the event trainers replace, upgrade, or add clothing and material to their inventory, they might consider contacting their resource manager for outfitting and material expenditure information.

Vehicles and Training Aids, Devices, Simulators, and Simulations

13-94. In addition to the use of realistic attire and material on the battlefield, role-players might be required to operate certain equipment or vehicles. For example, the use of TADSS enhances the realism of training for the training unit and role-players.

13-95. Experienced and novice role-players require training and certifications on military-issued equipment. Not all equipment requires certification. TADSS, vehicle licensing, and pyrotechnics often require new or updated training and certification. Trainers should determine the number of inbound role-players who require refresher and entry-level training on equipment issued for the scenario prior to their arrival. While not all role-players require certification in every area, trainers may consider training all role-players at once or refresh role-players based on previous individual training. A review of their certifications helps determine previous training received.

Note. Training and certifying role-players consumes a large portion of the time allotted in a role-player training program. Trainers should consider incorporating training and certification of role-players into a training program upon in-processing.

Training Role Players

13-96. Prior to conducting the training and demonstration of the tasks with role-players, trainers should rehearse the tasks. Table 13-22, pages 13-41 through 13-43, recommends tasks to enhance a pre-existing role-player training and provides ideas for the development of training. Timelines are suggested but they are only valid under optimal conditions. Timelines are neither fixed nor prescriptive. However, following this plan enables trainers to train experienced and novice role-players.

Note. Trainers should verify the training proficiency of the assistant trainers (when used) before training role-players.

13-97. Role-player training should be approached with a solid understanding of the unit's training objectives and mission. Prior to, during, and after role-player training, trainers should ask themselves the following questions:

- Do I understand the unit's training objectives?
- Can I explain and teach the unit's training objectives to role-players?
- Do the role-players understand the unit's training objectives?
- How can I, as the trainer, ensure role-players facilitate the training unit mission?

Note. Appendix E reiterates parts of this section in chronological order.

Table 13-22. Plan for training role-players

PHASE	*TIMEFRAME*	*PLAN DETAILS*
Phase 1	1–3 Day In-Processing	Role-players arrive in advance of training unit. Trainers meet and organize role-players based on experience. Role-players conduct necessary administrative paperwork and events as required. • Trainers provide the following orientation to all role-players upon arrival: Country study or description of operational environment, cultural information about country or operational environment, and character biography. • Unit training material (mission-essential task list, training objectives, mission training plan [applicable sections], unit operations order, collective tasks, individual tasks, Warrior tasks, and unit battle drills). Assign role-players their character and type (generic or special skills). Ensure that all training, certifications, and practice necessary to operate assigned equipment occur. Outfit role-players with attire; materiel; and training aids, devices, simulators, and simulations.

Table 13-22. Plan for training role-players (continued)

PHASE	*TIMEFRAME*	*PLAN DETAILS*
Phase 1	3–5 Day Classroom Training	Ensure role-players understand the relationship of their assigned characters with assigned attire and materiel. Resolve clothing and materiel issues while time allows prior to rehearsal. Role-players perform cultural study and review by studying and reviewing the character's culture (information provided by trainer[s]) and learning the do's and don'ts of the identified operational environment's culture. Role-players perform character building. Encourage role-players to think and act in character by becoming closely familiar with the character biography and daily activities (discussed earlier in this chapter). • Explain assigned character relationships with other characters (for example, business and personal contacts, acquaintances, enemies, superiors, and family). Explain the purpose of role-player integration into the training unit mission-essential task list and training objectives. • Identify characters that will or will become mature characters during planned and evolutionary events. Discuss role echeloning with role-players. Explain its purpose. Identify role-echeloned partner/Soldier(s) within the training unit. • Discuss the importance of free and limited role-play. Discuss demographic factors of the training unit. Discuss scenario fidelity. Discuss operational variables. • Perform terrain walk and reconnaissance. ▪ Distribute maps of the terrain to all role-players during classroom training. ▪ Encourage role-players to annotate specific character information on the layout. ▪ Ensure role-players carry the map with them on their role-player terrain reconnaissance. ▪ Encourage role-players to explore the terrain. ▪ Encourage role-players to ask questions about the terrain and the training unit's objectives, and visualize them while on the terrain. ▪ Encourage role-players to begin thinking and acting like their characters during the terrain walk. Consider quizzing role-players about their character's purpose within the scenario and about their characters. ▪ Answer any questions about the terrain and training unit.
	3–5 Day Rehearsal	Role-players should rehearse in assigned attire and with assigned material. Rehearse various scenarios to allow role-players to build competence, confidence, and skills (if time allows). Rehearse inbound unit training scenario events. Consider asking role-players questions about their characters. Assess the familiarity of individual role-players with their assigned characters. Encourage continued development of answers to questions in order to increase the fidelity of characters.
Phase 2	Scenario Operations	Role-players participate in scheduled scenario operations with the training unit.

Table 13-22. Plan for training role-players (continued)

PHASE	*TIMEFRAME*	*PLAN DETAILS*
Phase 3	1–2 Day Out-Processing	Conduct an after-action review with all role-players prior to the start of out-processing events. Discuss and review discrepancies encountered during scenario operations with individual or all role-players. Annotate comments about the discrepancies for historical purposes and future reference. Recover role-player outfitting and material. Discuss issues or concerns about attire and material with individual role-players. Follow standard operating procedures in the event a role-player is charged for ruining issued material. Perform final assessment of training. Add role-player comments about training unit interaction when appropriate. Review final training assessment with role-players, and during the training unit's after-action review. Receive the lead or chief role-player rotation closure report. Discuss issues and concerns the lead role-player presents. File the closure report.

Sample Scenario: Village Entry Exercise

13-98. The village entry exercise is an enhanced scenario-based exercise that combines critical thinking, problem solving, and analysis to promote awareness, understanding, and employment of predictive profiling while accomplishing missions. The intent is to put the students in a position where they observe human behavior cues and the overall physical environment within a range of 100 meters or less. To perform the exercise, the instructor should perform the steps outlined in table 13-23, page 13-44.

Table 13-23. Performing a village entry exercise

PERFORMING A VILLAGE ENTRY EXERCISE

Resources: The resources for this exercise vary based upon the scenario being presented.

Preparation: Prepare all elements of the scenario so that students can determine the priority intelligence requirements. These can include the following:

- Locate and identify the leaders within the village.
- Identify the hierarchy, composition, and disposition of the elements within the village.
- Locate and identify the leaders of any criminal or terrorist factions.
- Identify the hierarchy, composition, and disposition of any criminal or terrorist factions.
- Determine if the well provides water to the town or crops.
- Determine the primary routes in and out of the village.
- Determine alliances and allegiances within the village.
- Determine the condition of a building (United States Agency for International Development building or United Nations hospital).

Conduct: To perform the exercise, the instructor performs the following steps:

- Brief the students on any safety rules.
- Guide the students to the village.
- Identify the mission and commander's intent.
- Conduct the scenario. Conduct varies based upon the scenario being presented.
- Position in the element to monitor the actions, conversations, and indicators from the students and teach/coach/mentor them by asking leading questions and providing guidance.

Scoring: This event is critiqued during an after-action review. The students' ability to observe and recognize telltale human behavior cues determines the direction that the scenario evolves and unfolds: either positively or negatively. This situational training exercise is intended to be fluid in execution; positive reinforcement is immediately provided when students are aware and make proactive decisions, and negative consequences are provided when students are not aware and fail to make proactive decisions.

Note. When executing this exercise, instructors should avoid grading tactical movement or the myriad of other things part of a normal patrol.

Appendix A

Performance Enhancement and Resilience

The Soldier's ability to function under stress is key to winning battles. Without the Soldier, weapons and tactics are useless. Stress can be countered using the principles associated with Soldier performance enhancement and resilience.

PERFORMANCE ENHANCEMENT

A-1. Core mental skills build a solid foundation for optimal human performance see figure in all areas where a person is expected to perform. The mental and emotional skills required to excel on the athletic field are similar to the skills underlying excellence on the battlefield, in the classroom, in the workplace, and at home. Performance enhancement involves developing a firm foundation for life-long mental strength. Table A-1 provides more information about the five mental skills that form a foundation for performance enhancement.

Table A-1. Role of core mental skills in performance enhancement

AREA	*DEFINITION*	*BENEFITS*
Building Confidence	Develop effective thinking skills to create energy, optimism, and enthusiasm, and help manage internal obstacles that hinder performance excellence.	Enables identification of strategies to strengthen and protect confidence and foster performance. Permits differentiation between effective and ineffective interpretations of success and failure. Allows a person to build purposeful and productive self-talk.
Attention Control	Employ methods to take control of one's attention.	Improves one's ability to attend fully and concentrate amidst distractions.
Energy Management	Use self-regulation skills to effectively modulate and restore energy in order to thrive under pressure.	Enables a person to execute deliberate breathing. Permits a person to maintain composure in times of high stress.
Goal Setting	Develop a plan for achieving a goal and maintaining the motivation necessary to be successful.	Allows for development of a concrete, step-by-step plan for achieving a personally meaningful goal.
Integrating Imagery	Mentally rehearse successful performances to program the mind and body to perform automatically and without hesitation.	Permits use of one's natural capacity for thinking in pictures to prepare the mind and body for success. Uses practical imagery techniques to improve all aspects of performance.

RESILIENCE

A-2. Resilience is the mental, physical, emotional, and behavioral ability to cope with adversity, adapt to change, and recover, learn, and grow from setbacks. The CSF2 is designed to increase a Soldier's ability and willingness to perform an assigned task or mission, and enhance their performance by assessing and training mental resilience, physical resilience, and performance enhancement techniques and skills.

A-3. This initiative introduces many resources for training Soldiers on skills to counter stress. The mental resilience, physical resilience, and performance enhancement techniques and skills addressed during CSF2 build on the five dimensions of strength: physical, emotional, social, spiritual, and family.

PHYSICAL DIMENSION

A-4. Resilience, performance, and physical health are closely related. Research indicates that individuals who demonstrate strong characteristics in one area are usually strong in the other areas, too. The physical dimension of CSF2 involves performing and excelling in physical activities that require aerobic fitness, endurance, strength, healthy body composition, and flexibility derived through exercise, nutrition, and training. This dimension focuses on the connection between physical and psychological health.

A-5. The physical domain also encompasses Army medicine's performance triad to improve personal and unit performance, resilience, and readiness. The performance triad—activity, nutrition, and sleep—returns the Army back to health basics by emphasizing that the Soldier and Army family get enough physical activity, proper nutrition, and adequate sleep to be mentally and physically fit.

Activity

A-6. Good physical conditioning delays fatigue, builds confidence, and shortens recovery times from sleep deprivation, illness, and injury. Physical fitness, including aerobic fitness and muscular strength and endurance, is developed in all Soldiers to strengthen their ability to bounce back from exhaustion, increase their work capacity, and improve their ability to withstand stress. Soldiers can achieve aerobic fitness by performing activities such as walking, jogging, running, bicycling, swimming, skipping rope, bench stepping, stair running, and road marching. Muscular strength and endurance are built through performing activities such as weight lifting, calisthenics (for example, pushups, sit-ups, and chin-ups), and other types of resistance training (such as partner-resisted exercises).

A-7. In combat, Soldier load significantly exceeds optimum recommended weights. When the Soldier carries excessive amounts of equipment, the effects of stress and lack of rest are magnified. Physical conditioning cannot compensate for this degree of excess. In continuous combat, Soldiers tire faster and recovery from fatigue becomes more time-consuming.

Nutrition

A-8. Good nutrition is important. An inadequate diet degrades performance, reduces resistance to disease, and prolongs recuperation from illness and injury. If Soldiers are too busy, too stressed, or too tired to eat adequate rations, their caloric intake is reduced. Reduced caloric input may result in the onset of physical and mental fatigue, and degraded performance. For example, in accidents judged to involve aviator fatigue, there is some indication that the pilots had irregular eating schedules, or missed one or more meals before the accidents occurred.

A-9. Excitement, stress, and rapid pace of events can cause Soldiers to forget to drink liquids, leading to dehydration. Further, the relative lack of moisture in meals, such as ready to eat and other packets contribute to dehydration. Dehydrated Soldiers can lose their appetite and reduce their food intake, further leading to degraded performance. Leaders should emphasize drinking regimens to ensure that Soldiers are properly hydrated going into battle.

Sleep

A-10. Every person is accustomed to being awake or asleep during certain hours of the day and night. The muscles can continue to function adequately without sleep, but the brain cannot. Disruption of the normal sleeping schedule causes performance to degrade. Increasing sleep debt leads to subtle but potentially critical performance failures.

A-11. There are rhythmic physiological and behavioral variations in individual performance based on a predictable cycle that is about one day or 24 hours. The 24-hour, day/night, work/rest cycle is called the circadian rhythm. As part of the circadian rhythm, the body initiates biological processes to prepare itself for activity and rest. Figure A-1, page A-5, shows the processes a body uses to prepare itself to be awake or asleep.

A-12. Circadian rhythm is also evident in the monitoring of body temperature. Although one's normal temperature is usually represented as 98.6 degrees Fahrenheit, a person's body temperature actually fluctuates in a range of temperatures between 96.8 and 100.8 degrees Fahrenheit. Figure A-2, page A-5, shows the fluctuations in body temperature for a person who is accustomed to working days and sleeping nights. Fluctuations in body temperature parallel performance. The higher the body temperature, the better the performance. As temperature decreases, there is a decline in mood and motivation and an increase in sleepiness and fatigue. Performance, particularly cognitive performance, declines somewhat coincidentally with lower body temperature. This impact is most pronounced during the circadian lull, which occurs from roughly 2 a.m. to 6 a.m. During this time, performance declines about 10 to 15 percent; in sleep-deprived Soldiers, this decline may reach 35 to 40 percent. These are also the most critical hours for sleep, when the most beneficial type of sleep, anchor sleep, is taken and body temperature is at its lowest.

Note. The circadian lull is the best time for sleep but not for naps. To prevent sleep inertia (which is the state that occurs when a person wakes up feeling groggy, confused, sluggish, and uncoordinated; it may take their brain from 5 to 15 minutes to warm up), naps should always be taken at times other than the lowest point in body temperature.

A-13. Circadian rhythm has various effects on the human body. People become sleepy at least twice a day: once in the afternoon at about 2 p.m. and once just before their habitual sleep time. Circadian rhythm can change how a person feels about a task. Due to exaggerated feelings of physical exertion that occur at certain points of the day, Soldiers may feel that it takes more effort to do a physical task in the morning than doing the same task in the afternoon. This is especially true between 4 a.m. and 7 a.m. During this time, the tendency to fall asleep is considerably more noticeable than at other times of the nighttime work period.

Perhaps one parallel [for sleep-related performance degradation] is the World War II experience of the Airborne division, whose night drop into Normandy preceded the Allied assault on the beaches. They were elite troops, all volunteers, and were exceedingly well trained. Nonetheless, their ability to cope was strained since they had not been prepared for the conditions they encountered. The accounts below are based on notes taken by a contemporary observer.
Initially, the parachute drops were made during the night. Zones were missed and many men landed in a marsh.

"*Only the Soldiers who had landed in the marsh seemed relatively alert; soaked and shivering, they had to keep moving for warmth. It was different with the men who had landed dry; some of them fell asleep [while] standing, while Ballard talked to them, then fell headlong. When the formation pulled away from the assembly area, then paused briefly, Ballard saw men fall in their tracks and hit the ground with their eyes closed*."

Later, Item Company was caught unawares by a German dive-bombing and strafing attack. Overpressure from exploding bombs affected virtually all personnel.

"*Lieutenant Robert G. Burns found he could not keep the men awake, no matter how he tried. Some were in heavy sleep within two minutes of the bombing. It confused Burns; he could not tell which were the sleepers, and which were the wounded and dying. He saw men who, having tumbled down the bank, lay still with their bodies half in water. He went to them, thinking they had been hit, then discovered they were sleepers who had rolled down the bank and had not awakened when they slipped into the frigid marsh. Others lay there in their jump suits, wet through and through, yet sleeping the torpid sleep of utter exhaustion. Officers gave over any attempt to rouse these men. Item Company had become a cipher in the column*."

After several days of continuous operations, without sleep, and under exceedingly adverse conditions: "*They were dull-eyed, bodily worn, and too tired to think connectedly. Even a 30-minute flop on the turf with the stars for a blanket would have doubled the power of this body, and quickened the minds of its leaders to ideas on which they had blanked out…*" said Captain Patch of their people on the far right. "*They were so beat that they could not understand words even if an order was clearly expressed. I was too tired to talk straight. Nothing I heard made a firm impression on me. I spoke jerkily in phrases because I could not remember the thoughts which had preceded what I said*."

–Research Note 85-68, *Soldier Performance in Continuous Operations*, written by the United States Army Research Institute for Behavioral and Social Sciences, July 1985.

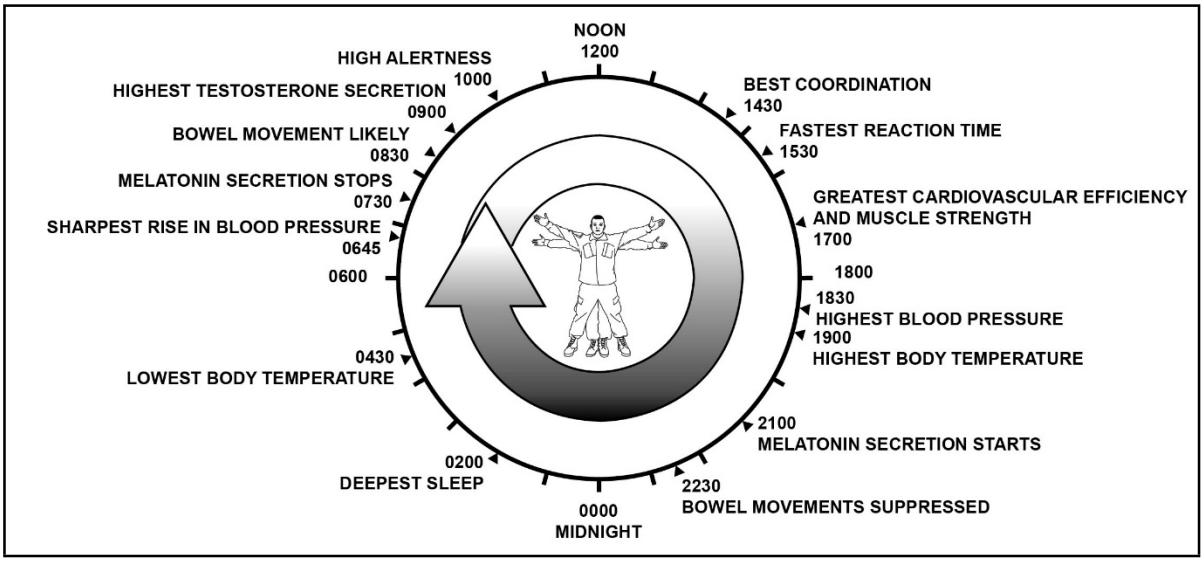


Figure A-1. Biological processes that occur throughout a day

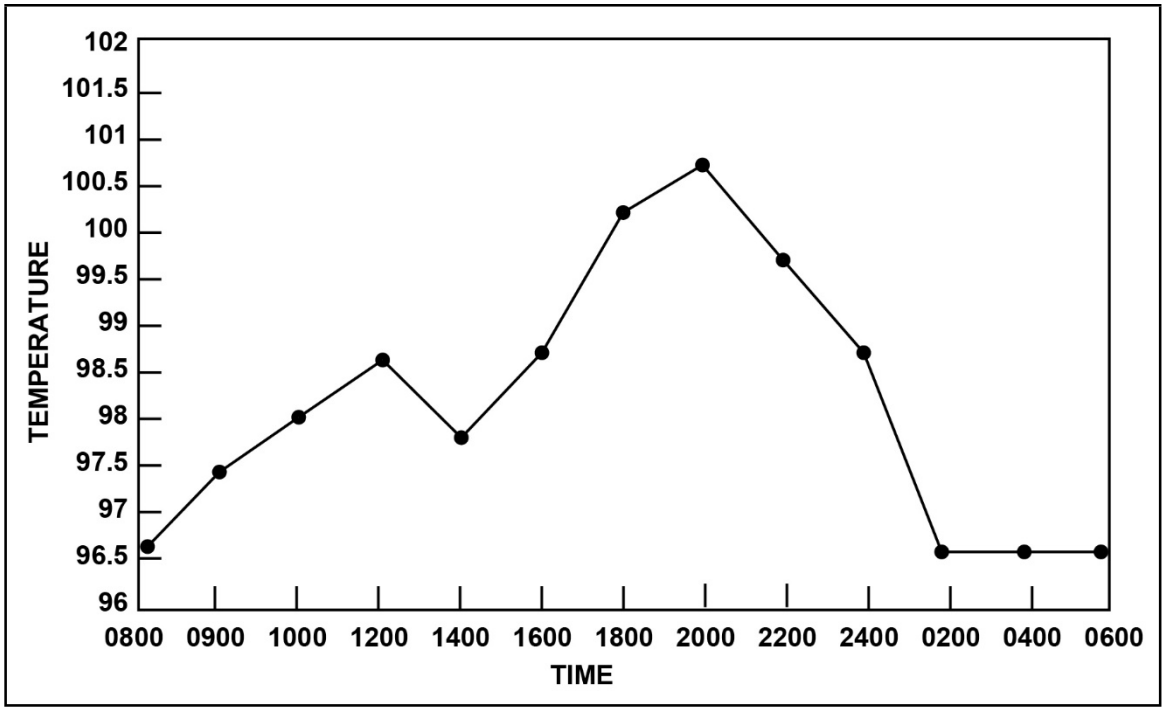


Figure A-2. Fluctuations in body temperature throughout the course of a day

A-14. To maintain optimal performance, Soldiers should attempt to sleep for 8 hours in a 24-hour period; however, during continuous operations, Soldiers may have opportunities for only limited or fragmented sleep. Even during the first night of combat, normal sleeping habits and routines are upset. This sleep deprivation modifies how a Soldier thinks. The longer Soldiers go without sleep, the more their thinking slows and becomes confused, as is shown in table A-2 on page A-6. Signs of cognitive degradation begin with poor decision-making during and after the first 24 hours of sleep deprivation. Sleep loss symptoms become more prevalent as sleep debt builds up. Performance degrades, but the rate at which this happens is affected by the hours of wakefulness, tolerance to sleep loss, and the kinds of mental or physical work. Both mental and physical changes occur, with symptoms varying among individuals (see table A-3, page A-6 and A-7).

Note. Alertness and performance decline gradually with partial sleep deprivation when sleep is limited to 4 to 5 hours each night. After 5 to 7 days of partial sleep deprivation, alertness and performance decline to the same low levels as those seen following two days of total sleep deprivation. After 48 to 72 hours without sleep, Soldiers become militarily ineffective.

Table A-2. Effects of sleep loss

TIME WITHOUT SLEEP	*EFFECT*
After 24 Hours	A deterioration in performance of tasks that are inadequately or newly learned, are monotonous, or require vigilance.
After 36 Hours	A marked deterioration in ability to register and understand information.
After 72 Hours	Performance will be about 50 percent of normal.
3 to 4 Days	Is the limit for intensive work, including mental and physical elements; visual illusions are likely at this stage, or earlier.

Table A-3. Mental and physical factors affected by sleep loss

FACTOR	*EFFECT*	
Physical Changes	Vacant stares. Bloodshot eyes. Pale skin. Poor personal hygiene. Body sways when standing. Chin drops suddenly when sitting.	Occasional loss of handgrip strength. Walks into obstacles and ditches. Low body temperature. Slowed heart rate. Slurred speech.
Attention	Loss of concentration. Decreased vigilance. Reduced attention.	Failure to complete routines. Mind wanders, might repeat self. Periods of misinterpretation and disorientation.
Cognition	Slowed comprehension and perception. Takes longer to understand verbal, written, or coded information. Takes longer to make sense of things seen or heard, especially patterns.	Response times are changed unevenly (some responses remain fast, while others become slow). Failure to observe some cues, causing inadequate responses. Misperceptions and illusions (seeing things that are not there).
Memory	Memory loss for recent events. Difficulty remembering newly learned information.	
Initiative	The ability to initiate work decreases; tasks imposed by others are less likely to be affected.	
Insight	Insight is reduced. Performance and abilities are overestimated.	
Motivation	Decreased willingness to work (diminished performance follows).	

Table A-3. Mental and physical factors affected by sleep loss (continued)

FACTOR	*EFFECT*	
Mood	Mood changes. Fatigue and dominating desire to sleep. Irritability and increased negativity. Persecution.	Loss of interest in surroundings and events. Less energetic, alert, and cheerful; time turns into dullness and weariness. Depression and apathy.
Hunger	Hunger increases disproportionately to the time spent awake.	

A-15. One's actions can change their circadian rhythm. If the day/night, work/rest cycle is disrupted, performance suffers, as the person is sleepy during the new work period and awake during the new sleep period. This lapse in performance is often called jet lag. The body needs several days to adjust to the new schedule. For example, when traveling a distance that involves moving across a half-dozen time zones, a person's day/night, work/rest cycle is disrupted. In this instance, people may not be at their sleepiest at their usual sleep period of 12 a.m. to 6 a.m. (new-locale time) for a few days, but sleeping when they are sleepiest (12 p.m. to 6 p.m. [new-locale time]) will only delay adaptation to the new locale. Instead, the person should go to bed between 12 a.m. and 6 a.m. (new-locale time) in order to establish a new circadian rhythm.

EMOTIONAL DIMENSION

A-16. Regardless of one's role in the Army—Soldier, family member, or Department of the Army Civilian—the challenges the community regularly faces can potentially erode one's emotional control. Because emotions drive how a person approaches challenges and problem solving, emotional control is critical to the development and sustainment of resilience and psychological health. The GAT assesses one's ability to approach life's challenges in a positive, optimistic way and to demonstrate self-control, stamina, and good character in choices and actions.

SOCIAL, SPIRITUAL, AND FAMILY DIMENSIONS

A-17. The social dimension includes developing and maintaining trusted, valued relationships and friendships that are personally fulfilling and foster good communication, including a comfortable exchange of ideas, views, and experiences. These relationships are important because they serve as a support network for those who experience setbacks in life.

> "*The Soldier's heart, the Soldier's spirit, the Soldier's soul are everything. Unless the Soldier's soul sustains him, he cannot be relied on; he will fail himself, his commander, and his country in the end. It is not enough to fight. It is the spirit that wins the victory. Morale is a state of mind. It is steadfastness, courage and hope. It is confidence, zeal and loyalty. It is élan, esprit de corps and determination. It is staying power, the spirit that endures in the end, and the will to win. With it, all things are possible; without it everything else, planning, preparation and production count for naught*."
>
> –General George C. Marshall

A-18. The spiritual dimension include those elements which define the essence of a person, enable one to build inner strength, make meaning of experiences, behave ethically, persevere through challenges, and be resilient when faced with adversity. This includes one's purpose, core values, beliefs, identity, and life vision. Individuals' spirituality draws upon personal, philosophical, psychological, and/or religious teachings, and forms the basis of their character.

A-19. The family dimension involves being part of a safe, supportive, and loving family unit that provides the resources needed for all members to live in a healthy and secure environment. A dysfunctional family dynamic can result in personal distraction and degraded performance.

EFFECTS OF STRESS

A-20. People will have degraded performance when experiencing overwhelming stress. Soldiers should be aware of stress indicators in themselves and others. When stress becomes overwhelming, Soldiers should seek help and talk with someone they can trust (such as a buddy, their chain of command, or their chaplain).

13-99. Certain life events can increase the probability that stress will become overwhelming. These events may include—

- Relationship problems (for example, loss of girlfriend/boyfriend or divorce).
- Personal history (for example, previous suicide attempts, substance abuse, depression, or other mental illness).
- Work-related, financial, or legal problems.
- Medical problems.
- Significant loss (for example, death of a loved one or loss due to natural disasters).
- Sudden change in mood or behavior.

Note. For more information about suicide prevention training, see the Army Public Health Command webpage on this topic or GTA 12-01-006.

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Appendix B

Methods for Depicting Relationships between People and Activities

Link analysis identifies high-value targets and high-payoff targets in the area of operations. It is used to show contacts, associations, and relationships between people, events, activities, and organizations in an unconventional setting. Link analysis tools use link diagrams, association matrixes, relationship matrixes, and activities matrixes.

Link analysis also involves analyzing the relationship between events using a time event chart. By analyzing the relationship between events, one can determine possible courses of action the threat might take and potentially deter dangerous actions.

Note. FM 3-55.93 provides additional information about link analysis.

LINK DIAGRAM AND ASSOCIATION MATRIX

B-1. The link diagram, as shown in figure B-1 on page B-2, seeks to graphically show relationships between people, locations, or other factors deemed significant in any given situation. It reflects information from association and activities matrixes, is easy to read and interpret, and is generally an effective briefing tool. Link diagrams show participants in activities, personal and nonpersonal links, internal and external contacts, structures, and lines of command and control.

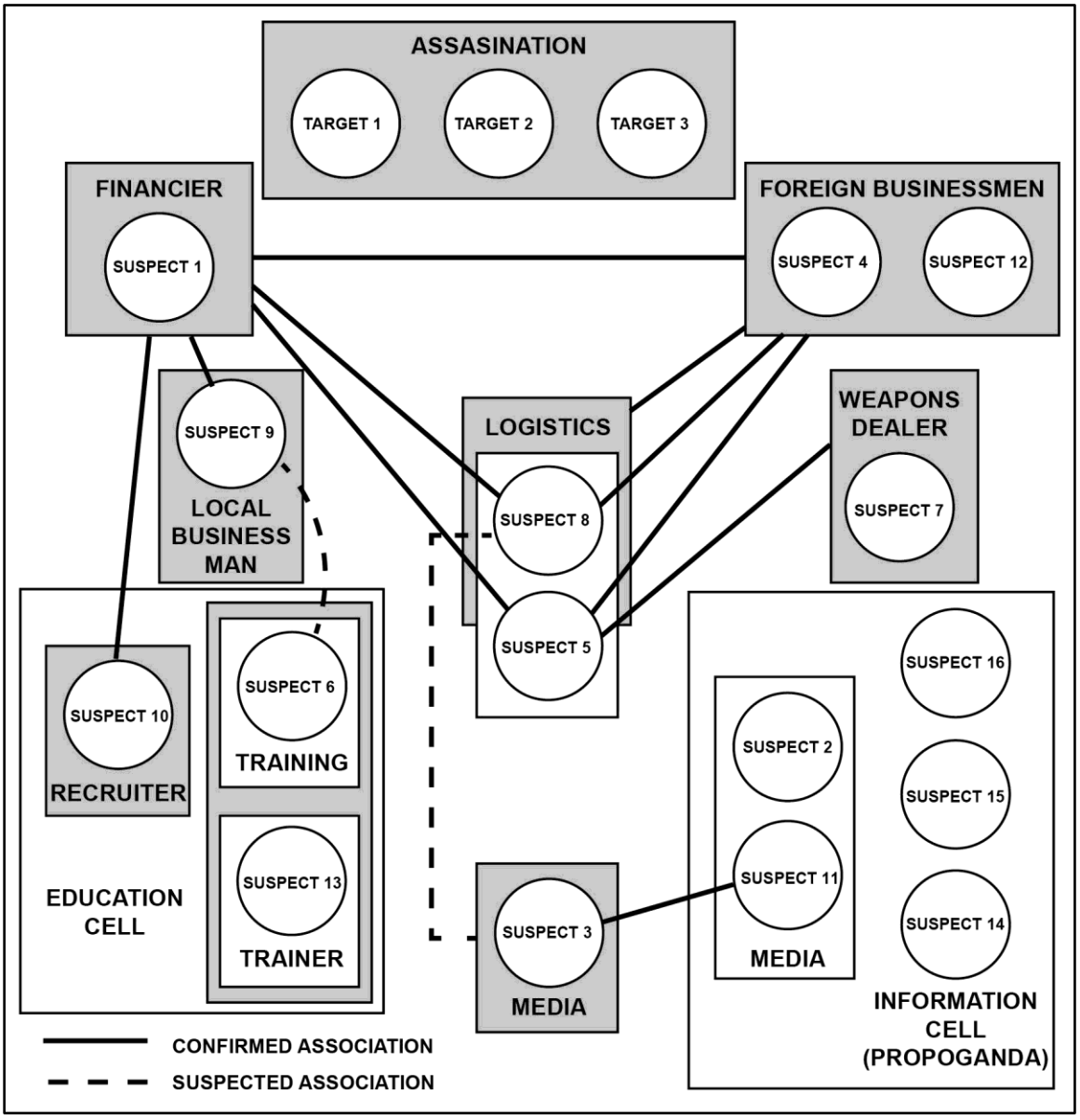


Figure B-1. Example of link diagram

B-2. The association matrix, as shown in figure B-2, is used to establish the existence of an association between individuals. Soldiers can use association matrixes to identify those personalities and associations needing a more in-depth analysis in order to determine the degree of relationship, contacts, or knowledge between the individuals. The structure of a threat organization is formed as connections between personalities are made.

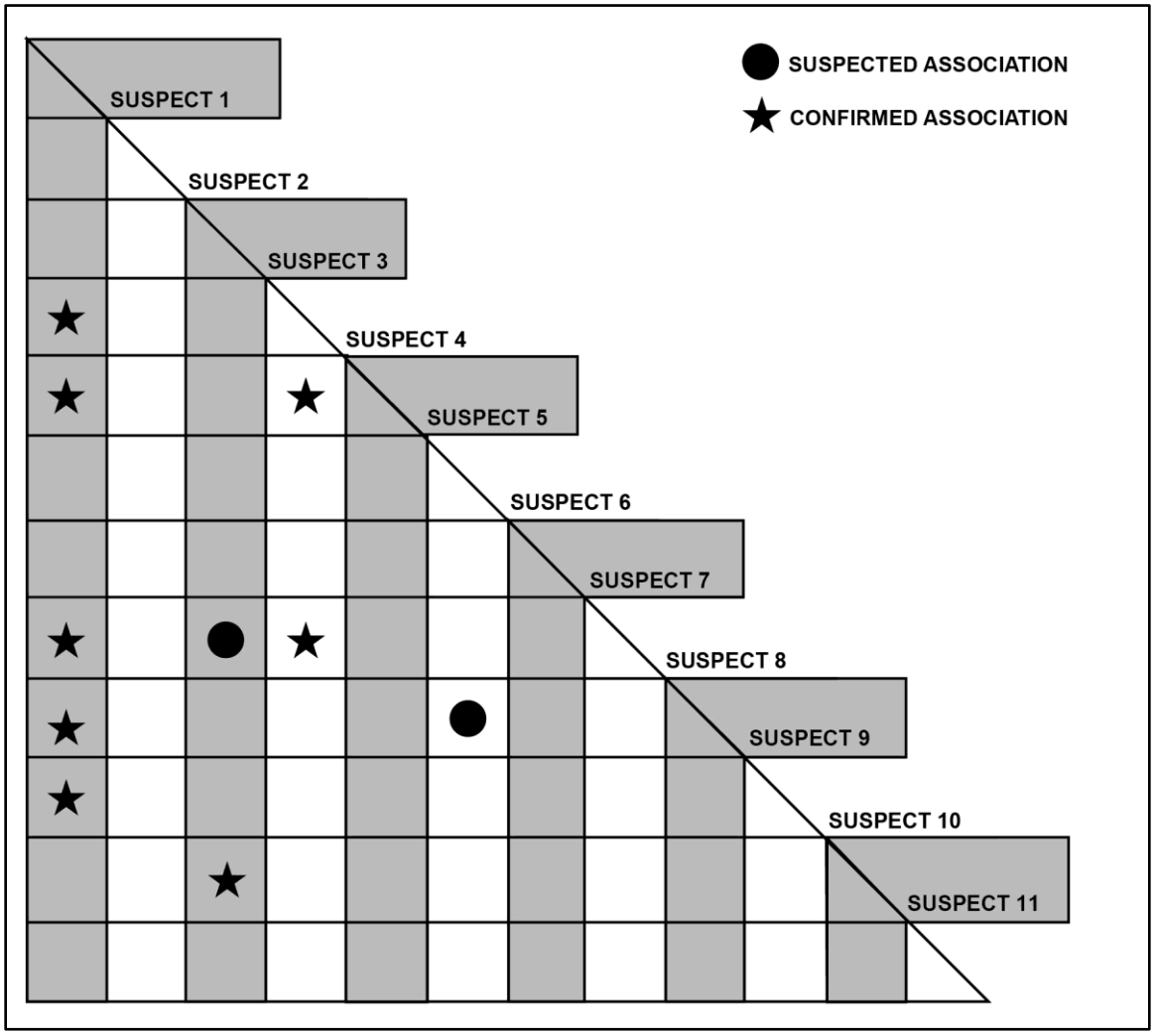


Figure B-2. Example of association matrix

RELATIONSHIP ACTIVITIES MATRIXES, AND TIME EVENT CHARTS

B-3. Relationship matrixes, as shown in figure B-3 on page B-4, are intended to show the nature of relationships between elements. The elements can include members from the noncombatant population, the friendly force, international organizations, and adversarial groups. Utility infrastructures, significant buildings, media, and activities might also be included. The nature of the relationship between two or more components includes measures of contention, collusion, or dependency. The purpose of this tool is to demonstrate graphically how each component interacts with others and whether these interactions promote or degrade the likelihood of mission success.

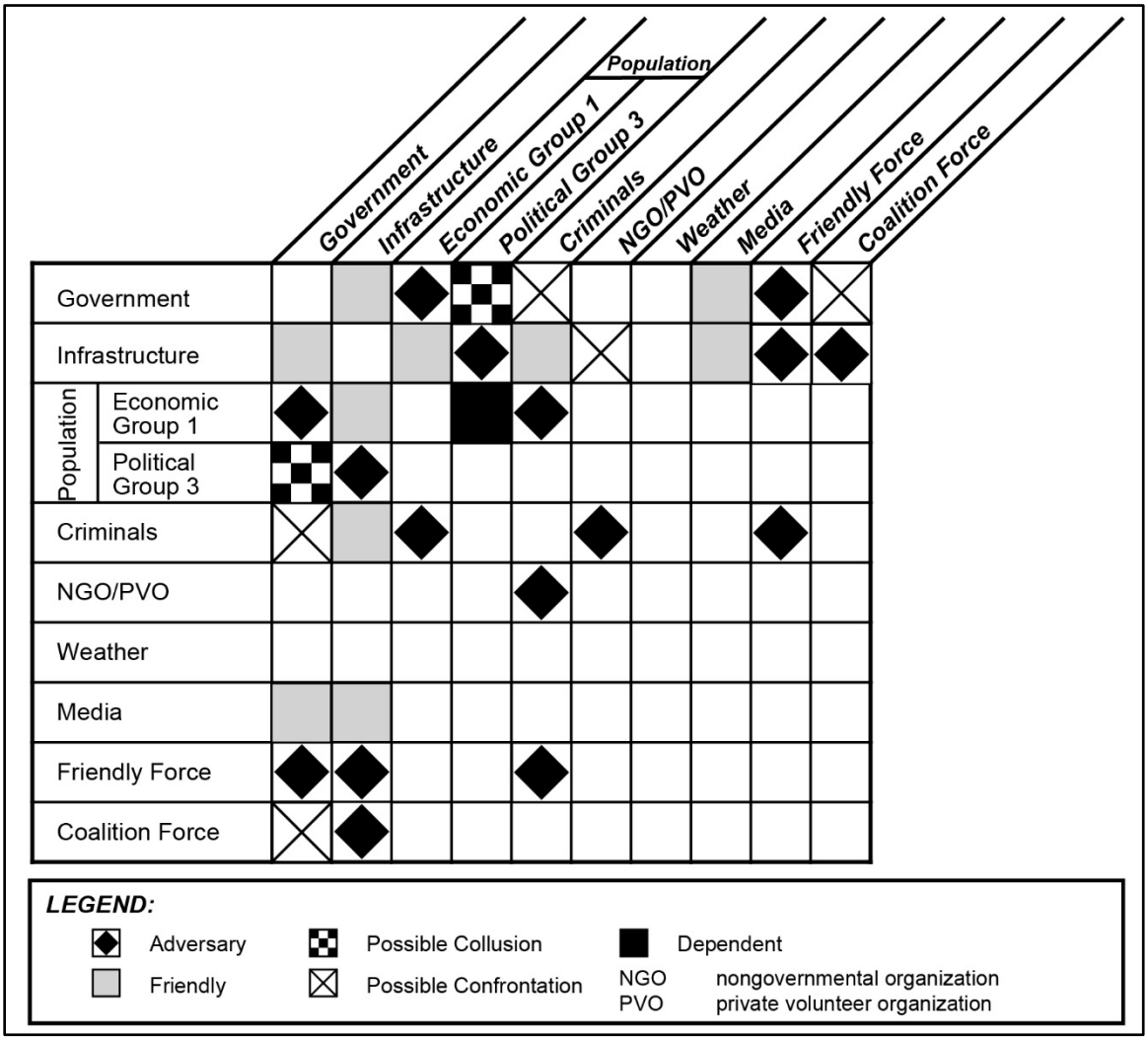
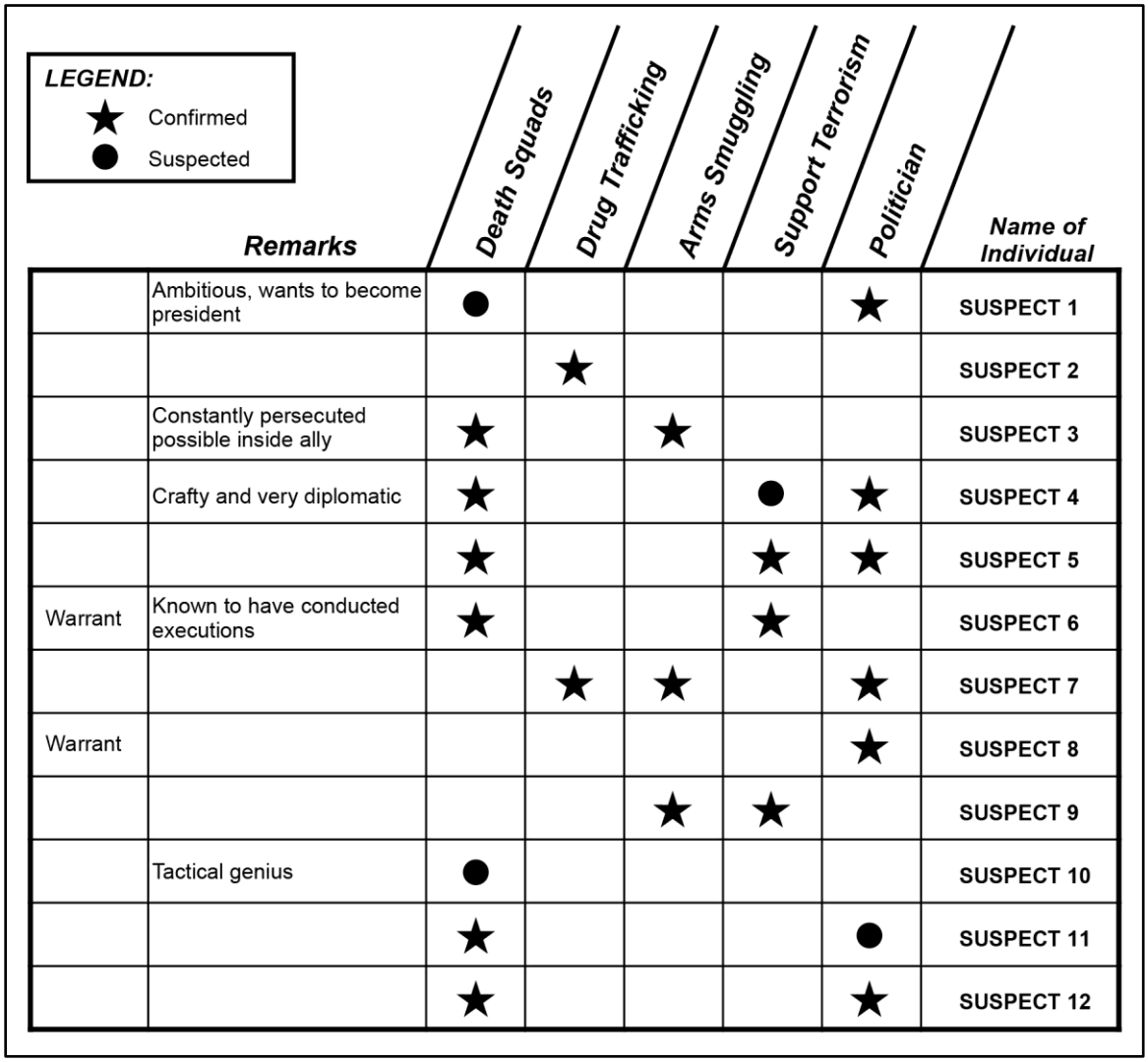


Figure B-3. Example of relationship matrix

B-4. Activities matrixes, as shown in figure B-4, help analysts connect individuals (such as those in the association matrixes) to organizations, events, entities, addresses, and activities—anything other than people. Information from this matrix, combined with information from association matrixes, can assist analysts in linking personalities, as well.



Remarks		Death Squads	Drug Trafficking	Arms Smuggling	Support Terrorism	Politician	Name of Individual
	Ambitious, wants to become president	●				★	SUSPECT 1
			★				SUSPECT 2
	Constantly persecuted possible inside ally	★		★			SUSPECT 3
	Crafty and very diplomatic	★			●	★	SUSPECT 4
		★			★	★	SUSPECT 5
Warrant	Known to have conducted executions	★			★		SUSPECT 6
			★	★		★	SUSPECT 7
Warrant						★	SUSPECT 8
				★	★		SUSPECT 9
	Tactical genius	●					SUSPECT 10
		★				●	SUSPECT 11
		★				★	SUSPECT 12

Figure B-4. Example of activities matrix

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Appendix C

Range Estimation

Range estimation is the process of determining the distance between two points. Range can be determined by measuring or by estimating. Soldiers can use various methods to accomplish this task, such as the following, or a combination of the methods:

- 100-meter unit of measure method.
- Appearance of objects method.
- Flash-to-bang method.
- Mil relation formula method.
- Laser range finder.

The ability to accurately determine range is a skill needed by observers to provide greater detail when explaining their observations. This appendix identifies methods for estimating range and factors that impact range estimation.

100-METER UNIT OF MEASURE

C-1. A Soldier's ability to perform the 100-meter unit of measure method of range estimation is contingent on a Soldier's ability to visualize a distance of 100 meters on the ground. The greatest limitation of this method is that its accuracy is directly related to the amount of terrain visible to the observer. This is particularly true at longer ranges. If a target appears at a range of 500 meters or more and the observer can see only a portion of the ground between themselves and the target, it becomes very difficult to use the 100-meter unit of measure method with any degree of accuracy.

C-2. This method can be performed in two ways: the full range method and the halfway point method. Selection of a method depends upon the distance between the observer and the target.

C-3. The full range method can be used to estimate the range of objects that are 500 meters away or less. To perform the 100-meter unit of measure full range method (see figure C-1, page C-2)—

- Determine what a 100-meter distance looks like on the ground. This can be done by visualizing a football field, which is roughly 110 meters long.
- Estimate the number of 100-meter lengths between yourself and the object you want to measure.

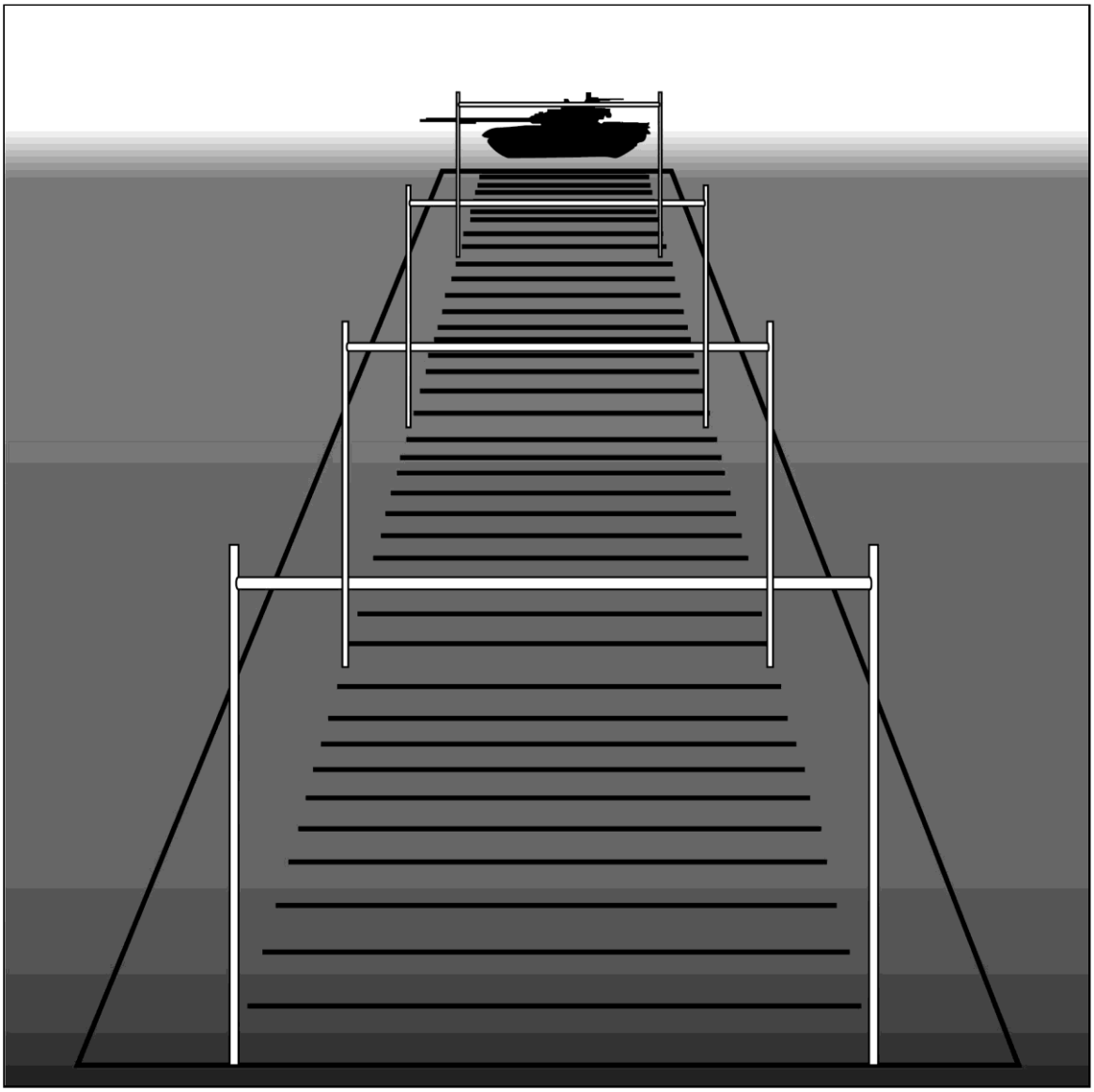

Figure C-1. Football-field method

C-4. The halfway point method can be used to estimate the range of objects that are 500 meters away or more. To perform the 100-meter unit of measure halfway point method (see figure C-2)——

- Select a point halfway to the object.
- Determine what a 100-meter distance looks like on the ground. This can be done by visualizing a football field, which is roughly 110 meters long.
- Estimate the number of 100-meter lengths between yourself and the object you want to measure.

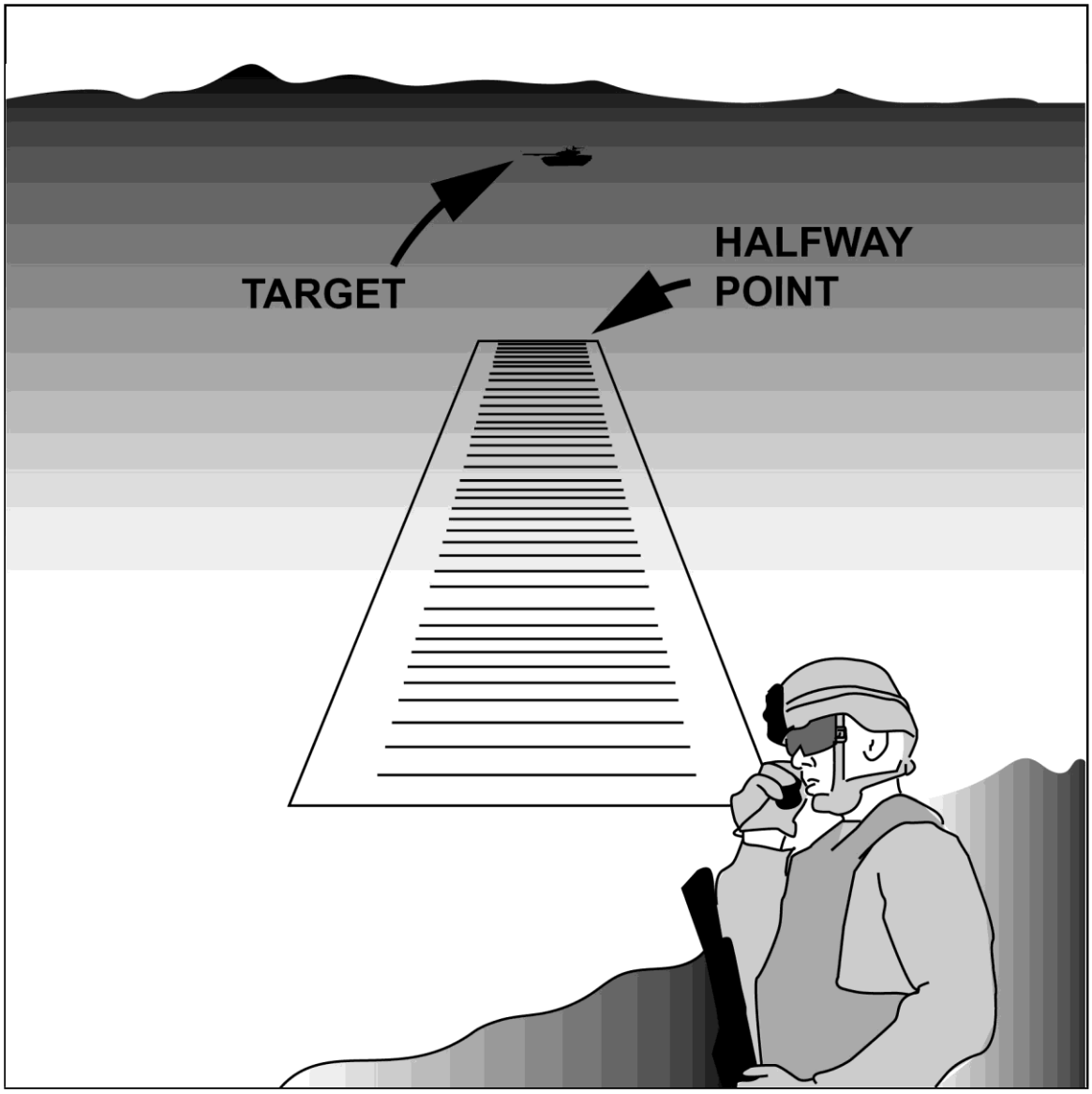

Figure C-2. Halfway-point method

APPEARANCE OF OBJECT METHOD

C-5. The appearance of object method enables a Soldier to determine the range of an object by comparing its size and other details to similar objects viewed at known distances. To use this method, the Soldier is familiar with characteristic details of objects at various ranges.

C-6. This is a common method of determining distances and is used by most people in their everyday living. For example, motorists attempting to pass another car judge the distance of oncoming vehicles based on their knowledge of how vehicles appear at various distances. Suppose the motorist knows that at a distance of 1 mile, an oncoming vehicle appears to be 1-inch wide and 2-inches high. Then, any time other oncoming vehicles fit these dimensions, it is known they are about 1-mile away. Table C-1 on page C-4 shows what is visible on the human body at specific ranges.

Note. For this method to be effective, Soldiers must be able to see details. Anything that limits visibility (such as weather, smoke, or darkness) will limit the effectiveness of this method.

Table C-1. Range estimation based on appearance of object

RANGE (IN METERS)	*WHAT CAN BE SEEN*
200	Clear in all detail, such as equipment and skin color.
300	Clear body outline, face color good, remaining detail blurred.
400	Body outline clear, other details blurred.
500	Body tapered, head indistinct from body.
600	Body a wedge shape, with no head apparent.
700	Solid wedge shape (body outline).

C-7. Various elements can impact the appearance of objects. Three factors affect range estimation: nature of target, nature of terrain, and light conditions. Table C-2 outlines these factors and their effect on visual observation.

Table C-2. Factors that affect range estimation and effects

FACTORS	*EFFECTS*
Nature of the Object	
Outline	An object of regular outline (such as a house) appears closer than one of irregular outline (such as a clump of trees).
Contrast	An object that contrasts with its background appears to be closer than it actually is. An object that is camouflaged or blends in appears further away than it actually is.
Exposure	A partly exposed object appears more distant than it actually is.
Size	Large objects appear closer than they actually are. Small objects appear further away than they actually are.
Color	Brightly colored objects (such as those that are red, white, and yellow) appear closer than they actually are. Dark colored objects appear further away than they actually are.
Nature of Terrain	
Contoured Terrain	Looking across contoured terrain makes an object seem farther away than it actually is.
Smooth Terrain	Looking across smooth terrain (such as sand, water, or snow) makes a distant object seem nearer than it actually is.
Downhill	Looking downhill at an object makes it seem farther away than it actually is.
Uphill	Looking uphill at an object makes it seem nearer than it actually is.
Across a Depression (mostly invisible)	Looking across a depression, most of which is not visible, makes an object seem nearer than it actually is.
Across a Depression (wholly visible)	Looking across a depression, all of which is visible, makes an object seem farther away than it actually is.

Table C-2. Factors that affect range estimation and effects (continued)

FACTORS	*EFFECTS*
Nature of the Terrain (continued)	
Long, Straight Stretches (Vision is Not Confined)	Looking down long, straight stretches (such as down open roads or along railroad tracks) makes an object seem nearer than it actually is.
Twisted, Winding Stretches (Vision is Confined)	Looking down twisted, winding stretches (such as down twisted streets or on forest trails) makes an object seem farther away than it actually is.
Light Conditions	
Clarity of the Object	The more clearly an object can be seen, the closer it appears. An object viewed in full sunlight seems to be closer than the same object viewed at dusk or dawn or through smoke, fog, or rain.
Sun Behind Observer	A front-lit object seems nearer than it actually is.
Sun Behind Object	A backlit object seems farther away than it actually is.

FLASH-TO-BANG METHOD

C-8. Sound travels at the speed of 340 meters per second. Light travels much faster. This difference enables a Soldier to use the sight and sound of an explosion or gunfire to determine the range. To perform this method (see figure C-3)—

- Observe the flash of the explosion, weapon firing, or dust.
- Immediately count the seconds until you hear the sound of gunfire or the explosion.
- Stop counting when you hear the sound associated with the action.
- Multiply the number of seconds by 330 meters to get the approximate range.

Note. This method works best when performed at night.

A Soldier observes a muzzle flash and begins counting, stopping at three after the shot is heard. The weapon that fired this shot is located about 900 meters away from the Soldier.

Figure C-3. Flash-to-bang method

MIL RELATION FORMULA METHOD

C-9. The mil relation formula method is the easiest and preferred method of range estimation. This method enables Soldiers to use a mil scale reticle located in their binoculars or day optic sight to calculate the distance to the target or the target's size.

C-10. To use the mil relation formula method to estimate the target's range in meters—

- Note the target's size in inches or meters.
- Using the mil scale reticle, estimate the target's height. When estimating the target's height, observers can use a 1-meter target frame (head to crotch) or use the entire target (head to toe) as the target frame.
  - Place the crosshairs at either the feet or crotch.
  - Measure to the top of the target's head.
  - Read the mil value for that target.

Note. At 1,000 meters, 1 mil equals 1 meter.

- Multiply by 1,000.
- Divide the estimated height of the target in meters by the size of the target in mils to get the range in meters.

Notes. To convert inches to meters, multiply the number of inches by 0.0254.

If estimating the range to a target partially hidden by glare, foliage, obstacles, or position, measure the size of the portion of the target for which you need the height.

EXAMPLE

An object is 2-meters tall, with a mil reading of four. To determine the range of the object in meters, multiply two by 1,000, and divide the result by four. The answer is an estimated range of 500 meters.

$$\frac{\text{2 meters x 1,000}}{\text{4 mils}} = \text{an estimated range of 500 meters}$$

C-11. Backward manipulation of the formula enables a Soldier to determine the size of the object or area. To perform the backward manipulation method—

- Divide the range to the target by 25.4 (the inches to meters conversion factor of 0.0254 x 1,000).
- Multiply the answer by the mil reading to determine the size of the object or area.
- $\frac{\text{Estimated range in meters}}{25.4} \times \text{mil reading} = \text{estimated height in inches}$

EXAMPLE

A target or area is located 825 meters from your location and has a mil reading of 0.8. To determine the size of the target or area, divide the range to the target by 25.4 and multiply by 0.8. The answer is 26 inches.

LASER RANGE FINDER

C-13. A laser range finder gives the accurate range to any target. When a Soldier has one and when observing objects that do not have laser-detecting sensors, it should be used.

C-14. When using laser range finders, Soldiers should consider the following:

- When aiming the laser at a specific target, Soldiers should support it as they would their weapon to ensure accuracy.
- If the target is too small for the laser to pick it up, aiming at a larger object near the target (such as a building, vehicle, tree, or terrain feature) suffices.
- Soldiers should use proper eye protection when using lasers.

Note. Refer to the appropriate technical manual for more information about the piece of equipment and its use, capabilities, and limitations.

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Appendix D

Observation Device Use and Selection

Optical devices are useful for observation during daytime and limited visibility conditions. Soldiers use day and limited visibility optical devices to assist in observation.

DAY AND NIGHT OPTICAL DEVICES

D-1. Beginning at dawn and ending at dusk, rifle combat optics, spotting scopes, and binoculars are the preferred optic devices. These day optical devices do not require batteries; therefore, they have an unlimited duration on the battlefield. They enable Soldiers to view objects in depth and burn through brush and shadows. The primary drawback of day optical devices is that they have limited capabilities in low-light conditions.

D-2. The three limited visibility optical devices used to increase lethality at night include night vision devices, thermal weapon sights, and aiming lasers. Each provides different views of the infrared range. Before a Soldier can fully operate these devices, an understanding of how they work in the infrared range and their advantages and disadvantages is necessary.

IMAGE INTENSIFICATION DEVICES

D-3. Image intensifiers capture ambient light from the stars and moon or sky glow from distant man-made sources like cities and amplify it thousands of times electronically to increase vision into the infrared range, allowing Soldiers to see the battlefield. Night vision goggles are an example of this technology. Image intensification devices include AN/PVS-7A/B/C/D and AN/PVS-14, as shown in figure D-1 on page D-2. The main advantages of image intensifiers are their small sizes, light weights, and low power requirements.

Notes. 1. Night vision devices have a 40-degree field of view. This causes the observer to miss things appearing 50 meters left or right of the object being focused on. Soldiers train to aggressively scan their sectors of fire for targets.

2. Regular blinking during scanning relieves some of the eyestrain from trying to view far away items.

3. After Soldiers have mastered the art of scanning, targets become easier for to detect by acknowledging a flicker or movement.

Figure D-1. AN/PVS-7 and AN/PVS-14

THERMAL IMAGING DEVICES

D-4. Thermal imaging devices detect electromagnetic radiation (or heat) from living organisms (including people) and man-made objects and translate that heat into an electronic image. Thermal imaging devices operate the same regardless of the level of ambient light. Since thermal imaging devices operate within the middle to far infrared range, they cannot be used with image intensifiers. These devices can be handheld or mounted on a weapon.

D-5. Thermal weapon sights detect infrared light emitted from friction, combustion, or any objects that radiate natural thermal energy. These sights work well during the day or night. They have excellent target acquisition capabilities, even through fog, haze, and conventional battlefield smoke. Figure D-2 depicts different types of thermal weapon sights, and table D-1 shows the types of weapons on which they can be mounted.

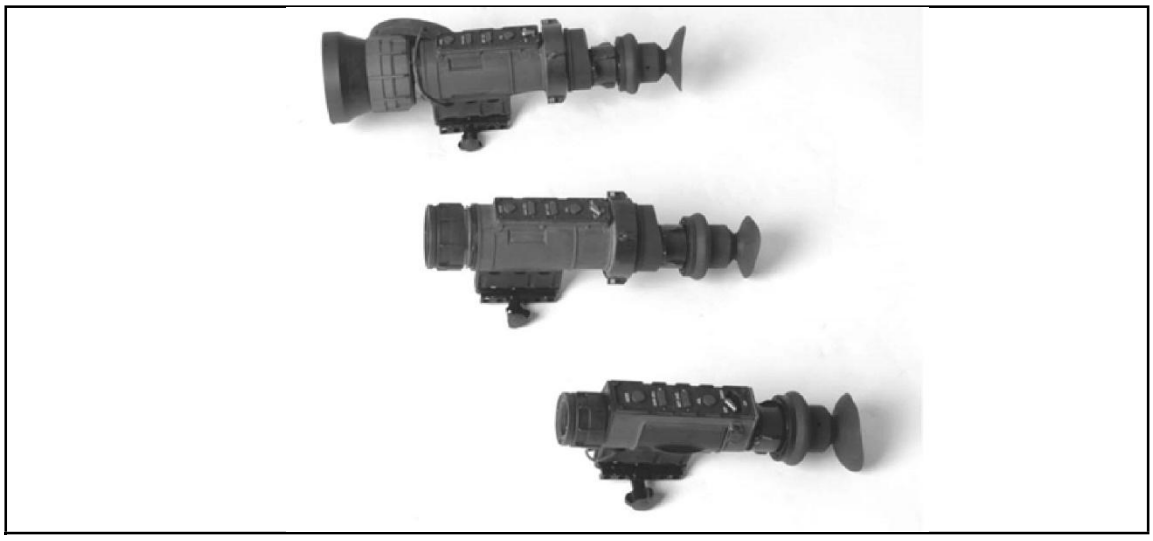

Figure D-2. AN/PAS-13, V1, V2, and V3

Table D-1. Thermal imaging devices and types of weapons on which they can be mounted

THERMAL IMAGING DEVICE	*TYPE OF WEAPON*
AN/PAS-13(V1) light weapon thermal sight	M16- and M4-series rifles and carbines. M136 AT4 light antiarmor weapon.
AN/PAS-13(V2) medium weapon thermal sight	M249 machine gun. M240B series medium machine gun.
AN/PAS-13(V3) heavy weapon thermal sight	M24 sniper rifle. M107 sniper rifle. M2 HB machine gun (50-caliber) MK19 machine gun.
AN/PSQ-42 enhanced night vision goggles	Binoculars (ENVG-B)

AIMING LASERS

D-6. Aiming lasers, such as the AN/PEQ-15 shown in figure D-3, also operate in the electromagnetic spectrum, specifically in the near infrared range. These lasers are seen through image-intensification devices. The aiming lasers cannot be used in conjunction with thermal weapon sights because the latter operates in the middle to far infrared spectrum.

Note. 1. Once a Soldier has located a target, attention is focused on the placement of the aiming laser. If the laser is activated while it is pointing into the sky over the target, valuable time is wasted trying to locate where the laser is pointing. This increases the chances of being detected and fired upon by the enemy. When engaging a target, Soldiers should aim the laser at the ground just in front of the target, walk the aiming laser along the ground and up to the target's center of mass, and then engage the target. Walking the laser to the target is a quick and operationally secure means of engaging the enemy with the aiming laser. Once a target has been located and engaged with the aiming laser, the laser is deactivated.

2. On the range, Soldiers should exercise infrared laser discipline by actively scanning with the laser off. Once a target is located, Soldiers should walk the laser to the target and engage. After the target has been engaged, the Soldier turns the laser off again.

Figure D-3. AN/PEQ-15 aiming laser

EMPLOYMENT OF OPTICAL DEVICES

D-7. Because of each optic's specific capabilities and limitations, the Soldier uses their optics with a combined-arms approach. On a patrol or in an observation post, a Soldier integrates a variety of optical devices in order to complement each device's capabilities. For example, a thermal imaging device could be used at night to identify vehicles or people in the area, while a night vision device might be used to identify a vehicle or person as a friend or foe.

D-8. During the day, a Soldier could identify a potential suicide bomber at a distance and then use a thermal device to see if that person is emitting an irregular body heat signature. Just as Soldiers train to use different weapon systems to create a combined-arms attack, they should learn how to combine their optics to close the seams and gaps to create a more in-depth picture of the battlefield.

Note. Integration includes all elements of night, day, and thermal devices.

CONSIDERATIONS FOR ALL OPTICAL DEVICES

D-9. When employing optical devices, Soldiers should consider the following:

- Depth perception is affected when Soldiers use any optical devices (such as night vision goggles or rifle combat optics) with just one eye.
- Paying attention to the periphery demands a lot of attention and can only be done for a limited amount of time. Under ideal conditions, an individual can effectively observe an area for 20 to 30 minutes before losing focus, making it important to rotate observers frequently.

D-10. Thermal and infrared devices allow a Soldier to see a target at night and during light rain, fog, haze, or dusty atmospheric conditions by taking advantage of a type of energy similar to visible light, known as infrared.

ELECTROMAGNETIC SPECTRUM

D-11. The electromagnetic spectrum (see figure D-4) contains various forms of energy, including radio and television transmission spectrums, x-rays, and the visible light that humans can see. Visible light is a very small portion of the overall electromagnetic spectrum.

D-12. Each type of energy is assigned a place in the spectrum according to its frequency—from lowest to highest. As the frequency changes, characteristics change, so types of energy are bundled into groups of frequencies, or bands, which have similar characteristics.

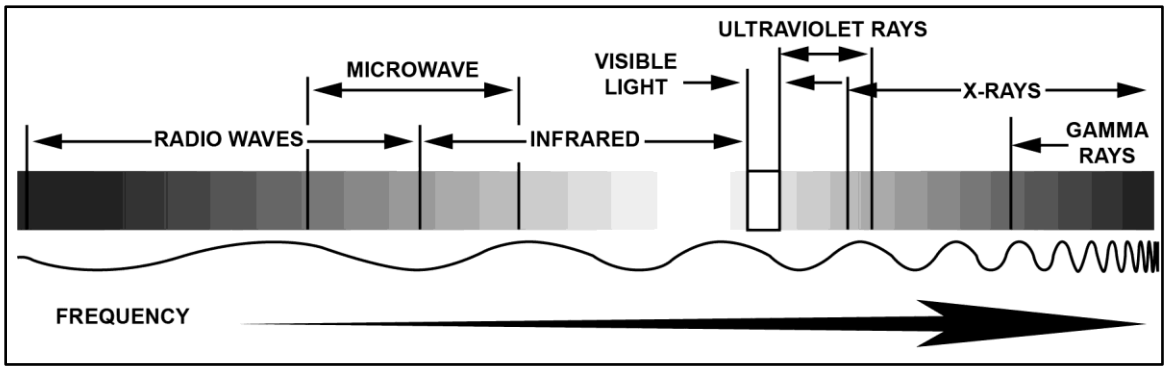

Figure D-4. Electromagnetic spectrum

INFRARED WAVES AND SOURCES OF INFRARED ENERGY

D-13. The infrared waves are a radiant, electromagnetic form of heat. Heat creates infrared waves, and infrared waves create heat. For instance, the heat lamps at fast-food restaurants are above the food, yet they keep the food warm even though heat rises. The reason is that the lamps radiate infrared waves down onto the food, and when the infrared energy strikes the food, the food warms up and emits energy. Infrared energy can be emitted in any direction.

D-14. Everything on the face of the earth emits energy in the infrared band. Hotter objects emit more energy, and cooler objects emit less. Some objects are classified as infrared sources, meaning they are able to stay hot by themselves using another form of energy (such as nuclear energy, combustion, and friction) to generate heat energy.

Nuclear Energy

D-15. Nuclear energy is produced by splitting atomic particles (called fission) or combining atomic particles together in different forms (called fusion). The sun uses a nuclear reaction to generate heat and is our primary source of infrared energy.

Combustion

D-16. Combustion means there is heat produced by a slow or very quick burning (for example, bonfires and controlled explosions, respectively). Vehicle engines generate heat due to combustion.

Friction

D-17. Friction produces heat by rubbing objects together. When you rub your hands together very quickly, friction causes your hands to warm up, which causes them to give off more infrared energy. The same reaction occurs when a vehicle moves. Its suspension and motion mechanisms (such as tires or tracks) create friction moving against themselves or against the ground, causing the suspension parts to warm up and produce infrared energy.

CHARACTERISTICS OF INFRARED ENERGY

D-18. All objects reflect, absorb, or emit infrared energy in varying amounts. Like visible light, infrared energy is affected by being transmitted through the atmosphere. What is not absorbed is reflected. Objects that reflect infrared energy well do not absorb it well. Plant life (such as trees and grass) reflects infrared energy well. This reflection makes the plants appear to heat up instantly when the sun strikes them, and cool off instantly when the sun is blocked from the plants.

D-19. Absorbing is the opposite of reflecting. Objects that absorb infrared energy well do not reflect it well. Objects such as tanks and rocks absorb infrared energy well. When the sun comes up, this absorption makes these objects stay cold or cool for a longer time when everything else is warm. When the sun goes down, these objects stay hot much longer than other objects in the target scene (for example, illumination tape that becomes dimmer the longer it glows).

D-20. Emitting is closely associated with absorbing. Just like illumination tape that absorbs light before it glows, objects are heated to emit infrared energy. Examples of emitting sources include a warm combustion engine or the human body. When an object absorbs infrared energy, it warms up. As it warms up, it emits more infrared energy. When the heat source is removed, the object continues to emit infrared energy, which causes it to cool off, and the amount of infrared energy that it emits steadily decreases.

D-21. Just like light, infrared energy is affected by particles in the atmosphere known as obscurants, because they obscure a Soldier's view of the target scene. Obscurants include such things as dust, snow, hail, sleet,

fog, and so forth. The effect these obscurants have on infrared energy is noticeably less than the effect on light. Unlike light, some obscurants have no effect on the ability to see an infrared image.

D-22. Obscurants with large-sized particles (such as snow, sleet, rain, fog, and some forms of smoke) affect the amount of infrared energy that reaches a night vision sight, for example. As these obscurants become thicker or heavier, the amount of infrared energy that reaches the night vision sight decreases, which decreases the range at which a Soldier can see a target with a night vision sight.

PHYSICAL PROPERTIES

D-23. When the sun comes up, some natural or man-made objects may heat up faster than others because they have different characteristics. An object's characteristics are determined by its physical properties—mass, density, color, and texture. These properties combine to enhance an object's ability to reflect or absorb the infrared energy that comes into contact with the object.

D-24. Light colored objects (such as a vehicle with desert camouflage) reflect more infrared energy than they absorb, and heat slowly in the sun (see figure D-5). Dark colored objects (such as a vehicle with woodland camouflage) absorb more infrared energy than they reflect, and heat quickly in the sun.

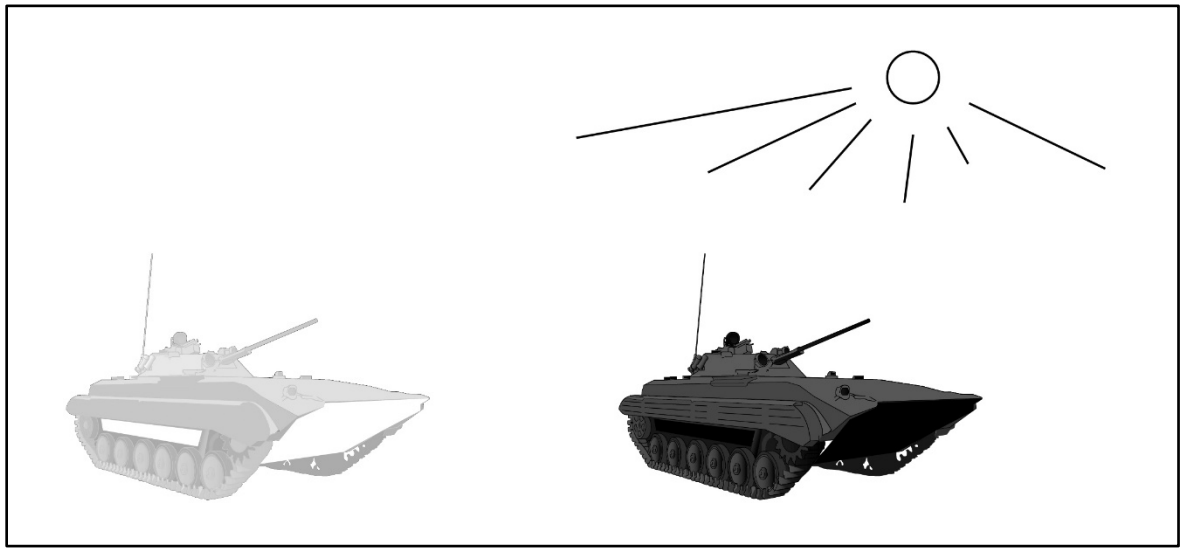

Figure D-5. Infrared affected by color

Surface Texture, Density, and Mass

D-25. Although a military high-mobility, multipurpose wheeled vehicle and the civilian version both become hot when exposed to sunlight, the civilian version does not heat up as fast as the military version does because of the surface texture, or finish, on the two vehicles. The civilian version has a smooth, waxed surface, which tends to reflect energy well, whereas the military version has a rough surface due to the chemical-agent resistant coating paint that tends to absorb energy well (see figure D-6).

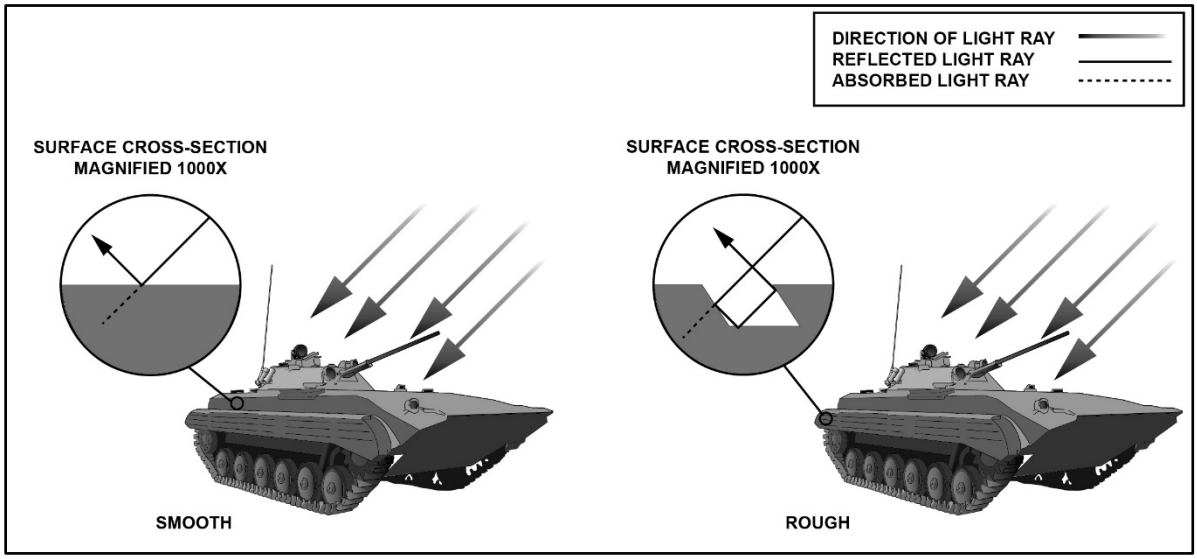

Figure D-6. Smooth versus rough texture surface

D-26. When objects such as trees and grass are exposed to sunlight, they do not become too hot to touch because they do not absorb infrared energy well. As a result, they do not emit infrared energy well, either. The reason is because the material they are made of is not very dense or heavy.

D-27. When objects such as vehicles and rocks are exposed to sunlight, they can become too hot to touch because they absorb and emit infrared energy well. The reason is because these objects are denser or heavier than the trees and grass.

D-28. When a tank and an M4 rifle are in the sun, the armor plates on the tank take longer to heat up than the barrel of the M4 rifle because they have more mass. As a result, the armor plates absorb more infrared energy and take longer to heat up to the same temperature as the M4's barrel. Once they are hot, the armor plates emit infrared energy for a much longer time than the barrel of the M4, which takes longer to cool off.

Temperature/Infrared Relationship and Display of Infrared Energy Levels

D-29. As the temperature of an object increases, so does the amount of infrared energy it emits. For example, on a tank with its engine running, the engine compartment emits more infrared energy than the front of the hull. The thermal and infrared devices display energy levels as a change in brightness, contrast, and color, according to each object's temperature.

D-30. The more mass an object has, the more infrared energy it can absorb, the longer it takes to heat up, the longer it can emit infrared energy, and the longer it takes to cool off.

TEMPERATURE DIFFERENCES

D-31. The images thermal and infrared devices display are made possible by the presence of temperature differences that allow Soldiers to distinguish between one part of the target scene and another—whether it is different parts of the same object or different objects in the target scene.

D-32. Temperature differences occur between different objects in the target scene and between the different parts of a target. The temperature relationship between one object and another changes during the day due to heating and cooling as the sun rises and sets. Figure D-7 on page D-8 depicts this change over a 24-hour period.

D-33. Soldiers know that vehicles, buildings, and asphalt roads get hot in the sun. Grass and trees become warm but not so hot they cannot be touched. Large bodies of water do not warm up noticeably in one day.

D-34. Objects that heat up the most during the day tend to become the coldest at night; objects that heat up very little during the day tend to cool off very little at night. As shown in figure D-8, buildings, roads, and vehicles are often the hottest objects in the scene at noon. Grassy areas and trees are shaded to indicate they are warm, and rivers are black, which indicates they are the coolest objects in the target scene. At midnight, rivers are the warmest objects in the target scene. Grass and trees are next, and roads and vehicles are the coolest. One exception to this is the engine compartments and exhaust on vehicles that are running or have been running recently.

D-35. Twice a day, around dawn and dusk, the temperatures of the tank, grass, and trees cross over from being hotter than the river to being cooler (see figure D-9). These two periods are known as infrared crossover because of the change in the temperature relationships and the visual effect that it produces. During these two periods, everything in the target scene is about the same temperature, which means there are few, if any measurable temperature differences.

Note. When there is no measurable temperature difference, a Soldier cannot distinguish a target from its background.

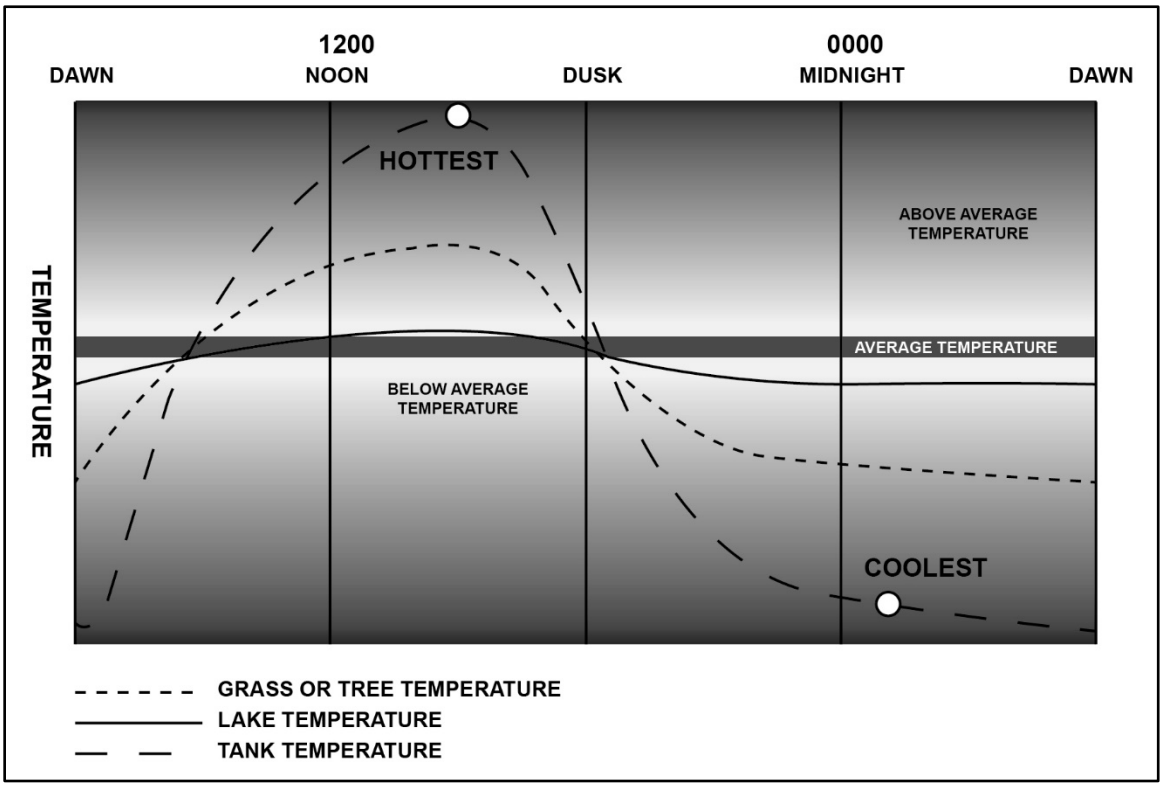

Figure D-7. Temperatures of objects during a 24-hour period

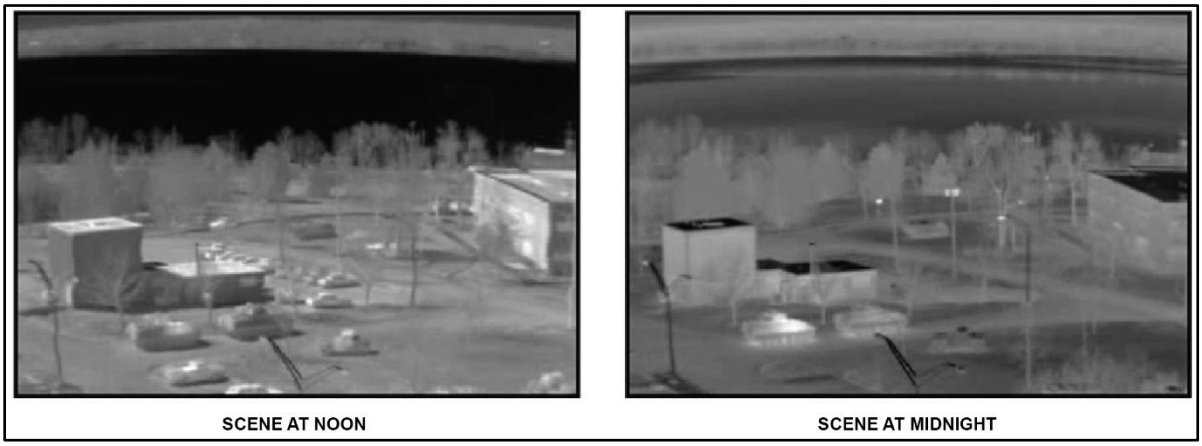

Figure D-8. Temperature differences change from day to night

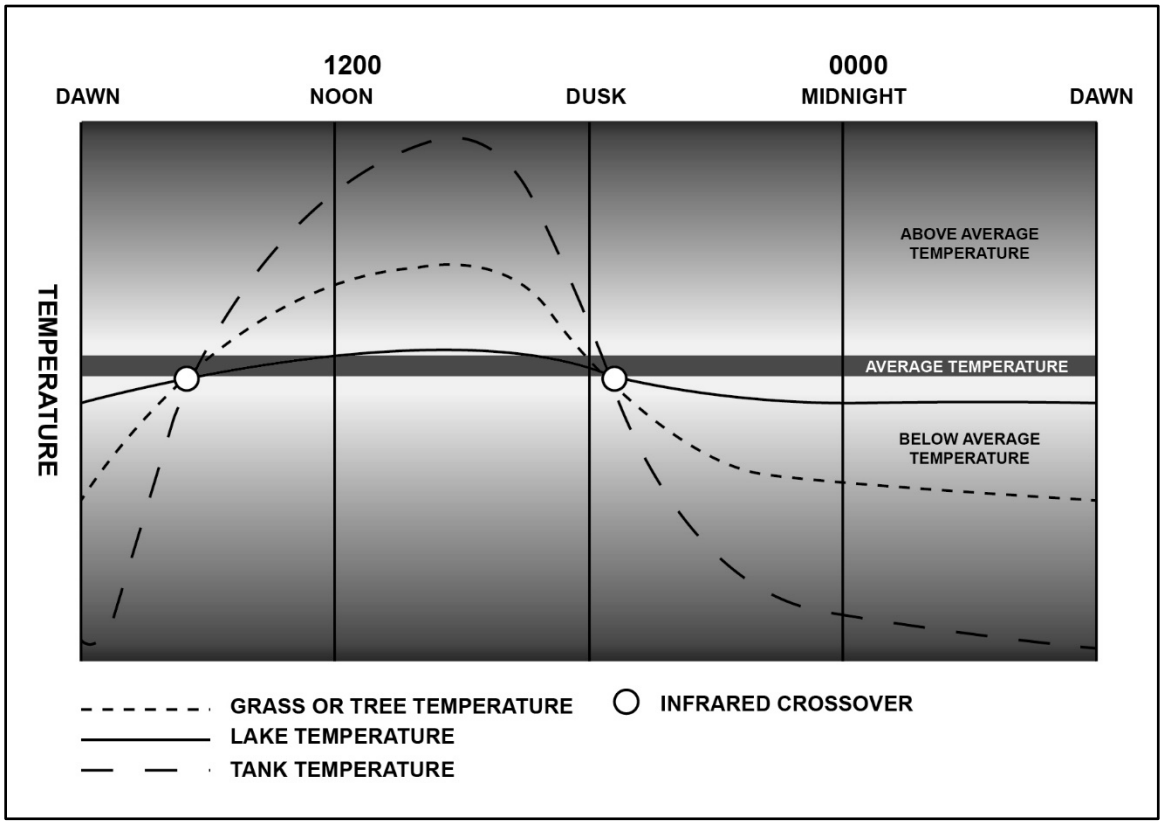

Figure D-9. Crossover periods

INFRARED IMAGE ADJUSTMENT

D-36. Proper image adjustment is vital for mission accomplishment because it allows Soldiers to see targets that may otherwise be hidden. There is no perfect image adjustment. Image adjustment is subjective and should be done according to what the Soldier prefers.

D-37. Focus adjustments can be made so that an object can easily be identified through its details or features. Once the image is in focus, it may be necessary to adjust the contrast and brightness. As the situation changes, a Soldier adjusts the focus, contrast, and brightness to help in target acquisition.

D-38. Conditions that affect a Soldier's ability to acquire a target include limited solar heating, human activity, and range to the target. Solar heating is the single greatest influence on temperature difference changes on the target scene. Solar heating also causes infrared clutter and infrared crossover, both of which can restrict a Soldier's ability to engage a target.

D-39. Weather can greatly change the amount of solar heat on objects. Objects observed during clear weather have good temperature differences due to the high amount of solar heating. In addition, the objects can change their appearance during a 24-hour period. During periods of precipitation (such as snow, rain, sleet, and so forth), there is little solar heating and temperature differences are low.

Clutter

D-40. Infrared clutter is a term used to describe a pattern of temperature differences in the target scene that prevents a Soldier from distinguishing a target from its background. This pattern is similar to the effect attempted when a Soldier wears the Army combat uniform.

D-41. Infrared clutter can be natural or man-made. There are several differences between the two types: cause or origin, effect on the target scene, area of coverage, time and location of appearance, and temperature of the clutter objects relative to the target.

D-42. Natural clutter is caused by solar heating or infrared energy reflecting off objects in the target scene. The sun can create natural infrared clutter in large areas of terrain such as a field, scattered rocks, or a hillside. Natural clutter is unpredictable, so a Soldier cannot tell if or when the target is visible. Although natural infrared clutter can prevent a Soldier from seeing a target, it usually occurs during the day when other observation devices can be used.

D-43. When solar heating causes clutter, the clutter stays in the same place and keeps the same appearance for a long time. Temperature differences are present in the target and in the background, but the two temperature difference patterns match so closely that a Soldier may not be able to distinguish the target from the background. In addition, the range of temperatures in the clutter is the same as those in the target.

D-44. Generally, a Soldier can defeat this type of clutter by adjusting the contrast and brightness. Contrast and brightness adjustments may not bring out the target from its background. In that case, the Soldier waits for the target to move out of the clutter or wait for temperature differences to change.

D-45. When reflected infrared energy causes infrared clutter, the clutter comes and goes randomly with the appearance of the sun, and appears at different locations. This can cause a Soldier to suddenly lose a target that was visible or make a target appear suddenly that was hidden from them. This type of clutter can cause the target and the clutter to look like one large area of uniform temperature.

D-46. Generally, a Soldier can defeat this type of clutter by increasing the contrast and decreasing the brightness. If not, the only solution is to wait for the target to move out of the clutter or wait for temperature differences to change.

D-47. Man-made clutter exists when conditions influenced by human activity affect objects in the target scene. When an enemy vehicle is in an area with burning vehicles or buildings, the vehicle may be able to use the flames to hide. However, based on temperature differences, Soldiers may still be able to detect it.

D-48. In order to defeat this type of clutter, the Soldier changes the contrast and brightness based on the appearance of the target. If the corrective action does not work, the Soldier should do the following:

- Wait for the target to leave the area of infrared clutter.
- Wait for the target to change in temperature.
- Wait for the objects causing the infrared clutter to change in temperature.

D-49. Infrared crossover prevents Soldiers from seeing the target because the target is nearly the same temperature as its background. This causes low temperature difference.

Human Activity

D-50. Human activity has an effect on the amount of infrared energy in objects in the target scene, which disrupts the natural changes that should occur in infrared images. For example, at night, vehicles and asphalt roads should appear cool. When a vehicle is driven for a while, the engine, exhaust, and suspension appear warm as a direct result of human activity. When enough vehicles drive on a road, wheel or track friction cause the road surface temperature to increase, making it appear warmer.

D-51. Soldiers' abilities to distinguish a target from its background at maximum range are restricted due to limitations of the device's magnification, image resolution, and obscurants. When the target moves toward a Soldier, the clarity of target details increases as range to the target decreases.

USING INFRARED AND THERMAL DEVICES TO DETECT, CLASSIFY, RECOGNIZE, AND IDENTIFY TARGET TYPES

D-52. A Soldier's ability to detect, classify, and recognize a target depends on—

- Type of target.
- Position of the target.
- Enemy activity.
- Amount of target exposure.
- Proper image adjustment.

D-53. Targets can include vehicles and dismounted troops. During observation, Soldiers can see tracked or wheeled vehicles. Tracked vehicles might include tanks and armored personnel carriers. There are specific features that Soldiers look for to classify a vehicle. These features include the suspension system, location of the engine compartment, and presence of a gun tube.

Note. Whether or not a feature is visible depends on the target aspect (that is, whether it is positioned to the front or flank).

D-54. When observing for vehicles, Soldiers should look for enemy positions in obvious places such as road junctions, hilltops, and lone buildings. They should observe areas with cover and concealment such as wood lines and draws.

D-55. The human body is a good infrared energy source and appears as a hot image. Soldiers should watch for dismounted troop movement.

POSITION OF THE TARGET

D-56. Soldiers should consider the position of the target with respect to their own location. Even under ideal conditions, classifying and recognizing targets at long ranges is difficult due to the magnification and image resolution. As range to the target decreases, details become clearer, which makes classification and recognition easier.

D-57. When observing vehicles, flank targets are easier to classify and recognize than frontal targets. The profile exposes the suspension and other distinctive features such as turrets, engine compartments, gun tubes, or other armaments.

D-58. Backlighting (see figure D-10) is an indirect infrared signature that indicates the presence of a vehicle. It is called an indirect infrared energy signature because, though it is not physically part of the vehicle, it is caused by heat from the vehicle—usually, from its exhaust. Backlighting occurs when an infrared energy source (such as a tank's exhaust) emits infrared energy, which reflects off another object such as a tree. Even though the Soldier may not see the tank, backlighting warns them of its presence. When the target is positioned between a Soldier and the backlighting, the target may appear as a silhouette.

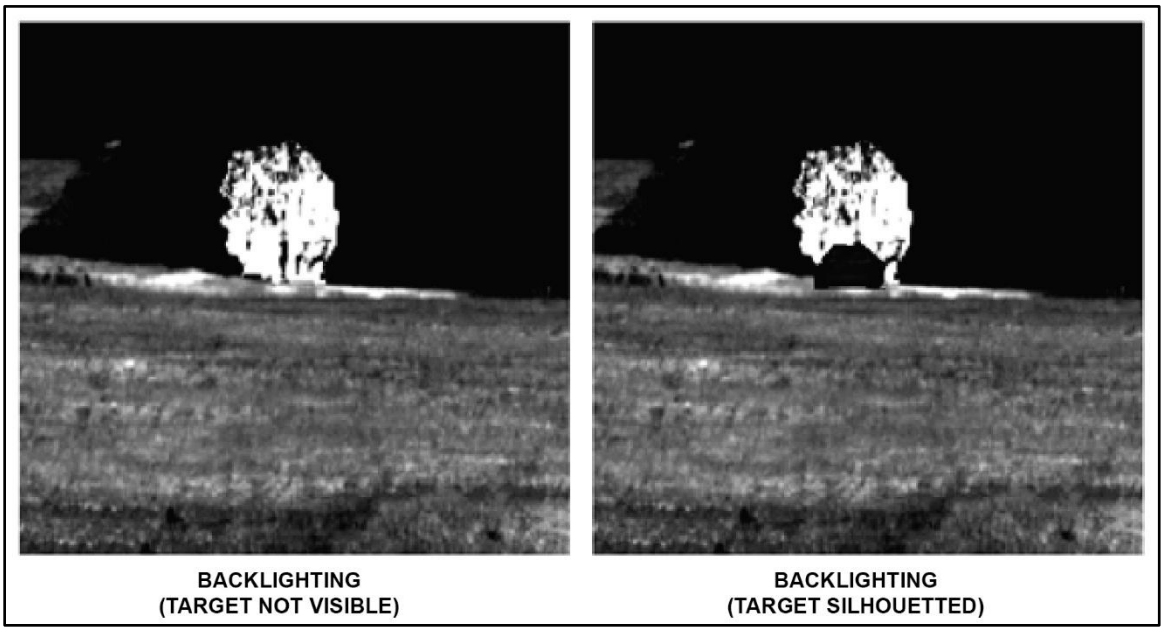

Figure D-10. Backlighting

ENEMY ACTIVITY

D-59. Enemy activity, especially movement of a vehicle, can enable a Soldier to see the target better. A moving target allows Soldiers to see it from more than one aspect, making it easier to classify and recognize than a frontal target moving in a straight line.

D-60. Further, movement generates infrared energy. Table D-2 provides additional information how generated energy can provide information about the activity of a target. Table D-3 provides more information about how this movement impacts vehicles and table D-4 identifies additional signs of vehicles.

Table D-2. Effect of movement on infrared energy generation

TEMPERATURE	*EXPLANATION*
Cold	A cold target is cooler than its background. When a Soldier sees a cold stationary target, the assumption is there has been no recent activity.
Partially Cool	When stationary targets are partially cooled, Soldiers can assume there has been some activity. Partially cool stationary targets are especially difficult to detect because their signatures are closer to the same temperature as the surrounding terrain. Their signatures also become distorted and incomplete as they cool. This procedure causes the signatures to blend with the background.
Hot	Hot stationary targets are the easiest to detect. When a stationary target has hot signatures, Soldiers can assume there has been recent activity or solar heating.

Table D-3. Vehicle parts and infrared energy generation

VEHICLE PART	*EFFECT OF INFRARED ENERGY GENERATION*
Suspension System	When a target has moved recently, its suspension presents a hot infrared energy signature. The track area presents hot spots due to heating from friction. When viewed from the front, the tracks are normally visible as two infrared energy signatures on either side of and below a larger dark area (representing the hull). If viewed from the flank, the tracks and road wheels normally are visible as a hot signature beneath a larger dark area (representing the hull).
Engine Compartment	The engine compartment is usually a reliable infrared energy signature for the following reasons: due to the extreme heat generated by the engine and the large mass of metal of which it is made, a vehicle's engine compartment gives off a hot infrared energy signature for several hours after the vehicle is stopped. The engine takes longer to cool than the rest of the hull. A stationary vehicle engine must be started after long periods of inactivity to keep its battery charged, keeping the infrared energy image hot.
Gun Tube/Barrel	The gun tube or barrel is another area to look for heat. When the gun has been fired recently, it appears hotter than its background.

Table D-4. Additional vehicle parts and infrared energy generation

SIGN OF VEHICLE PRESENCE	*EXPLANATION*
Vehicle Exhaust	Tanks need their engines started every few hours to charge the batteries. This creates a large plume of exhaust and a distinctive smell, which may linger even after the engine has been turned off.
Dust	Moving vehicles often raise dust. Stay alert for dust because it can be spotted at long ranges.
Vehicle Movement	Enemy movement can appear along high-speed avenues of approach. Soldiers should search along terrain features that offer masking (such as tree lines and draws).
Flashing Hot Spots	As a vehicle moves over small gullies and hills at a distance, its hot spots appear to be flashing, become visible and then invisible as the vehicle drops below the observation line.

AMOUNT OF TARGET EXPOSURE

D-61. Another consideration is the amount of time a target is exposed. Targets try to remain hidden from Soldiers by staying in cover and concealment, or by using the terrain to mask their movement. Depending on the amount of terrain masking, Soldiers may see only one or two features from which to classify and recognize a target.

D-62. Hull defilade targets are the most difficult to detect because they are not visible at all times. For example, when a tank is in defilade, it moves back-and-forth between a firing platform and its hide position.

Appendix E

Chronological Plan to Train Role Players

This appendix reiterates parts of the role-player training plan in chronological order (see table E-1, pages E-1 though E-3; and table E-2, pages E-3 and E-4). It is designed to serve as an easy reference for trainer use.

Table E-1. Broad plan for training role players

FACTORS ACROSS TIME	*3–6 MONTHS PRIOR TO ROLE PLAYER ARRIVAL*	*1–3 DAYS IN-PROCESSING*	*3–5 DAYS CLASSROOM TRAINING*
Acquiring	Research appropriate attire for the scenario. Determine outfit(s) for all characters within scenario. Determine where to obtain clothing appropriate for characters. Contact the resource manager prior to purchasing clothing and materiel. Consider the feasibility of utilizing donated or thrift store clothing. Acquire clothing and materiel for scenario.	Set aside time to purchase additional clothing and materiel required for role-players.	Set aside time to purchase additional clothing and materiel required for role-players.
Property Accountability	Prepare hand receipts (DA Form 2062 [*Hand Receipt/Annex Number*]) for inbound role-players.	Issue character attire and materiel to role-players. Ensure role-players annotate problems or malfunctions of clothing and materiel on hand-receipts. Copy all hand-receipts for future reference and add to role players' personal files.	Adjust hand receipts accordingly when and if role-players acquire additional clothing and materiel.
Property Preparation	Research appropriate attire for scenario. Determine outfit(s) for all characters within scenario.	Issue character biography to role player. Outfit the role-player with attire for their character. Ensure role player(s) understand(s) the relationship between the biography and issued clothing/materiel.	Answer questions role-players may have about their character's biography in relation to their character's attire and materiel.

Table E-1. Broad plan for training role players (continued)

FACTORS ACROSS TIME	*3–6 MONTHS PRIOR TO ROLE PLAYER ARRIVAL*	*1–3 DAYS IN-PROCESSING*	*3–5 DAYS CLASSROOM TRAINING*
Property Fitting	Contact the resource manager in order to hire a professional tailor. Schedule the tailor for in-processing and classroom training in order to properly tailor clothing.	Ensure role-players try on all clothing their character may wear. Visually inspect the role-player in their character's attire. If the issued clothing does not meet the fidelity of the character, issue new clothing/materiel.	Continue to issue character attire and materiel as needed.
Property Documentation	Prepare hand receipts (DA Form 2062) for inbound role-players. Role-players sign for numerous items; advanced preparation saves valuable time. Arrange scenario equipment to be issued to role-players (training aids, devices, simulators, and simulations; vehicles; pyrotechnics; and so on). Arrange for additional trainers to assist with unit-specific mission equipment training.	Review training of all role-players (for example, personal driver's license; military driver certification (DA Form 348 [*Equipment Operator's Qualification Record {Except Aircraft}*]); training aids, devices, simulators; and simulations certification (DA Form 87 [*Certificate of Training*]); and so on). Determine number of role-players that require refresher training. Determine number of role-players that require new training. Additional trainers may be required to assist.	Train and refresh role-players.
Maintaining	Inspect acquired clothing and materiel for damage prior to role-player usage. Hang clothing and equipment away from vents, windows, and animal-infested areas. Contact resource manager prior to having any clothing professionally dry cleaned in order to secure appropriate funding.	Ensure role-players inspect all clothing and materiel for damage prior to signing hand-receipt(s). Instruct role-players on proper storage of clothing and materiel.	Assess role-player knowledge on character and unit training objectives.
Resource Management	Consult the resource manager and review funding required for scenario.	Consult resource manager and request funding for unexpected expenses.	Consult resource manager and request funding for unexpected expenses.

Table E-1. Broad plan for training role players (continued)

FACTORS ACROSS TIME	*3–6 MONTHS PRIOR TO ROLE PLAYER ARRIVAL*	*1–3 DAYS IN-PROCESSING*	*3–5 DAYS CLASSROOM TRAINING*
TADSS	Request training aids, devices, simulators, and simulations for assigned role players. Test this equipment, if necessary. Request batteries for training and scenario operations, if necessary. Secure casualty cards. Request additional training aids, devices, simulators, and simulations for scenario.	Issue appropriate training aids, devices, simulators, and simulations to role players. Train role-players on assigned this equipment. Issue casualty cards. Ensure role-players annotate problems or malfunctions of the equipment on hand-receipts.	Issue appropriate training aids, devices, simulators, and simulations to role players. Train role-players on assigned equipment. Ensure role-players annotate problems or malfunctions of the equipment on hand receipts.
Legend: TADSS – training aids, devices, simulators, and simulations			

Table E-2. Specific plan for training role players

3–5 DAY REHEARSAL	*SCENARIO OPERATIONS*	*1–2 DAY OUT-PROCESSING*
Set aside time to purchase last minute additional clothing and materiel required for role-players.	Anticipate outfitting and materiel challenges during scenario operations.	Role-players turn-in all assigned attire and materiel. Trainers and role-players Inspect all assigned items, and trainers discuss issues or comments about them with the role-players. Annotate assigned attire role-player's character wears in role-player's personal file and master character file.
Adjust hand-receipts accordingly when and if role-players acquire additional clothing and materiel.	Adjust hand-receipts accordingly when and if role-players acquire additional clothing and materiel.	Copy all hand-receipts for future reference and add to role-player's personal file. Ask role-players to write a review of their issued clothing and materiel. Review their comments and adjust outfitting for that character accordingly.
Ensure role-players wear their character's attire and carry assigned materiel during rehearsal. If possible, conduct only rehearsals wearing attire and utilization of materiel.	Answer any last minute questions from role-players.	Ensure role-players wear their character's attire and carry assigned materiel during rehearsal. If possible, conduct only rehearsals wearing attire and utilization of materiel.
Confirm whether or not the issued attire and materiel meets the needs of the character and the scenario. If they do not meet the needs of the character, reissue and refit attire and materiel.	Assess utility of attire in actual role-playing. Document attire malfunctions and eases of use for each character.	Request role-players comment on their attire and materiel's fit for the character and themselves.

Table E-2. Specific plan for training role players (continued)

3–5 DAY REHEARSAL	*SCENARIO OPERATIONS*	*1–2 DAY OUT-PROCESSING*
Ensure role-players assigned to operate vehicles and pyrotechnics carry individual certifications on their person throughout scenario operations and have received all required training.	Ensure role-players assigned to operate vehicles and pyrotechnics carry individual certifications on their person throughout scenario operations and have received all required training.	Request role-players comment on the training received for certifications. Enclose a copy of their certifications in their personal files.
If and when damage occurs to attire or materiel, ensure role-player annotates damage on hand-receipt. Issue new attire and materiel if previous attire and materiel are no longer functional.	Anticipate damage to character's attire and materiel. Keep replacement attire for characters readily available.	Inspect attire and materiel during out-processing procedures.
Consult resource manager and request funding for unexpected expenses.	Consult resource manager and request funding for unexpected expenses.	Provide the resource manager comments on scenario expenditures. Consider annotating ways to improve funding from beginning to end of scenario.
Rehearse the scenario while utilizing assigned training aids, devices, simulators, and simulations.	Utilize training aids, devices, simulators, and simulations during scenario training. Annotate problems or required maintenance.	Perform user maintenance on training aids, devices, simulators, and simulations and other issued equipment prior to turn-in.

Appendix F

Improvised Explosive Devices

F-1. An *IED* is a weapon that is fabricated or emplaced in an unconventional manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals designed to kill, destroy, incapacitate, harass, deny mobility, or distract (JP 3-15.1). IEDs may incorporate military munitions and hardware but are generally constructed from components that are nonmilitary in nature.

F-2. It is important for Soldiers to be aware of the resources actors have within the OE. These resources can be seen as common household goods, appliances, or waste. It is also crucial that Soldiers within the operational environment maintain control of the waste they create. Items such as batteries or containers can be used later by actors within the environment against the Soldier. It is important for the Soldier to establish a base line within the area of operations they are in, in order to create file folders of what is available to the actors of the region, such as chemicals and electrical parts, and what can potentially be used to create IEDs.

F-3. JP 3-15.1 also breaks down the IED into five necessary components (see figures F-1 and F-2, page F-2), which are defined as—

- Switch. A switch is a device for making, breaking, or changing an electrical or nonelectrical connection. Insurgents and terrorists specifically employ switches to fire or arm an IED. Some bomb makers also utilize safe-to-arm switches, so they are able to reduce the risk of accidental detonation during IED emplacement. There are three main categories of switches: command, time, and victim operated.
- Initiator. The initiator is any device that is used to start a detonation or deflagration. In most cases, the initiator in IEDs is a blasting cap. Blasting caps can be electric or nonelectric and are commercially produced; however, insurgents and terrorists have demonstrated the capability to construct improvised initiators.
- Main charge. The main charge constitutes the bulk explosive component of an IED and can be configured for directional effects. Explosives fall into two categories: low and high yield. Low-yield explosives are combustible materials that deflagrate, do not produce a shock wave, and must be confined to explode (such as black powder). High-yield explosives are materials that detonate with a shockwave and do not require confinement (such as dynamite).
- Power source. A power source stores or releases electrical or mechanical energy for the initiation of a IEDs main charge. The most common power source found in IEDs is batteries; however, insurgents and terrorists have also used alternating current to detonate their devices. In a nonelectric IED, the mechanical energy from a recoiled spring can actuate an initiator, subsequently detonating a main charge.
- Container. A container is an item or vessel that commonly houses the whole or principal components of an IED. Containers are often designed to conceal the IED. Some examples of containers are carcasses, pipes, backpacks, jugs, tires, briefcases, vests, and vehicles.

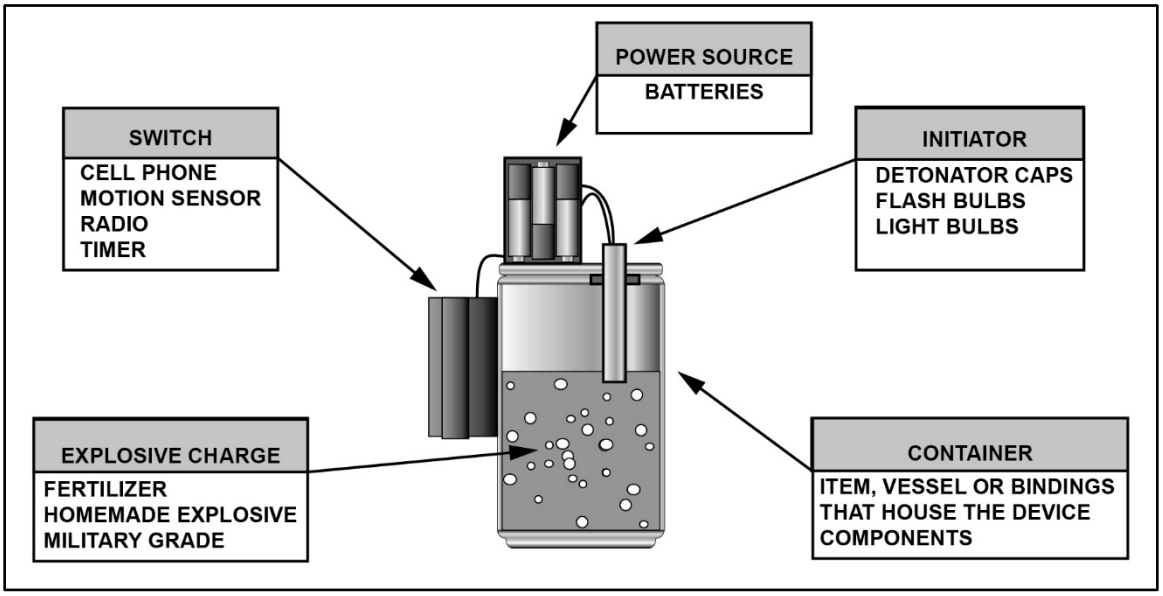

Figure F-1. Five common components of an improvised explosive device

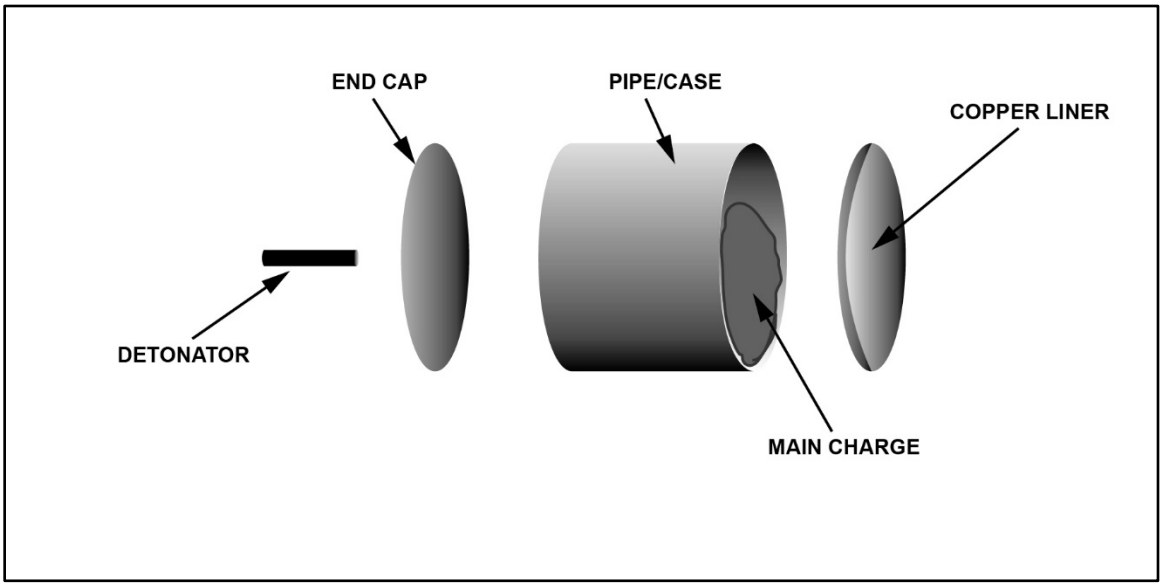

Figure F-2. Five common components of an explosively formed projectile

Source Notes

This division lists sources by page number. Where material appears in a paragraph, it lists both the page number followed by the paragraph number.

13-1 Kipling, Rudyard. *Kim*. Cambridge Library Collection - Fiction and Poetry. Cambridge: Cambridge University Press, 2013. doi:10.1017/CBO9781139541176.

9-1 *The Red Team Handbook, Version 9.0*. University of Foreign Military and Cultural Studies, 2019. Available at https://usacac.army.mil/organizations/ufmcs-red-teaming/.

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Glossary

Where Army and joint definitions differ, (Army) precedes the definition. Terms for which TC 3-22.69 is the proponent are marked with an asterisk (*). The proponent publication for other terms is listed in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

ADP	Army doctrine publication
AR	Army regulation
ASA	advanced situational awareness
ASCOPE	areas, structures, capabilities, organizations, people, and events
ASLTE	Adaptive Soldier Leader Training and Education
ATP	Army techniques publication
CBRN	chemical, biological, radiological, and nuclear
CSF2	Comprehensive Soldier and Family Fitness
DA	Department of the Army
DODD	Department of Defense directive
ES2	Every Soldier is a Sensor
FM	field manual
GAT	global assessment tool
GTA	graphic training aid
HUMINT	human intelligence
HVI	high-value individual
IED	improvised explosive device
JP	joint publication
JROTC	Junior Reserve Officers' Training Corps
KIM	keep in memory (games)
MCTP	Marine Corps tactical publication
MDCOA	most dangerous course of action
MLCOA	most likely course of action
NTTP	Navy tactics, techniques, and procedures
OE	operational environment
OODA	observe, orient, decide, act
OSJA	Office of Staff Judge Advocate
ROE	rules of engagement
SMCT	Soldier's Manual of Common Tasks

STP	Soldier training publication
TADSS	training aids, devices, simulators, and simulations
TC	training circular
TRADOC	United States Army Training and Doctrine Command
U.S.	United States
USS	United States Ship

SECTION II – TERMS

adversary

(DOD) A party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged. (JP 3-0)

ambush

An attack by fire or other destructive means from concealed positions on a moving or temporarily halted enemy (FM 3-90-1)

commander's visualization

The mental process of developing situational understanding, determining desired end state, and envisioning an operational approach by which the force will achieve that end state. (ADP 6-0)

concealment

Protection from observation or surveillance. (FM 3-96)

demonstration

(DOD) In military deception, a show of force in an area where a decision is not sought that is made to deceive an adversary. (JP 3-13.4)

enemy

A party identified as hostile against which the use of force is authorized. (ADP 3-0)

feint

(DOD) In military deception, an offensive action involving contact with the adversary conducted for the purpose of deceiving the adversary as to the location and/or time of the actual main offensive action. (JP 3-13.4)

guerrilla

An irregular, predominantly indigenous member of a guerrilla force organized similar to military concepts and structure in order to conduct military and paramilitary operations in enemy-held, hostile, or denied territory. Although a guerrilla and guerrilla forces can exist independent of an insurgency, guerrillas normally operate in covert and overt resistance operations of an insurgency. (ATP 3-05.1)

hybrid threat

The diverse and dynamic combination of regular forces, irregular forces, terrorists, or criminal elements unified to achieve mutually benefitting effects. (ADP 3-0)

improvised explosive device

(DOD) A weapon that is fabricated or emplaced in an unconventional manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals designed to kill, destroy, incapacitate, harass, deny mobility, or distract. Also called IED. (JP 3-15.1)

insider threat

A person with placement and access who intentionally causes loss or degradation of resources or capabilities or compromises the ability of an organization to accomplish its mission through espionage, providing support to international terrorism, or the unauthorized release or disclosure of information about the plans and intentions of United States military forces. (AR 381-12)

irregular warfare

(DOD) A violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s) (JP 1).

insurgency

(DOD) The organized use of subversion and violence to seize, nullify, or challenge political control of a region. Insurgency can also refer to the group itself. (JP 3-24)

military deception

(DOD) Actions executed to deliberately mislead adversary military decision makers as to friendly military capabilities, intentions, and operations, thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission. (JP 3-13.4)

neutral

(DOD) In combat and combat support operations, an identity applied to a track whose characteristics, behavior, origin, or nationality indicate that it is neither supporting nor opposing friendly forces. (JP 3-0)

operational environment

(DOD) A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0)

paramilitary forces

(DOD) Armed forces or groups distinct from the regular armed forces of any country, but resembling them in organization, equipment, training, or mission. (JP 3-24)

raid

(DOD) An operation to temporarily seize an area in order to secure information, confuse an adversary, capture personnel or equipment, or destroy a capability culminating with a planned withdrawal. (JP 3-0)

ruse

In military deception, a trick of war designed to deceive the adversary, usually involving the deliberate exposure of false information to the adversary's intelligence collection system. (JP 3-13.4)

seize

(Army) A tactical mission task that involves taking possession of a designated area using overwhelming force. (FM 3-90-1)

threat

Any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland. (ADP 3-0)

traditional warfare

A form of warfare between the regulated militaries of states, or alliances of states, in which the objective is to defeat an adversary's armed forces, destroy an adversary's war-making capacity, or seize or retain territory in order to force a change in an adversary's government or policies. (DODD 3000.07)

unconventional warfare

(DOD) Activities conducted to enable a resistance movement or insurgency to coerce, disrupt, or overthrow a government or occupying power by operating through or with an underground, auxiliary, and guerrilla force in a denied area. (JP 3-05)

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2 April 2021

By Order of the Secretary of the Army:

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