CODIAC

Material developed by Greg Williams and David Scott-Donelan

BE THE HUNTER
NOT THE HUNTED!

Compiled, July 2010

This material was developed by Greg Williams and David Scott-Donelan

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COURSE NOTES

Course Notes

These are the key CODIAC skills you should learn from this course

Observe

Use of enhanced observation techniques

01. Use organic assets to make positive identifications
02. Make innovative use of optics to help construct a baseline or profile
03. Shift field of view to avoid focus lock
04. In visual scans, use refocusing to include both near and far objects
05. Effectively identify anchor points and indications of anti-tracking
06. Effectively identify habitual areas and action indicators
07. Use observation techniques that do not require conscious attention

Identification of critical event indicators

08. Establish a baseline to extract normalcy
09. Look for anomalies outside of the baseline
10. Look for signature behaviors via a cluster of cues
11. Look for signature locations through a cluster of cues

Orient

Interpretation of human behavior cues

12. Take someone else's perspective
13. Effectively and efficiently identify leaders
14. Orient observation/tracking toward potential hostiles (ignore neutrals)
15. Work with others to construct a profile of a person, event, or quarry

Synthesis of ambiguous information

16. Induce a pattern from a few individual cues
17. Generate explanatory storylines that tie piece of information together
18. Imagine alternative courses of action by what-if mental simulations
19. Anticipate what will happen next

These 33 skills are formally called "knowledge, skills, and attitudes" or KSAs

Decide

Proactive analysis and dynamic decision-making

20. Look for prototypes to guide rapid recognition and decision-making
21. Detect unfolding events by identifying a piece and inferring the rest
22. Use appropriate criteria (e.g., 3 cues) to make timely, accurate decisions
23. Take an evidence-based approach, use hard data to confirm hypotheses
24. Don't settle for unexplained events or evidence, look for their causes
25. Make effective decisions in spite of high stress conditions

Maintain

Employment of cognitive discipline

26. Use tactical patience to avoid committing too soon
27. Create an interlocking network of optics, intel, and communications
28. Keep an open mind to the unexpected (there are unknown variables)
29. Recognize when your situational awareness is low and fix it
30. Trust that your skills will overcome obstacles in the difficult situations
31. Sense time; know when to update your situational judgment
32. Employ stress reduction strategies to manage natural stress reactions
33. Recognize when stress is affecting other team members and help them

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Juba Sniper

From 2005–2007, the "Juba Sniper" terrorized American warfighters in Baghdad. In a series of Internet-published propaganda videos, Juba can be seen killing American warfighters. In one of his videos, Juba claims to have killed 645 US Soldiers and Marines. Marines and Soldiers were being *hunted*.

Thoughts or actions that occur **LEFT-OF-BANG** happen *before* a critical event. Left-of-bang actions are proactive, occurring before the enemy can carry-out a violent act.

USMC Combat Hunter

In January 2007, the USMC sought a novel solution to the Juba sniper and similar irregular warfare challenges. The USMC realized that certain people were better able to detect snipers and improvised explosives. After examining their backgrounds, the Marines realized that the most successful "battlefield hunters" were those who could read the environment: the physical and/or social landscape. Combat Hunter was designed to train these skills.

CODIAC

The *Combat Observation and Decision-making in Irregular and Ambiguous Conflicts* (CODIAC) initiative is an effort to distill the competencies of Combat Hunter into a format usable across the Services.

Left-of-Bang

CODIAC principles help personnel *observe*, *analyze*, and *decide* before the enemy acts. This is called "left-of-bang" thinking. CODIAC skills also help personnel learn the indicators to look for after an incident occurs, so that they can prevent the next occurrence—that is, acting before the next bang.

Pre-Event Indicators

In order to act left-of-bang, a person must be able to observe and understand the *pre-event indicators* that suggest that a critical incident is about to occur.

> *Rule of Three:* In most cases, a single cue is not enough to make a decision (unless that cue is substantial) but once ***three*** anomalies have been detected, a decision must be made.

Examples of what you can do, left-of-bang

- Create a baseline of what's "normal" for an area
- Observe suspects to establish their typical tactics and procedures
- Scout out potential attack locations
- Detect anomalies from the baseline
- Identify behaviors that are out of place
- Identify suspicious environmental signs (e.g., tracks at a location)

Examples of what you can do, right-of-bang

- Identify tracks leading away from a scene
- Identify behavioral anomalies of nearby people
- Identify environmental effects, such as odd crowd reactions
- Analyze a site for clues to the enemy's tactics or motivations
- Analyze the incident for clues to the network involved

"...We require the capabilities to identify, locate, track, and engage individual enemies and their networks. Doing so will require greater capabilities across a range of areas, particularly intelligence, surveillance, and communications."

—*National Defense Strategy (NDS) 2005*, page 15

Irregular Warfare

Irregular warfare is characterized as a violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s). Irregular warfare combatants often favor indirect and asymmetric approaches, though they may employ the full range of military and other capacities, in order erode an adversary's power, influence, and will. Most military leaders agree that the US military will face irregular challenges for many years to come, and beyond the military, law enforcement and civil authorities regularly confront such conflicts daily—whether they be instigated by inner-city gangs or drug cartels on the US border.

Strategic Corporals

In his article on "Learning Counterinsurgency," General Petraeus discusses 14 lessons-learned from the recent conflicts in Iraq and Afghanistan. Below is #12:

> Observation Number 12 is the admonition to *remember the strategic corporals and strategic lieutenants*, the relatively junior commissioned or noncommissioned officers who often have to make huge decisions, sometimes with life-or-death as well as strategic consequences, in the blink of an eye. ...Do everything possible to train them before deployment for the various situations they will face, particularly for the most challenging and ambiguous ones (page 9).

Synopsis of General Petraeus' Observations from Soldiering in Iraq

01. Do not try to do too much with your own hands.
02. Act quickly, because every Army of liberation has a half-life.
03. Money is ammunition.
04. Increasing the number of stakeholders is critical to success.
05. Analyze "costs and benefits" before each operation.
06. Intelligence is the key to success.
07. Everyone must do nation-building.
08. Help build institutions, not just units.
09. Cultural awareness is a force multiplier.
10. Success in a counterinsurgency requires more than just military operations.
11. Ultimate success depends on local leaders.
12. Remember the strategic corporals and strategic lieutenants.
13. There is no substitute for flexible, adaptive leaders.
14. A leader's most important task is to set the right tone.

Distributing Operations

Distributed Operations place greater emphasis on distributed small teams, who are expected to operate with more independence, as compared to similar units in traditional conflicts.

Learning Counterinsurgency:
Observations from Soldiering in Iraq
Lieutenant General David H. Petraeus, U.S. Army

...moreover, technology—and *some* or so end our partners the way the insurgents do in Iraq and Afghanistan. Thus, we must learn, adapt, and continue to learn from our experiences in these wars if we are to succeed in the future and to prepare for the future.

Soldiers and Observations

Writing down observations and lessons learned is a key step in learning from them. It is also a key to focus these like to varying degrees, and we then reflect on and share what we've jotted down with others. Even if we don't write down lessons, or deployment. Such activities are of all-time importance in helping us learn from our experiences and those of others.

In an effort to foster learning as an organization, the Army institutionalized the process of collection, analysis, and dissemination of lessons, observations, insights, and lessons some 20 years ago with the formation of the Center for Army Lessons Learned (CALL) at Fort Leavenworth, Kan. Its motto, coined by the Army's Command Sergeant Major, Jack Tilley, is "Learn today's lessons today." Many recently have used the processes of collection, evaluation, and dissemination to great effect, and CALL products have already been issued since the beginning of our operations in Afghanistan and Iraq in 2001. We have found these products of considerable value as we've prepared for deployments and reviewed how we've performed with challenges our elements were about to face.

For all their considerable worth, the institutional lessons learned systems do not capture the totality of our Soldiers' thoughts and reflections. And Soldiers have continued to record their own observations, sometimes in journals, and to share them with others on many important occasions. Indeed, we even personal notebook were always handy while soldiering in Iraq. I found mine extremely useful in my last months during our first year there during the fight to Baghdad and the division's subsequent operations in Iraq's Diyala River valley and in Mosul. I relied on it in much of the subsequent year-and-a-half. I helped with the preparation of the division's after-action report and assessment in the spring of 2004 of the Iraqi Security Forces after their post performance in early April

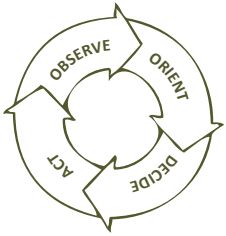
Iraqi Soldiers of the 1st Battalion, 1st Brigade, 1st Iraqi Infantry Division inspect search operations in Fallujah, Iraq 8 December 2006.

THE ARMY HAS LEARNED a great deal in Iraq and Afghanistan about the conduct of counterinsurgency operations, and we must continue to learn all that we can from our experiences in these countries.

The progression in Iraq and Afghanistan were not, in truth, the wars for which we have been prepared by our training and education. Indeed, as Secretary Gates has publicly clearly set the kind of wars we were fighting in Iraq and Afghanistan are probably the most likely opponents we'll confront as well. But Hamas' methods will confront us head on. Rather, they will attack us asymmetrically, avoiding our strengths—firepower,

Full-Spectrum Operations

Full-spectrum operations combine offense, defense, and stability/support operations. Relatively lower-ranked personnel must now develop significantly expanded competencies, beyond their military occupational specialties, to support the range of kinetic (i.e., combat) and non-kinetic (i.e., non-combat) missions they will be asked to carry out.



OODA-LOOP
developed by
USAF Colonel
John Boyd

Decision-Making (OODA-Loop)

The decision-making cycle is a constantly revolving process that takes place in the mind every second of every day. This cycle follows the pattern of Observe-Orient-Decide-Act (OODA).

Observe

Observation is a search for information relevant to the tactical situation. This could include anything, from the enemy's tactics to the moral context. Observation is not a passive step. It requires an active effort to seek out all the available information by whatever means possible.

Orient

Orientation involves synthesizing the observed information to form an awareness of the overall context. In other words, orientation helps turn information into understanding, and it is understanding that leads to good decisions.

Decide

Decisions are based upon the perceived observations, as well as training, experience, rules of engagement, orders, and directives. Through repetitive training, some decisions can become automatic (for example, immediate action drills for weapon malfunctions).

Kill it
Capture it
Contact it
...or let it go

Act

The final step, act, describes the implementation of a decision. For CODIAC skills, personnel need only consider three actions: Kill, Capture, or Contact. If none of these actions are appropriate, then "let it go."

Speed is a Weapon

Accelerate the OODA-Loop, particularly the *orientation* and *decision* phases. Whoever executes the OODA-Loop most efficiently controls the tempo of the conflict.

> "Time is the dominant parameter. The pilot who goes through the OODA cycle in the shortest time prevails because his opponent is caught responding to situations that have already changed."
>
> —Harry Hillaker, chief designer of the F-16

Legal, Moral, Ethical Decisions

Legal: Conforming to, or permitted by law and within the Rules of Engagement (ROE).

Moral: The principles of right conduct. The distinction between right and wrong.

Ethical: In accordance with society's rules, standards, and expectations for right conduct, especially the standards of a profession; in other words, being moral as well as socially appropriate. The expectation to act ethically is placed on every warfighter or law enforcement agent who is representing America.

> "...It takes one screw-up to erase 1,000 jobs done well. This is why every Marine must keep their heroes in mind when contemplating doing something illegal, offensive or dangerous."
>
> *—Joseph R. Chenelly*

Legal vs. Ethical

Legal and *ethical* are not always the same. For example, cheating on one's spouse is not illegal, but most people consider it unethical. Similarly, in combat, many actions may be legally justifiable; however, that does not mean they should be taken.

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Observe

"The most important means of surviving a lethal confrontation is neither the weapon nor the martial skills: It is the combat mindset."

—Jeff Cooper

Attention

Attention is the process of intentionally concentrating on specific components of the environment while ignoring others. *Divided attention* occurs when two or more things (objects, tasks, etc.) compete for attention, for example, during multi-tasking. *Selective attention* or *focused attention* occurs when distracting or competing stimuli are ignored, in order to maintain attention on a specific object or task.

Situational Awareness

Situational Awareness (SA) is an individual's overall understanding of the operational environment, including the time and location of key components, comprehension of their meaning, and a projection of their status in the near future. SA occurs in one's mind. It is not a display or the common operational picture; it is the interpretation of displays or the actual observation of a situation.

Cooper's Color Codes

Developed by LtCol Jeff Cooper, USMC, this system describes levels of awareness:

- **White:** Unaware and oblivious
- **Yellow:** Relaxed, general alertness
- **Orange:** Heightened alertness
- **Red:** Ready to fight, "laser beam attention"
- **Black:** A catastrophic breakdown of mental and physical performance. Personnel in the black have no situational awareness; they offer no tactical value to their units.

Sensemaking

Sensemaking is the ongoing process of giving meaning to one's experiences. Karl Weick, one of the foremost sensemaking researchers, suggests that it has seven properties:

- It is influenced by your personal identity
- It is always grounded in past experiences
- It is constrained by the expected context
- It is social; teams create shared meaning
- It is a continuous, ongoing process
- It depends on extracting/interpreting cues
- It is driven by assumptions of plausibility

Team Sensemaking

Ensure everyone on your team knows to bring the team's attention to potential problems or key environmental cues. Call the team's attention to anomalies, those things that fall outside the "normal" pattern, and if you are a team leader, then you should clarify ambiguous accounts and establish a shared interpretation among the team.

Telling a Story: Operational Narrative

Creating a narrative of a given operational environment can aid sensemaking. When building an operational narrative, consider these elements:

- **Characters:** Who's involved?
- **Perspective:** What are their motivations?
- **Precipitating Events:** What triggered the situation?
- **Courses of Action:** Step-by-step, visualize each action, reaction, and counteraction, and identify decision points for critical actions.

"We say in combat '**complacency will get you killed**.' What does complacency mean? Complacency means that you relax too soon—that you're not paying attention to the environmental cues."

—Greg Williams

Mental Simulation

Operational narratives can be constructed through *mental simulation*, which is the process of imagining how your predictions about a scene may play-out. Constantly ask yourself "what if."

Mental File-Folders

A *mental file-folder* is the rules or scripts that people use to structure their knowledge of the world. Each mental file-folder represents a "normal" experience of a person, place, or thing.

Tactical Shortcuts vs. Biases

Sensemaking is influenced by each person's preconceived expectations and prior experiences. Mental file-folders create these expectations, for better (accelerating decision-making) and worse (creating biased perceptions). When mental file-folders are accurate, they can become *tactical shortcuts* that drive effective decision-making.

Template Matching

A *template* is an exact specification. Similarly, in regard to decision making, *template matching* occurs when a person looks for an exact match.

Prototypical Matching

A *prototype* is a typical example of something. In regard to decision-making, a *prototypical match* is a "close enough" match.

Context and Relevance

Context is the background, setting, or situation surrounding an event or occurrence, and *relevance* describes whether something is significant or meaningful to a given situation.

Orient

Under high periods of stress, your attention shrinks, ability to access knowledge and memories is limited, and capacity to think critically and creatively becomes almost nonexistent.

Dynamic Decision-Making

Dynamic decision-making takes place when a series of actions must be executed over time, the actions are interdependent, the outcomes of actions are not immediately evident, and the environment is changing both spontaneously and in response to actions.

Decision-Making Under Stress

Dynamic environments involve time pressure, and for military and law enforcement personnel, they often involve hostile—life and death—conditions. In short, they are extremely stressful.

When individuals are faced with extreme stress or a violent crisis, the brain's *limbic system* takes control from the *cerebral cortex*. The limbic system is an "older" part of the brain (in terms of evolution) and is involved in instinctive behavior and emotions. The cerebral cortex, in contrast, supports human cognitive abilities such as logical thinking, reasoning, and analysis. Therefore, when the limbic system takes over during stress, instinct (not careful thought) drives an individual's actions.

Automaticity

Automaticity means learning a task to the point that it becomes essentially attention-free.

Decision-making under stress

When faced with high stress situations, a person will either:

FIGHT: Respond with immediate, aggressive response

FLIGHT: Flee or attempt to avoid the perceived threat

FREEZE: Hesitate and freeze, often in a state of initial denial

Baseline
+ Anomaly
= Decision

Memory–Emotion Link

Emotional responses can create highly durable memories. If you make strong enough emotion–memory links during training, you will instinctively refer to that training during periods of high stress.

Baseline

A *baseline* is the "normal" status of a thing. Everyone and every place has a baseline, although baselines are fluid, changing over time as conditions evolve. For example, a certain village may have a large field in which children play. If you watch this village over time and every afternoon the children play in the field, then those children and their activities become part of the baseline for that village. They become part of your mental file-folders for what is normal.

Anomaly

An *anomaly* occurs when something above or below the expected baseline happens. An anomaly above the baseline is something added to the environment, such as the presence of a new vehicle in a neighborhood. An anomaly below the baseline is the absence of something, such as the lack of wildlife noises in the woods. When you see an anomaly, you must analyze it to determine whether it is operationally relevant.

Decide

Action

All anomalies should be investigated; never "write off" a single anomaly. If three anomalies are observed, then you must act. Similarly, if one major anomaly is identified, action must be taken.

Combat Multipliers

Tactical Cunning

Tactical cunning is the process of out-thinking the enemy. It requires you to *think like the enemy* and then use crafty strategies to surprise your adversaries.

Tactical Patience

Tactical patience is the manipulation of the operational tempo, so as to act only once the situation becomes most advantageous. Sometimes delays at the tactical level can lead to greater successes at the strategic level.

Interlocking Lines

By *interlocking lines* of fires, observation, and reporting, personnel can close the seams and gaps of a battlespace. Most likely, personnel are already familiar with the concept of interlocking fields of fire. Interlocking fields of observation are similar to this concept, and interlocking lines of reporting shares a conceptual similarity.

Guardian Angel

Guardian angels are alert personnel, placed in covert positions, to protect their units and all the while remaining unseen by the enemy. Tactical teams must always have at least one guardian in a position of ambush, providing *overwatch* for the rest of the unit.

Good Shepherd

Being a *good shepherd* is the process of building trust with your team, between your team and civilians, or with a local population. Good shepherds are focused on building trust, security, and stability.

Combat multipliers increase a unit's combat effectiveness while the actual force ratios remain constant

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Observation is the gathering and processing of information obtained through the senses. **ENHANCED OBSERVATION** involves a deeper understanding how human sensory systems work, the limitations of these systems, and how to mitigate one's own perceptual limitations while exploiting the enemy's observational weaknesses.

The Human Eye

Rods vs. Cones

The eye contains two types of light-sensing cells: *rods cells* and *cone cells*. Rod cells see only black-and-white. They activate in low light and support peripheral vision. So, both night vision and peripheral vision lack color. Cone cells see in color, but they require a lot of light to activate.

Central Vision

A tiny spot (the *fovea*) located in the middle of each eye is responsible for sharp, central vision. This tiny spot is where all visual detail is detected; in contrast, peripheral vision is much less focused.

Blind Spot

Each eye contains a blind spot where nerves enter the eye. This means there is an area of your visual field that cannot be seen, but the brain does not like incompleteness, so it fills in what it "thinks" it sees, which is called *perceptual fill.*

Bias Towards Motion

Human eyes are predisposed to notice moving, rather than stationary, objects. The perceptual system is particularly sensitive to biological motion (the movement of living things).

Central vs. Peripheral Vision

Humans have only a small area of central (*foveal*) vision. The rest of the visual field falls under peripheral vision. Paying attention to the periphery helps personnel maintain greater overall awareness, but this cannot be maintained for a long time.

Daytime vs. Nighttime Vision

Daytime vision (called *photopic vision*) becomes active under well-lit conditions and relies on the eye's cone cells. This system is most sensitive to wavelengths of light that correspond to the yellow/green spectrum. Nighttime vision (or *scotopic vision*) activates under darker conditions, and it relies on the eye's rod cells. The rods are only sensitive to short (blue) wavelength light, and because they are not sensitive to other wavelengths, the scotopic system is "color blind."

Dark Adaptation

Total dark adaptation (being able to "see" in the dark) takes approximately 30 minutes to achieve. For the first 10 minutes in darkness, the cone cells maintain control of the visual system; after that time the rods take over.

Color Vision

Colors appear to change as light conditions change, because of the differential use of rod and cone cells. In practice, it means that colors can appear to change and care must be taken to correctly identify items by color alone.

Twilight Vision

Twilight (or *mesopic*) vision is used under medium light conditions (e.g., at twilight), and it involves both rod and cone cells. The combination of photopic and scotopic systems can cause visual inaccuracies, making personnel most susceptible to attack during this time.

Why Things are Seen

Shape
Shine
Color
Shadow
Silhouette
Surface
Spacing
Movement

7±2

is the normal human channel capacity

...under stress channel capacity reduces to

3

Perception is the process by which sensory information is organized and interpreted to produce a meaningful experience of the world.

Information Processing Model

Human information processing theory helps explain how people receive, store, and use information.

Sensory System

Stimuli are first captured by a sensory system, such as the eyes (sight) or ears (hearing).

Sensory Memory

The observed stimuli then enter sensory memory, where they are remembered for several milliseconds. If the brain decides to pay attention to the stimuli, then they enter *working memory*.

Working Memory

Working (or short-term) memory handles the interim processing. Information in working memory is stored for only a few seconds, unless it rehearsed. For instance, if a person has to remember a phone number, he/she might repeat it until he/she can type the digits into to a phone. Working memory is also limited by capacity; under ideal conditions, it can only store about seven plus-or-minus two (7±2) pieces of information at a time. For these reasons, working memory is a substantial "cognitive bottleneck." Information that exceeds this bottleneck is shed, or in other words, forgotten.

Long-Term Memory

If retained by working memory, information enters *long-term memory*. Long-term memory has a theoretically unlimited capacity; however, information stored in long-term memory cannot always be remembered (or "retrieved").

Top-Down vs. Bottom-Up Processing

Perception driven by the features of stimuli (such as color, motion, shape) is called data-driven or *bottom-up processing*. In bottom-up processing, stimuli are primarily interpreted based upon the data gathered by the five senses, rather than by preexisting expectations. In contrast, schema-driven or *top-down processing* is guided by expectations, such as existing mental file-folders.

Cognitive Load

Cognitive load describes the load on the information-processing system, especially working memory. Since working memory is limited by size and duration, humans can only processes a certain amount of information at a given time. Experts appear to process more information at a time, because they use top-down processing and mental file-folders, which allow them to monitor only the important information and to "*chunk*" (or cluster) bits of information together.

Mnemonic Devices

Mnemonics are mental tricks that aid memory and retention. Usually, mnemonics rely on easy-to-remember information that creates a framework for the important (but easily forgettable) data someone wants to recall later. You can use mnemonics to help remember key details of a scene, specific procedures, or critical information from discussions with villagers.

"The longer we're in combat, the less we pay attention. …Terrorists and insurgents live off of that. They know that the longer you're on site, the less you're paying attention."

—Greg Williams

Limitations

All humans have natural physiological limitations. Through training, you can learn skills that help you overcome them.

Fatigue

Constantly viewing an area, particularly through optical devices, will quickly fatigue your eyes. Switch between optical devices and regular vision frequently. Also, even under ideal conditions, rotate out of observation duties at least every 20–30 minutes.

Monocular Vision

Most visual perception uses a combination of both eyes; this is *binocular vision*. Objects seen with binocular vision are seen in 3D. Objects seen with only the left or right eye are perceived in 2D; this is *monocular vision*.

Tunnel Vision

During periods of high stress, people may develop *tunnel vision*. Physiologically, tunnel vision literally means reduced peripheral vision. The phrase is also used metaphorically to imply that individuals are attending to fewer cues and ignoring important tasks.

Change Blindness

Humans may ignore things (even quite obvious stimuli) when their attention is focused elsewhere. This is called *change blindness*. To overcome change blindness, it is helpful to memorize or sketch what the observed area looks like, and then refer back to this baseline at a future time, such as 20 minutes later.

Focus Lock

When observation becomes fixated on a specific object this is called *focus lock*. Make efficient use of refocusing in visual scans, moving your sight to include both near and far objects and constantly shift your field of view to mitigate focus lock.

Channel Capacity

Channel capacity is the maximum data rate that can be maintained by your brain. Under normal conditions, humans' channel capacity is about seven plus-or-minus two (7±2), but under stress your channel capacity drops to about three.

Sequencing

Human brains try to place cues into grouping (even inaccurate groupings). *Sequencing* occurs when our brains create an inaccurate grouping based upon a sequence of observed cues; typically sequencing takes place at the seventh instance of a cue. If at all possible, personnel at checkpoints or conducting traffic stops should be rotated every six instances.

Adaptation

People have a tendency to ignore visual information that is continuously present because the brain "tunes it out." This *adaptation* can be dangerous; for instance, if graffiti is always present, you may begin to overlook its potential importance, even if a minor change occurs that could hold tactical significance. Do not ignore potentially meaningful changes in the "normal" environment.

Overcoming Cognitive Illusions

Many of these limitations can be considered *cognitive illusions*. Cognitive illusions occur when the brain makes (incorrect) unconscious inferences. In general, cognitive illusions can only be overcome through experience and training. You must also rely on support from your team. A tactical team can create a common tactical picture, remind each other to avoid natural limitations, and backup each other to minimize the limits of humans' sensation and perception systems.

Visual Searches

When possible, make sure your team simultaneously employs a range of optical devices, including the naked-eye

Hasty Search

Quickly glance at specific points, terrain features, or other areas that could conceal the enemy. Do *not* sweep your eyes across the entire terrain, because that is less effective at detecting movement.

Start the search by viewing the area closest to your position and then working out. Look from *right-to-left* (because this goes against most people's natural tendency to read from left-to-right). If possible, use binoculars, rather than higher powered optics. Binoculars will give you a wider field of view, and increase the efficiency of the search.

Detailed Search

After completing a hasty search, initiate a detailed search using the *overlapping strip method*. Normally, the area nearest the observer offers the greatest danger; so, the search should begin there.

Systematically search the terrain, starting at the right flank and then moving your observation towards the left in a 180˚ arc. Each visual arc should include about 50 meters of depth.

After reaching the left flank, search the next swath nearest to your post. Each visual arc should overlap the previous search area by at least 10 meters in order to ensure total visual coverage of the area.

The search should extend as far back as the observer can see, and it should always encompass the areas of interest that were identified during the hasty search.

Maintaining Observation

Surveillance teams should repeat this cycle of hasty-then-detailed searches every 15 to 20 minutes, depending upon the terrain and specific responsibilities. When maintaining observation, keep your head and body movements to a minimum.

Key Terrain Features

With each consecutive visual pass over an area, take note of prominent terrain features (*positive space*) as well as any areas that may offer cover or concealment to the enemy (*negative space*).

Positive Space

Positive space has mass; it includes solid objects like buildings or vehicles. People are inclined to look from positive space to positive space.

Negative Space

Negative space falls between positive spaces. These areas of shadow and background may be overlooked by untrained observers. Personnel must consciously observe negative spaces.

Other Key Features

Remember to pay particular attention to possible anchor points, habitual areas, natural lines of drift, and KOCCOA features. KOCCOA helps you remember the priority terrain features:

- K = Key terrain features
- O = Observation points
- C = Cover
- C = Concealment
- O = Obstacles
- A = Avenues of approach

Light and Shadow

Light is a changing factor in observation. Pat attention to the changing contrast and shadows. An area that you first thought was empty may reveal an adversary when the light changes.

Rotate observation duty around **every 30 minutes**, to minimize fatigue and change blindness.

Variety of Optics

Daytime Devices

Day optics are capable of viewing objects in depth and of "burning through" brush and shadow. Many daytime optics have a *diopter sight*.

Nighttime Devices

Night optics amplify the ambient light in an environment. They are not affected by fluctuation in ambient temperature, but they are limited by their inability to see depth of field, lack of peripheral vision, and range.

Thermal Devices

Thermal optics distinguish an object's heat signature from its surroundings' temperature. Thermal optical have the greatest ability of any optical device to detect persons or vehicles in the natural environment, but they require power and can be affected by weather.

Avoiding Enemy Observation

To avoid enemy observation, you must alter your silhouette, minimize your movement, and conceal shine.

Shine

Optics can create a bright shine. This shine can be readily obscured by placing fabric, such as burlap or spider netting, over them.

Three-Hundred Meter Bubble

Three-hundred meters is the "magic mark," when conducting surveillance, try to remain outside the 300-meter bubble.

"We have to question everything we see, smell, taste, and feel. Yep, it's harder; your job has become harder in the battlespace, because you have to be the 'thinking warrior.' You have to up-armor your brain. But, at the end of the day, you'll be harder to kill, and you'll be smarter."

—Greg Williams

4

Combat profiling, developed by Greg Williams, is the art of identifying behavioral cues, synthesizing them into a meaningful pattern, and then making sense of that pattern, ideally, left-of-bang. Combat profiling is the ability to read the "human terrain."

The Art of War promises: "**So it is said that if you know your enemies and know yourself, you can win a hundred battles without a single loss**." This unit focuses on learning about your enemies: How do they think? Why do they act in certain ways? What are they planning?

Combat Profiling

Combat profiling is *not* FBI-style profiling; FBI-style profiling is reactive. Combat profiling also is *not* racial profiling. Combat profiling is not concerned with a person's race, sex, or skin color —it is about looking at their *behavioral* cues.

Mental File-Folders

Combat profiling requires personnel to develop mental file-folders of people and places. Once such file-folders exist, personnel can compare their current observations to their mental file-folders in order to identify anomalies from the baseline.

Developing Profiling File-Folders

Combat profiling requires personnel to know the baseline, context, and relevance of their area of operations. However, you do *not* need to memorize these facts from a book, instead you can use *sustained observation* and gather *tacit knowledge* to create your mental file-folders.

Explicit vs. Tacit Knowledge

Explicit knowledge can be written down, transmitted, and understood by others. Explicit knowledge includes ideas that can be easily be recorded and taught, such as facts and formulas. On the other hand, tacit knowledge is gained through hands-on experience and cannot be easily written down or transmitted. Tacit knowledge is valuable because it provides context for people, places, ideas, and experiences. Effective transfer of tacit knowledge generally requires extensive personal contact and trust.

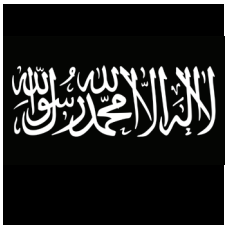
Characteristics of People Everywhere

Combat profiling works everywhere. That is because it involves learning the *process* of reading people. It is not based on memorization of specific tactics or cultural differences.

> When you go to Germany, do you have to learn the German laws of gravity? When you go to France, do you have learn French math? When you talk about the normal human body temperature, here, is it different when you get to Iraq or Afghanistan? No! People all have the same circadian rhythms. We get tired at night; we are alert in the morning; we eat basically three meals a day, We have all the same needs, all the same wants, and we respond to external simulation the same way.
>
> *—Greg Williams*

Culture is Context

The only difference among people is culture, which exerts some influence on combat profiling. *Culture is context*, and learning the culture and language of your area of operations is important.



The **Shahada** is the first Pillar of Islam. By itself the banner and the color scheme are benign, but if its colors change or the Shahada is linked to dangerous weapons, rhetoric, or inflammatory photos, then it can be a key indicator of danger.

Tactical cunning means thinking like the enemy: Looking at the world through their eyes, walking in their shoes, and having a day in their skin.

Motivation

The first step towards thinking like the enemy is to understand their motivation. Why are they radicalized? Why do they engage in radical action; why do they commit terrorism?

Ideology

An ideology is a person's world view; ideologies are the ideals, goals, and expectations that guide actions. For this training, an ideology contains three relevant parts: culture, politics, and religion. Each may motivate radical behavior.

Other Motivations

Each person may be drawn to radicalism by other individual or collective goals, including personal or political grievances, admiration for a charismatic leader (e.g., Osama bin Laden), or attraction to the money or status offered by a radical group.

Manifesto

A *manifesto* is a public declaration of an ideology. Radical groups promote themselves, in part, by glorifying their manifestos. *Root Causes of Terrorism* mentions "*sticky messages*," or simple, concrete, messages with emotional appeal and compelling storylines.

Iconography

Along with their manifesto, a radical group will use iconography , such as flags, shields, or logos; clothing; or tattoos. For example, radical Islamic terrorists may use the *Shahada* (the Islamic creed) written in white on a black background in their iconography.

Terrorist Groups

The next question concerns *how* the enemy operates. Terrorists and insurgents typically operate in cells and networks.

Terrorist Networks

A terrorist group is bolstered by a pyramid of supporters. The terrorists may be at the peak of the pyramid, but its base is comprised of radical sympathizers and supporters.

Recruitment

Terrorist groups recruit by shaping their ideological messages to suit the *demographic* and *psychographic* particulars of their audience. Recruits tend to share common psychographic—rather than demographic—characteristics. In other words, the "attitudes, ideas, reasoning, and physical experiences of individuals weigh more heavily in their ability to resist recruitment than do such factors as their age, profession, and gender."

- High level of dissatisfaction
- Cultural disillusionment
- Lack of an intrinsic religious or value system
- Some dysfunctionality in family system
- Some dependent personality tendencies (e.g., suggestibility)

"Not every criminal is a terrorist, but **all terrorists do criminal acts**. The difference is that the terrorist is going to do a criminal act for the good of their cell, for the good of their ideology, where the criminal is going to do it for him, for his personal gain."

—Greg Williams

"Criminals, terrorists, and insurgents, they hide in plain sight, do things right in front of you, and your brain is not geared to catch it."

—Greg Williams

Habitual Areas

Habitual areas are public locations where anyone can gather without reservation.

Anchor Points

Anchor points are locations that particular individuals or groups control and where they can, therefore, gather comfortably and frequent without reservation. Individuals outside of the permitted group/sect feel uncomfortable entering such areas. For example, gang members in Los Angeles may congregate at their neighborhood liquor store. This would be one of their anchor points.

Graffiti

Anchor points will exhibit graffiti, a stark lack of graffiti, or other signs to identify that a particular gang or sect "owns" that location. Personnel should always pay close attention to graffiti and take note whenever that graffiti changes or is painted over by a rival group.

Hiding in Plain Sight

Urban masking is used to hide in plain sight. Criminals, terrorists, and insurgents actively use urban masking to help camouflage themselves in the urban environment—attempting to blend into the baseline around them. For instance, a terrorist might hide an IED in car along the side of the road, and then put the car's hood up so that it appears to be broken down. It is also common practice, from Mexico to Afghanistan, to attempt to look like the "good guys," dressing in the uniforms of police, governmental military, or international forces.

While there is no universal model for terrorist operations, most effective terrorists execute the seven-step terrorist planning cycle.

01. Broad Target Selection

During this step, diverse sources provide the terrorist cell decision-maker with suggestions for potential targets.

02. Intelligence Gathering and Surveillance

Once a broad set of targets has been compiled, the terrorist organization begins gathering intelligence on each target, in order to identify the optimal one. This process may take just few days, or it may require several years.

03. Specific Target Selection

Using the intelligence gathered in step 2, the terrorist organization will next select a specific target based upon:

- What impacts will be felt, beyond the immediate victims
- Whether significant media attention will be garnered
- Whether it sends a statement to the target audience
- Whether its impact is consistent with group objectives
- Whether it demonstrates the group's capabilities
- Whether it offers a good cost-to-benefit ratio

04. Attack Surveillance and Planning

Next, the terrorist group gathers specific information on the target's patterns, from a short-term perspective. This includes:

- Studying the target's security
- Detailing preparatory operations
- Identifying necessary special operatives (if needed)
- Selecting a target area base of operations
- Identifying escape routes
- Identifying necessary weapons

Often, terrorist operations try to avoid targets of strength **(HARD TARGETS)** and instead select targets that have minimal defensive capabilities **(SOFT TARGETS)**

Criminals and terrorists often attack **TARGETS OF OPPORTUNITY**, These are soft targets that are "in the wrong place, at the wrong time"

05. Rehearsal

The terrorists conduct rehearsals in order to improve their odds of success, test their plan, and explore alternative strategies. The rehearsals may also test the security responses of their target.

06. Actions on the Objective

Actions on the objective are carried out. This is the actual terrorist attack.

07. Escape and Exploitation

Step 7 involves escape (if the attack was not planned as a suicide attack) and, importantly, exploitation. The psychological impact on the target population far exceeds any military value of the target.

Second- and Third-Order Effects

A primary effect (or first-order) is the immediate impact of an action. A *second-order effect* is the reaction to a first-order effect, and a *third-order effect* is the response to a second-order effect.

Dangerous Adversaries

- Al-Qaeda ("The Base")
- La Eme (Mexican Mafia)
- Gulf Cartel (Cártel del Golfo)
- Hamas ("Islamic Resistance Movement")
- Hezbollah ("Party of God")
- Juárez Cartel (Cártel de Juárez)
- Michoacan Cartel (La Familia Michoacana)
- MS13 (Mara Salvatrucha)
- Taliban ("Students")
- Tamil Tigers (LTTE)

"Terrorism's effects are not necessarily aimed at the victims of terrorist violence. ...Victims are simply the first medium that transmits the psychological impact to the larger target audience."

—Military Guide to Terrorism

5

This unit introduces the **six domains of profiling**, which can help you interpret the cues you observe from people and their environments.

Biometrics

The biometrics domain involves interpretation of the autonomic physiological reactions that all humans naturally display. Biometric cues are impossible to hide, cannot be faked, and are not culturally dependent. Biometric cues are particularly useful in interrogation and questioning situations.

Sample Biometric Cues

Blushing

Blushing occurs when a person's skin colors red as a result of an emotional response, such as embarrassment or shame.

Flushing

Flushing is more pronounced than blushing and generally covers a greater body area. It is caused by the release of different hormones, such as *histamines*. Drinking alcohol, becoming sexually aroused, or abruptly ceasing physical activity can trigger flushing. Anger can also cause flushing.

Flared Nostrils, Showing Lower Teeth

Flaring nostrils or showing lower teeth often indicate anger and aggression.

Paleness

The addition or absence of *adrenaline* can also cause a person to turn pale. This can be caused by emotional shock, stress, or stimulant use.

Pupil Dilation

Pupil dilation refers to the size of the pupil, or black-part, of the eye. Pupils enlarge in response to low-light conditions, drug use, or interest (including sexual attraction). When someone sees something (or someone) to which they are attracted, his/her pupil enlarges. Slow dilation may also indicate drug use.

Sweating

Excessive sweating, sweat stains, or clammy skin can indicate nervousness or nausea. Suicide bombers often exhibit excessive sweating.

Thermal Signature

Each person has a natural heat signature. When a person's body temperature rises, either from physical exertion or emotion (anger, arousal), his/her heat signature will change. This change can be seen through thermals, or if personnel are physically close, the heat can be directly felt.

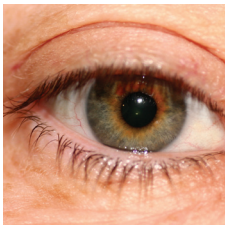
Nystagmus

Involuntary eye movement, or *nystagmus*, is typically caused by ingestion of alcohol or drugs.

Bloodshot Eyes

Vasodilation of the eye, or bloodshot eyes, occurs when the blood vessel in the eye dilate. Drinking alcohol or ingesting certain drugs can cause bloodshot eyes.

PUPIL



SHOWING TEETH

BLACK EYE

Bruising or Broken Capillaries

Physical trauma can leave telltale signs. For instance, the recoil of a weapon may leave a mark on a person's shoulder or eye, or the straps that attach drug bundles to smugglers' backs may dig-in to their shoulders, leaving marks.

Biometric Cues and Urban Masking

Often, individuals will employ urban masking to cover their biometric cues. For instance, marijuana users may employ eye-drops to disguise their bloodshot eyes.

Kinesics

A small set of kinesic cues is culturally dependent; you will have to learn the unique kinesic cues for your operational environment

People give and read thousands of nonverbal messages everyday, and people react emotionally to nonverbal messages without consciously understanding them. *Kinesics* is the interpretation of these nonverbal cues, which include body language, gestures, facial expressions, grooming habits, and positioning of the body in space. Kinesic cues may be learned, innate, or a mixture of the two. For instance, learned kinesics include eye-winks and thumbs-up signs; whereas, blinking and fist-balling are innate kinesics

Sample Kinesic Cues

Kinesics

Telling the Truth

When people slap the front of their heads, this often indicates a person is genuinely recalling information; similarly, when individuals look up or horizontally to the left or right when remembering, this often indicates that they are recalling real facts. Individuals who look up, tend to focus on visual recall, while those who look horizontally left or right focus on auditory recall.

Attempting to Deceive

Individuals attempting to deceive may scratch their heads or rub the backs of the heads. These behaviors are caused by sweat emerging on a person's scalp (from anxiousness, as discussed in the biometrics module) or the feeling that his/her hair is standing-on-end (also a biometric reaction to lying).

Closing one's eyes indicates that a person wants to (metaphorically) forget or ignore the topic of discussion or object in front of them. For instance, a person who is lying may close his/her eyes and even cover them with a hand, to "hide" from the person he/she is deceiving. Individuals may often cover their mouth when lying, hiding the lie.

Nervousness

Wringing hands or rubbing palms together slowly may signify nefarious intent or nervous energy, while rubbing palms together vigorously may signify anticipation of a successful outcome.

Power and Authority

Placing hands on one's hips ("pointing" at one's genitals) indicates a sense of power. In contrast, when someone feels threatened, they tend to hide their genitals.

Attention

The direction a person's toes points indicates where that individual is focusing his/her attention. If the toes point toward another person, this indicates the individual is paying attention to his/her companion; whereas, if the toes point towards the door, then he/she is ready to leave. Kinesics also includes facial expressions:

RUBBING EYES

DOWN EYEBROWS

TRUE SMILE

FAKE SMILE

Smiles

Genuine smiles are uneven; only "fake" smiles are symmetrical. Genuine smiles are also accompanied by wrinkling throughout the face and around the eyes.

Pregnant Pauses

If someone pauses before answering, particularly simple or straightforward questions, this may indicate that he/she is lying (and attempting to craft the lie). Along the same lines, liars may repeat the question or use other delaying tactics to give themselves time to craft a lie.

Unnecessary Detail

Individuals may provide unnecessary detail in response to a question. This also may indicate a person is trying to craft a lie and make it sound believable through detail.

Proxemics

Proxemics

Proxemics involve the interpretations of spatial relationships within the context of cultural norms, tactical considerations, and psycho-social factors.

Proxemic Push/Pull

Proxemic push occurs when a person or group uses body language to create distance to another person. In contrast, a *proxemic pull* occurs when people use body language to invite others toward them. For instance, slightly turning one's back on another creates a proxemic push.

Identifying Leaders

Direction

Leaders may give overt direction, but they also communicate direction more discretely. For instance, a leader may use the practice of "once removed," where they only give orders directly to their deputy, who then interacts with others.

Entourage

An *entourage* is one or more people following (i.e., in a beta position to) another person. An entourage will show subordination or submissive behavior to the leader; for instance, an entourage member may glance over at the leader to visually confirm that his/her actions are appropriate (e.g., looking for a slight nod).

Mimicry

Mimicry occurs when a group or individual mirrors the actions of another. For instance, imagine two people are chatting and the first crosses his legs and leans forward, if the second man is positively engaged in the conversation, he will mimic this cue. That is, he will also cross his legs and lean forward. Mimicry occurs when people are in agreement or engaged with one another; subordinates will mimic their leaders.

Adoration

Adoration is the outward sign of affection towards an individual by another individual or group. Adoration cues may be positive or negative (i.e., an outward lack of adoration). Subordinates will generally show positive adoration towards their leaders; example cues include, slightly bowing one's head when greeting a leader, standing when a leader arrives, or opening a door for a leader.

Average Distances

Intimate – Embracing, touching, whispering: About 0-18 inches

Personal – Among close friends or family: About 2–4 feet

Social – Among acquaintances: About 5–12 feet

Public – Interaction for public speaking: About 12–25 feet or more

These spatial relationships are affected by cultural differences

MIMICRY

Reciprocation

Personnel who wish to build trust and rapport with another person, must reciprocate proxemic cues appropriately. For instance, in the Middle East, a village representative may greet warfighters by hugging and kissing them. If a warfighter fails to appropriately reciprocate the gesture, and instead displays discomfort and unease, the village representative will *lose face*. In other words, he will have been publicly embarrassed.

Geographics

Geographics is the study of the physical terrain (both natural and man-made), and the interpretation of the relationship between people and their physical surroundings.

Anchor Points and Habitual Areas

These concepts relate to the geographics domain. Remember, habitual areas are public gathering spots that anyone can enter; in contrast, anchor points are "owned" by a particular group or organization, and only affiliates of that clique are permitted to freely enter. Anchor points are inherently restrictive, and they often have overtly controlled entries and exits.

Micro Anchor Points

Some locations may include both habitual areas and anchor points. For instance, a mosque may be a habitual area where everyone from a village worships, but its back rooms may be used by insurgents to plan terrorist attacks, making those rooms an anchor point for the terrorist cell. Houses, and even cars, may contain personal anchor points.

Familiarity

How individuals interact with the natural and man-made terrain around them can indicate their level of familiarity with the location. People familiar with an area will act, walk, and drive differently.

CHANNELING

Comfort

When in an unfamiliar area, people are attracted to places that remind them of their anchor points. For instance, criminals often commit crimes (or stash evidence) in areas similar to the type of region in which they current live or in which they were raised.

MICRO ANCHOR POINT

Natural Lines of Drift

Natural lines of drift are pathways used by people who are familiar with that area. Natural lines of drift are comfortable pathways; that is, they are predicable, routine, or habitually used paths. Natural lines of drift always follow paths of least resistance. In other words, they are shortcuts, and they generally connect habitual areas and/or anchor points to one another.

NATURAL LINE OF DRIFT

Channel

Channels funnel or guide the movement of people. Channels may be created intentionally, such as by a mall owner attempting to guide the flow of pedestrians, or unintentionally, such by the natural formation of a landscape. Adversaries may use debris and obstacles to create channels; these pathways then guide the flow of traffic (such as military convoys) in specific directions (such as towards a buried IED).

Geographic Profiles

Certain activities require certain landscapes. For instance, a helicopter can only land on flat terrain and not all locations make suitable observation points. Similarly, people may be drawn to certain geographic profiles. For instance, if an IED-placer has been successful using a certain type of terrain, then he is likely to continue planing IEDs in similar types of locations.

Atmospherics

Atmospheric cues are context-dependent

Atmospherics describes the interpretation of the environmental mood. This includes how a place looks, sounds, tastes, feels, and smells. Every baseline has an atmosphere, as does every vehicle, crowd, or event. Changes in the atmosphere may be subtle pre-event indicators.

Atmospheric Shift

Atmospheric cues may appear spontaneously, often in response to the presence of warfighters or law enforcement personnel. These sudden changes are called *atmospheric shifts*, and such anomalies generally indicate danger. The most obvious cues are the sudden absence of normal routines, patterns, and attitudes of the local populace or the presence of abnormal activity. Examples include:

- Observers suddenly emerge, e.g., on rooftops
- Unusual absence of pedestrian traffic
- Stores or street vendors close suddenly
- Unfamiliar vehicles or groups in an area
- Civilian workers fail to appear at the base
- People suddenly engage in private activities in public places

Graffiti

As previously discussed graffiti (or a stark lack of graffiti) can be a powerful indicator. Graffiti is often used as a "signpost" for either public or private communication. Rivals may cross-out or marked-over each others' graffiti. Marking over someone else's graffiti may indicate a threat, a claim to territory, or a statement of superiority.

PUBLIC GANG GRAFFITI

PRIVATE GRAFFITI

Trash and Rubble

Like graffiti, trash, rubble, or other debris may fill a dangerous area. Not only can such "*rubble-ing*" camouflage people, paths, or activities (urban masking), but it can also create channels.

RUBBLE-ING

Suspicious Items

Personnel must also watch for generally suspicious items. For instance, in Afghanistan many roadside "gas station" shanties can be found. These places sell fuel oil, fertilizer, and antifreeze to law-abiding citizens; however, these items can be used to make IEDs. Alone, they do not indicate danger, but when stocked in unusual quantities or when they are the sole inventory of a store, then they may signal danger.

STORE SELLING FUEL

Atmospherics to Watch

When entering any area, ask yourself the following atmospherics questions:

- Does it look or feel or smell a certain way?
- Is it better or worse than earlier?
- Do people fit the scenario?
- Are the people aware of danger?
- Is visible rubble, trash, or graffiti present
- Is visible security present, such as motion lights, window bars, video cameras, or concertina wire?

Icons and Symbols

Atmospheric cues may include special icons or symbols

Most cultures, including criminal and insurgent sects, use icons, color, or other symbols to convey meaning.

Color Significance

Most cultures attach some degree of symbolic meaning to different colors. Islamic societies have shared concepts of color and a long history of using color for symbolic meanings.

- **Green:** Color of Islam
- **Yellow:** Promise of heaven, piety
- **Blue:** Promise of water
- **Black:** Color of martyrdom and murder
- **White**: Color of purity
- **Red:** Color of sacrifice

White on Black: Radicals use white-on-black to imply "through martyrdom, we achieve purity." This is a dangerous color combination and should be considered an anomaly.

Tattoos

Body art, tattoos, or "patches" may display significant meanings. Gangs often use tattoos to signify allegiance.

Southwest/Mexican Gangs

Mexican gangs often wear the eagle from the Mexican flag. Specific gangs use additional identifiers. *Mara Salvatrucha* members wear "M.S." or "13" (because 'M' is the thirteenth letter of the alphabet). The *Border Brothers* use an Aztec warrior face or the number "22" (which stands for "BB").

White Supremacist Groups

Supremacist groups often wear Celtic runes or symbols, as well as neo-Nazi icons, including the "SS" and swastika. Supremacist organizations use letters or numbers, such as 88 (because 'H' is the 8th letter of the alphabet, "HH" stand for Heil Hitler), 311 (because 'K' is the 11th letter of the alphabet and 'K' three times becomes "KKK"), or 23 (because 'W' is the 23rd letter and means white supremacy).

MS13 GANG TATTOO

Prison Tattoos

Other tattoos imply the wearer served prison time; for instance, inmates may have a spider web tattooed on their arm or elbow or a teardrop inked onto their face.

MEXICAN MAFIA ICON

Clothing

Other visible markers, such as jewelry, clothing, or make-up, may signify allegiance to a particular group or ideology. For instance, Islamic men's headgear may suggest their tribe or station. A Shi'a wearing a black turban, for example, is likely well educated, while a Muslim wearing a green turban is proclaiming is he is an elder (that is, a *Hajji*) who has completed the *Hajj* (or pilgrimage to Mecca).

SIGN OF ISLAM

Hand Symbols

Hand symbols may have symbolic meanings, too. Holding up an index finger (the "one" sign) is the "Sign of Islam" in the Middle East; however, it may be used by insurgents to signal their commitment to do violence for Allah.

AFGHAN FACE TATTOO

Flags

Flags and other national or organization banners typically contain much symbolic meaning.

Middle Eastern Flags

Note the use of symbolic colors on the Middle Eastern flags. The flag of Pakistan is green and white with the star-and-crescent of Islam; this suggests that the country seeks to follow the Islamic tenets through seeking purity. In contrast, the flag of Afghanistan uses the colors black, red, and green. These suggest that the country seeks to follow the tenets of Islam, but through violence and martyrdom.

Heuristics

If it walks like a duck, talks like a duck, and lays eggs like a duck, then it's a duck—unless it's a platypus

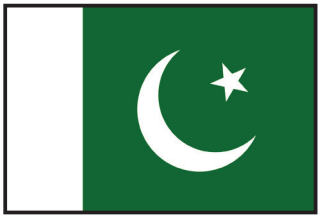
Heuristics are rules-of-thumb or *tactical shortcuts*. The brain uses heuristics to find "close enough" matches. Whenever someone says "she reminds me of _____" or "it looks like a _____," that is a heuristic match.

Danger of Heuristics

A heuristic match occurs whenever some stimulus triggers a mental file-folder; that is, whenever personnel think, "Oh, I've seen that before; I know what's going on." The danger is that criminals and terrorists will try to use heuristics to their advantage; they use heuristics to try to hide in plain sight. For instance, an insurgent may place an IED in a car along the side of the road, and then make that car appear to be broken down (e.g., raising the hood). The IED trigger man may be standing nearby, looking annoyed and appearing to talk on his cell phone. This scene appears to be an average broken down vehicle, so personnel may ignore it.

SYRIA

PAKISTAN



IRAQ

AFGHANISTAN

6 Micro-Tracking

Tracking is **the art of reading the physical environment** to identify evidence a person has left behind. It enables personnel to develop a better intelligence picture in regard to an enemy's size, activities, location, composition, equipment, and intent.

"Tracks are clues, the most clues a perpetrator will leave behind. One every thirty inches or so and as conclusive as fingerprints."

—Sherlock Holmes

Combat Tracking

Tracking teams are most often employed to:

- Follow the tracks of armed aggressors,
- Discover tracks through reconnaissance
- Place pressure on aggressors, drive them into ambushes and prepared positions,
- Locate and interpret tracks left by the enemy
- Ascertain the direction of flight of an enemy
- Calculate strengths of aggressor patrols
- Maintain contact with a fleeing enemy, and
- Help recon and sniper teams move in and out of denied or hostile territory without leaving footprints or other evidence

Combat-tracking steps usually include:

- Establish the track
- Interpret and follow the track
- Gain intelligence (LiNDATA)
- Operate without leaving visible track
- Encounter and react to enemy contact

LiNDATA SitRep (Situation Report)

- **Location:** Initial Commencement Point
- **Number:** Quantity of people to be tracked
- **Direction:** Initial direction of flight
- **Age:** Age of the tracks (time/distance gap)
- **Type:** Type of footwear patterns
- **Additional:** Any additional relevant information ("should have") that ought to be collected, such as distinguishing features about the quarry, physical descriptions, and eye-witness reports. Also, if possible, the tracking team should learn about the history of an area (e.g., families/tribes, local religious sects) and the typical tactics used by the enemy (e.g., use of anti/counter-tracking, enemy habits, and preferences).

Tracking Indicators

When a person passes over a piece of ground, his/her passage is marked by three types of indicators: ground spoor, aerial spoor, and sign.

Ground Spoor

Ground spoor consists of any mark or indication left on the ground by footwear, body parts, or equipment. Ground spoor is defined by any of the five following characteristics:

- Regularity
- Flattening
- Transference
- Color Change
- Disturbance

Similarly, a track line is identified by its:

- Outline
- Shape
- Color
- Texture
- Shine
- Rhythm

Ground Spoor Features

REGULARITY
Man-made patterns, such as prints with a uniform tread

FLATTENING
Marks left on the ground by the weight of a foot, etc.

TRANSFERENCE
Dirt/vegetation carried from its natural location

COLOR CHANGE
Subtle color changes caused by ground disturbance

DISTURBANCE
Ground that has been moved from its natural state

Track Line Features

OUTLINE
The are outer edges of the track

SHAPE
The recognizable form of something man-made

COLOR
The disturbance of the area causing color change

TEXTURE
Disruption of the natural texture by the quarry

SHINE
Disturbing the ground causes light to reflect differently

RHYTHM
Nature has its own rhythm, but usually without regularity; regular spacing is man-made

Aerial Spoor

Aerial spoor is damage or disturbance to the vegetation, from foot to head height, such as crushed or bent grass, crushed or bruised leaves, or twisted vegetation or vines. Aerial spoor is a form of *substantiating evidence*; it should always be confirmed by identifying nearby *conclusive evidence*.

Sign

Sign includes a whole group of indicators that are not part of ground or aerial spoor, such as broken cobwebs, disturbed insects nests, or water splashes and deposits. It also includes:

- Litter
- Body Waste
- Blood Spoor
- IED Indicators

Non-Visible Indicators

Non-visible indicators include noises, smells, and so on. For instance, sweat, bug spray, or rifle oil can be smelled from several yards away, and cigarette smoke and cooking odors can be smelled for up to a thousand yards away.

Noise (or lack of noise) may indicate the presence of the quarry. Talking, whistling, metallic sounds, and chopping can be heard at great distances and can give early warning to the tracker that the quarry is near. On the other hand, insects ceasing to chirp or buzz, or sudden silences in a rural environment, may also indicate the presence of the quarry.

FLATS

Shoes that have a flat, or nearly flat, sole pattern across the length of the print

ATHLETIC SHOES

Sneakers, tennis shoes, and other sports shoes

HEALS

Shoes that have a distinct, separate heel

CLEATS/LUGS

Work boots, like Vibrams, have distinct cleats, lugs, and/or grippers

Place the **tracks between the tracker and the sun** to maximize the tracker's ability to see the shadow formed by the spoor

Try to keep your light source at a

45° angle

to the tracks

Light and Shadow

Light and shadow determine the visibility of ground spoor. The lower the light source is in relation to the ground, the more shadow will be created by the track. The best time to spot tracks is in the early morning or late afternoon light, when the sun is at a 45˚ angle to the tracks. Spoor is most difficult to follow when the sun is at its peak, shining straight down on the tracks and throwing little or no shadow.

Reading Footprints

Each footprint displays a set of indicators, and from these a skilled tracker can interpret the actions of the quarry. Footprint features:

- Primary impact point (PIP)
- Foot roll
- Heel strike
- Pre-terminal point (PTP)
- Terminal point

Footwear Types

Footprint patterns are cataloged as western, heels, flats, cleats/lugs, and barefoot. Each set of prints should be given a nickname, to facilitate discussion and make continued identification easier.

Characteristics of Human Pace

It is possible to interpret what activity has taken place, based upon interpreting human pace:

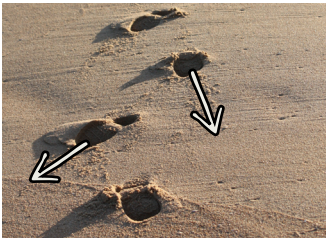
- Stride
- Straddle
- Dwell Time
- Pitch Angle
- Pressure
- Rhythm & Balance

PRIMARY IMPACT POINT
First part of the foot to strike the ground (doesn't have to be the heel)

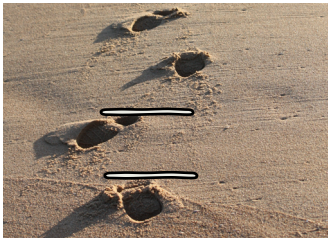
HEEL STRIKE
Strong indentation left by the heel

FOOT ROLL
Sole of the foot rolling through its length from, rear to front

TERMINAL POINT
Last part of the foot to leave the ground (doesn't have to be the toe)



PITCH ANGLE
Angle the foot "pitches out" from the line of travel



STRIDE
Distance from one heel to the other heel

STRADDLE
Distance between the two feet at their closest points

RHYTHM
The measured regularity of footprints

An adult's average **STRIDE** spans about **30 INCHES**

Estimating Height

Height of a person can be estimated by measuring the length of his/her footprint in inches, then dividing this value by 2. This result is roughly the height of the quarry in feet.

Determining Speed

Sprinting quarry will leave tracks primarily made by the balls of his/her feet. They will be widely spaced and contain little, if any heel, impressions. *Fast moving* quarry will leave widely spaced, deeply imprinted tracks. There will be a more distinct heel impression and normally a scrape mark near the toe as it leaves the ground. Quarry moving *slowly and deliberately* will leave tracks that are evenly spaced and of uniform depth. The primary impact point and terminal impact point will be almost identical. Finally, the tracks of quarry moving *very slowly* will be close together and evenly spaced.

Action Indicator

Whenever the tracks change, that is an action indicator. Action indicators suggest that the quarry is engaging in a new activity, and any such change in behavior is worth considering, assessing to determine whether it has tactical relevance, and if relevant, communicating to the command element.

Counting Quarry

If you are tracking fewer than 6 people, then the use the direct count method. If you are 7–15 people, use the average pace method. If you are tracking more than 15 people, use the comparison method.

Direct Count Method

Count each quarry's individual footprints. Draw a line behind the heel of an easily recognizable print. This print becomes the *key print.* Draw another line behind the opposite foot of the key print; then count each print between the lines (including the key print).

Average Pace Method

To use the average pace method, first determine a key print and then draw a line behind it. Draw another line at the heel of the next opposite foot, therefore measuring two stride lengths. Count all of the prints between the lines and divide by two to determine the number of quarry.

Comparison Method

For the comparison method, the team walks alongside an unknown number of tracks in multiple passes (while counting each pass) until the known and unknown tracks have a similar appearance.

Aging Spoor

The age of the spoor is typically stated in two-hour increments. As a general rule, it is better to overstate the age of the spoor rather than to understate it. The best way to learn how to assess the age of the spoor is by constant practice, but even experienced trackers can be wrong. Natural factors that can age spoor include:

- Weather
- Animals
- Plants
- Sunlight (UV)
- Insect activity
- Oxidation
- Sap secretion
- Moisture loss

7

Military and law enforcement personnel never work in isolation. Their operations are conducted as part of larger and wider missions. Small units, therefore, play a key roll in the **operational intelligence cycle**.

"THE OLD SAYING 'information is power' is no longer true, in the 21st Century, '**shared information is power**.' How units organize their people, processes, and systems dictates the level of productivity on the battlefield of the 21st Century."

—*Exploitation Tactics* (page 19)

Five Phase Intelligence Cycle

Collection

During the collection phase, personnel collect information and communicate it (correctly and completely) to the command element.

Processing and Exploitation

As soon as information is communicated to a command element it enters the processing and exploitation phase, where it begins transformation from "information" into "intelligence." Information describes the raw observations collected, whereas intelligence is the product that can be gleaned from interpretation and application of information.

Production

After initial information is processed it enters the production phase, where the significance of the intelligence is established and its implications determined. In this phase, intelligence is combined with data from additional sources, including other sources, and an operational picture begins to develop.

Dissemination

In the dissemination phase command elements communicate it, as needed. You should be proactive during this phase—**request the information you need for each operation**. Just as you are responsible for getting your equipment for a mission, you are equally responsible for procuring the necessary intelligence.

Planning and Direction

Intelligence in the planning and direction phase may be high-level (and managed by upper-level government agencies), or it may be low-level and disseminated back to tactical teams.

Intelligence Collection

In addition to honing your own observation skills, strive to create a *common tactical picture*, with your team and chain of command.

Step 1 – Establish a Baseline

Establish a common baseline of the environment. Discuss the baseline and create a common tactical picture with your team. Be alert for anomalies that rise-above or fall-below the baseline, and look for template matches of specific items or people of interest.

- Take photographs and make sketches of the people and key areas in your area.
- Remember, each person's primitive brain will attempt to make order from chaos, usually through denial; you must train yourself to actively lo*ok* for important cues.

Step 2 – Actively Seek Anomalies

Actively hunt for anomalies. Constantly measure everything against the baseline. Discuss the baseline, potential anomalies, and your operational narrative with your team.

- Investigate every anomaly; err on the side of action.
- Upon entering a sensitive site (such as a suspect's home) immediately collect, evaluate, prioritize, and disseminate the information of immediate/potential tactical value.
- Collect immediate and long-term human intelligence (HUMINT) from civilians in your operational area.

Some types of Information to look for and communicate

ANOMALIES
When radio traffic is low, verified anomalies should be communicated

KEY LOCATIONS
Key places, including habitual areas and anchor points should be identified

KEY PEOPLE
Key individuals and, if appropriate, suspicious people in an area should be identified

Step 3 – Decide

Once three anomalies (or one major anomaly) have been identified, a decision must be made: Kill, capture, or contact. Remember, each decision must be legal, moral, and ethical; it must follow the Rules of Engagement (ROE) and procedures for Escalation of Force (EOF).

Step 4 – Communicate

Communicate decisions within the team and to command elements.

- Distinguish between raw information and personal analyses.
- Be prepared to articulate the decision and its rationale ("prove it").
- Use effective and efficient communication.
- Have a pre-established communication plan for the teams operating in an area.

Tactical Operations Center

A TOC is a unit's command-and-control hub. TOCs are the primary drivers of the intelligence cycle: receiving, analyzing, integrating, and distributing information across distributed teams.

Charts and Visual Displays

The most effective TOCs make ample use of visual displays, such as map boards and charts. Before developing charts, consider the following:

- Determine what to track and display
- Avoid information and chart overload
- Build a box to store and transport charts
- Keep duplicate versions in a notebook
- Use charts in garrison to train personnel

Recommended TOC Techniques

Identify and prioritize critical information to be tracked, and develop a system to track this information; e.g., charts, a butcher board.

Develop a process for tracking friendly, enemy, and civilian groups; habitual areas; and anchor points; e.g., color-coded cellophane stickers, color-coded thumb tacks, colored dot-type stickers

Keep the noise level in the TOC to an absolute minimum, and don't let the entering of messages into a journal create a backlog in the information management system. If time does not facilitate updating the journal, then keep updates in a folder and record them later.

Periodically Ask Yourself

What do I know?

Who needs to know?

Have I told them?

Communicating Intel

While in the field, you can help (or hinder) operations by effectively (or ineffectively) communicating with the TOC and lateral teams. Make sure you communicate information that:

- Is timely for its priority level
- Is meaningful—not just descriptive
- Uses proper vocabulary

What do I know?

You can save the TOC time and effort by triaging and prioritizing the information you pass. Pass information on:

- Anomalies
- Key Locations
- Key People

Also, distinguish between information and analysis. Information is the raw data collected in the field, and analysis is the interpretation of that information. You should communicate both—just make sure to clearly distinguish between them.

Who needs to know?

In most cases, information should be transmitted directly to the TOC, but sometimes you may need to communicate directly with another team. Ask yourself "who needs to know," and then make sure they do.

Have I told them?

You should have a defined communications schedule, but you should also instigate communication when your team identifies important information or a significant anomaly.

Secure Communications

Always maintain operational security during communications. No mission, location, or unit information should ever be revealed over a radio. Use code words, if necessary.

Nicknames and Vocabulary

Efficient communication relies upon using clear, common vocabulary. Personnel should use the CODIAC terms to improve the precision of related communications. In addition, use common nicknames for people, places, or objects. Nicknames help teams to succinctly and securely communicate a mission.

Painting a Picture for the TOC

Remember, the TOC is "blind." TOC personnel cannot directly perceive the operational environment; hence, phrases like "he went that way" or "she ran to the left" are useless (and frustrating) to TOC staff.

"The constellation of overhead systems and other national technical means is good at finding the hard facts like locations, numbers, and technical data. But those kinds of data are more difficult to discern or less important in an irregular conflict...What is required is human intelligence that can develop the micro-climate of the conflict and its military aspects."

—Jeffrey B. White

8

If tracking is the art of reading spoor and sign, then combat tracking is reading spoor and sign—that is, **conducting a follow-up**—while in a dangerous, kinetic environment.

Combat Tracking Team

Combat tracking is a team effort. The five-man team provides mutual security, extra eyes, and minimizes fatigue.

Tracker

The tracker is responsible for following the spoor and keeping the team leader aware of any intelligence he/she determines from the spoor.

Macro-Tracking

> "Tracking by committee is the worst that can happen: Let the tracker do his job and everyone else do theirs."
>
> *—David Scott-Donelan*

Team Leader

The team leader is responsible for the tracking team. He/she makes the decisions regarding the tracking operation, tactical decisions, navigation, communications, security and the conduct of the team. The team leader is the only position that does not rotate through the course of the tracking operation.

Ten Rules of Combat Tracking

01. Correctly identify the tracks you wish to follow.
02. Mark and record map coordinates of the start point which is called the Initial Commencement Point (ICP).
03. Never walk on top of ground spoor.
04. Never overshoot the Last Known Spoor (LKS).
05. When following aerial spoor, always check for confirmable evidence.
06. Always know exactly where you are.
07. Always keep in visual contact with other team members.
08. Always try to anticipate what your quarry will do.
09. The tracker sets the pace of the follow-up.
10. Never "force" a track to conform with your own preconceptions.

Two Flank Trackers

The two flank trackers are primarily responsible for protecting the team from ambush. Flank trackers should continually scan the terrain ahead, looking for any indication of a hostile force. In addition, they can be instrumental in lost spoor procedures, reconnaissance, and tactical recommendations.

Rear Security Tracker

The rear security tracker is responsible for a variety of tasks as needed by the team leader. Based upon the tactical situation he/she can be required to operate equipment (such as GPS or radio) provide rear security, forward reconnaissance, backup tracker, lost spoor support, or any other duty required by the team leader.

Maintaining Team Security

To minimize the chances of being seen or heard prematurely, combat tracking teams must maintain high standards of tactical movement, camouflage, and noise discipline.

Running on Spoor

You may be inclined to run on the track line in order to close the time/distance gap, but remember, your team control is inversely proportional to your speed.

Tactical Movement

Appropriate tactical formations are important. In most cases, the terrain will dictate the type of formation a tracking team adopts. Other factors affecting the choice of team formation include:

- Visibility through the vegetation
- Terrain and ground conditions
- The time/distance gap
- Prevailing or oncoming weather
- The tactical situation

Team Formations

Y Formation

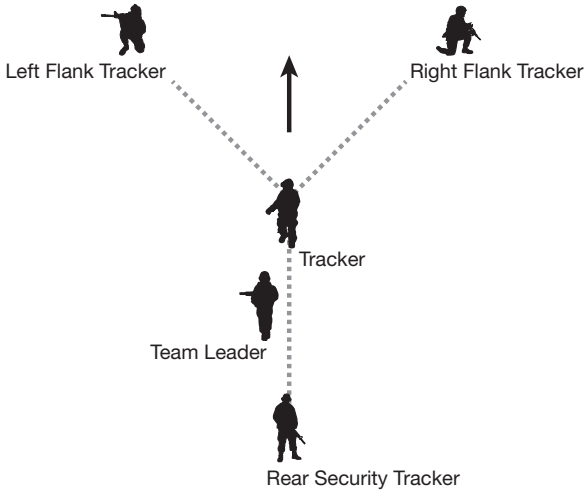
The Y formation is the standard tactical tracking team formation. It provides tactical and tracking flexibility. It allows the flank trackers to observe the terrain to their front and sides, looking for any signs of hostile forces, ambush, or spoor; plus, if the track veers off to the side, one of the flank trackers will often identify the new track before the tracker.

Half Y Formation

The half Y formation is used in place of the Y formation when the quarry's trail runs alongside an obstacle. The flank tracker on the side of the obstacle moves back behind the tracker or team leader, but continues to scan to that flank.

Single/Ranger File

The single file formation (sometimes called ranger file) is used in thick vegetation and other areas of limited visibility. It is imperative that even in limited visibility the team remains in visible contact at all times.



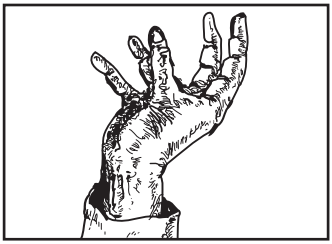
Y FORMATION

Extended Line

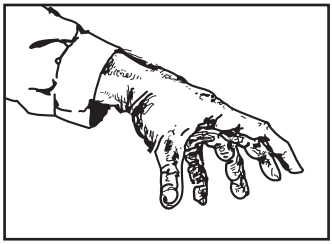
The extended line formation is used in wide open areas with little or no danger of ambush. The tracker is again positioned on the spoor. The team leader and rear security stand on each side about 20 feet away; the flank trackers stand on the far ends of the line another 20 feet away.

Camouflage

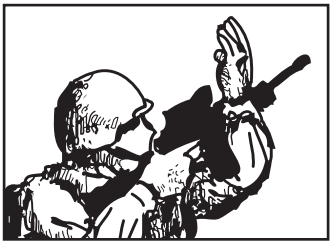
Camouflage plays an integral role in the combat tracking team, both to conceal the team and to increase the team's awareness of the terrain around them. Team members should be appropriately camouflaged to the terrain type.



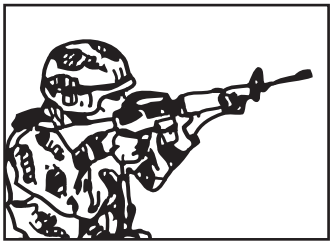
I'VE LOST THE SPOOR



I'VE FOUND THE SPOOR

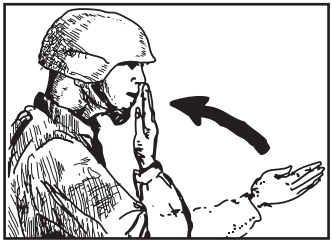


I'M SCANNING WITH MY WEAPON-MOUNTED SCOPE



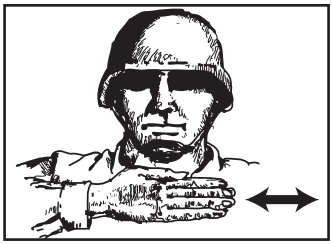
I'VE SPOTTED THE QUARRY

OBSTACLE AHEAD



COME TALK TO ME

TAKE IT (YOU FOLLOW THE TRACK LINE)

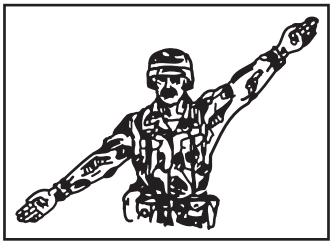


DANGER AHEAD

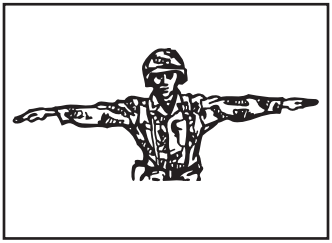
MOVE OUT

OPEN RADIOS

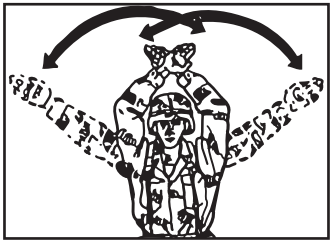
Y FORMATION



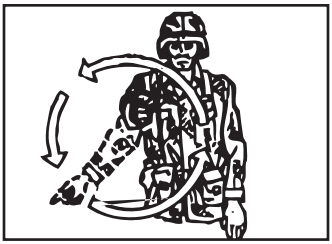
HALF Y FORMATION



EXTEND INTO A LINE



LSP: COMMENCE CROSS-OVER



LSP: COMMENCE 360

LSP: BITTERMAN TECHNIQUE

"TWO THINGS ARE A 'GIVEN' in tracking armed and dangerous humans, whether they are fugitives from justice, insurgents or enemy soldiers. The first is the absolute necessity to close the time and distance gap and the second that the spoor, despite all efforts to the contrary, will be lost at times."

—David Scott-Donelan

Noise Discipline

A combat tracking team must practice noise discipline. While tracking quarry, hand signals should be the primary form of communication between team members.

Lost Spoor Procedures (LSPs)

It is very common for trackers to lose the spoor at some point during a track. When executed properly lost spoor procedures will relocate the spoor 90% of the time.

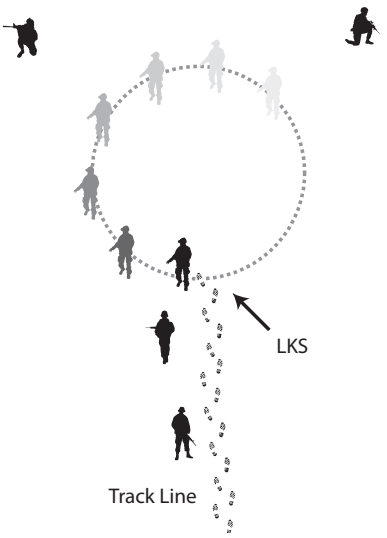
Quick Scan

Before signaling that the spoor has been lost, stop and carefully scan the terrain in a 240° arc.

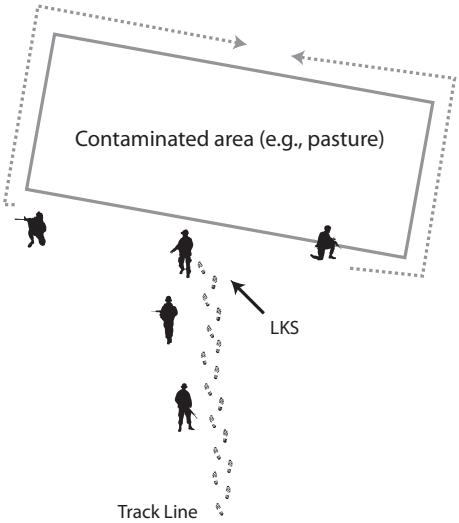
Formal LSPs

If the quick scan fails, alert the team with the "lost spoor" hand signal, mark the last known spoor (LKS), and initiate a LSP.

- **Likely Lines:** The tracker searches ahead for the most likely path the quarry took.
- **Tracker 360:** The tracker moves to a spot about 20 yards behind the LKS and walks in a circle around (it but within the protection of the flank trackers, at least at first).
- **Flanker 360:** Depending on the security situation, the flank trackers can conduct interlocking 360° searches out ahead of the tracking team.
- **Box Search:** The team finds natural or artificial lines, such as roads or rivers, that surround the area where the spoor was lost. Then the team searches around the perimeter of where the tracks were lost.



TRACKER 360 LSP



BOX SEARCH LSP

Although it may seem that employing all team members in LSPs would be efficient, this often slows the team down due to contamination. The team must exercise tactical patience while the tracker, and sometimes the flankers, search for lost spoor.

Short Cut LSPs

These short cuts may be implemented at any time, even while the tracker is still on the spoor.

- **Cross-Over:** If the quarry has been maintaining a fairly straight track line, then the team leader can implement the cross-over technique. In this procedure, the two flankers "cross over" to the other side of the formation while simultaneously searching the ground for the spoor.
- **Track Trap Search:** The flankers often see prime tracking terrain features ahead of the team, such as a dirt road or earth bank. These "track traps" may hold indicators, if quarry passed that way. Upon seeing a potential track trap, a flanker should signal to the team leader, and then if approved, move along the "trap," checking for spoor.
- **Bitterman Technique:** This technique is used when the quarry is marching on an azimuth. The team leader lines the team along the track line and takes the azimuth with a compass, and then after roughly one-half mile, he/she repeats the process. If the two azimuths are identical then the quarry may be maintaining direction by the use of a compass or GPS. In this instance the team leader should extend the azimuth on his/her map, attempting to identify a landmark toward which the tracks are heading.
- **Alleyway Scans:** Alleyway scans are used when the spoor moves along a used trail. The team leader sends one of the flank trackers out about 50 yards along the path and the other 25 yards along on the other side of the path. If no spoor is found the flanks move another 25 yards and repeat.

Variety of Tracking Missions

Combat tracking can be used for...

- Pursuit to contact
- Locate arms caches
- Recovery of wounded personnel
- Counter surveillance
- Information and intelligence collection
- Combat Search and Rescue
- Maintain contact with a fleeing enemy
- Back-tracking to source
- Enemy route and infiltration investigation
- Sensor sites and placement
- Counter drug operations
- Area interpretation and analysis
- Forensic analysis
- Border Patrols (assess corridors and routes)
- Clandestine operations
- Locating enemy mortar/rocket firing sites

Typical Follow-Ups

Commencement

- **Receive Orders:** Unless a combat tracking team discovers tracks while on patrol, follow-up mission orders typically come from a command element.
- **Go to ICP :** the tracking team travels to the Initial Commencement Point (ICP)
- **Capture and Report LiNDATA:** Each set of relevant prints should be nicknamed and visually recorded, either on a spoor card or via photo. Then, send a SitRep to your TOC.
- **Talk to Witnesses:** If not already interviewed, witnesses at the ICP should be asked about the quarry—although these reports must be considered carefully, since witnesses often intentionally or unintentionally report false information.

"YOU WILL NOT CATCH your quarry if you aren't constantly thinking about closing the time-distance gap"

—David Scott-Donelan

Conducting the Follow-Up

After these activities are complete, the team can begin following the track line with the goals of (1) closing the time/distance gap using all aggressive means available and (2) attempting to get into the mind of the enemy.

Follow-Up Varieties

Night Tracking

Nighttime follow-ups can be conducted using Infrared/IR lamps, LEDs, incandescent lights, or light sticks.

Back Tracking

Back tracking involves following a trail back to its source in order to gain intelligence. Through back tracking, you can determine where the quarry originated and may be able to determine other sites of importance to the quarry.

Reconnaissance and Surveillance

Reconnaissance involves general over-watch of a region, while surveillance is specific observation of a person, place, or a suspect. Tracking can be employed in such missions to follow a quarry that leaves the observed area or to collect additional intelligence about enemy movements.

Urban Tracking

While more difficult, it is still possible to track quarry through an urban environment since people are generally lazy and will take short cuts. This lets trackers determine likely lines and use lost spoor procedures to follow the trail.

The Urban Follow-Up

Use Alleyway Scans

You will need to make constant use of alleyway scans, looking for where the quarry's trail diverges from a hard surface or contaminated area.

Employ Extra Security

Since much of urban tracking requires the repeated use of LSPs, the five-man team is more engaged in actual tracking than security. Therefore it is important to provide additional security.

Get into the Mind of the Quarry

Remember, most people are creatures of habit. People are generally lazy and will take short cuts whenever possible. Look for likely lines, short cuts, habitual areas, and anchor points. Think about landmarks and other locations of interest that the quarry might head toward or at which they might stop.

Look for Track Traps

Look for track traps near likely landmarks or the edges of paths to verify the quarry's track line. Track traps can be found in unexpected places, including the edges of roads, gardens or freshly cut grass, dewy grass, dust along roads, or dirt in parking areas.

Look for Sign

Never forget to look for sign. What did the quarry drop? What did the quarry disturb as he/she passed? Do you hear dogs barking? Are the atmospherics of an area disturbed?

Ask Witnesses

As appropriate ask passersby if they have seen your quarry or anything outside of the ordinary (related to your quarry).

Use Your Manpower

Generally, you will have greater manpower than the quarry. Make use of this advantage by leap-frogging teams, placing units at likely landmarks in the direction of the quarry's travel.

BACKWARD WALKING

One of the most basic techniques, walking backward in already-made tracks can be used to confuse less experienced trackers. However, observant trackers can readily determine if backward walking is being used.

Backward footprints will be deepened at the toe, and soil will be scuffed or dragged in the direction of movement.

Anti-Tracking Techniques

A quarry may try to employ anti-tracking techniques to escape and evade any pursuit.

Increase Speed and Distance

This is an effort by the quarry to outpace the tracker so that the tracker cannot close the time/distance gap. This is effective against unskilled or search-and-rescue trackers, but speed creates more recognizable spoor, increases noise, and reduces awareness. It can also be countered by leap-frogging teams once the direction of travel is known.

Disguise or Conceal the Spoor

Techniques used to disguise or conceal the spoor may slow down less experienced trackers, but they slow down the quarry, too; disguising spoor means extra work for the quarry and it will alert the tracker to the sophistication and motives of the quarry.

Spoor Reduction Techniques

Spoor reduction occurs when the quarry splits up. Variations include:

- **Break-away groups:** The quarry splits-up into smaller groups.
- **Bomb-shelling:** Each member of the quarry leaves the area in a different direction, usually to rally later.
- **Drop-offs:** The group leaves together, but some time later individuals or pairs leave the main group. This is one of the more effective techniques, especially when the drop-offs occur in areas where the ground is hard and spoor is difficult to pick up.

Counter-Tracking Techniques

Counter-tracking methods directly harm pursuing trackers or do psychological damage to them, making them lose interest in the follow-up. Typical examples include ambush, booby traps, or fire.

Tracking Team Engagement Tactics

Team sees quarry first

When a tracking team member sees the quarry, he/she should freeze and slowly bring up his/her weapon. Then the team should execute the appropriate tactical engagement based upon its rules of engagement. Do not dive into cover when the quarry is spotted; this movement will alert the enemy.

Team and quarry see each other simultaneously

This tactical situation will occur frequently; when it occurs, the tracking team must take immediate control of the situation by advancing aggressively on the quarry with weapons raised and in the firing position. The team leader should challenge the quarry to drop their weapons and raise their arms. If the quarry complies, the team can continue to advance and conduct normal disarming and capture procedures. If the quarry does not comply, then the team is in position to initiate an immediate ambush.

Quarry ambushes the team

Any dismounted team could be ambushed, and team members should always maintain awareness of potential ambush sites. A standard tactical response for a unit being ambushed is to charge into and through the ambush. Charging the ambush may not sound intuitive but it is a better option than remaining in a planned kill zone or hastily retreating into what is probably a booby-trapped lane of retreat.

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Action Indicators: Foot or body marks left upon the ground (such as a person sitting down to change his/her shoes) that indicate that a certain identifiable action has taken place.

Active Track: Actively following a set of tracks while the quarry is still moving.

Adoration: When used as a precise keyword, adoration refers to subordinates' behaviors that show reverence and submissiveness to their leader. It is associated with the *proxemics* domain.

Adrenaline: A hormone released in the body during fight–flight–freeze conditions.

Aerial Spoor: Damage and disturbance to vegetation created by the quarry, found from foot to head height.

Alleyway Scans: These scans are used in tracking operations when the spoor follows an existing track, trail, riding path, or stream bed. It is effective when the spoor is obvious and can be seen from a distance.

Anchor Point: An area where only certain individuals frequent without reservation; individuals outside of the permitted group or sect have reservations about entering such areas.

Anomaly: An anomaly is the presence, absence, or change of something that creates a deviation from the baseline.

Anti-Tracking: Techniques used by a quarry to disguise or conceal its spoor and attempt to fool the tracker.

Atmospheric Shift: A sudden change to the "feel" of an area, usually indicating danger. Atmospheric shifts are associated with the *atmospherics* domain.

Atmospherics: One of the six domains of combat profiling, atmospherics are concerned with interpretation of environmental mood of an area, including the look, sound, taste, smell, and feel of a location.

Automaticity: This is the learning of a task to a point that it becomes essentially attention-free. This is why we practice gun-drills and immediate action drills repetitively, so we do not have to think about them under stress.

Average Pace Method: A quarry estimation technique in which a line is drawn behind one heel print (key quarry print) and another behind the next, opposite foot of the same individual. The total number of prints inside the two lines are then counted, and the total is divided by two. This number will result in an approximate number of quarry. This method is effective for quarries consisting of up to 15 people.

Back Tracking: Following a track backwards, from the quarry to the track's origin. Back tracking supports intelligence collection.

Balance: Used in tracking to indicate a state of physical equilibrium, with weight equally distributed on the right and left foot.

Baseline: An initial set of critical observations, or data, used to establish the norm of person or place. Baselines are dynamic and will continually evolve.

Binocular Vision: Binocular vision occurs when an object is viewed with both eyes; objects are perceived in three-dimensions.

Biometrics: One of the six domains of combat profiling, biometrics are concerned with the interpretation of physiological reactions which are autonomic instinctive unlearned reaction to a stimulus.

Bitterman Technique: A tracking technique that used when the quarry follows a specific azimuth or line of travel. The tracking team can determine this azimuth by aligning team members along the track line and "shooting" an azimuth using a compass.

Blushing: Developing a ruddy appearance, or red face, due to embarrassment, shame, or emotional upset. Blushing is a *biometric* signal.

Bottom-Up Processing: Perceiving stimuli through the sensory systems. In contrast to *top-down processing*, bottom-up processing is not affected by the brain's preconceived expectations.

Box Search: A combat tracking *lost spoor procedure* in which natural lines surrounding an area (such as a fence) are identified and systematically searched for evidence of tracks cutting that line. If no tracks are found along the box's perimeter, then the quarry is likely still within the box.

Cerebral Cortex: An evolved part of the human brain, responsible for conscious experience, perception, thought, and planning.

Change Blindness: Humans are blind to change when their attention is focused, either visually or mentally (for example through top-down processing).

Channel: In combat profiling, a channel is an environment features that funnels or guides people's movement through an area. Channeling is associated with the *geographics* domain.

Channel Capacity: The maximum data rate that can be attained or maintained by the brain; channel capacity is typically 7±2, unless under stress, when it drops to around 3.

Chunk: A mental grouping; experts appear to process more information at a time, because they use top-down processing and mental file-folders to chunk (cluster) bits of information together.

CLIC: In the Marine Corps, the Company Level Intelligence Cell (CLIC) give a small-unit capacity to develop actionable intelligence.

CLOC: In the Marine Corps, the Company Level Operations Cells (CLOC) is the location where information is aggregated to provide situational awareness for the commander; a small-unit Tactical Operations Center.

CODIAC: Combat Observation and Decision-making in Irregular and Ambiguous Conflicts—this instructional set.

Cognitive Illusion: Cognitive illusions occur when the brain makes (incorrect) unconscious inferences. In general, they can only be overcome through experience and training.

Cognitive Load: The load on the information-processing system, especially working memory. Since working memory is limited by size and duration, humans can only processes a certain amount of information at a given time.

Collection (Intelligence Cycle): During this phase of the intelligence cycle, personnel collect information and communicate it to the command element.

Color Change: In combat tracking, a subtle color change on the ground, caused by ground disturbance.

Combat Multiplier: A supporting means that significantly increase the relative power of a force while actual force ratios remain constant.

Combat Profiling: The art of identifying behavioral cues, synthesizing them into a meaningful pattern, and then making sense of that pattern, ideally, left-of-bang.

Combat Tracking: The art of following the spoor and sign left by a quarry while in a dangerous area or adversarial position.

Common Tactical Picture: An accurate and complete display of relevant tactical data that integrates tactical information from the multi-tactical data link network, ground network, intelligence network, and sensor networks.

Comparison Method: A quarry estimation technique where the tracking team compares their own tracks in a single-file line to those of their quarry.

Conclusive Evidence: In tracking, tracks or other evidence, left on the ground that are indisputably left by the quarry.

Cone Cells: Eye cells located in the central portion of the retina, which are used for day vision, distinguishing color, and sharp contrast.

Contamination: In tracking, tracks or other disturbances made by anyone or anything, other than the quarry, that obscures or obliterates the quarry's spoor.

Context and Relevance: The background, setting, or situation surrounding an event, and the meaning or importance of something in relation to the context.

Cooper's Color Code: Cooper's Color Code is a system for describing the levels of awareness.

Cornea: The clear covering over the pupil; this portion of the eye bends most of the light rays to focus and it ensures that nothing enters the pupil.

Counter-Tracking: Measures employed to harm pursuing trackers or psychologically damage the tracking team.

Counterinsurgency: Comprehensive civilian and military efforts taken to simultaneously defeat and contain insurgency and address its core grievances.

Cover Shoot: A combat tracking *encounter action drill* used when the tracking team is fired on by the enemy from positions of cover and concealment.

Cross-Over: A *lost spoor procedure* in which the two flanker "cross over" to the other side of the formation while searching the ground for spoor.

Demographic: An overt, population characteristic of a person, such as race, age, income, or educational attainment.

Desert Shine: Color change that occurs when the quarry flattens vegetation or a ground surface, making it smooth and, consequently, appear shiny.

Detailed Search: A visual search technique using the *overlapping strip method* to carefully scan from near to far.

Diopter Sight: The diopter is an aperture used to assist the aiming of a guns/devices.

Direct Count Method: A quarry estimation technique where the tracking team physically identifies each distinct print along the track line.

Direction: In combat tracking, the quarry's direction of travel. Part of the LiNDATA SitRep.

Dissemination (Intelligence Cycle): During this phase of the intelligence cycle, personnel collect information and communicate it to the command element.

Distributed Operations: Distributed operations describe an operational approach that creates an advantage over an adversary through the deliberate use of separate, coordinated, and interdependent actions.

Disturbance: In combat tracking, disturbance refers to ground that has been moved from its natural state

Divided Attention: Dividing one's attentional processing between more than one task.

Dwell Time: In tracking, the amount of time the foot is on the ground in the same spot.

Emotion–Memory Link: See *Memory–Emotion Link*.

Encounter Action Drill: A combat tracking term synonym for "immediate action drills." Tactical drills designed for swift reaction to enemy contact.

Endorphins: Naturally occurring opium-like chemicals in the brain and nervous system that are released to relieve pain.

Entourage: One or more people following (i.e., in a beta position to) another. Entourage is a *proxemics* cue.

Explicit Knowledge: Explicit knowledge can be written down, transmitted, and understood by others—basic facts and formulas.

Extended Line Formation: A tracking team formation in which the team lines-up perpendicular to the track line.

Fight, Flight, or Freeze: A natural state that occurs individuals are faced with extreme stress. The brain's limbic system takes control from the cerebral cortex, and a person will choose one of three options: fight, flight or freeze.

Flank Trackers: Two personnel in a tracking team, one positioned on each side and slightly ahead of the tracker. Their functions are to protect the tracker and team leader from ambush, to assist in the search for lost spoor, and undertake close-in recon of "track traps."

Flanker 360: A combat tracking *lost spoor procedure*, in which both flank trackers systematically move around in a circle in an attempt to locate the lost tracks.

Flattening: In tracking, marks, such as by the weight of a foot, that flatten the natural texture of the ground.

Flushing: Developing an extremely ruddy appearance across the face and body. Flushing is a *biometric* signal.

Focus Lock: An observational challenge in which the observer becomes fixated on an object. To prevent this, it is important to maintain peripheral vision.

Focused Attention: Attention directed solely to specific stimulus.

Follow-up: The physical act of following a set of tracks left by a specific quarry.

Foot Roll: The rolling motion made by the foot as the body's weight is moved over the foot.

Fovea: The part of the eye responsible for sharp central vision (also called foveal vision).

Full-Spectrum Operations: Full spectrum operations are the range of operations Joint Forces conduct in war and military operations other than war.

Geographic Profiles: The necessary or preferred landscape features associated with a particular person, group, or type of activity. Geographic profiles are related to the *geographics* domain.

Geographics: One of the six domains of combat profiling, geographics is the study of the physical geography, weather, and human terrain of an area, as well as the interpretation of the relationship between people and their physical surrounding.

Ghost Spoor: A phenomenon that occurs when a tracker starts looking for sign and then start to imagine spoor where there is none.

Good Shepherd: One of the five *combat multipliers*, good shepherds build trusted networks, with local allies, community leaders, local security forces, NGOs and even within their own teams.

Ground Spoor: Marks and impressions of footwear and other body parts or equipment, left on ground surfaces.

Guardian Angel: One of the five *combat multipliers*, These are the alert Marines/Soldiers (at least in buddy teams), placed in a covert position that protect their units--using an ambush mentality, unseen by the enemy, watching over their units.

Habitual Area: An area where most individuals within a given group or sect would frequent without reservations. Habitual areas are related to the *geographics* domain.

Half Y Formation: A tracking team formation, same as the *Y formation* except that one of the flankers is removed and placed behind the tracker or team leader.

Hard Target: A person, unit, or vehicle that is protected against attack. The opposite of a hard target is a *soft target*.

Hasty Search: A visual search technique, used as the first phase of observing a target area. The observer conducts a hasty search (about 10 seconds) for any enemy activity immediately after taking up position.

Heel Strike: The *ground spoor* left by a the heel of a foot stepping on the ground.

Heuristics: One of the six domains of combat profiling, heuristics are rapid methods of mentally imprinting and labeling observed behaviors. They are "tactical shortcuts" for the brain.

Histamines: Natural body chemicals that trigger an inflammatory response. Histamines are related to the *biometrics* domain.

HUMINT: "Human Intelligence," it refers to gathering intelligence through interpersonal contact.

Ideology: A person's world view, ideologies are the ideals, goals, and expectations that guide actions. For this training, an ideology contains three relevant parts: culture, politics, and religion.

Initial Commencement Point: In tracking, the point where a tracking team commences following the spoor. This need not be the site of the incident, but could be at another point somewhere along the trail.

Interlocking Lines: One of the five *combat multipliers*, interlocking lines of fires, observation, and reporting should be employed. Interlocking lines ensure that personnel cover the gaps and seams of their operational area.

Irregular Warfare: A violent struggle among state and non-state actors for legitimacy and influence over the relevant populations.

Key Print: Used in quarry estimation, the key print is one clearly distinguishable footprint among a group of prints.

Kinesics: One of the six domains of combat profiling, kinesics involves interpretation of body movements, facial expressions, and other nonverbal cues.

KOCCOA: An acronym used to remember high priority terrain features: Key terrain features, Observation points, Cover, Concealment, Obstacles, and Avenues of approach.

Last Known Spoor (LKS): In tracking, the location of the last confirmed spoor.

Lecturing: A *kinesics* cue in which a person points his/her index finder and wags his/her hand up-and-down (as if angrily lecturing someone).

Left-of-Bang: Thoughts or actions that occur left-of-bang happen *before* a critical event. Left-of-bang actions are proactive, occurring before the enemy can carry-out his/her violent act.

Limbic System: An "older" part of the brain (in terms of evolution) involved in instinctive behavior and emotions.

LiNDATA: In tracking, the report sent to a command element; LiNDATA stands for Location, Number, Direction, Age, Type, and Additional information.

Litter: In tracking, any man-made artifact that was either accidentally dropped of deliberately discarded or hidden by the quarry.

Long-Term Memory: The theoretically unlimited information storage center of the brain.

Lost Spoor Procedures (LSP): A systematic set of procedures designed to relocate the spoor when it is lost.

Lugs/Grippers: Deep ridges in and around the center of a shoe's sole that grip the ground. Often found on work boots, such as Vibrams.

Macro-Tracking: A form of tracking in which the tracker looks ahead, searching for the furthest identifiable spoor in order to close the time-distance gap.

Man Tracking: A synonym of *combat tracking*.

Manifesto: A public declaration of an ideology.

Memory–Emotion Link: Associating an emotional response with something that is learned (i.e., a memory).

Mental File-Folder: A set of knowledge and experience about something that is stored in memory. An organized cluster of preconceived ideas, associated behaviors, and contextual information. Formally called a *schema*.

Mental Simulation: The process of imagining how one's predictions about a scene may play-out.

Micro-Tracking: A form of tracking in which the tracker carefully examines all spoor and sign, looking for information that will provide tactical advantage or other insights.

Mimicry: When used as a precise keyword, mimicry refers to a person mirroring the body language and/or actions of another. It is associated with the *proxemics* domain.

Mnemonics: Mental tricks that aid memory and retention.

Monocular Vision: Objects seen with only the left or right eye; monocular visions only sees in two dimensions.

Natural Lines of Drift: Most commonly associated with the path of least resistance, natural lines of drift are paths used repeatedly. They become predictable pathways through obstacles.

Natural State: The established, natural state of the ground unaffected by any tracks or sign.

Negative Space: The space between the positive spaces; this is the area of shadow and background activity that an untrained observer often overlooks.

Night Tracking: Nighttime follow-ups, which can be conducted using Infrared/IR lamps, LEDs, incandescent lights, or light sticks.

Nystagmus: Involuntary eye movement, typically caused by ingestion of alcohol or drugs. Nystagmus is a *biometric* signal.

OODA-Loop: A constantly revolving cycle that the mind goes though every second of every day in dealing with all tasks from mundane to the most complicated. The cycle follows the pattern of Observe-Orient-Decide-Act (OODA).

Overlapping Strip Method: The visual search technique used with a *detailed search*. Starting with the area nearest to the observer, the observer systematically searches the terrain, starting at the right flank and then moving towards the left in a 180˚ arc. Each visual arc includes about 50 meters of depth. After reaching the left flank, the observer searches the next swath nearest to his/her post. Each visual arc overlaps the previous search area by at least 10 meters in order to ensure total visual coverage of the area.

Overwatch: A tactical technique in which one element is located in a position of cover, so as to support another element by providing observation, cover fire, or other security protections.

Pace: The distance covered by a step.

Passive Track: Following a set of tracks, when the tracks are "cold." Normally used for intelligence gathering purposes, such as looking for base campsites or other evidence of insurgent activities.

Perception: The cognitive process by which sensory information is organized and interpreted to produce a meaningful experience of the world. Also, the first level of *situational awareness* is called "perception," and it involves observation, cue detection, and simple recognition of situational elements (objects, events, people, systems, environmental factors) and their current states (locations, conditions, modes, actions).

Perceptual Fill: Rather than perceiving holes in our vision, the human brain "fills-in" portions of the visual scene that are masked by the eye's natural blind spot.

Pitch Angle: The orientation of a foot to the line of travel. A foot can pitch outward, inward ("pigeon toed"), or remain parallel to the line of travel.

Planning and Direction (Intelligence Cycle): During this phase of the intelligence cycle, analysts determine what additional information is needed, and how it should be collected.

Positive Space: Physical terrain features that have mass; solid objects such as buildings, trees, signs, or vehicles. Personnel cannot typically see through positive space, but it naturally attracts the human eye. People are inclined to look from positive space to positive space.

Precipitating Event: An action or activity that brings about a certain outcome; the cause. When identified before a critical event, precipitating events are *pre-event indicators*.

Pre-Event Indicators: An observable cue that suggests a certain future event will occur.

Pressure: In tracking, the total weight of the quarry (to include any load carried), transferred through the foot to exert force onto the ground.

Pre-Terminal Point: The part of the foot that is second-to-last to leave the ground; often the ball of the foot.

Primary Impact Point: In tracking, the first part of the foot to strike the ground.

Processing and Exploitation (Intelligence Cycle): During this phase of the intelligence cycle, the transformation from "information" into "intelligence" begins. Analysts interpret the raw data to identify any useful intelligence.

Production (Intelligence Cycle): During this phase of the intelligence cycle, the significance of the intelligence is established and its implications determined. In this phase, intelligence is combined with data from additional sources, in order to create a robust operational picture.

Prototype: An original form or instance of something that serves as a typical example for items of the same category.

Prototypical Matching: In regard to decision-making, a *prototypical match* is a "close enough" match.

Proxemic Pull/Push: Body language that either draws-in or pushes-away others. A *proxemic push* occurs when a person or group uses body language to create distance to another person. A *proxemic pull* occurs people use body language to invite others toward them. Both are associated with the *proxemics* domain.

Proxemics: One of the six domains of combat profiling, proxemics involves the interpretations of spatial relationships in order determine the dynamics of human interactions. Proxemics is the act of betraying affiliations through the dynamics of proximity.

Psychographic: Psychological features that characterize a person or group.

Pupil Dilation: A physiological response in which the eye's pupil varies in size. It can have a variety of causes, from reaction to light, to narcotics use or observation of an attractive person/item. Pupil dilation is associated with the *biometrics* domain.

Quarry: Used as a synonym for "fugitive," "target," "adversary," or "the pursued."

Quick Scan: The first combat tracking *lost spoor procedure*; the tracker stops behind the last known spoor and quickly, but carefully, scans the ground in a 240º arc in front of him/her. If the quick scan fails, the tracking team can begin using more formal lost spoor techniques.

Rear Security Tracker: The position behind the team leader in a five-person tracking team, who is responsible for rear security, binocular observation, marking the last known spoor, aiding the tracker or flankers, conducting recon tasks, operating the global positioning system, and any other tasks as required.

Regularity: The uniformity and predictability of man-made patterns, such as footprints with a uniform tread.

Retina: The area along the back of the eye that contains two types of light receptors (*rods* and *cones*) for vision.

Rhythm: A stimulus, such as a music beat or footprint, that recurs at regular intervals. Nature has its own rhythm, but usually without regularity. Something in nature that is spaced at regular intervals will stand out as an anomaly from the natural state of the environment.

Right-of-Bang: The time frame following a critical incident. Actions that occur right-of-bang are generally reactive.

Rod Cells: Eye cells located peripheral to the cone cells, which are used for night vision and peripheral vision; they do not see color but are attracted to motion.

Rubble-ing: A damaged, debris-strewn area in which rubble may mask people, paths, or activities (urban masking), as well as create specific movement channels.

Rule of Three: This "rule" reminds personnel that in most cases, a single cue is not enough evidence upon which to make a decision—unless that cue is substantial (e.g., an immediate threat to a person—however, once three cues (i.e., three anomalies) have been detected, a decision must be made.

Save/Lose Face: Saving and loosing "face" are concerned with retaining or loosing the respect (or self-perceived respect) of other people. For instance, if someone is publicly embarrassed, he/she may "lose face." Personnel can help others "save face" by giving them respectable ways to follow requests.

Schema: See *Mental File-Folder.*

Second-Order Effects: The reaction to (or effective of) a first-order effect. The secondary or downstream outcome of an incident.

Selective Attention: See *Focused Attention*.

Sensemaking: A process in which a person or team engages in an effort to understand perceived cues, interpret their relationships, and anticipate the trajectory of a situation. In other words, sensemaking is the ongoing process of giving meaning to one's experiences.

Sensory Systems: The physiological systems used to perceive the world: sight, sound, smell, touch, and taste.,

Sequencing: Sequencing occurs when the brain create grouping or anticipates a pattern based upon a sequence of observed cues; these perceived groupings or patterns may be accurate or inaccurate. Sequencing usually takes place at the seventh instance of a cue.

Seven-Step Terrorist Planning Cycle: A seven-step process that terrorists follow (not necessarily consciously) when planning, executing, and exploiting their activities.

Sign: The whole group of physical indicators that are not part of *ground* or *aerial spoor*, such as broken cobwebs, disturbed insects nests, *litter*, or water deposits.

Single/Ranger File Formation: A linear staggered formation, similar to the Column Formation, except that the space between personnel laterally is decreased in order to mask the number of persons in the unit.

Site Exploitation: The practice of identifying and processing intelligence at a specific location.

Situational Awareness (SA): An individual's overall understanding of the operational environment, including the time and location of key components, comprehension of their meaning, and a projection of their status in the near future. In other words, SA is internal understanding and integration of the perceived stimuli. It is not a display or the common operational picture; it is the interpretation of displays or the actual observation of a situation.

Soft Target: See *Hard Target*.

Spoor: A set of tracks or other physical indicators of passage that are visible to a tracker. Spoor is generally interchangeable with "tracks," "set of prints," or "sign."

Spoor Cards: A formal, written sheet on which footprint data are recorded during a follow-up.

Spoor Cutting: Actively searching for spoor; also called "sign cutting" in some organizations.

Spoor Reduction Techniques: *Anti-tracking techniques* in which the quarry splits up, making their spoor progressively more difficult to follow. These techniques include break-away groups, bomb-shelling, and drop-offs.

Spoor Separation Point: A point on the ground where the quarry splits-up into more than one distinct group.

Sticky Messages: Simple, concrete, messages ("touchstones") that have emotional appeal and include compelling storylines.

Straddle: Distance between the inside edge of the left foot to the inside of the right foot, i.e., if the person were standing still with their feet close together, the straddle is the distance between the two feet at their closest points.

Stride: The distance from one footprint to the next in the quarry's direction of movement (left foot to right foot).

Substantiating Evidence: Evidence that is inconclusive by itself, but when taken into account with other evidence, helps "build a case." In tracking, substantiating evidence is any spoor or sign that may indicate the passage of the quarry, but which cannot indisputably be linked to the quarry.

Sustained Observation: Expending conscious energy to observe an area or people over time, in order to develop a sense of "normal."

Tacit Knowledge: Knowledge gained through hands-on practical experience that cannot be written down or easily transmitted. See also *Explicit Knowledge.*

Tactical Cunning: One of the five *combat multipliers*, tactical cunning is the art of "getting into the mind of your adversary," anticipating how they view you, and then employing shrewd and crafty ways to out-think and out-adapt the adversary.

Tactical Patience: One of the five *combat multipliers*, tactical patience is the manipulation of the operational tempo in order to obtain the most advantageous situation.

Tactical Operations Center: See *TOC*.

Tactical Shortcut: See *Heuristics*.

Tracking Team Leader: The tracking team leader controls the follow-up and is responsible for its tactical decisions, movement, formations, and the general conduct of the team.

Template: A design or pattern that guides the design or construction of identical items. In other words, a template is an exact specification.

Template Matching: In decision-making, a template match is an exact match of a person, place, or item.

Terminal Point: The last part of the foot to leave the ground, usually the toes.

Third-Order Effects: The reaction to (or effective of) a second-order effect. The tertiary or far downstream outcome of an incident. See *Second-Order Effect.*

Time and Distance Gap: The distance between a combat tracking team and its quarry. The theoretical distance in which the quarry could have moved between the time of the incident and the time in which the trackers began the follow-up.

Time/Shadow Effect: The time of day determines the angle of the sun and, consequently, the length and direction of shadows.

TOC: A unit's command-and-control hub, assisting the commander in synchronizing operations. TOCs act as the primary driver of the intelligence cycle: receiving, analyzing, integrating, and distributing information across distributed teams.

Toe Dig: In tracking, the indentation (*ground spoor*) left by the force of the toes pushing-off of, and leaving, the ground.

Top-Down Processing: The influence of contextual effects on what is perceived. Contextual effects can include emotions, expectations, motivation, culture, and experiences.

Track Line: The continuous line of observable clues (indicators), visible to the tracker, indicating the path of their quarry.

Track Trap: A piece of terrain where spoor can easily be identified.

Tracker: The member of a tracking team who is physically looking for and following a set of tracks.

Tracker 360: A combat tracking *lost spoor procedure*, in which the tracker systematically move around in a circle in an attempt to locate the lost tracks.

Tracker Support Team: This is a group of armed individuals who may accompany a tracking team, always in the rear and in radio contact, to provide additional fire-power to the tracking team if the tactical situation requires it.

Tracking Team: When tracking or conducting a follow-up of armed and dangerous fugitives a five- or six-person team is employed. A tracking team consists of a tracker (or optionally two trackers), two flank trackers, a team leader, and a rear security tracker.

Transference: Dirt/vegetation or other spoor/sign carried from its natural location and deposited elsewhere.

Tunnel Vision: A natural observational limitation. During periods of high stress, people may develop tunnel vision. Physiologically, tunnel vision literally means reduced peripheral vision. The phrase is also used metaphorically to imply that individuals are attending to fewer cues and ignoring important tasks.

Urban Masking: Camouflage used to disguise—or mask—a person, group, object, or activities in an urban (rather than rural) environment. Actively attempting to blend into the baseline of an urban context.

Urban Tracking: The act of conducting a *follow-up* in an urban setting.

Warrior Ethos: Ethos is the fundamental character or disposition of a community, group, or person. Hence, "warrior ethos" is the fundamental spirit, beliefs, customs, and practices of warriors. An idealized warrior model.

Working Memory: Also called "short-term memory," working memory handles the interim processing of incoming information. Information in working memory is stored for only a few seconds, unless it rehearsed, and it can only store about seven plus-or-minus two (7±2) pieces of information at a time.

Y Formation: The standard formation used by a tactical tracking team. It provides the best balance between security, speed, and control. In this formation the flankers are at a 45° angle ahead of the tracker, who is followed by the tracking team leader, and rear security tracker.

CHEAT SHEETS

Cheat Sheets

Natural Limitations to Guard Against

- Fatigue
- Monocular Vision
- Tunnel Vision
- Change Blindness
- Focus Lock
- Channel Capacity
- Sequencing
- Adaptation
- General Cognitive Illusions

Five Combat Multipliers

- Tactical Cunning
- Tactical Patience
- Interlocking Lines
- Guardian Angel
- Good Shepherd

Key Terrain Features to Observe

- K = Key terrain features
- O = Observation points
- C = Cover
- C = Concealment
- O = Obstacles
- A = Avenues of approach
- Look for negative spaces
- Identify habitual areas
- Identify anchor points
- Identify landmarks

The Mind of Your Adversaries

- What is their motivation?
- What is their ideology?
- Do they have a manifesto?
- What iconography do they use?
- How does your adversary operate?
- How does your adversary recruit?
- What kind of person joins your adversary?

Seven-Step Terrorist Planning Cycle

- 01. Broad Target Selection
- 02. Intelligence Gathering and Surveillance
- 03. Specific Target Selection
- 04. Attack Surveillance and Planning
- 05. Rehearsal
- 06. Actions on the Objective
- 07. Escape and Exploitation

CHEAT SHEETS

Six Domains of Combat Profiling

- Biometrics
- Geographics
- Kinesics
- Atmospherics
- Proxemics
- Heuristics

Biometrics

- Blushing
- Flared nostrils
- Showing lower teeth
- Thermal signature
- Nystagmus
- Bruising/broken capillaries
- Flushing
- Paleness
- Pupil dilation
- Sweating
- Bloodshot eyes

Kinesics

- Slap the front of one's head
- Looking off to the left or right when remembering
- Scratching one's heads
- Rubbing back of one's head
- Wringing hands or rubbing palms
- Real vs. fake smiles
- Pregnant pauses

Proxemics

- Proxemic push/pull
- Entourage
- Adoration
- Direction
- Mimicry

Geographics

- Anchor points
- Micro anchor points
- Comfort
- Channels
- Habitual areas
- Familiarity
- Natural lines of drift
- Geographic profiles

Atmospherics

- Atmospheric shift
- Trash and rubble
- Graffiti
- Suspicious items
- Atmospherics to watch
  - Does it look or feel or smell a certain way?
  - Is it better or worse than earlier?
  - Do people fit the scenario?
  - Are the people aware of danger?
  - Is visible rubble, trash, or graffiti present
  - Is visible security present?

Heuristics

- Rules-of-thumb
- Tactical shortcuts.
- "If it looks like a duck..."

Significance of Icons and Symbols

- Color Significance
- Tattoos
- Clothing
- Hand Symbols
- Flags

Lost Spoor Procedures

- Quick Scan
- Tracker 360
- Alleyway Scan
- Track Trap Search
- Bitterman Technique
- Likely Lines
- Flanker 360
- Cross-Over
- Box Search

Rules of Tracking

- Correctly identify the tracks you wish to follow
- Mark and record map coordinates of the ICP
- Never walk on top of ground spoor
- Never overshoot the LKS
- With aerial spoor, always check for confirmable evidence
- Always know exactly where you are
- Always keep in visual contact with other team member
- Always try to anticipate what your quarry will do
- The tracker sets the pace of the follow-up
- Never "force" a track to conform to preconceptions

Urban Tracking

- Use alleyway scans
- Get into the mind of the quarry
- Look for sign
- Use your manpower
- Employ extra security
- Look for track traps
- Ask witnesses

Anti-Tracking Techniques

- Increase speed and distance
- Disguise or conceal the spoor
- Spoor reduction techniques
- Break-away groups
- Bomb-shelling
- Drop-offs

"Should Have" Information

- Abnormalities to the quarry group
- Physical descriptions of the quarry
- Iconic information about the quarry
- Other info from victims or witnesses

"Would Like to Have" Information

- History of activities in the area
- Known local contacts
- Religious sect
- Religious contacts
- Record of anti-tracking used locally

Information Gained on the Follow-Up

- Quarry's strength
- Quarry's weapons
- Quarry's possession of ammo or explosives
- Quarry's load and equipment
- Morale of the quarry

L = Location

N = Number

D = Direction

A = Age

T = Type

A = Additional

LiNDATA Tracking SitRep Format

Types of Spoor

- Ground Spoor
  - Regularity
  - Transference
  - Disturbance
  - Flattening
  - Color Change
- Aerial Spoor
  - Crushed or bent grass
  - Twisted vegetation
  - Crushed or bruised leaves
- Sign
  - Broken cobwebs
  - Water splashes and deposits
  - Body Waste
  - IED Indicators
  - Disturbed insects nests
  - Litter
  - Blood Spoor
- Non-visible indicators
  - Noises
  - Smells
  - Wildlife sounds (or lack thereof)

Characteristics of Prints

- Primary impact point (PIP)
- Foot roll
- Heel strike
- Pre-terminal point (PTP)
- Terminal point

Characteristics of Human Pace

- Stride
- Straddle
- Dwell Time
- Pitch Angle
- Pressure
- Rhythm & Balance

A
B
1
2
3
4
5
6
7
8

Spoor Card

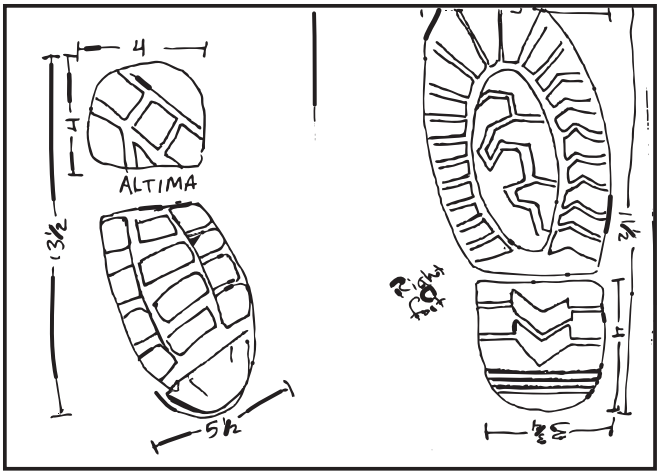
Nickname

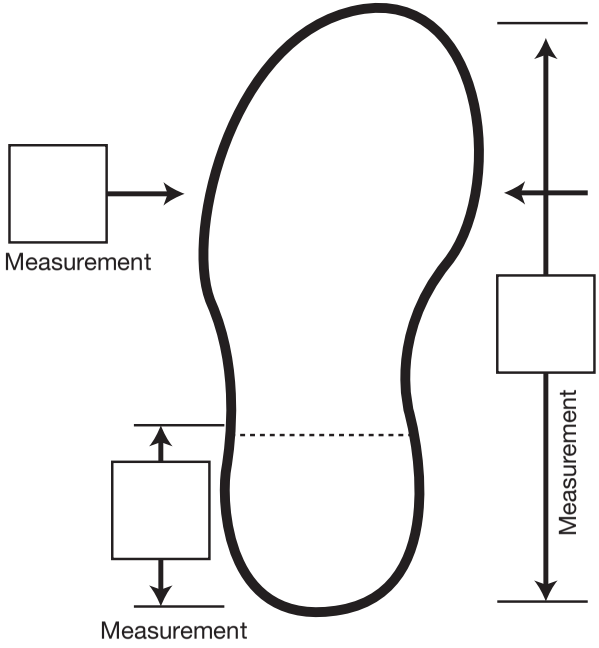
Each set of prints should be given a nickname to personalize them and to make it easier for the tracker to relate different individual traits and habits displayed by the insurgents/enemy.

Don't Rely on Memory

Relying on your memory is NOT a good or safe way to record the various types of prints found on a follow-up.

Example Sketch





Nickname: _____

Date/Time: _____

Place: _____

Direction: _____

Type: _____

Style Details: _____

_____

_____

_____

Heel Strike Details