The full extension of flinch conversion is the close quarter combat stance and is demoed by Blauer.

The S.P.E.A.R. System™

and Converting the Flinch Response

BY ERIC COBB AND ROB PINCUS

In the field of Close Quarters Combat and Defensive Tactics Instruction there has long been a widespread lack of understanding of the neurophysiological effects of fear and adrenaline, and the so-called "fight or flight" response. An understanding of the body's responses to ambush is vitally important to developing an effective Defensive Tactics Program. In times of danger, in the ambush moment, in the shock and surprise of a real world attack, one simple law applies: physiology rules.

Over the past 20 years, Tony Blauer, the owner and CEO of Blauer Tactical Confrontation Management Systems (BTCMS), has dissected the realities of violence from virtually every conceivable perspective: psychologically, emotionally and physically. Based on this empirical research, Blauer has created the S.P.E.A.R. System ™: "the first behaviorally inspired method of self protection" ever developed, or as he prefers to say, "behaviorally inspired— genetically wired." S.P.E.A.R. is an acronym for Spontaneous Protection Enabling Accelerated Response, which is the ultimate aim of the system— responding more readily and effectively to the threat of violence.

Modern research has demonstrated that the S.P.E.A.R. System™ is based on the facts of neurophysiology. Instead of relying on the cognitively based muscle memory techniques common in the vast majority of defensive tactics programs, the S.P.E.A.R. System™ utilizes reflexive, instinctive movements to create a platform from which to first react to and then respond to an assault. If the goal of your department's Defensive Tactics Program is to better prepare your officers to respond to and survive sudden, aggressive close quarters assaults, you need to be incorporating the S.P.E.A.R. System™.

S.P.E.A.R. System™ Fundamentals

The S.P.E.A.R. System™ has its origins in high integrity training. Almost 20 years ago, Blauer devel-

This is the Blauer renowned SUCKER PUNCH drill, where sudden attacks are replicated with gear. In this shot the officer experiences a real flinch conversion challenge as the coach attempts a full speed attack.

An attempted sucker punch is jammed with a protective SPEAR tactic. All SPEAR System drills are ALIVE and balance, distance and reaction are always spontaneous. Note the facial tension in the photo. The Protective version always blends some primal (recoiling from danger) and some tactical (moving toward the threat) that is why often you'll see flinching and blinking and real-life balance adjustments in these drills.

oped what he refers to as a "sucker punch drill." During the drill, his training partner would launch sudden haymaker attacks from close range with little or no warning. While practicing this drill, he discovered that typical defensive tactics techniques failed 50% of the time. As a coach of real-world personal defense skills, Blauer found this completely unacceptable. Accidentally, he noted that when his training partner unleashed a truly well disguised sucker punch, the speed, proximity and aggression of the attack created a Flinch Response. As he analyzed this phenomenon in greater depth, Blauer found that the flinching reduced the effectiveness of the attack much more significantly than any trained response. Eventually, he was able to condense thousands of hours of practical research into two simple, but vitally important, truths. First, a stimulus introduced too quickly will by-pass the cognitive, muscle-memory systems in the brain and create a Flinch Response. Second, the flinch is a physiologic response that is highly reliable and functions as an effective protective mechanism.

An officer closes his eyes while another (role-player) officer presents the weapon and calls, "GO!" The first officer opens his eyes and must flinch to clear the weapon. Drills like these teach officers to integrate instinctual responses during sudden ambush confrontations.

The Startle/Flinch Response appears to be a sudden "reaction" to danger or surprise but it is really a sound, predictable and reliable process. Our built-in survival reflexes are much more reliable than our theoretical, cognitive muscle-memory programs! Taken to a conclusion, this means that the most responsible, reliable and retainable protective system would embrace and integrate these facts. This process is the foundation and inspiration for the S.P.E.A.R. System™.

A total of 20 years of Close Quarters Fighting instruction lies behind Blauer's system. His process of embracing the human Flinch Response is not only backed up by recent neurophysiological research, but in fact described the outcome of much of this research prior to its publication. By incorporating the physiological rules that govern the body-mind system, the S.P.E.A.R. System™ may be the single most important development in close quarters combat training in decades.

Using the A-SAP Time Line Model, Blauer is able to help participants decrease reaction time. Here he applies the principle during the sucker punch drill but has shaved off nano-seconds to pick the sucker punch up sooner, convert the flinch and engage the threat. Not the impact on the role-player's face.

Physiology and the "Fight or Flight" Fallacy

The S.P.E.A.R. System ™ is focused on surviving the "ambush" attack on the street. It is these types of attacks that pose the biggest threat to officers and they are also the type that trigger the lightning-fast, whole body response we commonly call

Showing how the Startle Flinch can convert into a tactical application is a crucial part of the system's merit. Here, founder Tony Blauer shows this principle.

"flinching." It is vital to understand that the fear and desperation created by a sudden attack causes first the "flinch or freeze" response, which is followed by the often mentioned "fight or flight" response.

Other reactions to fear and stress during combat have been studied in depth and are also often mentioned during training. These include Tunnel vision; Increased heart rate; Increased cardiac output; Increase in blood flow to skeletal muscles; Pupillary dilation; Auditory exclusion; Tachypsychia.

All of these potential effects of high stress environments and the engagement of the adrenal stress response in the body have only one goal: survival. However, these adrenal effects built into the "fight or flight" system are only a part of the story. In the CQC field, very few people have realized these classic, hormonally induced fight or flight effects are secondary responses to an immediate threat. Before the hormonal responses take effect, the part of the brain known as the amygdala has already initiated a Flinch Response. Any training methodology that seeks to enhance real-world survival must take into account the priority system of survival. The Amygdalic Reaction comes first and the Fight or Flight / Hormonal Responses come second.

Flinch Response

To fully grasp the significance of the priority system of survival, two vital areas of neurophysiology must be understood. First, the Flinch Response is a reflexive action that will bypass our cognitive systems if the stimulus is strong enough. If the speed, aggression or proximity of the attack is strong enough to initiate the Flinch Response, the physiological survival mechanisms hard-wired in the nervous system of the body will by-pass cognitively based defensive tactic systems. Second, while the Flinch Response cannot be eradicated it can be modulated through training. This is known as "converting the flinch."

The S.P.E.A.R. System ™ incorporates the A-SAP Time Modelä to explain the first phenomenon. An Officer's Awareness of the attack's Suddenness, Aggression and Proximity determine the presence and type of Flinch Response. Flinches are characterized in the following way.

No Flinch

Under some circumstances there may be a complete absence of the Flinch Response. An extreme example would be an officer caught napping in his patrol car during third shift with the window open. In this condition, any ambush would obviously not generate a Flinch Response prior to landing. A lack of Flinch Response can occur under less extreme circumstances, when the officer is suffering from Presumed Compliance ™, and truly believes himself to be safe and is completely unaware that an attack is being launched.

Primal Flinch

This type of Flinch Response is generated when the Officer's Awareness of the attack comes very late in relation to the speed, aggression and proximity of the ambush. A relatively alert officer who hears something behind him and turns around to see a club being swung at his head would most likely flinch in this way. Primal flinches are characterized by turning away from the danger and bringing your hands up to protect your "command center." A common example of these flinches can be seen almost every time a batter tries to get out of the way of a high-inside fastball. Primal Flinches place more padding between an attack and our vital systems (brain, neck/throat, eyes, etc.)

Protective Flinch

These flinches occur when an officer becomes aware of an attack closer to its moment of initiation, but too late to completely avoid it or launch an effective counter attack. A Protective Flinch will most likely put an officer in what would be considered a "ready position" to receive or launch an attack efficiently. Protective Flinches are characterized by orienting toward the threat, lowering your center of gravity and bringing your hands up to a position between the threat and your command center. Protective Flinches are often effective at blocking at least some of an attack.

Tactical or Micro-Flinch

The Tactical Flinch occurs when an officer is prepared for the possibility of an attack, but realizes that the suddenness, proximity and aggression of it pose a threat to him. A SWAT Operator who rounds a corner during a high-risk raid and sees a man pointing a gun will flinch… this is the brain's automatic reaction to the sudden appearance of a threat, regardless of training and preparation. These Micro-Flinches prepare the body to respond and must be incorporated into training or they could be part of a hesitation during the Flight or Fight Moment.

The basis of The S.P.E.A.R. System™ is converting these Flinch Responses into effective defensive responses. By training in ways that realistically allow officers to accept the flinch, they will be better equipped to survive any close quarters ambush.

Scientific and Medical Support

To understand the neurophysiological research that supports the contentions of Blauer's S.P.E.A.R. System™, the most important area of the brain to consider relates to human responses to fear or the threat of violence, the amygdala. This bilateral, almond-shaped area located in the rear portions of the brain is believed by most modern researchers to be the processing center for fear and its subsequent effects on the body.

Many studies have been done to figure out exactly what the amygdala does and what brain areas respond to fear stimuli. One fascinating observation made in these studies, is that buried in the reflexes of the amygdala are intuitive and instinctual reactions to potential threats. For example, a normal laboratory-born and raised mouse will have normal fear reactions occur upon exposure to a cat for the first time: without having seen, smelled or encountered one.

However, after amygdala removal, the mouse will cuddle up to the same cat without a hint of fear behavior. By the same token, human subjects, when shown photos of different "unfriendly" facial expressions, show an increased amygdalic response. These studies have shown that the amygdalic fear reactions are both instinctual and learned. It is instinctual to react to a ball being thrown at your head, but one must learn to be afraid of a gun pointed at you from across the room.

The Flinch Response is not limited to solely visual input that you can cognitively identify as a threat. The amygdala can instantly respond to any sensory input that indicates danger, regardless of the source. You may flinch at the sound of breaking glass behind you. You may jump up and search for the source of smoke that is tickling your nostrils. You may flinch and cover your head from a hint of movement caught in your peripheral vision. All of these activities begin with the amygdala. And, while the amygdalic input is amazingly fast and complex, even more vital to understanding its effects in an ambush moment is the amygdalic OUTPUT.

The amygdala connects directly into the brainstem where the majority of our instinctual, reflexive responses to danger are stored. What is a reflexive response to danger? One excellent example is the flexor withdrawal reflex. If you touch a hot stove, your body wastes no time explaining the current events to your conscious mind. Instead, your body's sensory system feeds this information into the brainstem initiating a reflex loop that moves your hand and arm away from the danger very quickly. So quickly, in fact, that it is not until afterward that the "thinking" brain catches on to what just happened.

This is a beautifully designed protective mechanism of the body that does not require conscious thought. In fact, modern researchers believe that many of the amygdalic responses to danger do not involve the cerebrum, the cognitive/thinking portion of the brain, at all. The reflexes bypass our learned behaviors and "just do it." As Dr. Joseph LeDoux, one of the most highly respected researchers worldwide on fear and the workings of the amygdala stated, "The amygdala works automatically, without "you" having to get involved in the act... Part of the reason for this is found in the nature of the connections between the amygdala and the cerebral cortex, where our thoughts, hopes, and plans occur, and through which we exercise control over our emotions (to the extent we can). It turns out that the amygdala is in a much better position to influence the cortex than the other way around."

Dr. LeDoux's statement is made even more compelling by work conducted by scientists at the University of Iowa. In this study, researchers measured the speed of the brain's response to unpleasant or potentially threatening images. What they discovered was that on average the firing rates of the neurons were .12 seconds. As principal investigator Ralph Adolphs, Ph.D. stated, this "is very fast and probably prior to the patient consciously 'seeing' the image.

The findings are consistent with the idea that "the brain evolved systems that can respond extremely rapidly to potentially dangerous or threatening kinds of stimuli." In other words, the results of this study indicate the protective mechanisms of the brain initiated actions prior to the conscious mind "seeing" the threat! As a survival "default program," neuroscience researcher Jorge Armony stated, "It makes perfect sense— you can't stop and think about certain things, you have to react."

This study that details the brain's ability to initiate protective reflexes prior to a threat registering as a conscious thought, not only verifies Dr. LeDoux's statements, but also holds tremendous implications in establishing Blauer's basic concepts concerning the Flinch Response and sudden ambush moments.

Blauer's observations and conclusions concerning the physical positioning and movements associated with the Flinch Response have found significant support from a study published in the *Journal of Neurophysiology*. Scientists conducted a study that examined the muscular and stance effects on the body when a flinch/startle response was introduced to subjects while walking. Study observations noted a highly coordinated co-contraction of flexor and extensor muscles that ultimately resulted in a lowered center of gravity and more stable physical platform. The researchers stated, "The co-activation in various phases… indicates that the startle response is aimed at stability." They further concluded, "The auditory startle response is not immutable but flexible and functional aiming at a fast realization of stability."

Additionally, in a study published in late 2001, researchers at the University of Toronto, led by Dr. John Yeomans, provided massive support to Blauer's S.P.E.A.R. System™ foundation when they concluded that one of the most important purposes of the Startle/Flinch Response was to protect the body from blows. In this study, researchers demonstrated the Flinch Response was at its most intense when study participants were subjected to visual, auditory and physical/tactile stimuli. Dr. Yeomans stated, "Before now, researchers have concentrated on studying the auditory pathways for the startle reflex, so the discovery that startle is best evoked when noises are combined with tactile stimuli is a surprising conclusion."

Research has demonstrated that the physical platforms created by the three distinct flinches are exceptionally powerful and reliable as they begin in the amyg-

dala, are carried out by reflex loops, and are specifically designed to increase tactical superiority and safety.

Keeping the above background material in mind it is possible to draw some conclusions about the S.P.E.A.R. System™ and its applicability to the CQC needs of anyone— civilian, law enforcement officer or soldier.

Ease of Assimilation

Because the S.P.E.A.R. System™ is based on, built around and trained via the reflexive movements of the body, there are no "techniques" to memorize. As discussed above it is imperative, for real-world survival, to have a system that is built on a gross motor/ reflexive toolbox. The S.P.E.A.R. System™ is a reflexive, intuitive "counter-ambush" system that once embraced in theory, becomes readily available in the physical arena.

Non-Perishability

Because of the inherent stability of the human nervous system and the hard-wired nature of our reflexive responses, the S.P.E.A.R. System™ is extremely non-perishable. In simple terms, babies flinch, kids flinch, teens flinch, adults and elderly people flinch. The instinctive reactions of the amygdala are hard-wired and thus the physiological basis of the S.P.E.A.R. System™ makes it an incredibly efficient, non-perishable system that can be readily accessed at any time— despite a lack of consistent training.

Three things are necessary for any Defensive Tactics program to be effective: speed of acquisition, ease of retention and universal applicability. In his efforts to construct a generic system of self-protection, Blauer intended to meet these three distinct challenges. The S.P.E.A.R. System™ is the result and it has proven itself by saving lives all over the world.

Put bluntly, if your department's training does not include realistic responses to ambushes and incorporate these into effective responses, your officers are in more danger than they need to be. Such training can be found in the S.P.E.A.R. System™. Perhaps the best part of the S.P.E.A.R. System™ is that it truly is universal. Learning to convert the body's natural Flinch Response will improve survivability when combined with any current Defensive Tactics program. Converting the flinch is the bridge between surviving an ambush and employing whatever DT systems your department currently teaches. Every DT Instructor who strives to teach a practical and effective program should attend S.P.E.A.R. Instructor School.

Dr. Eric Cobb is, in addition to a combatives trainer, a physical training and performance specialist and licensed chiropractic physician and has over 20 years experience training and teaching a variety of martial arts. Dr. Cobb is currently a staff trainer for BTCMS and also conducts ongoing research into the physiological basis of the S.P.E.A.R. System™. He can be reached at Dr.Cobb@tonyblauer.com or DrCobbSSC@msn.com.

Rob Pincus is a former law enforcement officer and special operations team member. He currently serves as Director of Operations and Training for the Valhalla Shooting Club in Montrose, Colorado. Mr. Pincus is a certified S.P.E.A.R. Law Enforcement Instructor and Personal Defense Readiness Coach and has worked on several projects with BTCMS. He can be reached at bronze748@earthlink.net.