In Order to Survive

Excerpts taken from the yet-to-be-published
"On Combat"
The Physical and Mental Effects of Deadly Combat in War and Peace
by US Lieutenant Colonel Dave Grossman and Loren W. Christensen

As a sequel to last Issue's 'Conditioned to Kill - Killology" by US Lieutenant Colonel Dave Grossman, I have included some excerpts from LTC Grossman's yet-to-be-published new book, entitled "On Combat': Is this a "plug" for his new book? Of course it is - but only because it contains a wealth of information and advice - especially to those of us in the Profession of Arms. Colonel Grossman has been extremely gracious enough to allow us to use "whatever we like" from his new book - so this is a truly unique and exceptional opportunity to pass on his experience, research and advice (before anyone else sees it!) - for which we are extremely appreciative.

The excerpts I have selected are fairly generic and the considerations affect us all. In particular is the excerpt that covers "colour-coded states of arousal" that is vital to all who must retain "fine motor control" (eg. *keyboards, elctronic componentry, wires and cables - all to be dealt with under extreme battle circumstances).*

I wish I could include more writings from this book - but space is limited. So we will have to to be content to wait for the book's release early nextyear. Perhaps we can also look forward to a lecture tour to Australia by LTC Grossman some time next year as well?

Hooah and "thanks", Dave.

126 Sig Sqn (Cdo) were good enough to send me some fine pits, which I thought would be appropriate to include with this article - and they are reproduced in colour in the centre-spread of this Issue.

.....Ed.

The Universal Human Phobia

I introduced the concept of the "Universal Human Phobia" in papers presented to the annual conventions of the American Psychiatric Association, the American Psychological Association, and to the Internal Congress of Critical Incident Stress Management. This concept is not controversial, but it does attach a new name to something that is generally well known. Nor is it truly "universal" since it probably effects around 98 percent of the population. But that is probably close enough for the behavioral sciences.

Understand that a phobia is much more than just a fear. It is an irrational, overwhelming, uncontrollable fear of a specific object or event. Before I discuss the number one human phobia, let me first tell you what is generally considered to be second. Snakes.

Research into phobias is not a hard science. Even the definitions of exactly what constitutes a "phobic scale response" can vary greatly, but many experts agree that the most common phobia (after the universal phobia) is snakes. Roughly 15 percent of the population has a phobic scale response to snakes. This means that if I dropped a bunch of snakes into a crowded room, approximately 15 percent of the individuals in that room would have a true, phobic scale response. Upon seeing the mass of squirming, wriggling snakes, a message would shoot directly from their eyes to their feet, bypassing the logical portion of their brains. These unfortunate individuals would run toward the doors without conscious thought, some leaving a trail of unnecessary body mass behind them.

What would the remaining 85 percent do? Some would get out of the way, some would fight the snakes, and some would sell tickets to the show.

Most people have some phobia that pushes their "button." If yours is not snakes, it might be spiders, heights, or darkness.

While we all have different phobias, there is one that pushes almost everyone's button: interpersonal human aggression. That is the Universal Human Phobia. If I were to walk into another crowded room and begin shooting at people or hacking at them with a machete, up to 98 percent of them would experience a true phobic-scale response. There is no shame in this reaction, as it is natural and normal to respond in such a way to a fellow human being in a killing frenzy.

The argument can be made that we are in the most violent times in peacetime history. The murder rate is being held down by medical technology, but the aggravated assault rate, the rate at which we are trying to kill or seriously injure each other, may be at the highest levels in peacetime history. This is true in almost every major industrialized nation in the world. And still violence is still incredibly rare. The per capita aggravated assault rate in the U.S. is only four per thousand per year. This means that 996 out of 1,000 Americans will go a year and never once have someone attempt to inflict serious bodily harm on them. Every day, nearly 300 million Americans bounce off each other, but the average American will go a lifetime and never once have someone commit a felonious assault upon them.

When violence does happen to us, it devastates us. It shatters us. Most of us approach every strange dog we meet with an expectation that it might bite. Likewise, most of us expect snakes to strike at us. That's what they do! But we do not expect that one of the millions of Americans we interact with in an average lifetime will try to kill us. We simply cannot lead our lives expecting that every human we meet might try to kill us.

So when someone does try to kill us, it is simply not right. And if we are not careful, it can destroy us. The Diagnostic and Statistical Manual of the American Psychiatric Association (DSM), the "Bible"

of psychiatry and psychology, specifically states that any time the causal factor of a stressor is human in nature, the degree of trauma is usually more severe and long lasting. Conversely, the DSM says that post-traumatic stress disorder is comparably rare and mild in response to natural disasters and traffic accidents. In other words, when it is another human being who causes our fear, pain and suffering, it shatters, destroys, and devastates us.

Stress kills. The number one killer of law enforcement officers is stress. For every cop who dies from criminal gunfire, many more die from suicide. And for every officer who kills himself, many more die from heart disease and other stress related illnesses. In World War I, World War II, and Korea, on average, the number of soldiers who were pulled out of the front lines because they were psychiatric casualties was greater than the number of those who were killed in combat.

The stress of combat kills and debilitates far more warriors than actual direct, hostile action. This toxic, corrosive, destructive domain of the Universal Human Phobia is what we ask our soldiers and police officers to live in, and to die in. This is the realm of combat.

"It's Personal!"

To understand why interpersonal human aggression is so toxic, let me first ask you to consider the difference between two scenarios. In the first scenario, a tornado rips through your house, sending you and your family to the hospital. In the second scenario, a gang comes in the middle of the night, beats you and your family into the hospital, and then burns your house to the ground. In both cases the end result is the same: your house is gone and your family is in the hospital. So what is the difference?

Every time I ask this at presentations anywhere in the world, the audience answers the same. The tornado is an act of God. When the gang does it, it is personal. "It's personal! It's personal! I'm gonna hunt 'em down and kill 'em like dogs!" Have you ever seen anyone respond that way to a tornado?

The gang attack makes it personal, with emphasis on the word "person," as in human. We process interpersonal human aggression completely differently. It is not a fear of death. We all know that we are going to die, but we want to have some degree of control over how we will die. We can accept the fact that we will die of old age, or that an "act of God" might take our lives or the lives of our loved ones. But we cannot accept the thought of someone "playing God" and choosing to steal away the most precious thing we have: our lives. Even worse is the idea of someone intentionally choosing to steal away our loved ones' lives.

One Serial killer can change the behavior of a whole city, but over 400,000 Americans will die slow, hideous preventable deaths this year from smoking cigarettes and that fact does not change the behavior of most smokers. I'm not taking a "cheap shot" at smokers here. I like to smoke the occasional cigar, and if I ultimately pay the price for that, it was my choice. But if you want to come into my house and inflict a slow, hideous death and me and my family, that is a completely different matter.

Consider the case of John Mohammed, and his little buddy, Malvo, the serial snipers in the Washington D.C. area in the fall of 2002. Many motorists stopped refueling at self-serve stations and opted for full-service gas stations to avoid having to get out of their cars. Shoppers literally ran from their cars to the entrance doors of stores, and after shopping, they ran back. Kids sporting events were curtailed, as was a myriad of other every day activities.

Just the distant possibility of interpersonal confrontation distresses influences our behavior more than the statistical certainty of a slow, horrible death from cancer.

This is not really rational. It is an irrational fear, a phobia. In order to truly understand the magnitude of the toxic, corrosive realm of combat, and those who must function in this realm, we must begin by understanding the concept of this Universal Human Phobia.

Psychologist Abraham Maslow established the concept commonly known as Maslow's Hierarchy of Needs. He wrote that certain lower needs must be met before higher needs can be satisfied. Maslow said that a society must first create a foundation that is secure, safe, and out of danger. Our warriors are the ones who create this foundation. They are the ones who face down the Universal Human Phobia, the most toxic, corrosive, destructive element that can impact our society. They are the foundation of the building, and if the foundation of the building crumbles, the building will fall.

Warriors

Are the warriors of today any better than those who fought in the trenches of World War I? Are today's warriors tougher than those who landed on the beaches of Normandy or Iwo Jima in World War II? Are they better than the ones who fought their way out of the frozen Chosen or the Puson Perimeter in Korea? No. Today we are no better than those heroes. And we are no worse. We are the same warriors. We might be better equipped, better trained, and better prepared, but we are the same basic, biological organisms as those who have gone before us.

Richard Gabriel, in his excellent book, No More Heroes, tells us that in the great battles of World War I, World War II and Korea, there were more men pulled off the front lines because of psychiatric wounds than all those who were killed in combat. There was a study written on this phenomenon in World War II entitled "Lost Divisions," which concluded that American forces lost 504,000 men from

psychiatric collapse. That was a number sufficient to man fifty combat divisions!

On any given day in World war II, thousands of psychiatric casualties were in camps close to the front lines. A procedure called "Immediacy, Expectancy, and Proximity" was applied, meaning they were kept in proximity of the front lines with a sense of immediacy and expectancy that they would go back into battle. Even with that in place, as well as the normal cycles where men rotated out of combat after a reasonable time, more soldiers were lost from psychiatric casualties than all of the physical casualties combined.

Very few people know about this. While everyone knows about the valiant dead, most people, even professional warriors, do not know about the greater number of individuals who were quietly taken out of the front lines because they were psychiatric casualties. This is another aspect of combat that has been hidden from us, and it is something we must understand.

Worst of all were those rare situations in which soldiers were trapped in continuous combat for 60 to 90 days. In those cases, 98 percent became psychiatric casualties.

Fighting all day and all night for months on end is a 20th Century phenomenon. The Battle of Gettysburg in 1863 lasted three days, and they took the nights off. This has been the case throughout history. When the sun went down, the fighting stopped, and the men gathered around the campfire to debrief the day's fight.

It was not until the 20th Century, beginning with World War I, that battles would go day and night, for weeks and months without end. This resulted in a huge increase in psychiatric casualties. It got vastly worse when soldiers were unable to rotate out of the battle. On the beaches of Normandy in World War II, for example, there were no rear lines, and for two months there was no way to escape the horror of continuous fighting, of continuous death. It was learned then that after 60 days and nights of constant combat, 98 percent of all soldiers became psychiatric casualties.

What about the other two percent? They were aggressive sociopaths. They were apparently having a good time. (At least that is the conclusion of two World War II researchers, Swank and Marchand, came to. But recent research shows that that two percent breaks down into wolves and sheepdogs, and we will learn more about them later in the book.)

Consider the six-month-long Battle of Stalingrad, the decisive World War II Soviet victory that stopped the German southern advance and turned the tide of the war. Some Russian reports say that their veterans of that great battle died around age 40, while other Russian males not involved lived into their 60s and 70s. The difference? The war veterans had been exposed to continual stress 24 hours a day for six long, grueling months.

If we agree that we are basically no different creatures than the warriors of World War I, World War II, and Korea, then we must admit that the same thing could happen to us. The goal of this book, and the new body of "warrior science" research this book is based upon, is to be better trained and prepared, in order to prevent that from happening to us.

To fully comprehend the intensity of mental stress from combat, we must keep other, environmental stressors in mind, while at the same time understanding the body's physiological response, as manifested in the sympathetic nervous system's mobilization of resources. In addition, we must understand the impact of the parasympathetic nervous system's "backlash" that occurs as a result of overwhelming demands placed upon it.

Accelerated Heart Rate and Performance:

Condition White, Yellow, Red, Gray and Black

"On the battlefield, the real enemy is fear , not the bayonet or bullet. "

Robert Jackson

When you are asleep or just going about your day unfocused and unprepared for anything bad to happen, you are at your lowest level of readiness. Call that, "Condition White." This is a place where you are helpless and vulnerable. You are in denial. White is for sheep.

If you come up to a level of general alertness and readiness, where you are psychologically prepared for combat, then you have interred into the realm of "Condition Yellow" Dogs, who are predators by nature, seldom leave Condition Yellow. They are always ready to play, fight, frolic, mate, or run. They are survivors. Warriors, too, must try to exist in Condition Yellow. A warrior always tries to sit with his back to a wall.

There is no accelerated heart rate associated with Condition White and Condition Yellow, the difference between these two levels is more psychological than physiological. However, as the level of arousal increase, we can begin to roughly associate the "Condition" levels with specific heart rate levels.

There is a zone that exists, generally between 115 and 145 beats per minute (bpm), where you are at your optimal survival and combat performance level. Let us call this, "Condition Red." Your complex motor skills, visual reaction time, and cognitive reaction times are all at their peak, but you begin to pay a price. Starting at about 115 bpm, your fine-motor skills begin to deteriorate. This is not an absolute with every person, but for most it is a starting point. Police officers often see a symptom of this when they stop

a motorist for a traffic violation and the driver's hands shake so badly that he can barely sign the ticket. The same is true of people involved in a traffic accident, when afterwards they have difficulty scrawling down their telephone number. Such symptoms are a result of early stages of vasoconstriction, a condition that restricts the flow of blood to the extremities.

I frequently train special operations warriors. When you think about special ops you think about Rangers, Green Berets, or SEALS, and you would be right. But a large portion of our special ops community consists of the superb pilots and flight crews who support these elite warriors. Some U.S. Air Force pilots I have trained told me about a pilot trainer who gives them small, yellow dots, with adhesive on the back. They stick these dots on their watches and on their cockpits as a reminder to stay in Condition Yellow. If a pilot becomes too aroused, and begins to enter into Condition Red, the price they pay is loss of fine motor skill. Having your helicopter pilot lose his fine motor control as he makes a close approach on a hot landing zone is not a good thing. Pilots try to exist in a zen-like state of constant, mellow Yellow

Other warriors must also maintain a state of Condition Yellow. For example, when I train hostage negotiators, I tell them that they need to stay in Condition Yellow. I am proud to be a member of the Board of Technical Advisors to the American Sniper Association, which is probably the world's leading private, law enforcement and military sniper training organization. Snipers must maintain precision fine motor skills, so when I train them I emphasize the need to remain in Condition Yellow I had the privilege of training an international bomb technicians conference. Now here is a group of individuals who must remain calm and in Condition Yellow when they are doing their job.

It's an entirely different situation for the point man on a SWAT team, going through a door to confront a barricaded gunman. He needs to have his cognitive reaction time, visual reaction time, and complex motor skills all functioning at the highest levels. He needs to be in Condition Red. Yes, he loses some of his fine motor skills, but in his case that is an acceptable price to pay. Through intense, high-repetition training, he will turn the skills that needs to perform into "muscle memory." Magazine changes, misfeed drills, weapons handling, and handcuffing are just a few of the many skills he will have rehearsed so many times that he will be able to perform these intricate tasks flawlessly, even though he is in Condition Red. He might be in trouble if he is required to perform a fine motor skill that he has not rehearsed, but this is an acceptable risk.

It is important to note that these are hormonal or adrenaline induced heart rate increases that are caused by sympathetic nervous system arousal. You can do a set of wind sprints to get your heart rate up, and that will approximate some of the effects, but such cardiovascular induced heart rate increases do not have the same impact as when the heart rate increase is caused by fear or the sympathetic nervous system.

The Optimal Level of Arousal

"Screw your courage to the sticking place..."

Shakespeare

Macbeth

The linking of specific heart rate (bpm) with task performance was pioneered by Bruce K. Siddle, the author of the excellent book, Sharpening the Warrior's Edge, and one of the great pioneers in the field of "warrior science." In 1997 I was asked to write the entry on "Psychological Effects of Combat" in the Academic Press Encyclopedia of Violence Peace and Conflict. I asked Bruce Siddle to co-author the article with me because of the research he had conducted on the physiology of combat. We included the "Heart Rate and Performance" chart, with its thermometer scale in the article. World-class experts were asked to conduct a peer review of this encyclopedia entry. The reviews were very supportive, and one stated that, "This is brilliant!"

Due to the nature of the double-blind peer review process, I'll probably never know the identity of this kind and generous reviewer, but the truth is that this research is probably not "brilliant." It is only an old soldier and an old cop asking questions that no one has ever asked before.

These initial findings will continue to be updated and modified as new information becomes available. Today we can take this model a step further by integrating the color codes and the "Inverted-U" model (a classic, universally accepted model of stress and performance) with Bruce Siddle's heart rate data, to form a "Unified Model of Stress & Performance.

It should be noted here that the color code system, which was popularized by Colonel Jeff Cooper, one of the greatest of the early pioneers in the field of warrior science, has always been a mental, rather than a physical concept.

The Gray Zone, Autopilot, and Stress Inoculation

Pete Pomerleau and Don Lazzarini are law enforcement instructors associated with the BAHR Training Group, an organization that provides law enforcement training on a large scale. They have been replicating some of Bruce Siddle's research, attaching heart rate monitors to

law enforcement officers engaged in highly stressful, combat simulation training using Simunition "paint bullets." These bullets hurt when they hit, which is desirable because pain and the possibility of pain makes this training a form of "stress inoculation."

We need more, systematic research in this area, but the BAHR research got the same results as Bruce Siddle. Pomerleau and Lazzarini found that when the average police officer experiences a stress induced (i.e., sympathetic nervous system (SNS) or adrenaline induced) heart rate increase in the area of 145 bpm, there is a significant breakdown in performance. But this is not true for everyone. Apparently, if you have practiced extensively the required skills, you can "push the envelope" of Condition Red, enabling extraordinary performance at accelerated heart rate levels. Let us call this zone, roughly between 145 and 175 bpm, "Condition Gray." (Beyond Condition Gray is "Condition Black," an area marked by catastrophic breakdown of mental and physical performance, which will be covered shortly) All of this research is still in its inception, an embryonic realm of fascinating new inquiry. Condition Gray, in particular is a truly "gray area" about which we need to do considerably more research.

Ron Avery is a law enforcement trainer and a world-class competitive combat pistol shooter starring in three highly successful instructional videos called Secrets of a Professional Shooter. Ron says that when he is in a competition, he functions on two levels. When he is "running and gunning," his heartbeat is around 145 bpm. For the individuals in the law enforcement research conducted by Bruce Siddle and in the BAHR research, 145 bpm represents a level at which performance begins to break down, but for Ron this is his optimal level of arousal. He has pushed the envelope. He has rehearsed and trained, turning each action into muscle memory, permitting himself to function at a world class level in Condition Gray. This concept of muscle memory is also referred to as "autopilot," which will be addressed in greater detail later.

Ron Avery calls this process "stress acclimatization," which is a good, descriptive term. I use the psychological term "inoculation" to describe the same process. Whatever we call it, there can be no doubt that it works. Ron puts it this way:

"With the proper training and requisite conditioning and practice, we can achieve skills that others think impossible. I think there is a whole realm of possibilities that we can teach and train to do. Stress acclimatization is about measuring precise doses of stress followed by waves of recovery and then repeating these cycles very specifically. There must be time for adaptation to take place and there must be enough training, repeated over time, to help it stick as well as reinforcing the conditioning."

There is evidence to indicate that world class experts in top physical condition, under specific, controlled conditions, can use autopilot and stress inoculation to push the envelope of Condition Red high into the Gray zone. For example, one report in Popular Science magazine, states that NASCAR drivers generally function with a heart rate around 175 bpm. Using what we know from other realms of research involving performance under stress, we can hypothesize that these race car drivers have a limited set of skills (turn left, turn right, accelerate, brake) that has been extensively rehearsed, and needs to be performed with extraordinary speed. Thus the best-of-the-best among race car drivers appear to be pushing themselves, pushing the envelope of their personal Condition Red, up to the outer edge of the Gray zone.

In 2002, Will Gambino, a U.S. Army Special Forces (Green Beret) officer, conducted research on some of our nation's most elite warriors, in conjunction with C.A. Morgan and Gary Hazlett of Yale University. Even among the Green Berets, this group represented a select group. They are essentially Olympic class athletes, superbly and extensively trained for many years in the skills of combat. Gambino designed a scenario to test these elite warriors. In this scenario they participated in Simunition, paint bullet weapons engagements, encountered full-contact physical attacks from individuals in protective gear, and were assaulted with powerful odors and overwhelming sound stimulus At one point, completely without warning, they were hit in the shoulder with a powerful shock from a Taser system, to represent being hit by enemy gunfire. (A Taser transmits powerful electrical pulses into the body of the target, affecting the recipient's nerve fibers so that he loses control of his body and cannot perform coordinated movements.)

All of these warriors performed superbly. The study was actually on "heart rate variability," and looking only at maximum heart rates is a gross oversimplification of this complex subject, but I find it very interesting to note that those who did best had maximum heart rates up to around 175 bpm. Those who did not function quite as less well had maximum heart rates around 180 bpm. Like our NASCAR drivers, even at 175 bpm, their physical condition and their extensive training provided the stress inoculation and the autopilot responses that permitted them to push the Condition Red envelope to the outer extent of Condition Gray.

There was, however, one exception. In the scenario, every attacker which they subdued in hand-to-hand combat had to be restrained with "flex-cuffs" to do this. A flex-cuff is a type of handcuff consisting of a strip of plastic with a small, one-way hole in one end. The other end is inserted into the hole and tightened. (Slightly smaller versions are used to tie off plastic garbage bags.) Inserting the end of the cuff into that little hole takes high levels of fine-motor skill, a process that had not been practiced extensively by the Green berets. The result was that those individuals who had not "pre-threaded" their flex-cuffs experienced significant difficulty when it came time to perform this skill under extreme high stress. (Since then they have learned to rehearse this skill, and turned it into a form of autopilot.)

When learning skills and ingraining them as muscle memory or autopilot responses, it is important that only one way be taught. Hick's 1952 study found that as the possible responses increased from one to two, reaction time increased by 58 percent. In other words, having to chose between options takes time, and the more options you have to chose from, the greater the reaction time. This is often referred to as Hick's Law, but Sun Tzu said the same thing many centuries ago: "The more possibilities you present to the enemy, the more diffuse he is forced to become. The more diffuse he becomes, the more difficult it is for him to concentrate sufficiently to make a successful attack." We want to confuse the enemy with a variety of possibilities, but we do not want to do that to ourselves. Thus, a simple set of skills, combined with an emphasis on actions requiring complex and gross motor muscle operations (as opposed to fine motor control), all extensively rehearsed, allows for extraordinary performance levels under stress.