Behavioral Psychology

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GLOSSARY

Acquired Violence Immune Deficiency Syndrome (AVIDS) The “violence immune system” exists in the midbrain of all healthy creatures, causing them to be largely unable to kill members of their own species in territorial and mating battles. In human beings this resistance has existed historically in all close-range, interpersonal confrontations. “Conditioning” (particularly the conditioning of children through media violence and interactive video games) can create an “acquired deficiency” in this immune system, resulting in “Acquired Violence Immune Deficiency Syndrome” or AVIDS. As a result of this weakened immune system, the victim becomes more vulnerable to violence enabling factors such as poverty, discrimination, drugs, gangs, radical politics and the availability of guns.

Behavior Modification (also behavior therapy and conditioning therapy) A treatment approach designed to modify a subject's behavior directly (rather than correct the root cause), through systematic manipulation of environmental and behavioral variables thought to be related to the behavior. Techniques included within behavior modification include operant conditioning and token economy.

Behavioral Psychology (also behaviorism) The subset of psychology that focuses on studying and modifying observable behavior by means of systematic manipulation of environmental factors. In its purest form behaviorism rejects all cognitive explanations of behavior.

Classical Conditioning (also Pavlovian and respondent conditioning) A form of conditioning in which a neutral stimulus becomes associated with an involuntary or autonomic response, such as salivation or increased heart rate.

Conditioning A more or less permanent change in an individual's behavior that occurs as a result of experience and practice (or repetition) of the experience. Conditioning is applied clinically in behavior modification. There are generally two types of conditioning: operant conditioning and classical conditioning.

Operant Conditioning (also conditioning) A form of conditioning that involves voluntary actions (such as lifting a latch, following a maze, or aiming and firing a weapon), with reinforcing or punishing events serving to alter the strength of association between the stimulus and the response. In recent, human usage operant conditioning has developed into a type of training that will intensely and realistically simulate the actual conditions to be faced in a future situation.
BEHAVIORAL PSYCHOLOGY is the subset of psychology that focuses on studying and modifying observable behavior by means of systematic manipulation of environmental factors. This article examines the history and origins of behavioral psychology, the role of behavioral psychology in creating a revolution in military training and combat effectiveness during the second half of the 20th Century, and the contributions of behavioral psychology in helping to understand one of the key causal factors in modern violent crime.

I. INTRODUCTION: A BEHAVIORAL REVOLUTION IN COMBAT

Behavioral psychology, with its subsets of behavior modification and operant conditioning, is a field that is ripe for use and abuse in the realm of violence, peace and conflict. Perhaps the least subtle or most “directive” of all the fields of psychology, in its purest form behaviorism rejects all cognitive explanations of behavior and focuses on studying and modifying observable behavior by means of systematic manipulation of environmental factors. In its application, behavior modification and other aspects of the behavioristic approach are generally considered best for use on animals and children (who tend not to resent or rebel against such overt manipulation as reinforcers and token economies), and for the preparation of individuals to react immediately and reflexively in life threatening situations such as: children in fire drills, pilots repetitively trained to react to emergencies in flight simulators, and law enforcement and military personnel conditioned to fire accurately in combat situations.

Throughout history armies and nations have attempted to achieve ever higher degrees of control over their soldiers, and reinforcement and punishment have always been manipulated to do so. But it was done by intuition, half blindly and unsystematically, and was never truly understood. In the 20th century this changed completely as the systematic development of the scientific field of behavioral psychology made possible one of the greatest revolutions in the history of human combat, enabling firing rates to be raised from a baseline of 20% or less in World War II to over 90% among modern, properly conditioned armies.

In the post-Cold War era the police officers and the soldiers of the world’s democracies are assuming increasingly similar missions. Around the world armies are being called upon for “peace making” and “peacekeeping” duties, and law enforcement agencies are responding to escalating violent crime with structures, tactics, training and weapons that have been traditionally associated with the military.

Some have observed that this process may be resulting in the creation of a new warrior-protector class similar to that called for by Plato in that first, fledgling Greek democracy more than 2000 year ago. If there is a new class of warrior-protector, then one factor which is profoundly unique in its modern makeup is this systematic application of behavioral psychology, particularly operant conditioning, in order to ensure the warrior’s ability to kill, survive, and succeed in the realm of close combat.

Today the behavioral genie is out of the bottle, and in life-and-death, close-combat situations any soldier or police officer who is not mentally armed may well be as important as if he or she were not physically armed. Governments have come to understand this, and today any warrior that a democratic society deems worthy of being physically armed is also, increasingly, being mentally equipped to kill.

When this is done with law enforcement and military professionals it is done carefully and with powerful safeguards, yet still it is a legitimate cause for concern. But the final lesson to be learned in an examination of the role of behavioral psychology in violence, peace, and conflict is that the processes being carefully manipulated to enable violence in government agencies can also be found in media violence and violent video games, resulting in the indiscriminate mass conditioning of children to kill, and a subsequent, worldwide explosion of violence.

II. THE BIRTH OF BEHAVIORAL PSYCHOLOGY

Around the turn of the century, Edward Thorndike attempted to develop an objective experimental method for testing the mechanical problem solving ability of cats and dogs. Thorndike devised a number of wooden crates which required various combinations of latches, levers, strings, and treadles to open them. A dog or a cat would be put in one of these puzzle boxes and, sooner or later, would manage to escape.
Thorndike’s initial aim was to show that the anecdotal achievement of cats and dogs could be replicated in controlled, standardized circumstances. However, he soon realized that he could now measure animal intelligence using this equipment. His method was to set an animal the same task repeatedly, each time measuring the time it took to solve it. Thorndike could then compare these learning curves across different situations and species.

Thorndike was particularly interested in discovering whether his animals could learn their tasks through imitation or observation. He compared the learning curves of cats who had been given the opportunity to observe other cats escape from a box, with those who had never seen the puzzle being solved, and found no difference in their rate of learning. He obtained the same null result with dogs and, even when he showed the animals the methods of opening a box by placing their paws on the appropriate levers and so on, he found no improvement. He fell back on a much simpler, “trial and error” explanation of learning. Occasionally, quite by chance, an animal performs an action that frees it from the box. When the animal finds itself in the same position again, it is more likely to perform the same action again. The reward of being freed from the box somehow strengthens an association between a stimulus (being in a certain position in the box) and an appropriate action. Rewards act to strengthen these stimulus-response associations. The animal learned to solve the puzzle-box not by reflecting on possible actions and really puzzling its way out of it but by a mechanical development of actions originally made by chance. Thus Thorndike demonstrates that the mind of a dog, or a cat, is not capable of learning by observation, then can only learn what has been personally experienced and reinforced.

By 1910 Thorndike had formalized this notion into the “Law of Effect,” which essentially states that responses that are accompanied or followed by satisfaction (i.e., a reward, or what was later to be termed a reinforcer) will be more likely to reoccur, and those which are accompanied by discomfort (i.e., a punishment) will be less likely to reoccur. Thorndike extrapolated his finding to humans and subsequently maintained that, in combination with the Law of Exercise (which states that associations are strengthened by use and weakened by disuse), and the concept of instinct, the Law of Effect could explain all of human behavior in terms of the development of a myriad of stimulus-response associations.

Thorndike’s laws, and trial-and-error learning became the foundation for behavioral psychology, and the behaviorist position that human behavior could be explained entirely in terms of stimulus-response associations and the effects of reinforcers upon them. In its purest sense this new field of behavioral psychology entirely excluded cognitive concepts such as desires or goals.

John Broadhus Watson in his 1914 book, Behavior: An Introduction to Comparative Psychology, made the next major step in the development of behavioral psychology. Watson’s theoretical position was even more extreme than Thorndike’s. His rejection of cognition, or “mentalism” was total and he had no place for concepts such as pleasure or distress in his explanations of behavior. He essentially rejected the law of effect, denying that pleasure or discomfort caused stimulus-response associations to be learned. For Watson, all that was important was the frequency of occurrence of stimulus-response pairings. Reinforcers might cause some responses to occur more often in the presence of particular stimuli, but they did not act directly to cause their learning. In 1919 Watson published his second book, Psychology from the Standpoint of a Behaviorist, which established him as the founder of the American school of behaviorism.

In the 1920s behaviorism began to wane in popularity. A number of studies, particularly those with primates (which are capable of observational, monkey-see, monkey-do, learning), appeared to show flaws in the law of effect and to require mental representations in their explanation. But in 1938 Burrhus Frederich Skinner powerfully defended and advanced behaviorism when he published The Behavior of Organisms, which was arguably the most influential work on animal behavior of the century. B.F. Skinner resurrected the law of effect in more starkly behavioral terms and developed the Skinner Box, a technology that allowed sequences of behavior produced over a long time to be studied objectively, which was a great improvement on the individual learning trials of Watson and Thorndike.

Skinner developed the basic concept of “operant conditioning” claiming that this type of learning was not the result of stimulus-response learning. For Skinner the basic association in operant conditioning was between the operant response and the reinforcer, with a discriminative stimulus serving to signal when the association would be acted upon.

It is worth briefly comparing trial-and-error learning with classical conditioning. In 1890s, Pavlov, a Russian physiologist, was observing the production of saliva by dogs as they were fed, when he noticed that saliva was also produced when the person who fed them appeared, even though he was without food. This is not
surprising. Every farm boy for thousands of years has realized that animals become excited when they hear the sounds that indicate they are about to be fed. But Pavlov carefully observed and measured one small part of the process. He paired a sound, a tone, with feeding his dogs so that the tone occurred several times right before and during the feeding. Soon the dogs salivated to the tone, as they did to the food. They had learned a new connection: tone with food or tone with saliva response.

In classical conditioning, a neutral stimulus becomes associated with an involuntary response, such as salivation or increased heart rate. But operant conditioning involves voluntary actions (such as lifting a latch, following a maze, or aiming and firing a weapon), with reinforcing or punishing events serving to alter the strength of association between the stimulus and the response.

The ability of behavioral psychology to turn voluntary motor responses into a conditioned response is demonstrated in one of Watson's early experiments which studied maze-learning, using rats in a type of maze that was simply a long, straight alley with food at the end. Watson found that once the animal was well trained at running this maze it did so almost automatically, or reflexively. Once started by the stimulus of the maze its behavior becomes a series of voluntary motor responses largely detached from stimuli in the outside world. This was made clear when Watson shortened the alleyway, which caused well trained (i.e., conditioned) rats to run straight into the end of the wall.

This was known as the Kerplunk Experiment and it demonstrated the degree to which a set of behaviorally conditioned, voluntary motor responses can become reflexive, or automatic in nature. Only a few decades after Watson ran these early, simple experiments, the reflexive, or automatic in nature. Only a few decades after Watson ran these early, simple experiments, the ability of behavioral psychology to turn voluntary motor responses into a conditioned response is demonstrated in one of Watson's early experiments which studied maze-learning, using rats in a type of maze that was simply a long, straight alley with food at the end. Watson found that once the animal was well trained at running this maze it did so almost automatically, or reflexively. Once started by the stimulus of the maze its behavior becomes a series of voluntary motor responses largely detached from stimuli in the outside world. This was made clear when Watson shortened the alleyway, which caused well trained (i.e., conditioned) rats to run straight into the end of the wall.

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In tests during this era it was repeatedly demonstrated that an average of regiment of 250 men, each firing a musket at a rate of four shots per minute, could hypothetically put close to 1000 holes in a 6-foot high by 100-foot wide sheet of paper at a range of 25 yards. But Paddy Griffith has documented in his studies of actual Napoleonic and American Civil War battles that in many cases the actual hit ratios were as low as zero hits, with an average being approximately one or two hits, per minute, per regiment, which is less than 1% of their theoretical killing potential. While these soldiers may have been trained to fire their weapons, they had not been conditioned to kill their enemy.

In behavioral terms, to prepare (or train, or condition) a soldier to kill, the stimulus (which did not appear in their training) should have been an enemy soldier in their sights. The target behavior (which they did not practice for) should have been to accurately fire their weapons at another human being. There should have been immediate feedback when they hit a target, and there should have been rewards for performing these specific functions, or punishment for
would fail. No aspect of this occurred in their training, and it was inevitable that such training would fail.

To truly understand the necessity for operant conditioning in this situation it must first be recognized that most participants in close-combat are literally "frightened out of their wits." Once the arrows or bullets start flying, combatants stop thinking with the forebrain (which is the part of the brain that makes us human) and thought processes localize in the midbrain, or mammalian brain, which is the primitive part of the brain that is generally indistinguishable from that of a dog or a rat. And in the mind of a dog the only thing which will influence behavior is operant conditioning.

In conflict situations the dominance of midbrain processing can be observed in the existence of a powerful resistance to killing one's own kind, a resistance that exists in every healthy member of every species. Konrad Lorenz, in his definitive book, *On Aggression*, notes that it is rare for animals of the same species to fight to the death. In their territorial and mating battles animals with horns will butt their heads together in a relatively harmless fashion, but against any other species they will go to the side and attempt to gut and gore. Similarly, piranha will fight one another with raps of their tails but they will turn their teeth on anything and everything else, and rattlesnakes will wrestle each other but they have no hesitation to turn their fangs on anything else. Lorenz suggests that this non-specicidal tendency is innately imprinted into the genetic code in order to safeguard the survival of the species.

One major modern revelation in the field of military psychology is the observation that this resistance to killing one's own species is also a key factor in human combat. Brigadier General S.L.A. Marshall first observed this during his work as the Chief Historian of the European Theater of Operations in World War II. Based on his innovative new technique of postcombat interviews, Marshall concluded in his landmark book, *Men Against Fire*, that only 15 to 20% of the individual riflemen in World War II fired their weapons at an exposed enemy soldier.

Marshall's findings have been somewhat controversial, but every available, parallel, scholarly study has validated his basic findings. Ardant du Picq's surveys of French officers in the 1860s and his observations on ancient battles, Keegan and Holmes' numerous accounts of ineffectual firing throughout history, Paddy Griffith's data on the extraordinarily low killing rate among Napoleonic and American Civil War regiments, Stouffer's extensive World War II and post-war research, Richard Holmes' assessment of Argentine firing rates in the Falklands War, the British Army's laser reenactments of historical battles, the FBI's studies of nonfiring rates among low enforcement officers in the 1950s and 1960s, and countless other individual and anecdotal observations, all confirm Marshall's fundamental conclusion that man is not, by nature, a close-range, interpersonal killer.

The existence of this resistance can be observed in its marked absence in sociopaths who, by definition, feel no empathy or remorse for their fellow human beings. Pit bull dogs have been selectively bred for sociopathy, bred for the absence of the resistance to killing one's kind in order to ensure that they will perform the unnatural act of killing another dog in battle. Breeding to overcome this limitation in humans is impractical, but humans are very adept at finding mechanical means to overcome natural limitations. Humans were born without the ability to fly, so we found mechanisms that overcame this limitation and enabled flight. Humans also were born without the ability to kill our fellow humans, and so, throughout history, we have devoted great effort to finding a way to overcome this resistance.

IV. THE BEHAVIORAL SOLUTION: CONDITIONING TO KILL

By 1946 the U.S. Army had completely accepted Marshall's World War II findings of a 15 to 20% firing rate among American riflemen, and the Human Resources Research Office of the U.S. Army subsequently pioneered a revolution in combat training that replaced the old method of firing at bull's-eye targets with deeply ingrained operant conditioning using realistic, man-shaped pop-up targets that fell when hit.

The discriminative stimulus was a realistic target popping up in the soldier's field of view. For decades this target was a two-dimensional silhouette, but in recent years both the military and police forces have been changing to mannequin-like, three-dimensional, molded plastic targets; photo realistic targets; and actual force-on-force encounters against live adversaries utilizing the paint pellet projectile training systems pioneered by The Armiger Corporation under the name of Simunition. These are key refinements in the effectiveness of the conditioning process, since it is crucial that the discriminative stimulus used in training be as realistic as possible in its simulation of the actual, anticipated stimulus if the training is to be transferred to reality in a crucial, life-and-death situation.
The operant response being conditioned is to accurately fire a weapon at a human being, or at least a realistic simulation of one. The firer and the grader know if the firing is accurate, since the target drops when hit. This realistically simulates what will happen in combat, and it is gratifying and rewarding to the firer. This minimal gap between the performance (hitting the target) and the initial reinforcement (target drops) is key to successful conditioning since it provides immediate association between the two events. A form of token economy is established as an accumulation of small achievements (hits) are cashed in for marksmanship badges and other associated rewards (such as a three-day pass), and punishments (such as having to retrain on a Saturday that would have otherwise been a day off) are presented to those who fail to perform.

The training process involves hundreds of repetitions of this action, and ultimately the subject becomes like Watson’s rats in the Kerplunk Experiment, performing a complex set of voluntary motor actions until they become automatic or reflexive in nature. Psychologists know that this kind of powerful “operant conditioning” is the only technique that will reliably influence the primitive, midbrain processing of a frightened human being, just as fire drills condition terrified school children to respond properly during a fire, and repetitious, stimulus-response conditioning in flight simulators enables frightened pilots to respond reflexively to emergency situations.

Modern marksmanship training is such an excellent example of behaviorism that it has been used for years in the introductory psychology course taught to all cadets at the U.S. Military Academy at West Point as a classic example of operant conditioning. And in the 1980s, during a visit to West Point, B.F. Skinner identified modern military marksmanship training as a near-perfect application of operant conditioning.

Throughout history various factors have been manipulated to enable and force combatants to kill, but the introduction of conditioning in modern training was a true revolution. The application and perfection of these basic conditioning techniques appear to have increased the rate of fire from near 20% in World War II to approximately 55% in Korea and around 95% in Vietnam. Similar high rates of fire resulting from modern conditioning techniques can be seen in FBI data on law enforcement firing rates since the nationwide introduction of modern conditioning techniques in the last 1960s.

One of the most dramatic examples of the value and power of this modern, psychological revolution in training can be seen in Richard Holmes’ observations of the 1982 Falklands War. The superbly trained (i.e., conditioned) British forces were without air or artillery superiority and were consistently outnumbered three-to-one while attacking the poorly trained (i.e. nonconditioned) but well equipped and carefully dug-in Argentine defenders. Superior British firing rates (which Holmes estimates to be well over 90%) resulting from modern training techniques has been credited as a key factor in the series of British victories in that brief but bloody war.

Today nearly all first-world nations and their law enforcement agencies have thoroughly integrated operant conditioning into their marksmanship training. It is no accident that in recent years the world’s largest employer of psychologists is the U.S. Army Research Bureau. However, most third-world nations, and most nations which rely on large numbers of draftees rather than a small, well trained army, generally do not (or cannot) spare the resources for this kind of training. And any future army or law enforcement agency which attempts to go into close combat without such psychological preparation is likely to meet a fate similar to that of the Argentines.

V. CONDITIONING KIDS TO KILL

Thus the tremendous impact of psychological “conditioning” to overcome the resistance to killing can be observed in Vietnam and the Falklands where it gave U.S. and British units a tremendous tactical advantage in close combat, increasing the firing rate from the World War II baseline of around 20% to over 90% in these wars.

Through violent programming on television and in movies, and through interactive point-and-shoot video games, the developed nations are indiscriminately introducing to their children the same weapons technology that major armies and law enforcement agencies around the world use to “turn off” the midbrain “safety catch” that Brigadier General S.L.A. Marshall discovered in World War II.

U.S. Bureau of Justice Statistics research indicates that law enforcement officers and veterans (including Vietnam veterans) are statistically less likely to be incarcerated than a nonveteran of the same age. The key safeguard in this process appears to be the deeply ingrained discipline that the soldier and police officer internalize with their training. However, by saturating children with media violence as entertainment, and then exposing them to interactive “point-and-shoot” arcade and video games, it has become increasingly
clear that society is aping military conditioning, but without the vital safeguard of discipline.

The same sort of discipline that sets boundaries for members of the military is also part of the hunting subculture, the other sector of society that is familiar with guns. In this environment there are: strict rules about not pointing guns at people, extreme cautions regarding the safety of individuals, and often even respect for their prey, all of which hunters pass on as part of their socialization process and which are reinforced by strict laws. Video game players are not instilled with the same values.

The observation that violence in the media is causing violence in our streets is nothing new. The American Academy of Pediatrics, the American Psychiatric Association, the American Medical Association, and their equivalents in many other nations have all made unequivocal statements about the link between media violence and violence in our society. The APA, in their 1992 report *Big World, Small Screen*, concluded that the "scientific debate is over." And in 1993 the APA's commission on violence and youth concluded that "there is absolutely no doubt that higher levels of viewing violence on television are correlated with increased acceptance of aggressive attitudes and increased aggressive behavior." The evidence is quite simply overwhelming.

Dr. Brandon Centerwall, professor of epidemiology at the University of Washington, has summarized the overwhelming nature of this body of evidence. His research demonstrates that, anywhere in the world that television is introduced, within 15 years the murder rate will double. (And across 15 years the murder rate will significantly underrepresent the problem because medical technology developments will be saving even more lives each year.)

Centerwall concludes that if television had never been introduced in the United States, then there would today be 10,000 fewer homicides each year in the United States, 70,000 fewer rapes, and 700,000 fewer injurious assaults. Overall violent crime would be half what it is. He notes that the net effect of television has been to increase the aggressive predisposition of approximately 8% of the population, which is all that is required to double the murder rate. Statistically speaking 8% is a very small increase. Anything less than 5% is not even considered to be statistically significant. But in human terms, the impact of doubling the homicide rate is enormous.

There are many psychological and sociological processes through which media violence turns into violent crime. From a developmental standpoint we know that around the age of 18 months a child is able to discern what is on television and movies, but the part of their mind that permits them to organize where information came from does not fully develop until they are between ages five and seven. Thus, when a young child sees someone shot, stabbed, beaten, degraded, abused, or murdered on the screen, for them it is as though it were actually happening. They are not capable of discerning the difference, and the effect is as though they were children of a war zone, seeing death and destruction all around them, and accepting violence as a way of life.

From a Pavlovian, or classical conditioning standpoint, there is what Dave Grossman has termed the Reverse-Clockwork Orange process. In the movie, *Clockwork Orange*, a sociopath is injected with a drug that makes him nauseous and he then is exposed to violent movies. Eventually he comes to associate all violence with nausea and is somewhat "cured" of his sociopathy. In real life millions of children are exposed to thousands of repetitions of media violence, which they learn to associate with not nausea but pleasure in the form of their favorite candy, soda, and a girlfriend's perfume as they sit and laugh and cheer at vivid depictions of human death and suffering.

Finally, from a behavioral perspective, the children of the industrialized world participate in countless repetitions of point-and-shoot video and arcade games that provide the motor skills necessary to turn killing into an automatic, reflexive, "kerplunk" response, but without the stimulus discriminators and the safeguard of discipline found in military and law enforcement conditioning.

Thus, from a psychological standpoint, the children of the industrialized world are being brutalized and traumatized at a young age, and then through violent video games (operant conditioning) and media violence (classical conditioning) they are learning to kill and learning to like it. The result of this interactive process is a worldwide virus of violence.

A hundred things can convince the forebrain to take gun in hand and go to a certain point: poverty, drugs, gangs, leaders, radical politics and the social learning of violence in the media. But traditionally all of these influences have slammed into the resistance that a frightened, angry human being confronts in the midbrain. With the exception of violent sociopaths (who, by definition, do not have this resistance) the vast, vast majority of circumstances are not sufficient to overcome this midbrain safety net. But, if you are conditioned to overcome these midbrain inhibitions, then you are a walking time bomb, a pseudo-sociopath, just waiting for the random factors of social interaction and forebrain
rationalization to put you at the wrong place and the wrong time.

An effective analogy can be made to AIDS in attempting to communicate the impact of this technology. AIDS does not kill people, it destroys the immune system and makes the victim vulnerable to death by other factors. The “violence immune system” exists in the midbrain, and conditioning in the media creates an “acquired deficiency” in this immune system, resulting in what Grossman has termed “Acquired Violence Immune Deficiency Syndrome” or AVIDS. As a result of this weakened immune system, the victim becomes more vulnerable to violence enabling factors such as: poverty, discrimination, drugs, gangs, radical politics and the availability of guns.

In behavioral terms this indiscriminate use of combat conditioning techniques on children is the moral equivalent of giving an assault weapon to every child in every industrialized nation in the world. If, hypothetically, this were done, the vast, vast majority of children would almost certainly not kill anyone with their assault rifles; but if only a tiny percentage did, then the results would be tragic, and unacceptable. It is increasingly clear that this is not a hypothetical situation. Indiscriminate civilian application of combat conditioning techniques as entertainment has increasingly been identified as a key factor in world-wide, skyrocketing violent crime rates. Between 1957 and 1992 aggravated assault in the United States, according to the FBI, went up from around 60 per 100,000 to over 440 per 100,000. Between 1977 and 1986 the “serious assault” rate, as reported to Interpol:

- Increased nearly five-fold in Norway and Greece, and the murder rate more than tripled in Norway and doubled in Greece.
- In Australia, and New Zealand the “serious assault” rate increased approximately four-fold, and the murder rate approximately doubled in both nations.
- During the same period the assault rate tripled in Sweden, and approximately doubled in Belgium, Canada, Denmark, England-Wales, France, Hungary, Netherlands, Scotland, and the United States; while all these nations (with the exception of Canada) also had an associated (but smaller) increase in murder.

All of these increases in violent crime, in all of these nations, (which Dave Grossman has termed a virus of violence) occurred during a period when medical and law enforcement technology should have been bringing murder and crime rates down. It is no accident that this has been occurring primarily in industrialized nations, since the factor that caused all of these increases is the same factor that caused a revolution in close combat, except in this case it is the media, not the military, that has been conditioning kids to kill.

VI. CONCLUSION: THE FUTURE OF VIOLENCE, SOCIETY, AND BEHAVIORISM

The impact of behavioral psychology on combat in the second half of the 20th century has been truly revolutionary. It has been a quiet, subtle revolution, but nonetheless one with profound effects. A healthy, self aware, democratic society must understand these processes that have been set in play on its streets and among its armed forces. Among government institutions this is being done with great care and safeguards, nevertheless it should trouble and concern a society that this is occurring and (far more so) that it may well be necessary.

In a world of violent crime, in a world in which children around the globe are being casually conditioned to kill, there may well be justification for the cop and the peacekeeper to be operantly conditioned to engage in deadly force. Indeed, Ken Murray has conducted pioneering research at Armiger Police Training Institute that concludes that, even with conditioning, the psychology of the close combat equation is still badly skewed against the forces of law and order. Building on the Killing Enabling Factors first developed by Dave Grossman, Murray’s widely presented findings have been instrumental in a major reassessment of the need for a comprehensive, systematic approach to law enforcement training.

But if the carefully safeguarded conditioning of military and law enforcement professionals is a necessary evil that is still a legitimate cause for concern, how much more should a society be concerned about the fact that the exact same process is being indiscriminately applied to our children, but without the safeguards?

The impact of behavioral technology in the second half of the 20th century has been profound, closely paralleling the timeframe and process of nuclear technology. Behavioral psychology has done to the microcosm of battle what nuclear weapons did to the macrocosm of war. Just as our civilization is entering into the 21st century with a determination to restrain and apply itself to the challenges of nuclear proliferation, so too might the time have come to examine the indiscriminate
proliferation of violent behavioral conditioning distributed indiscriminately to children as a form of entertainment.

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